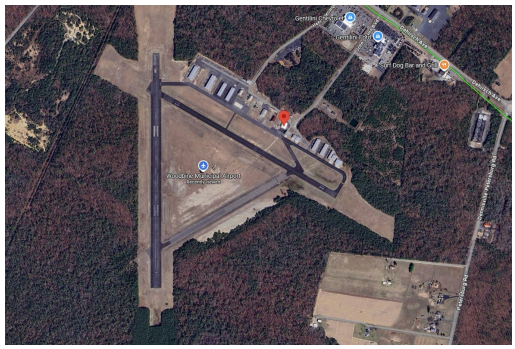
# WOODBINE MUNICIPAL AIRPORT

## RENOVATIONS TO HANGAR 5

**FAA AIP No.: 3-34-0046-XXX-2025**



***NOTICE TO BIDDERS**
***INSTRUCTION TO BIDDERS**
***FORM OF BID**
***FORM OF AGREEMENT**
***SPECIFICATIONS**
***GENERAL PROVISIONS**
***TECHNICAL SPECIFICATIONS**
***APPENDICES**

**SPONSORED BY:** **BOROUGH OF WOODBINE**

**PREPARED BY:**


Otanie A. Green
J.F. McKernan Jr. Architects & Assoc., LLC

DVConsultants

**40 Wall Street, Suite 500**
**New York, NY 10005**
**(212)-635-3838**

**State of New Jersey**
**Professional Engineer No. 37847**


2025

**WOODBINE MUNICIPAL AIRPORT**
**TAXIWAY E CONNECTOR FOR RUNWAY 19 END**

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**APPENDICES**

# NOTICE TO BIDDERS

The Borough of Woodbine hereby advertises for competitive bids in accordance with N.J.S.A. 18A:18A-21 (a) (b) for the:

Hangar #5 Modernization at the Woodbine Municipal Airport
High Exposure Inc.
675 Henry Decinque Boulevard
Woodbine, NJ 08270

BID PROPOSALS will be received no later than 1:00 PM prevailing time on May 28, 2025, at Borough of Woodbine, Borough Hall, 501 Washington Avenue, Woodbine, New Jersey 08270.

Bid Proposals will be received and opened at the Borough of Woodbine, Borough Hall, 501 Washington Avenue, Woodbine, New Jersey 08270.

BID PROPOSALS must be sealed and delivered to Laurie Boyd, Borough Clerk, Borough of Woodbine, 501 Washington Avenue, Woodbine, New Jersey 08270 and will be opened and read publicly at the above. Please submit complete proposal as one (1) signed original and two (2) signed copies. The Borough of Woodbine does not accept electronic (email) submission of bids at this time. The following information should be enclosed in the envelope:

Title: Hangar #5 Modernization at the Woodbine Municipal Airport
Name and address of bidder
Bid Opening Date: May 28, 2025
Bid Opening Time: 1:00 p.m.

Bid Documents: Digital drawing and specification documents available May 12, 2025.

Request electronic documents via email to Otanie Green, McKernan Architects, email: ogreen@mckernanarchitects.com. Bid document requests must include the bidder's company name, company address, company telephone and facsimile numbers, the name of the bidder's contact, and associated email address. It is the responsibility of the bidder to print required forms included in the bid package.

Laurie E. Boyd
Acting Borough Clerk

1 xFee = $36.65
4/30/2025

# INSTRUCTION TO BIDDERS

1. The Borough of Woodbine reserves the right to reject any and all bids, or to waive any informalities in the bids, and unless otherwise specified by the bidder, to accept any item in the bid, should it be deemed in the best interest of the Borough of Woodbine to do so.

2. In the case of default by the bidder or the contractor, the Borough of Woodbine may procure the articles or services from other sources and hold the bidder or contractor responsible for any excess cost occasioned thereby.

3. The bidder, if awarded a contract, agrees to protect, defend and save harmless the Borough of Woodbine against any damage for payment for the use of any patented material process, article or device that may enter into the manufacture, construction or form a part of the work covered by either order or contract, and he further agrees to indemnify and save harmless the Borough of Woodbine from suits or actions of every nature and description brought against it, for, or on account of injuries or damages received or sustained by any party or parties by, or from any of the acts of the contractor, his servants or agents.

4. The contractor shall maintain sufficient insurance to protect against all claims under Workmen's Compensation, General Liability and Automobile and shall be subject to approval for adequacy of protection and certificates of such insurance shall be provided for the Borough of Woodbine, when required.

5. It is to be understood by the bidder that this bid is submitted on the basis of plans and specifications prepared by the Borough of Woodbine and the fact that any bidder is not familiar with these documents or conditions will not be accepted as an excuse.

6. A Performance Bond in the form of a Certified Check (cash) or Bond, from a surety company authorized to transact business in the State of New Jersey, in the amount of 100 percent of total bid will be required from the successful bidder, to insure faithful performance of the contract. The Performance Bond and the contract must be filed with Borough of Woodbine within seven (7) days of the award of contract, or the contract will be subject to rescission.

7. All bidders shall provide Public Works Contractor Registration Act pursuant to N.J.S.A. 34:11-56.48, et seq. as part of the bid package. This certificate of registration is issued for purposes of bidding on any contract for public work or for engaging in the performance of any public work.

8. All bidders will be required to submit proof of business registration with the bid proposal pursuant to N.J.S.A. 52: 32-44.

9. Bidders must use the proposal forms furnished as part of the bid document by the Borough of Woodbine when submitting their bid.

10. There will be a Pre-bid meeting at The Borough Of Woodbine, 501 Washington Avenue, Woodbine, NJ 08270 on May 13th at 3:30 PM. Any queries that the bidders may have about any aspect of the project or drawings should be sent to Otanie A. Green, J. F. Mckernan Jr. Architects & Assoc., LLC, ogreen@mckernanarchitects.com by May 15th, 2025 at 12:00 PM, five (7) business days prior to the bid opening date so as to allow for sufficient time to answer the queries and inform all bidders who picked up the bid package.

11. Insert prices for furnishing all of the material and/or labor described or required. Prices shall be net, including any charges for packing, crating, containers, etc. and all transportation charges fully prepaid by the contractor F.O.B. destination and placement at locations specified by the Borough of Woodbine. No additional charges will be allowed for any transportation costs resulting from partial shipments made at the vendors' convenience when a single shipment is ordered.

12. Payments will be made upon the approval of vouchers submitted by the successful bidders in accordance with the requirements of the Borough of Woodbine and subject to the Borough of Woodbine customary procedures.

13. Award will be made by Borough of Woodbine. The date of award of this project shall be contingent upon the receipt of approval from the FAA and Borough of Woodbine. The award of contract shall be issued within sixty (60) days of receipt of this item. The Bidder agrees by submission of this bid to extend the normal sixty (60) day bid award period by an additional sixty (60) day period, if necessary.

14. If the contract is to be awarded to the qualified, responsible Bidder whose evaluation, by the Borough of Woodbine indicates that the award will be in the best interests of the project. The Borough of Woodbine intends to award the contract on a "best value" basis. The contract will be awarded to the Bidder that demonstrates the best overall value to Borough of Woodbine.

15. The Borough of Woodbine reserves the right to award at their discretion to any one of tie bidders.

16. For the purpose of evaluation where an equivalent product is being furnished, the bidder must indicate any variation to these specifications no matter how slight. If no variations are indicated, it will be construed that the bid fully complies with these specifications.

17. Quantities shown are approximate and the Borough of Woodbine reserves the right to increase, decrease or omit quantities at the unit price bid. Borough of Woodbine also reserves the right to delete any contract item from the awarded contract.

18. The contract shall be in effect for one (1) year from the date of award or until delivery is complete unless otherwise stated.

19. Bids may be hand delivered or mailed per legal notice to bidders. In the case of mailed bids, the Borough of Woodbine assumes no responsibility for bids received after the designated date and time and will return late bids to the bidder unopened.

20. All contractors must comply with the provisions of New Jersey Statute Title 40A:11-18, when applicable.

21. This agreement shall not be assigned without the written consent of the Borough of Woodbine.

22. The Borough of Woodbine's obligation hereunder is contingent upon the availability of appropriate funds from which payment for contract purposes can be made. No legal liability on the part of the Borough of Woodbine for payment of any money shall arise unless, and until funds are made available to the Borough of Woodbine.

23. For further information regarding the plans and specifications contact: J. F. Mckernan Jr. Architects & Assoc., LLC, 100 Dobbs Lane, Suite 204, Cherry Hill, NJ 08034 at Otanie A. Green, ogreen@mckernanarchitects.com (856.616.2960)

24. The project is funded by a grant from the FAA. In the event that the lowest responsible bidder for the project exceeds the Grant and Budget, the owner may choose to delete any or all phases, and/or reduce the work to that amount affordable under the grant.

25. The award of the contract shall be made by the owner to the lowest, qualified bidder whose proposal will be based on the Bid price. The lowest qualified bidder will be determined by comparison of the Bid only, dependent on the actual awarded work scope. The work scope to actually be awarded will be dependent upon available project budget.

**BID SUBMISSION CHECKLIST**

| | Submitted? Yes | Submitted? No | Reason for Not Submitting |
|---|---|---|---|
| 1. Bid Form (15 sheets) | ☐ | ☐ | _____ |
| 2. Non-Collusion Affidavit | ☐ | ☐ | _____ |
| 3. Consent of Surety | ☐ | ☐ | _____ |
| 4. Bid Bond Form | ☐ | ☐ | _____ |
| 5. Affirmative Action Supplement Form | ☐ | ☐ | _____ |
| 6. Equipment Certification (3 sheets) | ☐ | ☐ | _____ |
| 7. EEO Provisions (signature required on page 2 of 9 of General EEO Provisions) | ☐ | ☐ | _____ |
| 8. General Contract Provisions (signature required on page 5 of 6 of General Contract Provisions) | ☐ | ☐ | _____ |
| 9. Public Works Contractor Registration Act | ☐ | ☐ | _____ |
| 10. Business Registration Certificate | ☐ | ☐ | _____ |
| 11. Stock Holders Disclosure Form (page 8 of 10 of Bid Forms) | ☐ | ☐ | _____ |
| 12. Qualification Questionnaire | ☐ | ☐ | _____ |
| 13. Certified Check, Cashier's Check, or Bid Bond in the sum of 10% of the total bid, but not more than $20,000,000 | ☐ | ☐ | _____ |
| 14. Acknowledgement of Receipt of Changes to bid Documentation form | ☐ | ☐ | _____ |

Checked By: _____

Signature: _____ Date:_____

**BID**

RENOVATIONS TO HANGAR 5
WOODBINE AIRPORT
WOODBINE, NEW JERSEY

MADE BY

Name of Bidder _____
(Individual, Firm or Corporation, as case may be)

Place of Business of Bidders _____ Telephone _____

**1. For Woodbine Airport in Woodbine, New Jersey as specified in the specifications and on the Drawings.**

Bid in Figures: _____

Bid in Words: _____

_____
Dollars Cents

_____
(Signature)

_____
(Title)

SEAL

*** NOTE: THE FORMS IN THIS SECTION ARE TO BE SUBMITTED IN DUPLICATE**

**REQUIRED ASSURANCE TO BE INCLUDED IN ALL BID PROPOSALS**

WOODBINE MUNICIPAL AIRPORT DOES NOT DISCRIMINATE ON THE BASIS OF HANDICAPPED STATUS IN THE ADMISSION OR ACCESS TO, OR TREATMENT, OR EMPLOYMENT IN ITS PROGRAMS OR ACTIVITIES.

WOODBINE MUNICIPAL AIRPORT SHALL HAVE ACCESS TO ANY BOOKS, DOCUMENTS, PAPERS AND RECORDS OF THE CONTRACTOR, WHICH ARE DIRECTLY PERTINENT TO THAT SPECIFIC CONTRACT.

COMPLIANCE IS REQUIRED WITH ALL APPLICABLE STANDARDS, ORDERS, OR REQUIREMENTS ISSUED UNDER 306 OF THE CLEAN AIR ACT, SECTION 508 OF THE CLEAN WATER ACT, EXECUTIVE ORDER 11738 AND ENVIRONMENTAL PROTECTION AGENCY REGULATIONS (40 CFR, Part 15) WHICH PROHIBITS THE USE UNDER NON-EXEMPT FEDERAL CONTRACTS, GRANTS OR LOANS OF FACILITIES INCLUDED ON THE EPA LIST OF VIOLATING FACILITIES.

"WOODBINE MUNICIPAL AIRPORT CONSIDERS IT TO BE A SUBSTANTIAL CONFLICT OF INTEREST FOR ANY COMPANY DESIRING TO DO BUSINESS WITH WOODBINE MUNICIPAL AIRPORT TO BE OWNED, OPERATED OR MANAGED BY ANY BOROUGH OF WOODBINE EMPLOYEE, NOR SHALL ANY BOROUGH OF WOODBINE PERSONNEL BE EMPLOYED BY THE VENDOR IN CONJUNCTION WITH ANY WORK TO BE PERFORMED FOR OR ON BEHALF OF WOODBINE MUNICIPAL AIRPORT."

I HEREBY CERTIFY COMPLIANCE WITH THE FORGOING.

A certified check, cashier's check or bid bond is enclosed, payable to Borough of Woodbine, in the sum of $_____ which the undersigned agree is to be forfeited as liquidated damages, and not as a penalty, if contract is awarded to the undersigned and the undersigned shall fail to execute the contract or shall fail to furnish the bond required within the stipulated time, otherwise said check will be returned to the undersigned.

The undersigned is a Partnership, Corporation, or Individual under the laws of the State of_____.
(Please Circle One)

having principal offices at, _____

BIDDERS NAME (print or type): _____

SIGNED BY: _____ DATE:_____

TITLE: _____

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

The above named bidder affirms and declares:

1. That said bidder is of lawful age and the only one interested in this bid and that no person, firm or corporation other than herein above named has any interest in this bid or in the contract proposed to be entered into.

2. That this bid is made without any understanding, agreement or connection with any other person, firm or corporation making a bid for the same material, supplies or equipment and is in all respects fair and without collusion or fraud.

3. That said bidder is not in arrears to Borough of Woodbine upon debt or contract and is not a defaulter as surety or otherwise upon any obligation to said Borough of Woodbine.

4. That he has carefully examined the site of the work and that from his own investigation, he has satisfied himself as to the nature and location of the work, the character, quality and quantity of existing materials and all difficulties likely to be encountered, the kind and extent of equipment and other facilities needed for the performance of the work, the general and local conditions and all other items which may, in any way, effect the work or its performance.

5. That said bidder understands that the quantities of work under the various items in the Form of Bid are approximate and are solely for the purpose of facilitating the comparison of bids.

6. That in case of any discrepancy between the price in words and the price in figures, the price in words will be considered the price bid.

The undersigned bidder also declares that he has carefully examined and fully understands the Advertisement for Bids, the Instructions to Bidders, the Form of Contract, the Specifications and Plans, and he hereby proposes to furnish all the labor, supervision, materials, equipment and incidentals necessary to all the work required to finish and complete within the time specified in accordance with the following prices at his own proper cost and expense, and in a first class manner and in accordance with the Plans and Specifications of the Engineer or such other drawings, detailed directions or instructions as the Engineer may from time to time give at the following prices.

**WOODBINE AIRPORT**
**RENOVATIONS TO HANGAR 5**

| Item No. | Estimated Quantity | Item description with Unit prices in words | Unit price Dollars & cents | Total Price |
|---|---|---|---|---|
| 1 - Replace existing hangar door w/ new insulated door | 1 L.S. | Contractor General Conditions<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 2 - Insulate hangar walls & ceiling | 1 L.S. | All Work Associated with Architectural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 3 - Repair and coat existing hangar roof | 1 L.S. | All Work Associated with Structural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 4 - Repair and coat existing hangar concrete floor | 1 L.S. | All Work Associated with Mechanical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 5 - Replace 8 exterior windows & main entrance man door | 1 L.S. | All Work Associated with Plumbing Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 6 - Relocate electrical panels & update electric service | 1 L.S. | All Work Associated with Electrical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| **Item No.** | **Estimated Quantity** | **Item description with Unit prices in words** | **Unit price Dollars & cents** | **Total Price** |

| Item No. | Estimated Quantity | Item description with Unit prices in words | Unit price Dollars & cents | Total Price |
|---|---|---|---|---|
| 7 - Insulate existing water lines coming into hangar (trace heating) | 1 L.S. | Contractor General Conditions<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 8 - Construct new ADA restroom w/ shower | 1 L.S. | All Work Associated with Architectural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 9 - Heating hangar & new ADA restroom | 1 L.S. | All Work Associated with Structural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 10 - Heating & cooling offices | 1 L.S. | All Work Associated with Mechanical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| 11 - Install new lighting in the front portion of hangar | 1 L.S. | All Work Associated with Plumbing Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 1 - Demo existing unused heater on mezzanine | 1 L.S. | All Work Associated with Electrical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| **Item No.** | **Estimated Quantity** | **Item description with Unit prices in words** | **Unit price Dollars & cents** | **Total Price** |

| Item No. | Estimated Quantity | Item description with Unit prices in words | Unit price Dollars & cents | Total Price |
|---|---|---|---|---|
| Alternate 2 – Construct new utility rm w/ washer, dryer & utility sink | 1 L.S. | Contractor General Conditions<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 3 – Install new kitchenette cabinets & counter top (all appliances are at the tenant's expense) | 1 L.S. | All Work Associated with Architectural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 4 – Paint, patch & repair walls in existing offices | 1 L.S. | All Work Associated with Structural Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 5 – Install new flooring in offices | 1 L.S. | All Work Associated with Mechanical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 6 – Stub in electric & plumbing for future utilities (If utility rm & kitchen don't make the budget) | 1 L.S. | All Work Associated with Plumbing Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |
| Alternate 7 – Treat & paint entire exterior walls of hangar | 1 L.S. | All Work Associated with Electrical Scope<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $_____ .____ |

| Item No. | Estimated Quantity | Item description with Unit prices in words | Unit price Dollars & cents | Total Price |
|---|---|---|---|---|
| Testing & Inspection Allowance | 1 L.S. | Testing & Inspection Allowance<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $9,500 .00 |
| General Allowance | 1 L.S. | General Allowance<br>_____ _____<br>Dollars Cents | $ N/A L.S. | $65,000 .00 |
| TOTAL BID : $ | | | | |

BUY AMERICAN CERTIFICATE (JAN 1991)

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States (as defined in the clause Buy American - Steel and Manufactured Products For Construction Contracts) below, and that components of unknown origin are considered to have been produced or manufactured outside the United States.

Offerors may obtain from the Owner lists of articles, materials, and supplies accepted from this provision.

| PRODUCT | COUNTRY OF ORIGIN |
| --- | --- |
| _____ | _____ |

**BUY AMERICAN - STEEL AND MANUFACTURED PRODUCTS FOR CONSTRUCTION CONTRACTS (JAN 1991)**

(a) The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program. The following terms apply:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) steel produced in the United States of (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States. Components of foreign origin of the same class or kind as the products referred to in subparagraphs (b) (1) or (2) shall be treated as domestic.

2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

3. Cost of Components. This means the cost for production of the components, exclusive of final assembly labor costs.

(b) The successful bidder will be required to assure that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen, and suppliers in the performance of this contract, except those-

(1) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality;

(2) that the U.S. Department of Transportation has determined, under the Aviation Safety and Capacity Expansion Act of 1990, that domestic preference would be inconsistent with the public interest; or

(3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.

**STOCKHOLDERS DISCLOSURE FORM**

Name:_____
Address:_____
City & State:_____ Zip: _____

In the spaces provided, list the names and addresses of all owners, partners, directors, officers, and indirect owners owning 10% or more interest in the bidder's firm. If corporate owner, list in the space provided, stockholders or corporation whose ownership through the corporation is 10% or more of the bidder. NJ Laws 1977, Ch 33.

Complete affidavit at bottom of form.

| NAME | ADDRESS Street City/Town County State Zip |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| President of the firm (type or print name) | |

I certify that: ____ The list of stockholders above is current and correct to the best of my knowledge.
____ There are no other stockholders except for those listed above, holding 10% or more interest in this corporation or firm to the best of my knowledge.

Signature of Authorized Representative: _____

Type or Print Name: _____ Title: _____

Witness by: _____Date:_____

VENDOR: PLEASE COMPLETE AND SIGN THIS FORM AND RETURN IT WITH YOUR BID PROPOSAL.

# NONCOLLUSION AFFIDAVIT

STATE OF NEW JERSEY

WOODBINE MUNICIPAL AIRPORT – HANGAR 5

I,_____, of the City of _____ in the County of_____and the State of_____of full age, being duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____ the bidder making the Proposal for the above named project, and that I executed the said Proposal with full authority so to do; that said bidder has not, directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above name project; and that all statements contained in said Proposal and in this affidavit are true and correct, and made with full knowledge that the Woodbine Municipal Airport relies upon the truth of the statements contained in said Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, except bona fide established commercial or selling agencies maintained by _____

(Name of Contractor)

_____

(N.J.S.A. 52:34-15)

_____
(Also type or print name of affiant under signature)

Subscribed and sworn to
before me this_____ day
of_____, 20__

_____
Notary Public of
My Commission expires
_____, 20__

# CONSENT OF SURETY

A performance bond will be required from the successful bidder on this project, and consequently, all bidders shall submit, with their bid, a certificate in substantially the following form:

TO: _____
(OWNER)

RE: _____
(CONTRACTOR)

Woodbine Municipal Airport – Hangar 5
(PROJECT DESCRIPTION)

This is to certify that the _____
(SURETY COMPANY)

will provide to _____ a performance bond
(CONTRACTOR)

in the amount of awarded contract in the event that said contractor is awarded a contract for the

above project.

_____
(Authorized Agent of Surety Company)

**CERTIFICATE OF SURETY MUST BE SIGNED BY AN AUTHORIZED AGENT OR REPRESENTATIVE OF A SURETY COMPANY AND NOT BY THE INDIVIDUAL OR COMPANY SUBMITTING THE BID.**

# FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____ as principal, and _____

The condition of the above obligation is such that whereas the Principal has submitted to:_____ a certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the:_____
_____

NOW, THEREFORE,

(a) If said Bid shall be rejected, or in the alternate,

(b) If said Bid shall be accepted, and the Principal shall execute and deliver a contract in the Form of Contact attached hereto (properly completed in accordance the said Bid) and shall furnish a bond for this faithful performance of said contract, and for the payment of all persons performing labor of furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said Bid.

Then this obligation shall be void, otherwise the same shall remain in force and effect ; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal _____
_____

Surety_____
_____

SEAL By:

**WOODBINE MUNICIPAL AIRPORT AFFIRMATIVE ACTION QUESTIONNAIRE ON PROCUREMENT AND SERVICE CONTRACTS**

KINDLY COMPLETE QUESTIONNAIRE. In the event that you or your firm is awarded this contract, the necessary additional forms will be sent by our office upon award. These should be submitted within five working days of notification.

1. Does this contract have or have the potential of having a dollar value of $ 9,400.00 or better?

   (____) YES (If yes, complete # 2.)

   (____) NO (If no, no further documentation is required)

2. Does your company have a federal Affirmative Action Plan approved letter?

   (____) YES (If yes, submit a photostatic copy)

   (____) NO (If no, complete "A" below)

   A. Does your company have a Certificate of Employee Information Report?

   (____) YES (If yes, submit photostatic copy)

   (____) NO

3. If you do not have either of the above mentioned documents, an Affirmative Action and an Employee Information Report Form (AA-302) will be returned to you for your completion.

I certify that the above information is correct to the best of my knowledge.

NAME _____ TITLE _____

SIGNATURE _____ DATE _____

**Contractor - You must complete and sign this form and return it with your Bid Proposal.**

. . . AN EQUAL OPPORTUNITY EMPLOYER . . .

# EQUIPMENT CERTIFICATION

The undersigned Bidder hereby certifies as follows:

1. The number and type of equipment or vehicle intended to be used to fulfill all requirements of the Contract Documents with respect to the Scope of Work are listed in Table 1 and 2 and attached hereto.

   Note: If the Bidder **owns or controls** all the necessary equipment required, complete Paragraph 2 below. If the Bidder **does not own or control** all the necessary equipment required, complete Paragraph 3 below.

2. The Bidder owns or controls all the necessary equipment shown in Table 1 and required to accomplish the work described in the Contract Documents during the Contract Term.

Name of Bidder: _____ By: _____
(Signature)

Name of Company: _____ Title: _____

3. The Bidder does not own or control all the necessary equipment required to accomplish the Work described in the Contract Documents during the Contract Term. The equipment actually owned or controlled by the Bidder is identified in Table 1.

   The remaining equipment required to perform the Work described is noted in Table 2 together with the certification of the owner or person in control of such equipment.

Name of Bidder: _____ By: _____
(Signature)

Name of Company: _____ Title: _____

**TABLE 1**
**LIST OF EQUIPMENT OWNED OR CONTROLLED BY BIDDER**

| Type of Equipment (Vehicle, Pump, etc.) | Number | Make | Model | Age |
|---|---|---|---|---|

(Attach additional sheets if necessary)

**TABLE 2**
**CERTIFICATION OF OWNED OR CONTROLLED OF EQUIPMENT**
**NOT OWNED OR CONTROLLED BY BIDDER**

This is to certify that I, the undersigned, own or control the equipment required and noted below and definitively grant the Bidder named below the control of said equipment during such time as may be required for that portion of the Work described in the Contract Documents for which said equipment is necessary for the term of the Contract.

Name of Bidder: _____

Name of Owner or Controller: _____

By: _____ By: _____
(Signature of Bidder) (Signature of Owner or Controller)

Address of Owner or Controller: _____

Type of Equipment (Vehicle, Pump, etc.): _____

Number: _____ Equipment Maker/Model: _____

(Attach additional sheets as necessary)

# ACKNOWLEDGEMENT OF RECEIPT OF CHANGES TO BID DOCUMENTATION FORM

BOROUGH OF WOODBINE

Hangar 5

Pursuant to N.J.A.C. 40A:11-23.1a, the undersigned bidder hereby acknowledges receipt of the following notices, revisions, or addenda to the bid advertisement, specifications or bid documents. By indicating date of receipt, bidder acknowledges the submitted bid takes into account the provisions of the notice, revision or addendum. Note that the local unit's record of notice to bidder shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the bid.

| Local Unit Reference Number *or Title of Addendum/Revision* | How Received (mail, fax, pick-up, etc.) | Date Received |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Acknowledgement: _____

_____

Name of Bidder: _____

By Authorized Representative:

Signature: _____

Printed Name and Title: _____

DATE: _____

**FORM OF AGREEMENT**

THIS AGREEMENT, made on the _____day of_____, 2025, by and between **Borough of Woodbine** party of the first part, hereinafter called the Owner and_____party of the second part, hereinafter called the Contractor.

WITNESSETH, that the Contractor and the Owner, for the considerations hereinafter named, agree as follows:

**ARTICLE I – AWARD OF CONTRACT AND SCOPE OF WORK**

Award of the contract shall be made by the owner to the lowest, qualified bidder whose proposal will be based on the bid price. The work scope to actually be awarded will be dependent upon available project budget.

The Contractor hereby agrees to furnish all of the materials and all of the equipment and labor necessary, and to perform all of the work shown on the drawings and described in the specifications at a not to exceed, contract sum of $_____.___ for the project entitled:

## Hangar 5

all in accordance with the requirements and provisions of the following Documents prepared by the Architect/Engineer, and which Documents are hereby made a part of this Agreement:

(a) Drawings and Technical Specifications

(b) Bidding documents consisting of the Notice to Bidders, Instructions to Bidders and Bid Form.

(c) Contract forms consisting of the Agreement and the Bond.

(d) The General Conditions and Special Conditions.

(e) The General Provisions and Project Specifications

(f) The following addenda:

Addendum No. 1 Dated_____
Addendum No. 2 Dated_____
Addendum No. 3 Dated_____

**ARTICLE II - TIME OF COMPLETION:**

(a) The work to be completed under this contract shall be commenced within ten days (10) calendar days after the date of Notice to Proceed.

(b) All items of work included within the contract shall be completed as follows from the date of Notice to Proceed. There are 120 calendar days. Liquidated Damages of $1,000.00 per day will be assessed for each calendar day of delay in the completion of work. Total time of completion is 120 calendar days from Notice to Proceed.

(c) Failure to complete the work within any of the time periods stipulated in this Article, including extensions granted thereto as determined by the Engineer, shall entitle the Owner to deduct from the monies due, or about to become due to the Contractor, an amount equal to $1000.00 for each calendar day of delay in the completion of the work, said sum being fixed and agreed as Liquidated Damages which the Owner will suffer by reason of such delay and not as a penalty.

**ARTICLE III - THE CONTRACT SUM**

(a) The Owner shall pay to the Contractor for the performance of the Contract, subject to additions and deductions provided therein.

(b) The Contract Sum shall be equitably adjusted to cover changes in the work ordered by the Owner or the Architect/Engineer as his representative, but not shown on the drawings or required by the specifications. Such increases or decreases in the Contract Sum shall be determined by agreement between the Owner, or the Architect/Engineer as his representative, and the Contractor. If it is impractical to arrive at a pre-agreed-upon amount, additional work may be done under the provisions of Article VI.

(c) **The FAA do not participate in price escalations for any materials, such as asphalt or fuel costs. Therefore, no requests for price escalations will be considered for this project.**

**ARTICLE IV - PAYMENT**

The Sponsor/Owner shall make payment for this project in accordance with the following:

i. At the end of the project, the Contractor shall submit an invoice and properly executed voucher covering the progress of the Contract to the Engineer, together with such supporting evidence as may be required by the Owner or the Architect/Engineer. This invoice will include retainage. Once approved, this voucher will be submitted to the Sponsor by the Architect/Engineer at the beginning of the following month along with the required paperwork for forwarding to the FAA for payment. The FAA then takes an average of 60 to 90 days to forward the payment to the Borough of Woodbine, the Sponsor/Owner.

ii. The Contractor acknowledged with the submittal of their bid that the project is 100% FAA funded and the Contractor will be paid no later than thirty days after the receipt of the FAA Funds by the Sponsor.

(a) Partial payment will be made for materials, equipment and labor as outlined under the General Provision Paragraph 90-06.

(b) Before the final payment will be made under this Contract, the Owner reserves the right to require that the Contractor and all sub-contractors shall submit written verified statements, in satisfactory form, certifying in detail to the amounts due and unpaid by such Contractor and sub-contractor to all laborers for daily or weekly wages on account of labor performed upon the work under this Contract, or to other persons for materials, equipment, and supplies delivered at the site of work. The term "laborers" as used herein shall include workmen and mechanics.

**ARTICLE V - ACCEPTANCE AND FINAL PAYMENT**

(a) Upon completion of the project, the Engineer shall make a final inspection for approval of all the work done under this Contract and shall, after the acceptance of the work by the Engineer and the Owner, prepare a final certificate of the work done and the value thereof. The Owner shall upon approval of the final certificate, promptly pay the Contractor the entire sum so found due there under.

(b) Before issuance of final certificate, the Contractor shall submit evidence satisfactory to the Owner and Architect/Engineer that all payrolls, material bills, and other indebtedness connected with the work have been paid.

**ARTICLE VI - FORCE ACCOUNT WORK**

If the Owner or the Architect/Engineer orders, in writing, the performance of any work not covered by the Drawings or

included in the Specifications, and for which no item in the Contract is provided, and for which no unit price or lump sum basis can be agreed upon, then such extra work shall be done on a Cost-Plus-Percentage basis of payment as follows:

(a) The Contractor shall be reimbursed for the extra work as follows:

(1) Where the extra work is performed directly by the Contractor, he shall be reimbursed for all costs incurred, plus an additional ten percent (10%) of all such costs to cover his indirect overhead costs; plus five percent (5%) of all such costs including indirect overhead, as his fee.

(2) Where the extra work is performed by a sub-contractor the amount to be reimbursed for the work shall comprise the costs incurred by the sub-contractor; plus an additional ten percent (10%) of all such costs to cover the sub-contractor's indirect overhead costs; plus five percent (5%) of all such costs including sub-contractor's indirect overhead, as the sub-contractor's fee; plus five percent (5%) of the total amount thus obtained as the Contractor's fee.

(b) The term "Costs" shall cover all payroll charges for men employed and supervision required under the specific Order, together with all workmen's compensation, Social Security, pension and retirement allowances and social insurance, or other regular payroll charges on same; the cost of all material and supplies required of either temporary or permanent character; rental of all power-driven equipment at agreed-upon rates, together with cost of fuel and supply charges on same; and any other costs incurred by the Contractor as a direct result of executing the Order, if approved by the Owner and the Engineer.

(c) The cost of the work done each day shall be submitted to the Engineer in a satisfactory form on the succeeding day and shall be approved by him or adjusted at once.

(d) Payment of all charges for Force Account Work shall be made in full upon the completion and acceptance of the work. This payment shall include the full amount of fee earned on the cost of the work done.

**ARTICLE VII - INSURANCE**

The Contractor shall not commence work under this contract until the required insurance has been obtained and such insurance has been approved by the Owner, nor shall the Contractor or any sub-contractor commence work until all similar insurance required of the subcontractor has been obtained and approved by the Owner.

Insurance approval by the Owner shall not relieve or decrease the liability of the Contractor.

The Contractor shall carry the statutory Workmen's Compensation and Employer's Liability Insurance for all employees to be engaged on this project.

The Contractor shall also carry not less than:

(A) Comprehensive General Liability
1). $ 1,000,000.00 Combined Single Limit
2). $ 2,000,000.00 Aggregate
3). Property Damage Liability Insurance will provide X, C or U coverage as applicable.

(B) Comprehensive Automobile Liability
1). $ 1,000,000.00 Combined Single Limit
2). $ 2,000,000.00 Aggregate

(C) Contractual Liability
1). $ 1,000,000.00 Combined Single Limit
2). $ 2,000,000.00 Aggregate

The Contractor shall furnish to the Owner, thirty (30) days advance notice of any endorsements that are subsequently issued amending coverage or limits.

All insurance policies shall have a non-cancellation clause providing ten (10) days written notice to be given prior to cancellation.

Owner, the Borough of Woodbine and DY Consultants shall be shown as additional insured by all insurance policies required under this section.

The Contractor shall furnish all certificates of insurance to the Owner, the Borough of Woodbine and DY Consultants.

The Contractor shall be liable for any loss or damage to material stored on the job site by the Contractor until it is installed, regardless as to whether it has been paid for by the Owner.

Loss or damage to installed or completed work which has been inspected shall be the responsibility of the Owner, except when occurring as a result of negligence of the Contractor.

**ARTICLE VIII-BUY AMERICAN**

Applicable to Steel and Manufactured Products for Construction:

(a) The Contractor agrees that only domestic steel and manufactured products will be used by the Contractor, subcontractors, materialmen, and suppliers in the performance of this contract, as defined in (b) below.

(b) The following terms apply to this clause:

1. Steel and manufactured products. As used in this clause, steel and manufactured products include (1) those produced in the United States of (2) a manufactured product produced in the United States, if the cost of its components mined, produced or manufactured in the United States exceeds 60 percent of the cost of all its components and final assembly has taken place in the United States.

2. Components. As used in this clause, components means those articles, materials, and supplies incorporated directly into steel and manufactured products.

3. Cost of Components. This means the cost for production of the components, exclusive of final assembly labor costs.

IN WITNESS WHEREOF the parties hereto have executed this Agreement, the day and year first above written.

WITNESS: _____OWNER

_____ By_____
Title

WITNESS: _____CONTRACTOR

_____ By_____
Title

(ACKNOWLEDGEMENT BY CONTRACTOR, IF A CORPORATION)

STATE OF_____)
) ss.:
COUNTY OF_____)

On this_____day of_____, 20__, before me personally came_____to me known, who being duly sworn, did depose and say that he resides in_____; that he is the_____of the_____corporation described in and which executed the foregoing instrument; that he knows the seal of the corporation; that the seal affixed to the instrument is such corporate seal; that it was so affixed by the order of the Board of Directors of the corporation; and that he is signed his name thereto by like order.

_____
(Notary Public)

(ACKNOWLEDGEMENT BY CONTRACTOR, IF A PARTNERSHIP)

STATE OF_____)
) ss.:
COUNTY OF_____)

On this_____day of_____, 20__, before me personally came_____to me known and known to me to be a member of the firm of_____and known to me to be an individual described in, and who executed, the foregoing instrument in the firm name of_____ and he duly acknowledged to me that he executed the same for and in the behalf of said firm for the uses and purpose mentioned therein.

_____
(Notary Public)

(ACKNOWLEDGEMENT BY INDIVIDUAL CONTRACTOR)

STATE OF_____)
) ss.:
COUNTY OF_____)

On this_____day of_____, 20___, before me personally came_____to me known and known to me to be the person described in and who executed the foregoing instrument and duly acknowledged that he executed the same.

_____
(Notary Public)

## SECTION 1
## GENERAL EEO PROVISIONS

### REQUIRED NOTICES FOR CONTRACTS OVER $ 10,000

1. The following notice is included in and is a part of this solicitation for bids.

   NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246, AS AMENDED)

2. 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.

3. The goals for minority and female participation, expressed in percentage terms FOR THE CONTRACTOR'S WORKFORCE on all construction work in the covered area, are as follows:

   Goals for minority and female participation for each trade:
   All trades **__10_%** until further notice.

   (i) These goals are applicable to all the contractor's construction work (whether it is federally assisted or not 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.

   (ii) 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 established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and the contractor shall make 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 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.

4. The contractor shall provide written notification to the Director, 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, employee identification number, estimated dollar amount of the subcontract, estimated starting and completion dates of the subcontract, and the geographical area in which the contract is to be performed.

5. As used in this notice and in the contract resulting from this solicitation, the "covered area" is Cape May County, New Jersey.

## CONTRACTOR'S CERTIFICATION OF NONSEGREGATED FACILITIES

The Federal- or State-assisted construction contractor certifies that it does not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not permit employees to perform services at any location, under its control, where segregated facilities are maintained. The Federal- or State-assisted construction contractor certifies further that it will not maintain or provide for its employees segregated facilities at any of its establishments, and that it will not permit its employees to perform services at any location, under its control, where segregated facilities are maintained. The Federal- or State-assisted construction contractor agrees that a breach of this certification is a violation of the equal opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work area, restrooms and washrooms, restaurants and other eating area, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directives or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason. The Federal- or State-assisted construction contractor agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the equal opportunity clause and that he will retain such certifications in his files.

The information above is true and complete to the best of my knowledge.

_____
Name and Title of Signer (Please type or print)

_____ _____
Signature Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

## REPORTS

### Contractors/Subcontractors with 50 or more employees and Contracts over $ 50,000

All contractors and subcontractors performing on federally or state assisted projects are required to file annually (on or before March 31) complete and accurate reports on SF 100 (Employee Information Report, EEO-1) to the Joint Reporting Committee. The first report is due within 30 days after award unless such report was filed within the preceding 12-month period.

Standard Form 100 is normally furnished based on a mailing list, but can be obtained from the Joint Reporting Committee, P.O. Box 2236, Norfolk, Virginia 20501.

### Contractors/Subcontractors with Contracts over $10,000

As indicated in paragraph 5 of the EEO Clause, monthly Employment Utilization Reports, CC 257 (previously SF 257) will be submitted to the OFCCP, Department of Labor, 3535 Market Street, Room 1310, Philadelphia, Pennsylvania 19104.

## EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

The following is included IN ENTIRETY as a part of this construction contract:

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, sex, 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 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 of 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, sex, or national origin.

3. The contractor 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 (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, as amended, of September 24, 1965, and 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, as amended, 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 Comptroller General of the United States, Department of Transportation, FAA, 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 or State assisted construction contracts in accordance with procedures authorized in Executive Order 11246, as amended, of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246, as amended, 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 Paragraph 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, as amended, 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 FAA 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 FAA, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

   Contractors and subcontractors may satisfy EEO requirements of Paragraph 2 of the referenced EEO clause by complying with any of the following:

   Stating in the Invitation for Bids that all qualified applicants will have equal consideration for employment without regard to race, color, religion, sex, or national origin, or

   Including appropriate insignia in display or other advertising as prescribed by the Department of Labor, or

Using a single advertisement grouped with other advertisements under a caption which clearly states that all employers in the group assure all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin, or

Using the phrase "an equal opportunity employer" in a single advertisement in clearly distinguishable type.

**STANDARD EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246, AS AMENDED)**

The following specifications shall be made a part of this construction contracts or subcontracts over $10,000 AND included in all invitations for bids:

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 America, or other Spanish culture or origin regardless of race);

      (3) Asian of 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 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 must 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 paragraph 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours on employment and training of minority and female utilizations the contractor should reasonable 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 OFCCP 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, as amended, or the regulations promulgated pursuant thereto.

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

7. The contractor shall take specific affirmative actions to ensure EEO. 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 on-site 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 woman 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 on site supervisory personal such as superintendents, general foremen, etc., prior to the initiation of construction work at any job sites. 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 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 opening, screening procedures, and tests to be used in the selection process.

c. 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 personal, for promotional opportunities and encourage these employees to seek or to prepare for, though 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 nonsegregated 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 supervisors' 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 p). 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 p 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 work force participation, make's 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 woman have been established. The contractor, however, is required to provide EEO and to take affirmative action for all minority groups, both male and

female and all women, both minority and non-minority. Consequently, the contractor may be in violation of the Executive Order if a particular group is substantially disparate number (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, as amended.

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 in its implementing regulations, by the OFCCP. 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 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 provision 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).

## TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

## NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS OF THE DEPARTMENT OF TRANSPORTATION

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 shall comply with the Regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. **Nondiscrimination.** The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. **Solicitation for Subcontracts, Including Procurement 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 procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. **Information and Reports.** The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the sponsor, the FAA to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the sponsor, the FAA as appropriate, and shall set forth what efforts it has made to obtain the information.

5. **Sanctions for Noncompliance.** In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it, the FAA may determine to be appropriate, including, but not limited to:

    a. Withholding of payments to the contractor under the contract until the contractor complies, and/or

    b. Cancellation, termination, or suspension of the contract, in whole or in part.

6. **Incorporation of Provisions.** The contractor shall include the provisions paragraphs 1 and 5 in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor. The FAA 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 supplier as a result of such direction, the contractor may request the sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

7. **Breach of Contract Terms - Sanctions.** Any violation or breach of the terms of this contract on the part of the contractor/subcontractor may result in the suspension or termination of this contract or such other action which may be necessary to enforce the rights of the parties of this agreement.

**SECTION II**
**P.L. 1975, C. 127 (N.J.A.C. 17:27)**
**MANDATORY AFFIRMATIVE ACTION LANGUAGE**
**CONSTRUCTION CONTRACTS**

(a) During the performance of this contract, the contractor agrees as follows:

1. The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status or sex. The contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, martial status or sex. 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 by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause;

2. The contractor or subcontractor, where applicable 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 age, race, color, national origin, ancestry, martial status or sex;

3. The contractor or subcontractor, where applicable, 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 by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

4. The contractor or subcontractor, where applicable, agree to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time.

(b) When hiring workers in each construction trade, the contractor or subcontractor agrees to attempt in good faith to employ minority and female workers in each construction trade consistent with the applicable employment goal prescribed by N.J.A.C. 17:27-7.3; provided, however, that the Affirmative Action Office may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by 1, 2, and 3 below, as long as the Affirmative Action Office is satisfied that the contractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by the Affirmative Action Office, that its percentage of active "card carrying" members who are minority and female workers is equal to or greater than the applicable employment goal prescribed by N.J.A.C. 17:27-7.3, promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

1. If the Contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as supplemented and amended from time to time. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five days prior to the commencement of construction work, the contractor or subcontractor agrees to attempt to hire minority and female workers directly, consistent with the applicable employment goal. If the contractor's or subcontractor's prior

experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and female workers consistent with the applicable employment goal, the contractor or subcontractor agrees to be prepared to hire minority or female workers directly, consistent with the applicable employment goal, by complying with the hiring procedures prescribed under (c) below; and the contractor or subcontractor further agrees to take said action immediately if it determines or is so notified by the Affirmative Action Office that the union is not referring minority or female workers consistent with the applicable employment goal.

(c) If the hiring of a workforce consistent with the employment goal has not or cannot be achieved for each construction trade by adhering to the procedures of (b) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions consistent with the applicable county employment goals:

1. To notify the Public Agency Compliance Officer, Affirmative Action Office, and at least one approved minority referral organization of its manpower needs, and request referral of minority and female workers;

2. To notify any minority and female workers who have been listed with it as awaiting available vacancies;

3. Prior to commencement of work, to request the local construction trade union, if the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, to refer minority and female workers to fill job openings;

4. To leave standing requests for additional referral to minority or female workers with the local construction trade union, if the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State training and employment service and other approved referral sources in the area until such time as the workforce is consistent with the employment goal;

5. If it is necessary to lay off some of the workers in a given trade on the construction site, to assure, consistent with the applicable State and Federal statutes and court decisions, that sufficient minority or female employees remain on the site consistent with the employment goal; and to employ any minority or female workers so laid off by the contractor or any other construction site in the area on which its workforce composition is not consistent with an employment goal established pursuant to rules implementing P.L. 1975, c. 127;

6. To adhere to the following procedure when minority or female workers apply or are referred to the contractor or subcontractor:

   i. If said individuals have never previously received any document or certification signifying a level of qualification lower than that required, the contractor or subcontractor shall determine the qualifications of such individuals and if the contractor's or subcontractor's workforce in each construction trade is not consistent with applicable employment goal, it shall employ such persons which satisfy appropriate qualification standards; provided however, that a contractor or subcontractor shall determine that the individual at least possesses the skills and experience recognized by any worker skills and experience classification determination which may have been made by a Public Agency Compliance Officer, union, apprentice program or a referral agency, provided the referral agency is acceptable to the Affirmative Action Office and provided further, that, if necessary, the contractor or subcontractor shall hire minority or female workers who qualify as trainees pursuant to these rules. All of these requirements, however, are limited by the provisions of (d) below.

ii. If the contractor's or subcontractor's work force is consistent with the applicable employment goal, the name of said female or minority group individual shall be maintained on a waiting list for the first consideration, in the event the contractor's or subcontractor's workforce is no longer consistent with the applicable employment goal.

iii. If, for any reason, said contractor or subcontractor determines that a minority individual or a female is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing with the reasons for the determination, maintain a copy in its files, and send a copy to the Public Agency Compliance Officer and to the Affirmative Action Office.

7. To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Affirmative Action Office and submitted promptly to that office upon request.

(d) The contractor or subcontractor agrees that nothing contained in (c) above shall preclude the contractor or subcontractor from complying with the hiring hall or apprenticeship provisions in any applicable collective bargaining agreement or hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement: provided, however, that where the practices of a union or apprenticeship program will result in the exclusion of minorities and females or the failure to refer minorities and females consistent with the county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to (c) above without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ female and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of (c) above, it shall, where applicable, employ minority and female workers residing within the geographical jurisdiction of the union.

(e) The contractor agrees to complete an Initial Project Manning Report on forms provided by the Affirmative Action Office or in the form prescribed by the Affirmative Action Office and submit a copy of said form no later than three days after signing a construction contract; provided, however, that the public agency may extend in a particular case the allowable time for submitting the form to no more than 14 days; and to submit a copy of the Monthly Project Manning Report once a month thereafter for the duration of this contract to the Affirmative Action Office and to the Public Agency Compliance Officer. The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and off-the-job programs for outreach and training of minority and female trainees employed on the construction projects.

(f) The contractor and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).

**SECTION III**
**AMERICANS WITH DISABILITIES ACT OF 1990**
**Equal Opportunity for Individuals with Disability**

The CONTRACTOR and the OWNER do hereby agree that the provisions of Title II of the Americans With Disabilities Act of 1990 (the ACT) (42 U.S.C. S12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereunto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the OWNER pursuant to this contract, the CONTRACTOR agrees that the performance shall be in strict compliance with the Act. In the event that the CONTRACTOR, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the CONTRACTOR shall defend the OWNER in any action or administrative proceeding commenced pursuant to this Act. The CONTRACTOR shall indemnify, protect, and save harmless the OWNER, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages, of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The CONTRACTOR shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the OWNER grievance procedure, the CONTRACTOR agrees to abide by any decision of the OWNER which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the OWNER or if the OWNER incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the CONTRACTOR shall satisfy and discharge the same at its own expense.

The OWNER shall, as soon as practicable after a claim has been made against it, give written notice thereof to the CONTRACTOR along with full and complete particulars of the claim. If any action or administrative proceedings is brought against the OWNER or any of its agents, servants, and employees, the OWNER shall expeditiously forward or have forwarded to the CONTRACTOR every demand, complaint, notice, summons, pleading or other process received by the OWNER or its representatives.

It is expressly agreed and understood that any approval by the OWNER of the services provided by the CONTRACTOR pursuant to this contract will not relieve the CONTRACTOR of the obligation to comply with the ACT and to defend, indemnify, protect, and save harmless the OWNER pursuant to this paragraph.

It is further agreed and understood that the OWNER assumes no obligation to indemnify or save harmless the CONTRACTOR, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the CONTRACTOR expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the CONTRACTOR'S obligations assumed in this Agreement, nor shall they be construed to relieve The CONTRACTOR from any liability, nor preclude the OWNER from taking any other actions available to it under any other provisions of the Agreement or otherwise at law.

## SECTION IV
## GENERAL CONTRACT PROVISIONS

The successful bidder will be required to comply with the following:

**1.** **CONSENT TO ASSIGNMENT.** The contractor shall obtain the prior written consent of the sponsor to any proposed assignment of any interest in or part of this contract.

**2.** **VETERAN'S PREFERENCE.** In the employment of labor (except in executive, administrative, and supervisory position(s), preference shall be given to veterans of the Vietnam era and disabled veterans. However, this preference may be given only where the individuals are available and qualified to perform the work to which the employment relates.

**3.** **FAA INSPECTION AND REVIEW.** The contractor shall allow any authorized representative of the FAA to inspect and review any work or materials used in the performance of this contract.

**4.** **INSPECTION RECORDS.** The contractor shall maintain an acceptable cost accounting system. The sponsor, the FAA, and the Architect/Engineer shall have 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 shall maintain all required records for three years after the sponsor makes final payment and all other pending matters are closed.

**5.** **SMALL BUSINESS ENTERPRISES (SBE).** The contractor agrees to ensure that small business enterprises have the maximum opportunity to participate in the performance of subcontracts. In this regard the contractor shall take all necessary and reasonable steps in accordance with 49 CFR Part 23 to ensure that small business enterprises have the maximum opportunity to complete for and perform subcontracts. Contractors shall not discriminate on the basis of race, color, national origin, or sex, affectional or sexual orientation in the award and performance of this contract.

## CLEAN AIR AND WATER POLLUTION CONTROL REQUIREMENTS

Contractors and subcontractors agree for any contract or subcontract exceeding $100,000:

1. That any facility to be used in the performance of the contract or to benefit from the contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities.

2. To comply with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations issued there under.

3. That as a condition for award of a contract they will notify the awarding official of the receipt of any communication from the EPA indicating that a facility to be utilized for performance of or benefit from the contract is under consideration to be listed on the EPA List of Violating Facilities.

4. To include or cause to be included in any contract or subcontract which exceeds $100,000 the aforementioned criteria and requirements.

## BONDING/INSURANCE

The following clauses are to be included in all federally or state assisted construction contracts for bids and/or contracts in excess of $100,000.

1. The contractor agrees to furnish a performance bond for 100 percent of the contract price. This bond is one that is executed in connection with a contract to secure fulfillment of all contractor's obligations under such contract.

2. The contractor agrees to furnish a payment bond for 100 percent of the contract price. This bond is one that is executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

## SMALL BUSINESS ENTERPRISE REQUIREMENTS

Small Business Enterprise Requirements (SBE) are applicable to each general aviation airport sponsor receiving grant funds; each non-hub airport sponsor (including commuters) receiving grant funds; and each large, medium, small hub airport sponsor receiving a FAA Grant.

The contract to be awarded under this advertised bid falls into the above categories. As a result, the bid is subject to the following requirements:

1. The successful bidder shall make a good faith effort to use **approved SBE subcontractors** and to replace a SBE subcontractor that is unable to perform successfully with another SBE subcontractor. There shall be no substitution of any subcontractors without the prior approval of the sponsor in order to ensure that the substitute firm is an eligible approved SBE.

2. The successful bidder shall establish and maintain records and submit reports, as required, which will identify and assess the efforts made to achieve SBE subcontract goals and other SBE affirmative action efforts.

3. The successful bidder shall complete the attached SBE Form A – Schedule of SBE Participation immediately upon Notice of Award of the contract identifying all of their SBE Subcontractors to be used on this project. All SBE contractors and subcontractors used on the project must be **approved SBE contractors.**

AIRPORT: Woodbine Municipal Airport PROJECT: Hangar 5 Renovations

SPONSOR: _____ NJ#: _____

CONTRACT AMOUNT: _____ DATE: _____

**SBE FORM A**

| CLASSIFICATION | NAME OF SBE CONTRACTOR | ADDRESS | TYPE OF WORK (ELECTRICAL, PAVING ETC) & CONTRACT ITEMS OR PARTS THEREOF TO BE PERFORMED | PROJECTED COMMENCEMENT &COMPLETION DATE FOR WORK | ACTUAL DOLLAR AMOUNT OF SUB-CONTRACT WORK |
|---|---|---|---|---|---|
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**SCHEDULE OF SBE PARTICIPATION**

**CLASSIFICATION:**

**S - SUBCONTRACTOR (100% CREDIT)**
**M - MANUFACTURER (100% CREDIT)**
**RD/S - REGULAR DEALER/SUPPLIER (60% CREDIT)**
**RD/I - REGULAR DEALER/INSTALLER (100% CREDIT)**
**T/H - TRUCKER/HAULER (100% CREDIT)**
**EL - EQUIPMENT LESSOR (100% CREDIT)**

_____ **BIDDER-PRINT NAME**

_____ **DBE LIAISON OFFICER**

_____ **TELEPHONE NUMBER**

**NOTES: A REGULAR DEALER/SUPPLIER MUST MAINTAIN INVENTORY AND/OR OWN OR OPERATE DISTRIBUTION EQUIPMENT. PRIME CONTRACTOR WILL NOT RECEIVE CREDIT FOR DBE BROKER PARTICIPATION**.

## FOREIGN TRADE RESTRICTIONS

The contractor or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

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

b. has not knowingly entered into any contract or subcontract for this project with a contractor that is a citizen of national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

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 a contractor or subcontractor who is unable to certify to the above. If the contractor knowingly procures or subcontracts for the supply of any product or service of a foreign country on the said list for use on the project, the State may direct, through the sponsor, cancellation of the contract at no cost to the Government.

Further, the contractor agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The contractor may rely upon the certification of a prospective subcontractor unless it has knowledge that the certification is erroneous.

The contractor shall provide immediate written notice to the sponsor if the contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide immediate written notice to the contractor, if at any time it learns that its certification was erroneous by reason of changed circumstances.

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

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.

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, United States Code, Section 1001.

## CONTRACTOR'S CERTIFICATION OF ELIGIBILITY

The bidder/offeror certifies, by submission of this proposal or acceptance of this contract, that neither it nor its principles is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal Department or Agency or State Agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offer/contractor or any lower tier participants is unable to certify to this statement, it shall attach an explanation to this solicitation/proposal.

That, the information above is true and complete to the best of my knowledge.

_____
Name and Title (please print)

_____ _____
Signature Date

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001

**B(1) <u>Contract Work Hours and Safety Standard Act</u>.**

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

**(ii) Violation; Liability for unpaid wages; Liquidated damages.** In the event of any violation of the clause set forth in subparagraph (i) of this clause, the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in 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 subparagraph (i) of this paragraph, in the sum of $100 for each calendar day for 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 subparagraph (i) of this clause.

**(iii) Withholding for unpaid wages and liquidated damages.** Borough of Woodbine shall upon its own action or written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by the contractor or subcontractor with the same prime contractor, or any other 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 subparagraph (ii) of this paragraph.

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

**B(2) <u>Contracts subject only to Contract Work Hours and Safety Standards Act</u>.**

**(i)** The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working in the contract. Such records shall contain the name and address of each such employee, social security number, correct classification, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid.

**(ii)** The records to be maintained under paragraph (i) above shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the Department of Transportation and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

## 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). |

| Paragraph Number | Term | Definition |
|---|---|---|
| **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 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.<br><br>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. |

| Paragraph Number | Term | Definition |
|---|---|---|
| **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 |

| Paragraph Number | Term | Definition |
|---|---|---|
| | | 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. |
| **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.<br><br>**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.<br><br>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, |

| Paragraph Number | Term | Definition |
|---|---|---|
| | | 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 Borough of Woodbine** |
| **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. |
| **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. |

| Paragraph Number | Term | Definition |
|---|---|---|
| **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. |

| Paragraph Number | Term | Definition |
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| **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 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 |

| Paragraph Number | Term | Definition |
|---|---|---|
| | | 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 |

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## SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

**20-01 Advertisement (Notice to Bidders).** The Owner, or his/her authorized agent, shall publish the advertisement at such places and at such times as are required by local law or ordinances. The published advertisement shall state the time and place for submitting sealed proposals; a description of the proposed work; instructions to bidders as to obtaining proposal forms, plans, and specifications; proposal guaranty required; and the Owner's right to reject any and all bids.

**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*.

Mobilization is limited to 3 percent of the total project cost.

A pre-bid conference is required on this project to discuss as a minimum, the following items: material requirements; submittals; Quality Control/Quality Assurance requirements; the construction safety and phasing plan including airport access and staging areas; and unique airfield paving construction requirements.

**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.** 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.

**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 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 Architect/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 10 days prior to bid opening.

Any interpretation of the project bid documents by the Owner's Architect/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.

## 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 30 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.

# 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 Architect/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 Architect/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. z

**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.

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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.

## LIST OF SPECIAL PROVISIONS

**50-04 Cooperation of Contractor**. The Contractor shall be supplied with two hard copies or an electronic PDF of the plans and specifications. 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.

**50-05 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.

**50-06 Construction layout and stakes**. The Architect/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): **PDF**.

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.

**50-07 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.

**50-08 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.

**50-09 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.

**50-10 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.

**50-11 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.

**50-12 Failure to maintain the work**. Should the Contractor at any time fail to maintain the work as provided in paragraph 50-11, *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.

**50-13 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.

**50-14 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.

**50-15 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.

**50-17 Value Engineering Cost Proposal.** The provisions of this paragraph will apply only to contracts awarded to the lowest bidder pursuant to competitive bidding.

On projects with original contract amounts in excess of $100,000, the Contractor may submit to the RPR, in writing, proposals for modifying the plans, specifications or other requirements of the contract for the sole purpose of reducing the cost of construction. The value engineering cost proposal shall not impair, in any manner, the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, design and safety standards. This provision shall not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a value engineering proposal.

Not eligible for value engineering cost proposals are changes in the basic design of a pavement type, runway and taxiway lighting, visual aids, hydraulic capacity of drainage facilities, or changes in grade or alignment that reduce the geometric standards of the project.

As a minimum, the following information shall be submitted by the Contractor with each proposal:

**a.** A description of both existing contract requirements for performing the work and the proposed changes, with a discussion of the comparative advantages and disadvantages of each.

**b.** An itemization of the contract requirements that must be changed if the proposal is adopted.

**c.** A detailed estimate of the cost of performing the work under the existing contract and under the proposed changes.

**d.** A statement of the time by which a change order adopting the proposal must be issued.

**e.** A statement of the effect adoption of the proposal will have on the time for completion of the contract.

**f.** The contract items of work affected by the proposed changes, including any quantity variation attributable to them.

The Contractor may withdraw, in whole or in part, any value engineering cost proposal not accepted by the RPR, within the period specified in the proposal. The provisions of this subsection shall not be construed to require the RPR to consider any value engineering cost proposal that may be submitted.

The Contractor shall continue to perform the work in accordance with the requirements of the contract until a change order incorporating the value engineering cost proposal has been issued. If a change order has not been issued by the date upon which the Contractor's value engineering cost proposal specifies that a decision should be made, or such other date as the Contractor may subsequently have requested in writing, such value engineering cost proposal shall be deemed rejected.

The RPR shall be the sole judge of the acceptability of a value engineering cost proposal and of the estimated net savings from the adoption of all or any part of such proposal. In determining the estimated net savings, the RPR may disregard the contract bid prices if, in the RPR's judgment such prices do not represent a fair measure of the value of the work to be performed or deleted.

The Owner may require the Contractor to share in the Owner's costs of investigating a value engineering cost proposal submitted by the Contractor as a condition of considering such proposal. Where such a condition is imposed, the Contractor shall acknowledge acceptance of it in writing. Such acceptance shall constitute full authority for the Owner to deduct the cost of investigating a value engineering cost proposal from amounts payable to the Contractor under the contract.

If the Contractor's value engineering cost proposal is accepted in whole or in part, such acceptance will be by a contract change order that shall specifically state that it is executed pursuant to this paragraph. Such change order shall incorporate the changes in the plans and specifications which are necessary to permit the value engineering cost proposal or such part of it as has been accepted and shall include any conditions upon which the RPR's approval is based.

The change order shall also set forth the estimated net savings attributable to the value engineering cost proposal. The net savings shall be determined as the difference in costs between the original contract costs for the involved work items and the costs occurring as a result of the proposed change. The change order shall also establish the net savings agreed upon and shall provide for adjustment in the contract price that will divide the net savings equally between the Contractor and the Owner. The Contractor's 50% share of the net savings shall constitute full compensation to the Contractor for the value engineering cost proposal and the performance of the work.

Acceptance of the value engineering cost proposal and performance of the work shall not extend the time of completion of the contract unless specifically provided for in the contract change order.

# 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.

The Contractor shall employ a Quality Control (QC) testing organization to perform all Contractor required QC tests in accordance with Item C-100 Contractor Quality Control Program (CQCP).

**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.

**d.** 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 Architect/Engineer/ Resident Project Representative (RPR) field office**. The Contractor shall coordinate with airport to provide dedicated space for the use of the architect/engineer, RPR, and inspectors, as a field office for the duration of the project. This space shall be located conveniently near the construction and shall be separate from any space used by the Contractor. The Contractor shall be responsible for furnish water, sanitary facilities, heat, air conditioning, and electricity.

**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.

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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.

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 on G-004 thru G-008 sheets of 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 Architect/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.

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.

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.

**70-16 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.** Insert local insurance requirements for commercial general and umbrella liability; commercial auto and umbrella liability; worker's compensation; property; and/or other types of coverage required by the project.

**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 14 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 10 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 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:

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.

| Schedule | Liquidated Damages Cost | Allowed Construction Time |
|---|---|---|
| | $1000 | 120 Calendar Days |

The maximum construction time allowed for Schedules will be the sum of the time allowed for individual schedules but not more than 120 calendar days. 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 wavier 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 PAYMENT

**90-01 Does not apply**

**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.

The Owner may hold retainage from prime Contractors and provide for prompt and regular incremental acceptances of portions of the prime contract, pay retainage to prime Contractors based on these acceptances, and require a contract clause obligating the prime Contractor to pay all retainage owed to the subcontractor for satisfactory completion of the accepted work within 30 days after the Owner's payment to the prime Contractor. If Option 3 is selected, the percent withheld may range from 0% to 10% but in no case may it exceed 10%. When establishing a suitable retainage value that protects the Owner's interests, give consideration that the performance and payment bonds also provide similar protection of Owner interests. Owner may elect to incrementally release retainage if owner is satisfied its interest with completion of the project are protected in an adequate manner. The following clause and specify a suitable value where indicated:

a. From the total of the amount determined to be payable on a partial payment, not to exceed 10% 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 [seven days after the discovery of any failure, defect, or damage.

**f.** If the Contractor fails to remedy any failure, defect, or damage within 14 days 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 manufacturer's 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**

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# SECTION A-100 - ALLOWANCES

## PART 1 - GENERAL

### 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

### 1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing allowances.

1. Certain materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:

1. Testing and inspecting allowances.
2. General allowances.

C. Related Sections include the following:

1. Schedules: The Contractor's Construction Schedule is specified in Division I Section "Submittals."
2. Testing: Section 014000, "Quality Requirements"

### 1.3 SELECTION AND PURCHASE

A. At the earliest practical date after award of the Contract, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

### 1.4 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.

B. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

1.5 CONTINGENCY ALLOWANCES

A. Use the contingency allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.6 TESTING AND INSPECTING ALLOWANCES

A. Testing and inspecting allowances include the cost of engaging testing agencies, actual tests and inspections, and reporting results.

B. The allowance does not include incidental labor required to assist the testing agency or costs for retesting if previous tests and inspections result in failure.

C. Costs of services not required by the Contract Documents are not included in the allowance.

D. At Project closeout, credit unused amounts remaining in the testing and inspecting allowance to Owner by Change Order.

1.7 UNUSED MATERIALS

A. Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

1. If requested by Architect, prepare unused material for storage by Owner when it is not economically practical to return the material for credit. If directed by Architect, deliver unused material to Owner's storage space. Otherwise, disposal of unused material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance 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 allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

TESTING & INSPECTION ALLOWANCES

A. Allowance No. 1 – **Testing and Inspection ($9,500)**: This allowance is for testing and inspection services required by the Contract Documents as directed by the Architect/Engineer/Owner for but limited to (bottom of footing, concrete strength, masonry testing, steel gages, torsion test, etc.).

B. Allowance No. 2 – **General Allowance ($65,000):** This allowance is for work directed by the Architect/Owner.

END OF SECTION A-100

# SECTION -A-600 MISCELLANEOUS CARPENTRY

## 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 the following:

1. Framing with dimension lumber.
2. Wood furring, grounds, nailers, and blocking.
3. Plywood panels.

### 1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Wood treatment data as follows, including chemical treatment manufacturer's instructions for handling, storing, installing, and finishing treated materials:

1. For each type of preservative-treated wood product, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
2. For waterborne-treated products, include statement that moisture content of treated materials was reduced to levels indicated before shipment to Project site.

C. Warranty of chemical treatment manufacturer for each type of treatment.

### 1.4 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect from weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.

1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

## PART 2 - PRODUCTS

### 2.1 LUMBER, GENERAL

A. Lumber Standards: Comply with DOC PS 20, "American Softwood Lumber Standard," and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.

B. Inspection Agencies: Inspection agencies, and the abbreviations used to reference them, include the following:

1. NELMA - Northeastern Lumber Manufacturers Association.
2. SPIB - Southern Pine Inspection Bureau.
3. WCLIB - West Coast Lumber Inspection Bureau.
4. WWPA - Western Wood Products Association.

C. Grade Stamps: Provide lumber with each piece factory marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

1. For exposed lumber, furnish pieces with grade stamps applied to ends or back of each piece.

D. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.

1. Provide dressed lumber, S4S, unless otherwise indicated.
2. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. General: Where lumber or plywood is indicated as preservative treated or is specified to be treated, comply with applicable requirements of AWPA C2 (lumber) and AWPA C9 (plywood). Mark each treated item with the Quality Mark Requirements of an inspection agency approved by ALSC's Board of Review.

1. Do not use chemicals containing chromium or arsenic.
    a. Chemical shall be Amine (ACQ)
2. For exposed items indicated to receive stained finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.

B. Pressure treat aboveground items with waterborne preservatives to a minimum retention of 0.25 lb/cu. ft. (4.0 kg/cu. m). After treatment, kiln-dry lumber and plywood to a maximum moisture content of 19 and 15 percent, respectively. Treat indicated items and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing members less than 18 inches (460 mm) above grade.
4. Wood floor plates installed over concrete slabs directly in contact with earth.

C. Pressure treat wood members in contact with ground or freshwater with waterborne preservatives to a minimum retention of 0.40 lb/cu. ft. (6.4 kg/cu. m).

## 2.3 DIMENSION LUMBER

A. General: Provide dimension lumber of grades indicated according to the ALSC National Grading Rule (NGR) provisions of the inspection agency indicated.

B. All framing lumber for use in the exterior walls, interior bearing partition and floor joists shall have a fiber stress certification of 1200 psi. All lumber delivered to the project shall be stamped with the grade of fiber stress rating.

## 2.4 MISCELLANEOUS LUMBER

A. General: Provide lumber for support or attachment of other construction, including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.

B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.

C. Moisture Content: 19 percent maximum for lumber items are not specified to receive wood preservative treatment.

D. Grade: For miscellaneous lumber sizes, provide No. 3 or Standard grade lumber per ALSC's NGRs of any species. For board-size lumber, provide No. 3 Common grade per NELMA, NLGA, or WWPA; No. 2 grade per SPIB; or Standard grade per NLGA, WCLIB or WWPA of any species.

## 2.5 WOOD-BASED STRUCTURAL-USE PANELS

A. Structural-Use Panel Standards: Provide either all-veneer, mat-formed, or composite panels complying with DOC PS 2, "Performance Standard for Wood-Based Structural-Use Panels," unless otherwise indicated. Provide plywood panels complying with DOC PS 1, "U.S. Product Standard for Construction and Industrial Plywood," where plywood is indicated.

B. Trademark: Factory mark structural-use panels with APA trademark evidencing compliance with grade requirements.

1. Span Ratings: Provide panels with span ratings required to meet "Code Plus" provisions of APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial."

C. Plywood Floor Decking: (Courtroom raised platforms).

1. Span Rating: Not less than 32/0
2. Thickness: Not less than 3/4" (16 mm) Tongue and groove.

D. Miscellaneous Concealed Panels: APA-rated sheathing, Exposure 1, span rating to suit framing in each location.

E. Plywood Backing Panels: For mounting electrical or telephone equipment, provide thirty (30) fire-retardant-treated plywood panels with grade, C-D Plugged Exposure 1, in thickness indicated or, if not otherwise indicated, not less than 15/32 inch (11.9 mm) thick.

## 2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.

1. Where miscellaneous carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of Type 304 stainless steel.

B. Nails, Wire, Brads, and Staples: FS FF-N-105.

C. Power-Driven Fasteners: CABO NER-272.

D. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted.

C. Fit carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction.

D. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.

E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.

F. Countersink nail heads on exposed carpentry work and fill holes with wood filler.

G. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

3.2 WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

A. Install where shown and where required for screeding or attaching other work. Cut and shape to required size. Coordinate locations with other work involved.

B. Attach to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.

C. Install all required blocking for: pay phones, toilet accessories, signs, lockers, projection screens, appliances, detention equipment, acoustical wall panels, louvers, window casework, window shades, clocks, and any other items requiring wood blocking.

3.3 INSTALLATION OF STRUCTURAL-USE PANELS

A. General: Comply with applicable recommendations contained in APA Form No. E30, "APA Design/Construction Guide: Residential & Commercial," for types of structural-use panels and applications indicated.

1. Comply with "Code Plus" provisions of the above referenced guide.

END OF SECTION

# SECTION A-710 - BUILDING INSULATION

## 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 the following:

1. Open cell spray foam insulation
2. Sound attenuation insulation

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 9 Section "Gypsum Board Assemblies" for insulation installed as part of framed wall and partition assemblies.

### 1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of insulation product specified.

C. Product test reports from and based on tests performed by a qualified independent testing agency evidencing compliance of insulation products with specified requirements including those for thermal resistance, fire-test-response characteristics, water-vapor transmission, water absorption, and other properties, based on comprehensive testing of current products.

### 1.4 QUALITY ASSURANCE

A. Single-Source Responsibility for Insulation Products: Obtain each type of building insulation from a single source with resources to provide products complying with requirements indicated without delaying the Work.

B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated on Drawings or specified elsewhere in this Section as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Surface-Burning Characteristics: ASTM E 84.
2. Fire-Resistance Ratings: ASTM E 119.
3. Combustion Characteristics: ASTM E 136.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

B. Protect plastic insulation as follows:

1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide insulation products by one of the following:

1. Extruded-Polystyrene Board Insulation:

a. Amoco Foam Products Company.
b. Dow Chemical Co.
c. UC Industries, Inc.; Owens-Corning Co.

2. Glass-Fiber Insulation:

a. CertainTeed Corporation.
b. Owens-Corning Fiberglas Corporation.
c. Schuller International, Inc.

3. Mineral-Fiber Insulation, Sound attenuation and Fire stopping

a. Roxul, Inc.

2.2 INSULATING MATERIALS

A. General: Provide insulating materials that comply with requirements and with referenced standards.

1. Preformed Units: Sizes to fit applications indicated; selected from manufacturer's standard thicknesses, widths, and lengths.

B. Extruded-Polystyrene Board Insulation: Rigid, cellular polystyrene thermal insulation formed from polystyrene base resin by an extrusion process using hydro chlorofluorocarbons as blowing agent to comply with ASTM C 578 for type and with other requirements indicated below:

1. Type IV, 1.60-lb/cu. ft. (26-kg/cu. m) minimum density, unless otherwise indicated.
2. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indices of 75 and 450, respectively.
3. Use extruded polystyrene board insulation for under slab, cavity wall insulation and at the adhered stone veneer.

C. Faced Glass-Fiber Blanket Insulation: Thermal insulation combining glass fibers of type described below with thermosetting resins to comply with ASTM C 665, Type III, Class A (blankets with reflective vapor-retarder membrane facing and flame spread of 25 or less); with scrim-kraft.

1. Glass-Fiber Type: Fibers manufactured from glass, FSK, formaldehyde free, 25% recycled material content.
2. Flanged Units: Provide blankets fabricated with facing incorporating 5-inch- (127-mm-) wide flanges along edges for attachment to framing members.
3. "R" value as noted on the plans.

D. Mineral-Fiber Insulation: Thermal and non-combustible insulation made from Stone Wool to meet ASTM E136 and ASTM E83 for fire and smoke development.

1. Product to be supplied in both batts and rigid boards as noted on the details for the various locations in the exterior and interior walls.
2. Thicknesses and "R" values shall be as noted on the drawings.
3. Sound attenuation rigid boards shall be 3" (3inches) thick.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and to determine if other conditions affecting performance of insulation are satisfactory. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

A. Clean substrates of substances harmful to insulations or vapor retarders, including removing projections capable of puncturing vapor retarders or that interfere with insulation attachment.

### 3.3 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.

B. Install insulation that is undamaged, dry, unsoiled, and has not been exposed at any time to ice and snow.

C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

D. Apply single layer of insulation to produce thickness indicated.

### 3.4 INSTALLATION OF PERIMETER AND UNDER-SLAB INSULATION

A. On vertical surfaces, set units in adhesive applied according to manufacturer's written instructions. Use adhesive recommended by insulation manufacturer.

## 3.5 INSTALLATION OF GENERAL BUILDING INSULATION

A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.

B. Seal joints between closed-cell (nonbreathing) insulation units by applying adhesive, mastic, or sealant to edges of each unit to form a tight seal as units are shoved into place. Fill voids in completed installation with adhesive, mastic, or sealant as recommended by insulation manufacturer.

C. Set vapor-retarder-faced units with vapor retarder to warm side of construction, unless otherwise indicated. Do not obstruct ventilation spaces, except for firestopping.

1. Tape joints and ruptures in vapor retarder, and seal each continuous area of insulation to surrounding construction to ensure airtight installation.

D. Set reflective, foil-faced units with not less than 0.75-inch (19-mm) air space in front of foil as indicated.

E. Install mineral-fiber blankets in cavities formed by framing members according to the following requirements:

1. Use blanket widths and lengths that fill cavities formed by framing members. Where more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.

F. Install the sound attenuating boards in the walls as noted, to be full width between framing members and full height of the partition, mechanically support as needed to assure they stay in position.

## 3.6 PROTECTION

A. General: Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION

# SECTION A-720 JOINT SEALANTS

## 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 sealants for the following applications, including those specified by reference to this Section:

B. This Section includes sealants for the following applications:

1. Exterior joints in the following vertical surfaces and nontraffic horizontal surfaces:

a. Joints in exterior masonry.
b. Perimeter joints around the doors and windows frames as noted.
c. Other joints as indicated.

### 1.3 PERFORMANCE REQUIREMENTS

A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

### 1.4 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Product Certificates: Signed by manufacturers of joint sealants certifying that products furnished comply with requirements and are suitable for the use indicated.

D. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

E. Product Test Reports: From a qualified testing agency indicating sealants comply with requirements, based on comprehensive testing of current product formulations.

F. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
2. When joint substrates are wet.

B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.8 WARRANTY

A. General Warranty: Special warranties 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.

B. Special Installer's Warranty: Written warranty, signed by Installer agreeing to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

C. Special Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS AND MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products indicated for each type in the sealant schedules at the end of Part 3.

### 2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range for this characteristic.

### 2.3 ELASTOMERIC JOINT SEALANTS

A. Elastomeric Sealant Standard: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant in the Elastomeric Joint-Sealant Schedule at the end of Part 3, including those referencing ASTM C 920 classifications for type, grade, class, and uses.

B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified in the Elastomeric Joint-Sealant Schedule to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.

### 2.4 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

### 2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
    a. Concrete.
    b. Masonry.
3. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
    a. Metal.

B. Joint Priming: Prime joint substrates where recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

## 3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability. Install backer rods in all joints of the dimensional stone cladding.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

E. Install sealants by proven techniques to comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses provided for each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

3.4 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

3.6 ELASTOMERIC JOINT-SEALANT SCHEDULE

A. Low-Modulus Nonacid-Curing Silicone Sealant: Joints in masonry walls, around window and door frames and other joints as indicated, provide products complying with the following:

1. Products: Provide one of the following or equal:
    a. 864; Pecora Corporation.
    b. Spectrem 1; Tremco
    c. 790; Dow Corning.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 25.
4. Additional Movement Capability: 50 percent movement in extension and 50 percent movement in compression for a total of [100] percent movement.
5. Use Related to Exposure: NT (nontraffic).
6. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.
7. Stain-Test-Response Characteristics: Nonstaining to porous substrates per ASTM C 1248.

B. Medium-Modulus Neutral-Curing Silicone Sealant: In joints between the cast iron roof panels, where indicated on the plans, provide products complying with the following:

1. Products: Provide one of the following or equal:
    a. 895; Pecora Corporation
    b. 756 H.P.; Dow Corning.
    c. Silglaze II; GE Silicones.
2. Type and Grade: S (single component) and NS (nonsag).
3. Class: 25.
4. Additional Movement Capability: 50 percent movement in extension and 50 percent movement in compression for a total of 100 percent movement.
5. Use[s] Related to Exposure: NT (nontraffic)
6. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

END OF SECTION

# SECTION A-730 - SHEET METAL FLASHING AND TRIM

## 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 sheet metal flashing and trim in the following categories:

1. Metal flashing.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division 4 Sections for through-wall flashing and other integral masonry flashings specified as part of masonry work.
2. Division 7 Section "Joint Sealants" for elastomeric sealants.

### 1.3 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

### 1.4 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data including manufacturer's material and finish data, installation instructions, and general recommendations for each specified flashing material and fabricated product.

C. Shop Drawings of each item specified showing layout, profiles, methods of joining, and anchorage details.

D. Samples of sheet metal flashing, trim, and accessory items, in the specified finish. Where finish involves normal color and texture variations, include Sample sets composed of 2 or more units showing the full range of variations expected.

## PART 2 - PRODUCTS

### 2.1 METALS

A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability of alloy and temper designated below:

1. Factory-Painted Aluminum Sheet: ASTM B 209 (ASTM B 209M), 3003-H14, with a minimum thickness of 0.040 inch (1.0 mm), unless otherwise indicated.
2. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy 6063-T52, with a minimum thickness of 0.080 inch (2.0 mm) for primary legs of extrusions that are anodized, unless otherwise indicated.

B. Galvanized Steel Sheet: ASTM A 526, G 90 (ASTM A 526M, Z 275), commercial quality, or ASTM A 527, G 90 (ASTM A 527M, Z 275), lock-forming quality, hot-dip galvanized steel sheet with 0.20 percent copper, mill phosphatized where indicated for painting; not less than 0.0396 inch (1.0 mm) thick, unless otherwise indicated.

C. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792, Class AZ-50 coating, Grade 40 (ASTM A 792M, Class AZ-150 coating, Grade 275) or to suit project conditions, with 55 percent aluminum, not less than 0.0396 inch (1.0 mm) thick, unless otherwise indicated.

D. Stainless Steel: 0.0156 inch thick, (4 mm).

2.3 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Burning Rod for Lead: Same composition as lead sheet.

B. Fasteners: Same metal as sheet metal flashing or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with material being fastened.

C. Asphalt Mastic: SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4-mm) dry film thickness per coat.

D. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

E. Elastomeric Sealant: Generic type recommended by sheet metal manufacturer and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealants."

F. Epoxy Seam Sealer: 2-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior and interior nonmoving joints, including riveted joints.

G. Adhesives: Type recommended by flashing sheet metal manufacturer for waterproof and weather-resistant seaming and adhesive application of flashing sheet metal.

H. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; noncorrosive; size and thickness required for performance.

J. Roofing Cement: ASTM D 4586, Type I, asbestos free, asphalt based.

2.4 FABRICATION, GENERAL

A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.

B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

C. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.

D. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

E. Expansion Provisions: Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

F. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.

G. Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.

H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.

I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, noncorrosive metal recommended by sheet metal manufacturer.

1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

## 2.5 SHEET METAL FABRICATIONS

A. General: Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.

B. Base Flashing: Fabricate from the following material:

1. Aluminum-Zinc Alloy-Coated Steel: 0.032 thick.

C. Counterflashing: Fabricate from the following material:

1. Aluminum: 0.032 inch thick.

D. Flashing Receivers: Fabricate from the following material:

1. Aluminum: 0.032 inch thick.

E. Equipment Support Flashing: Fabricate from the following material:

1. Galvanized Steel: 0.028 inch thick.

## 2.6 ALUMINUM EXTRUSION FABRICATIONS

A. Aluminum Extrusion Units: Fabricate extruded-aluminum running units with formed or extruded-aluminum joint covers for installation behind main members where possible. Fabricate mitered and welded corner units.

2.7 ALUMINUM FINISHES

A. General: Comply with Aluminum Association's (AA) "Designation System for Aluminum Finishes" for finish designations and application recommendations.

B. High-Performance Organic Coating Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating as specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's instructions for aluminum work exposed to view.

1. Fluoropolymer 2-Coat Coating System: Manufacturer's standard 2-coat, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.

a. Color and Gloss: As selected by Architect from manufacturer's full range of choices for color and gloss.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.

B. Install exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

C. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

D. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.

1. Use joint adhesive for nonmoving joints specified not to be soldered.

E. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.

F. Seams: Fabricate nonmoving seams in aluminum with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.

G. Separations: Separate metal from noncompatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.

H. Counterflashings: Coordinate installation of counterflashings with installation of assemblies to be protected by counterflashing. Install counterflashings in reglets or receivers. Secure in a waterproof manner by means of snap-in installation and sealant, lead wedges and sealant, interlocking folded seam, or blind rivets and sealant. Lap counterflashing joints a minimum of 2 inches (50 mm) and bed with sealant.

I. Equipment Support Flashing: Coordinate equipment support flashing installation with roofing and equipment installation. Weld or seal flashing to equipment support member.

J. Roof-Penetration Flashing: Coordinate roof-penetration flashing installation with roofing and installation of items penetrating roof. Install flashing as follows:

1. Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
2. Seal and clamp flashing to pipes penetrating roof, other than lead flashing on vent piping.

## 3.3 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION

# SECTION A-740 - MODIFIED LIQUID RUBBER WATERPROOFING

## PART 1 - GENERAL

### 1.1 DESCRIPTION

A. The Armour Ply Liquid Membrane Roof System is a fluid-applied membrane system designed for application to Fiberglass Roofs. This Armour Ply partially reinforced system will provide a fully adhered, seamless membrane system with superior weatherability.

## PART 2 - PRODUCTS

### 2.1 EXAMINATION OF SUBSTRATE

A. Examine the substrates, flashing conditions, penetrations, curbs, adjoining construction and the conditions under which the work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected and substrate is acceptable.

B. Applicator shall be responsible for providing a proper substrate to receive the Armour Ply Liquid Membrane System.

C. Defects in the substrate shall be noted and work shall not proceed until such defects have been corrected.

D. Do not proceed until any projections that will penetrate through the finished roof membrane system have been properly installed, such as pipes, conduit, vents and ducts.

E. Complete all corrective actions before proceeding with the roof membrane system.

F. Apply **AP-1200 Rinseable Primer 300 sqft per gallon**, Pressure-wash the roof with a minimum of 2,000 psi. The surface must be free of all dirt, debris, loose coatings, oil and other contaminants. Allow the roof to dry 24 hours.

G. Applicator will meet on site with an Armour Prof Coatings representative prior to project start-up to perform a product adhesion test. Upon completion of the project an Armour Proof Coatings representative will conduct final inspections all on buildings for approved warranties

## PART 3 - EXECUTION

### 3.1 REQUIRING REINFORCEMENT – FLASHINGS, PENETRATIONS, PERIMETER

A. Apply one coat of AP-6100 Modified Liquid Rubber to all areas at a minimum rate of 1.5 gallons per 100 square feet. Embed the AP-8100 Polyester Fabric into the wet coating, removing all wrinkles, air pockets, fishmouths, etc. Saturate the fabric with additional AP-6100 Modified Liquid Rubber to all areas at a minimum rate of 1.5 gallons per 100 square feet. Allow 24 hours to dry. Ridge Cap requires 12".

**Estimated Fabric and Coating Coverage Rates**

| Product | Size | Gallons Per 100 Linear Feet |
|---|---|---|
| AP-8101 | 4" | 1.25 gallon |
| AP-8102 | 6" | 1.50 gallons |
| AP-8103 | 12" | 2.75 gallons |
| AP-8104 | 20" | 4.50 gallons |

3.2 ARMOUR PLY PARTIALLY REINFORCED SYSTEM

A. Apply one coat of AP-6100 Modified Liquid Rubber at a minimum rate of 1.50 gallons per 100 square feet. Allow 24 hours to dry.

B. Apply second coat of AP-6100 Modified Liquid Rubber at a minimum rate of 1.50 gallons per 100 square feet.

END OF SECTION

# SECTION A-800 – HOLLOW METAL FRAMES

## 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 hollow metal frames.

B. Related Sections: The following Sections contain requirements that relate to this Section:

1. Division --- Section "Door Hardware" for door hardware and weatherstripping.
2. Division --- Section "Painting" for field painting primed doors and frames.

### 1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of frame specified, including details of construction, materials, dimensions, hardware preparation, core, label compliance, sound ratings, profiles, and finishes.

C. Shop Drawings showing fabrication and installation of steel doors and frames. Include details of each frame type, conditions at openings, details of construction, location and installation requirements of frame hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.

### 1.4 QUALITY ASSURANCE

A. Provide frames complying with ANSI/SDI 100 "Recommended Specifications for Standard Steel Doors and Frames" and as specified.

### 1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished frames.

B. Store frames at building site under cover. Place units on minimum 4-inch- high wood blocking. Avoid using nonvented plastic or canvas shelters that could create a humidity chamber. If cardboard wrappers on doors become wet, remove cartons immediately. Provide minimum 1/4-inch spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Steel Frames:

a. Ceco Door Products.
b. Kewanee Corp.
c. Steelcraft.
d. Approved equal

2.2 MATERIALS

A. Hot-Rolled Steel Sheets and Strip: Commercial-quality carbon steel, pickled and oiled, complying with ASTM A 569.

B. Cold-Rolled Steel Sheets: Carbon steel complying with ASTM A 366, commercial quality, or ASTM A 620, drawing quality, special killed.

C. Galvanized Steel Sheets: Zinc-coated carbon steel complying with ASTM A 526, commercial quality, or ASTM A 642, drawing quality, hot-dip galvanized according to ASTM A 525, with A 60 or G 60 coating designation, mill phosphatized.

D. Supports and Anchors: Fabricated from not less than 0.0478-inch- thick steel sheet; 0.0516-inch- thick galvanized steel where used with galvanized steel frames.

E. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where items are to be built into exterior walls, hot-dip galvanize complying with ASTM A 153, Class C or D as applicable.

2.3 FRAMES

A. Provide metal frames for doors, according to ANSI/SDI 100, and of types and styles as shown on Drawings and schedules. Conceal fastenings, unless otherwise indicated. Fabricate exterior frames of minimum 0.0785-inch (14 ga.)- thick galvanized steel sheet. Fabricate interior frames of minimum 0.0635 –inch (16 ga.) thick galvanized steel sheet.

1. Fabricate frames with mitered or coped and continuously welded corners.

B. Door Silencers: Except on weatherstripped frames, drill stops to receive 3 silencers on strike jambs of single-door frames and 2 silencers on heads of double-door frames.

C. Plaster Guards: Provide minimum 0.0179-inch- thick steel plaster guards or mortar boxes at back of hardware cutouts where mortar or other materials might obstruct hardware operation and to close off interior of openings.

2.4 FABRICATION

A. Fabricate hollow metal frame units to be rigid, neat in appearance, and free from defects, warp, or buckle. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site. Comply with ANSI/SDI 100 requirements.

B. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts and conceal with body filler.

C. Hardware Preparation: Prepare frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier. Comply with applicable requirements of SDI 107 and ANSI A115 Series specifications for door and frame preparation for hardware.

D. Reinforce frames to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.

E. Locate hardware as indicated on Shop Drawings or, if not indicated, according to the Door and Hardware Institute's (DHI) "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

2.5 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

B. Comply with SSPC-PA 1, "Paint Application Specification No. 1," for steel sheet finishes.

C. Apply primers and organic finishes to doors and frames after fabrication.

2.6 GALVANIZED STEEL SHEET FINISHES

A. Surface Preparation: Clean surfaces with nonpetroleum solvent so that surfaces are free of oil or other contaminants. After cleaning, apply a conversion coating of the type suited to the organic coating applied over it. Clean welds, mechanical connections, and abraded areas, and apply galvanizing repair paint specified below to comply with ASTM A 780.

1. Galvanizing Repair Paint: High-zinc-dust-content paint for regalvanizing welds in galvanized steel, with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035 or SSPC-Paint 20.

B. Factory Priming for Field-Painted Finish: Where field painting after installation is indicated, apply air-dried primer specified below immediately after cleaning and pretreatment.

1. Shop Primer: Zinc-dust, zinc-oxide primer paint complying with performance requirements of FS TT-P-641, Type II.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.

B. Placing Frames: Comply with provisions of SDI 105, unless otherwise indicated. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is completed, remove temporary braces and spreaders, leaving surfaces smooth and undamaged.

1. Place frames before constructing enclosing walls and ceilings.
2. In masonry construction, install at least 3 wall anchors per jamb adjacent to hinge location on hinge jamb and at corresponding heights on strike jamb. Acceptable anchors include masonry wire anchors and masonry T-shaped anchors.
3. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels.

3.2 ADJUSTING AND CLEANING

A. Prime Coat Touchup: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touchup of compatible air-drying primer.

B. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

END OF SECTION

# SECTION A-810 - FLUSH WOOD DOORS

## 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 the following:

1. Solid-core doors with wood-veneer faces.
2. Factory finishing flush wood doors.

### 1.3 SUBMITTALS

A. Product Data: For each type of door. Include details of core and edge construction, trim for openings, and louvers.

1. Include factory-finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

1. Indicate dimensions and locations of mortises and holes for hardware.
2. Indicate doors to be factory finished and finish requirements.

C. Samples for Initial Selection: Color charts consisting of actual materials in small sections for the following:

1. Faces of factory-finished doors with transparent finish. Show the full range of colors available for stained finishes.

### 1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain flush wood doors through one source from a single manufacturer.

B. Quality Standard: Comply with the following standard:

1. NWWDA Quality Standard: NWWDA I.S.1-A, "Architectural Wood Flush Doors."
2. AWI Quality Standard: AWI's "Architectural Woodwork Quality Standards" for grade of door, core, construction, finish, and other requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Comply with requirements of referenced standard and manufacturer's written instructions.

1. Individually package doors in plastic bags or cardboard cartons.

B. Mark each door with individual opening numbers used on Shop Drawings. Use removable tags or concealed markings.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install doors until conditions for temperature and relative humidity have been stabilized and will be maintained in storage and installation areas during the remainder of the construction period to comply with requirements of the referenced quality standard for Project's geographical location.

1.7 WARRANTY

A. General Warranty: Door manufacturer's 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. Door Manufacturer's Warranty: Submit written agreement on door manufacturer's standard form, signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4 inch (6.35 mm) in a 42-by-84-inch (1067-by-2134-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) span, or do not comply with tolerances in referenced quality standard.

1. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
2. Warranty shall be in effect during the following period of time after the date of Substantial Completion:

a. Solid-Core Interior Doors: Lifetime of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Flush Wood Doors:

a. VT Industries, Inc.
b. Eggers Industries; Architectural Door Division.
c. Weyerhaeuser Co.

2.2 DOOR CONSTRUCTION, GENERAL

A. Doors for Transparent Finish: Comply with the following requirements:

1. Grade: Custom, with Grade AA faces.
2. Faces: Select White Birch, stain finish to be selected.
3. Match between Veneer Leaves: Slip match.
4. Match within Door Faces: Running match.
5. Pair and Set Match: Provide for pairs of doors and for doors hung in adjacent sets.
6. Stiles: Applied wood edges of same species as faces and covering edges of faces.

2.3 SOLID-CORE DOORS

A. Particleboard Cores: Comply with the following requirements:

1. Particleboard: ANSI A208.1, Grade LD-2.
2. Blocking: Provide wood blocking at particleboard-core doors as follows:

a. 5-inch (125-mm) top-rail blocking, at doors indicated to have closers.
b. 5-inch (125-mm) bottom-rail blocking, at exterior doors and doors indicated to have kick, mop, or armor plates.
c. 5-inch (125-mm) midrail blocking, at doors indicated to have exit devices.

B. Interior Veneer-Faced Doors: Comply with the following requirements:

1. Core: Particleboard core.
2. Construction: Five plies with stiles and rails bonded to core, then entire unit abrasive planed before veneering.

C. Fire Rated Doors: Comply with the following requirements:

1. Construction: Construction and core specified above for type of face indicated or manufacturer's standard mineral core construction as required to provide fire rating as indicated.
2. Blocking: For mineral core doors, provide composite blocking with improved screw-holding capability approved for use in doors of fire ratings indicated and as follows:

a. 5-inch (125mm) top-rail blocking.
b. 5-inch (125mm) bottom-rail blocking, at doors indicated to have kick, mop, or armor plates.
c. 4 ½ by 10 inch (114 by 250mm) lock blocks.
d. 5-inch (125mm) midrail blocking, at doors indicated to have exit devices.
e. As necessary to eliminate need for through-bolting hardware.

3. Edge Construction: At hinge stiles, provide manufacturer's standard laminated edge construction with improved screw-holding capability and split resistance and with outer stile matching face veneer.
4. Pairs: Provide fire rated pairs with fire retardant stiles that are labeled and listed for kinds of applications indicated without formed steel edges and astragals.

2.4 LITE FRAMES

A. Wood Frames for Lite Openings: As follows:

1. Wood Species: Same species as door faces.
2. Profile: Recessed tapered beads.
3. Profile: Manufacturer's standard shape.
4. Frames for Openings in Fire Doors: Wood frames and metal glazing clips approved for use in 45 & 90-minute fire-rated wood-core doors.

2.5 FABRICATION

A. Fabricate flush wood doors in sizes indicated for Project site fitting.

B. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:

1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 for fire-rated doors.

C. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.

1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.

2.6 FACTORY FINISHING

A. General: Comply with referenced quality standard's requirements for factory finishing.

B. Finish wood doors at factory.

C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect, and sheen.

1. Grade: Premium.
2. Finish: Manufacturer's standard finish with performance requirements comparable to AWI System TR-6 catalyzed polyurethane.
3. Staining: Clear or color as selected.
4. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine installed door frames before hanging doors.

1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation, see Division 8 Section "Door Hardware."

B. Manufacturer's Written Instructions: Install wood doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.

1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.

C. Job-Fit Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.

1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold.

a. Comply with NFPA 80 for fire-rated doors.

2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
3. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at Project site.

3.3 ADJUSTING AND PROTECTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Refinish or replace doors damaged during installation.

C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION

SECTION A-820- Hangar Door

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 the following type of electrically operated overhead coiling doors:

1. Special Size 16 Panel by 18'-0" High Horton Stack Door (exterior door)

B. Related Sections include the following:

1. See Architectural & Structural drawings

1.3 DEFINITIONS

A. Operation Cycle: One complete cycle of a door begins with the door in the closed position. The door is then moved to the open position and back to the closed position.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide stacking 8 panels left, 8 panels right door capable of withstanding the effects of gravity loads and the following loads and stresses without evidencing permanent deformation of door components:

1. Wind Load: Uniform pressure (velocity pressure) of 30 lbf/sq. ft., acting inward and outward.
2. Air Infiltration to Comply With:
    a. ASHRAE® (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) Standard 90.1-2007, 2010 & 2013 requirements of less than .3 CFM/FT2
    b. IECC® (International Energy Conservation Code) 2012 requirements of less than 1.0 CFM/FT2
3. Insulated Door Slat Material Requirements:
    a. Flame Spread Index of 0 and a Smoke Developed Index of 10 as tested per ASTM E84
    b. Minimum R-value of 7.8 (U-value of 0.125) as calculated using the ASHRAE Handbook of Fundamentals
    c. Insulation to be CFC Free with an Ozone Depletion Potential (ODP) rating of zero

B. Operation-Cycle Requirements: Design doors of standard construction for normal use of up to 5 cycles per day maximum, and an overall maximum of 20,000 operating cycles.

1.5 SUBMITTALS

A. Product Data: For each type and size of stacking door and accessory. Include details of construction relative to materials, dimensions of individual components, profiles, and finishes. Provide roughing-in diagrams, operating instructions, and maintenance information. Include the following:

1. Setting drawings, templates, and installation instructions for built-in or embedded anchor devices.
2. Summary of forces and loads on walls and jambs.

B. Shop Drawings: For special components and installations not dimensioned or detailed in manufacturer's data sheets.

1. Details for stem wall required for bottom track

C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for units with factory-applied finishes.

D. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who is an authorized representative of the stacking door manufacturer for both installation and maintenance of units required for this Project.

B. Source Limitations: Obtain stacking door and parts through one source from a single manufacturer.

1. Obtain operators and controls from the stacking door manufacturer.
2. Manufacturer Qualifications: ISO 9001:2015 registered and a minimum of five years' experience in producing doors of the type specified

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following or equal:

1. Stack Door a division of Horton INC.

2.2 DOOR MATERIALS AND CONSTRUCTION

A. Panels: standard fiberglass panels. The panels are filled with a 2" expanded styrene plastic block, one pound in density. This styrene has an R value of 7.8, also the insides are skinned with 6 oz white pebbled back liner. The back liner has limited flammability, is USDA approved, shatter resistant, and easy to clean. ½" wide by 1/8" thick weather stripping can be used between door frames.

2.3 FINISHES, GENERAL

A. Door Panels are shipped assembled and skinned

2.4 OPERATORS

A. Stack door is manually operated, it opens to the left and right of the frame opening for maximum versatility. When in stacked position, door panels extend 90 degrees from the face of the building. 5" is required for every 2 panels.

PART 3 - EXECUTION

3.1 EXAMINATION

A. General: Install door and operating equipment complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports according to Shop Drawings, manufacturer's written instructions, and as specified.

3.2 INSTALLATION

A. Examine substrates upon which work will be installed and verify conditions are in accordance with approved shop drawings

B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates

C. Commencement of work by installer is acceptance of substrate

3.3 ADJUSTING

A. Lubricate bearings and sliding parts; adjust doors to operate easily, free from warp, twist, or distortion and fitting weathertight for entire perimeter.

B. Test the operation of the stack door to assure the proper stopping positions, both open and closed.

3.4 CLEANING

A. Clean surfaces soiled by work as recommended by manufacturer.

B. Remove surplus materials and debris from the site

3.5 DEMONSTRATION

A. Startup Services: Engage a factory-authorized service representative to perform startup services and to train Owner's maintenance personnel as specified below:

1. Train Owner's maintenance personnel on procedures and schedules related to startup and shutdown, troubleshooting, servicing, preventive maintenance, and procedures for testing and resetting release devices.

2. Review data in the maintenance manuals. Refer to Division 1 Section "Contract Closeout."
3. Review data in the maintenance manuals. Refer to Division 1 Section "Operation and Maintenance Data."
4. Schedule training with Owner with at least 7 days' advance notice.

END OF SECTION

## SECTION A-830 - ALUMINUM WINDOWS

## PART 1 GENERAL

### 1.01 Work Included

A. Furnish and install aluminum architectural windows complete with hardware and related components as shown on drawings and specified in this section.

B. All windows shall be EFCO® Series 663 Single Hung. Other manufacturers requesting approval to bid their product as an equal must submit the following information fifteen days prior to close of bidding.
   1. A sample window, 24" (610 mm) x 36" (914 mm) single unit, as per requirements of architect.
   2. Test reports documenting compliance with requirements of Section 1.05.

C. Glass and Glazing
   1. All units shall be factory glazed.
      OR
   1. Reference Section 08 81 00 for Glass and Glazing.

D. Single Source Requirement
   1. All products listed in Section 1.02 shall be by the same manufacturer.

### 1.02 Related Work

A. Section 08 32 13 – Sliding Aluminum – Framed Glass Doors
B. Section 08 41 13 – Aluminum – Framed Entrances and Storefronts
C. Section 08 44 13 – Glazed Aluminum Curtain Walls
D. Section 08 44 33 – Sloped Glazing Assemblies
E. Section 10 71 13 – Exterior Sun Control Devices

### 1.03 Items Furnished but Not Installed

### 1.04 Items Installed but Not Furnished

### 1.05 Laboratory Testing and Performance Requirements

A. Test Units
   1. Air, water, and structural test unit shall conform to requirements set forth in ASTM E 283, ASTM E 331, and ASTM E 330 with manufacturer's standard locking/operating hardware and insulated glazing configuration.
   2. Thermal test unit sizes shall be 48" (1219 mm) x 72" (1828 mm). Unit shall consist of a single hung window.

B. Test Procedures and Performances
   1. Windows shall conform to following specific performance requirements.
   2. Air Infiltration Test
      a. With ventilators closed and locked, test unit in accordance with ASTM E 283 at a static air pressure difference of 6.27 psf (300 Pa).
      b. Air infiltration shall not exceed .30 cfm/SF (1.5 l/s•m²) of unit.
   3. Water Resistance Test
      a. With ventilators closed and locked, test unit in accordance with ASTM E 331/ASTM E 547 at a static air pressure difference of 12.0 psf (580 Pa).
      b. There shall be no uncontrolled water leakage.

4. Uniform Load Deflection Test
   a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of ___ psf, positive and negative pressure.
   b. No member shall deflect over L/175 of its span.
5. Uniform Load Structural Test
   a. With ventilators closed and locked, test unit in accordance with ASTM E 330 at a static air pressure difference of 97.5 psf (4680 Pa), both positive and negative.
   b. At conclusion of test there shall be no glass breakage, permanent damage to fasteners, hardware parts, support arms or actuating mechanisms, nor any other damage that would cause the window to be inoperable.
6. Forced Entry Resistance
   a. Windows shall be tested in accordance to ASTM F 588 or AAMA 1302.5 and meet the requirements of performance level 40.
7. Condensation Resistance Test (CRF)
   a. Test unit in accordance with AAMA 1503.1.
   b. Condensation Resistance Factor (CRF) shall not be less than ___ (frame) when glazed with ___ center of glass U-Factor. (See chart at end of section).
8. Condensation Resistance (CR)
   a. With ventilators closed and locked, test unit in accordance with NFRC 500-2010.
   b. Condensation Resistance (CR) shall not be less than ___ when glazed with ___ center of glass U-Factor. (See chart at end of section).
9. Thermal Transmittance Test (Conductive U-Factor)
   a. With ventilators closed and locked, test unit in accordance with NFRC 100-2010.
   b. Conductive thermal transmittance (U-Factor) shall not be more than ___ BTU/hr•ft²•°F ( ___ W/m²•K) when glazed with ___ center of glass U-Factor. (See chart at end of section).

| Glass Comparison Chart | | | | |
|---|---|---|---|---|
| **Glass** | **C.O.G.[2] U-Factor** | **U-Factor[1]** | **Frame CRF[3]** | **CR[1]** |
| 1**" IG** | 0.47 | 0.56 BTU/hr•ft²•°F (3.18 W/m²•K) | * | * |
| 1**" IG** | 0.29 | 0.44 BTU/hr•ft²•°F (2.50 W/m²•K) | * | * |
| 1**" IG** | 0.24 | 0.40 BTU/hr•ft²•°F (2.27 W/m²•K) | * | * |

*Please consult EFCO Product Tech Support department for values.
[1]U-Factor and Condensation Resistance (CR) are based on a nominal size of 47" (1200 mm) x 59" (1500 mm) with two lites of glass using NFRC-100, and 500 - 2010. [2]Intercept® Spacer. [3]Based on AAMA 1503.1

C. Project Wind Loads
   1. The system shall be designed to withstand the following loads normal to the plane of the wall:
      a. Positive pressure of ___ psf ( ___ Pa) at non-corner zones.
      b. Negative pressure of ___ psf ( ___ Pa) at non-corner zones.
      c. Negative pressure of ___ psf ( ___ Pa) at corner zones.

D. Additional test criteria for small missile impact
   1. Small Missile Level A Impact Test conducted on test units in accordance with TAS 201 or ASTM E 1886/E 1996. Upon completion of the missile impact tests, the test units shall be tested in accordance with TAS 203 or ASTM E 1996 cyclic load test.

E. Additional test criteria for large missile impact

1. Large Missile Level (C or D) Impact Test conducted on test units in accordance with TAS 201 or ASTM E 1886/E 1996. Upon completion of the missile impact tests, the test units shall be tested in accordance with TAS 203 or ASTM E 1996 cyclic load test.

F. Anti-Terrorism Force Protection Requirements – DoD Unified Facilities Criteria
   1. Design to meet the requirements of UFC 4-010-01 DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS, 9 February 2012.
   1. Design of framing and connections shall be based on the following design criteria:
      a. Standoff Distance of ___ ft.
      b. Applicable Explosive Weight of ___. Type I or Type II - Select one
      c. Level of Protection of ___. Low or Very Low - Select one
   2. Window manufacturer shall provide, with their bid/quote, a "Blast Narrative" describing which design method of the UFC 4-010-01 was utilized to show product compliance to the performance specification in F.2.a., b. and c. above.

G. Anti-Terrorism Force Protection Requirements – GSA-ISC Design Criteria
   1. Design of framing and connections shall be based on inelastic dynamic analysis utilizing the following design criteria:
      a. Peak reflective pressure ___ psi at an impulse of ___ psi-msec.
   2. GSA glass performance level (based on Wingard 5.5.1) shall be ___. 1, 2, 3a, 3b, 4, 5
   3. End rotations of framing members supporting laminated glass shall not exceed ___ degrees.
   4. Ductility of framing members supporting laminated glass shall not exceed ___.
   5. Maximum deflection of framing members supporting laminated glass shall not exceed L/ ___.
   6. Window manufacturer shall provide, with their bid/quote, a sample calculation using non-linear dynamic analysis methods demonstrating product compliance to the performance specifications for a typical member for the project.
   7. Window manufacturer shall provide, with their bid/quote, a "Blast Narrative" to accompany the dynamic calculations in section G.6. "Blast Narrative" shall define design methods and philosophy used by the manufacturer to show product compliance to the performance specifications in Section G above.

**1.06 Field Testing and Performance Requirements**

A. Windows shall be field tested in accordance with AAMA 502, "Voluntary Specification for Field Testing of Windows and Sliding Glass Doors," using Test Method ___.
   1. Test one additional window or two percent of the window installation, whichever is greater, for air infiltration and water penetration as specified.
   2. Cost for all successful tests, both original and retest shall be paid by the owner. All unsuccessful tests, both original and retest, shall be paid by the responsible contractor.
   3. Testing shall be by an AAMA accredited testing agency selected by the architect and window manufacturer and employed by the responsible contractor.
   4. Air infiltration field tests shall be conducted at the same uniform static test pressure as the laboratory test unit. The Maximum allowable rate of air leakage shall not exceed 1.5 times the laboratory test unit for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing configuration. The field test air leakage rate shall not exceed 1.5 times the maximum allowable laboratory performance specified in the testing criteria listed in Section 1.05.A.1 for any configuration.
   5. Water penetration field tests shall be conducted at a static test pressure of 2/3 of the laboratory test performance values for hardware and glazing types consistent with the laboratory test unit. Performance values may be reduced due to deviations from the laboratory test unit such as product size, configuration, hardware selected, and glazing variations. The field test water test pressure shall not be less than 2/3 of the minimum

allowable laboratory performance specified in the testing criteria listed in Section 1.05.A.1 for any configuration.

**1.07 Quality Assurance**

A. Provide test reports from AAMA accredited laboratories certifying the performance as specified in 1.05.

B. Test reports shall be accompanied by the window manufacturer's letter of certification, stating the tested window meets or exceeds the referenced criteria for the appropriate window type.

C. All products shall have Florida Product Approval numbers compliant with Rule 9B-72. Products configured, sized or anchored differently than the approved specimen must follow the guidelines of Florida Statute 553.8425. Submit supplementary testing or engineer's calculations to substantiate any deviation.

D. All products shall bear a permanent label affixed to the product according to FBC.

**1.08 References**

**1.09 Submittals**

A. Contractor shall submit shop drawings; finish samples, test reports, and warranties.
   1. Samples of materials as may be requested without cost to owner, i.e., metal, glass, fasteners, anchors, frame sections, mullion section, corner section, etc.

B. An NFRC Component Modeling Approach (CMA) generated label certificate shall be provided by the manufacturer. The label certificate shall be project specific and will contain the thermal performance ratings of the manufacturer's framing combined with the specified glass, and the glass spacer used in the fabrication of the glass, at NFRC standard test size as defined in table 4-3 in NFRC 100-2010.

**1.10 Warranties**

A. Total Window Installation
   1. The responsible contractor shall assume full responsibility and warrant for one year the satisfactory performance of the total window installation which includes that of the windows, hardware, glass (including insulated units), glazing, anchorage and setting system, sealing, flashing, etc., as it relates to air, water, and structural adequacy as called for in the specifications and approved shop drawings.
   2. Any deficiencies due to such elements not meeting the specifications shall be corrected by the responsible contractor at their expense during the warranty period.

B. Window Material and Workmanship
   1. Provide written guarantee against defects in material and workmanship for ___ years from the date of final shipment.

C. Glass
   1. Provide written warranty for insulated glass units that they will be free from obstruction of vision as a result of dust or film formation on the internal glass surfaces caused by failure of the hermetic seal due to defects in material and workmanship.
   2. Warranty period shall be for 10 (ten) years.

D. Finish

1. Warranty period shall be for ___ years from the date of final shipment.

## PART 2 PRODUCTS

### 2.01 Materials

A. Aluminum
1. Extruded aluminum shall be 6063-T6 alloy and tempered.

B. Hardware
1. Sweep latches shall be white bronze.

C. Balances

1. Balances shall be of appropriate size and capacity to hold sash in position in accordance with AAMA 101, Section 2.2.1.3.2 and AAMA 902, Section 8.1.
2. Balances shall be tested in accordance with AAMA 902, "Voluntary Specification for Sash Balances".
3. Balances shall meet all minimum AAMA 902 Class 1 requirements with a minimum .70 Manually Applied Force ratio (MAF).

D. Weather-Strip
1. All primary weather-strip shall be FIN-SEAL® or equal.

E. Glass
1. Non-impact
   a. Insulated glass shall be nominal 1" as manufactured by EFCO consisting of ( ) exterior, ( ) air spacer, and ( ) interior.
2. Large Missile Impact glazing

   a. <u>Insulated level "D" glazing – Maximum +95/-95 D.P.</u>
   Nominal 1 1/8" insulated unit of 1/4" (color) heat strengthened exterior, 3/8" air space, 5/8" laminated glass made of 1/4" (color) heat strengthened exterior, .090" PVB Saflex interlayer, 1/4" (color) heat strengthened interior.

F. Thermal Barrier
1. All exterior aluminum shall be separated from interior aluminum by a rigid, structural thermal barrier. For purposes of this specification, a structural thermal barrier is defined as a system that shall transfer shear during bending and, therefore, promote composite action between the exterior and interior extrusions.
2. Sills are thermally broken with thermal struts, consisting of glass reinforced polyamide nylon, mechanically crimped in raceways extruded in the exterior and interior extrusions. All other frames and sash are thermally broken using the latest technology in two-part, high-density polyurethane. A nonstructural thermal barrier is unacceptable.

### 2.02 Fabrication

A. General
1. All aluminum frame and vent extrusions shall have a minimum wall thickness of .080" (2 mm). Frame sill members shall have a minimum wall thickness of .094" (2.3 mm).
2. Mechanical fasteners, welded components, and hardware items shall not bridge thermal

barriers.
3. Depth of frame shall not be less than 3 7/8" (98 mm).

B. Frame
1. Frame components shall be mechanically fastened.

C. Sash
1. All sash extrusions shall have a minimum wall thickness of .080" (2 mm).
2. All horizontal sash extrusions shall be tubular.
3. Corner connections shall be mechanically fastened.

D. Screens
1. Screen frames shall be extruded aluminum.
2. Screen mounting holes in the window frame shall be factory drilled.
3. Screen mesh shall be aluminum or fiberglass.

E. Glazing
1. All units shall be glazed with the manufacturer's standard sealant process provided the glass is held in place by a removable, extruded aluminum, glazing bead. The glazing bead must be isolated from the glazing material by a gasket.
2. All units shall be glazed with a minimum of 1" glass bite.

**2.03 Finishes**

1. Anodic
a. Finish all exposed areas of aluminum windows and components with electrolytically-deposited color in accordance with Aluminum Association Designation.

2. Organic
a. Liquid Fluoropolymer Aluminum Extrusion Coatings, AAMA 2605-20: Minimum 70 percent PVDF resin by weight, in color coat [and clear topcoat, if required]. Color as selected from one of the following:
I. EFCO Ultrapon Color Card

**PART 3 EXECUTION**

**3.01 Inspection**

A. Job Conditions
1. Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface, and are in accordance with approved shop drawings.

2. Provide for manufacturer representation to conduct pre-installation site meeting.

**3.02 Installation**

A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications.

B. Plumb and align window faces in a single plane for each wall plane, and erect windows and materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.

C. Adjust windows for proper operation after installation.

D. Furnish and apply sealants to provide a weather tight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

**3.03 Anchorage**

A. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads. For perimeter anchor type and spacing, refer to the approved shop drawings or consult the project design professional.

**3.04 Protection and Cleaning**

A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.
B. A bi-annual sweet water rinse is recommended to prohibit dirt, dust, and debris from accumulation on the surface of the coating and to help maintain the aesthetic of the coating.

SECTION A-840 – DOOR HARDWARE

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 commercial door hardware for the following:

1. Swinging doors.
2. Stack door.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.

C. Related Sections:

1. Division Section "Flush Wood Doors".
2. Division Hangar door.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards:

1. ANSI/BHMA Certified Product Standards - A156 Series
2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

   a. Type, style, function, size, label, hand, and finish of each door hardware item.
   b. Manufacturer of each item.
   c. Fastenings and other pertinent information.
   d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
   e. Explanation of abbreviations, symbols, and codes contained in schedule.
   f. Mounting locations for door hardware.
   g. Door and frame sizes and materials.
   h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

D. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

E. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

## 1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a

warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

F. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

G. Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

## 1.5 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.

C. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.7 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties 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.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:

1. Ten years for mortise locks and latches.
2. Five years for exit hardware.
3. Twenty five years for manual surface door closer bodies.
4. Two years for electromechanical door hardware.

1.8 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

a. Two Hinges: For doors with heights up to 60 inches.
b. Three Hinges: For doors with heights 61 to 90 inches.
c. Four Hinges: For doors with heights 91 to 120 inches.
d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:

a. Hager Companies (HA) - CB Series.

b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - TA Series.
c. Stanley Hardware (ST) - CB Series.

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:

a. Bommer Industries (BO).
b. Hager Companies (HA).
c. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
d. Horton INC.

## 2.3 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
5. Manufacturers:

a. Door Controls International (DC).
b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
c. Trimco (TC).

B. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
5. Manufacturers:

a. Hiawatha, Inc. (HI).
b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
c. Trimco (TC).

## 2.4 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Cylinders: Original manufacturer cylinders complying with the following:

1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored-Lock Type: Cylinders with tailpieces to suit locks.
4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
5. Keyway: Match Facility Standard.

C. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:

1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.

D. Patented Cylinders: ANSI/BHMA A156.5, Grade 1, certified patented cylinders employing a utility patented and restricted keyway requiring the use of a patented key. Cylinders are to be protected from unauthorized manufacture and distribution by manufacturer's United States patents. Cylinders are to be factory keyed with owner having the ability for on-site original key cutting.

1. Manufacturers:
    a. Medeco (MC) - X4 Series.

E. Keying System: Each type of lock and cylinders to be factory keyed.

1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Field verify and key locks to match Owner's existing system.

F. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

G. Construction Keying: Provide construction master keyed cylinders.

H. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

I. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:
    a. Lund Equipment (LU).
    b. MMF Industries (MM).
    c. Telkee (TK).

J. Key Control Software: Provide one network version of "Key Wizard" branded key management software package that includes one year of technical support and upgrades to software at no charge. Provide factory key system formatted for importing into "Key Wizard" software.

## 2.5 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) – ML2000 Series.
b. Sargent Manufacturing (SA) – 8200 Series.
c. Yale Locks and Hardware (YA) – 8800FL Series.

## 2.6 AUXILIARY LOCKS

A. Mortise Deadlocks, Large Case: ANSI/BHMA A156.13, Series 1000, Grade 1, certified large case mortise type deadlocks constructed of heavy gauge wrought corrosion resistant steel. One piece stainless steel bolts with a 1" throw. Deadlocks to be products of the same source manufacturer and keyway as other locksets.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - ML2000 Series.
b. Sargent Manufacturing (SA) - 8200 Series.
c. Yale Locks and Hardware (YA) - 8800 Series.

## 2.7 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.8 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
6. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
10. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:
    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.
    c. Yale (YA) - 7000 Series.

C. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.

1. Provide keyed removable feature where specified in the Hardware Sets.
2. Provide stabilizers and mounting brackets as required.
3. Provide electrical quick connection wiring options as specified in the hardware sets.
4. Manufacturers:
    a. Corbin Russwin Hardware (RU) - 700/900 Series.
    b. Sargent Manufacturing (SA) - 980S Series.
    c. Yale Locks and Hardware (YA) - M200 Series.

## 2.9 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
7. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Manufacturers:
   a. Corbin Russwin Hardware (RU) - DC6000 Series.
   b. Sargent Manufacturing (SA) - 351 Series.
   c. Norton Door Controls (NO) - 7500 Series.

## 2.10 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
3. Where plates are applied to fire rated doors with the top of the plate more than 16" above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer's catalog and template book for specific requirements for size and applications.
4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
   a. Stainless Steel: 300 grade, 050-inch thick.
5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
6. Manufacturers:

a. Hiawatha, Inc. (HI).
b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
c. Trimco (TC).

## 2.11 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

a. Hiawatha, Inc. (HI).
b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
c. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

a. Rixson Door Controls (RF).
b. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
c. Sargent Manufacturing (SA).

## 2.12 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. National Guard Products (NG).
2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
3. Reese Enterprises, Inc. (RE).

2.13 ELECTRONIC ACCESSORIES

A. Switching Power Supplies: Provide switching power supplies that are dual voltage, UL listed, supervised units. Units shall be field selectable with a dedicated battery charging circuit that provide 4 Amp at 12VDC or 24VDC continuous, with up to 16 independently controlled power limited outputs. Units shall tolerate brownout or overvoltage input ± 15% of nominal voltage and have thermal shutdown protection with auto restart. Circuit breaker shall protect against overcurrent and reverse battery faults and units shall be available with a single relay fire trigger or individually triggered relayed outputs. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw plus 50% for the specified electrified hardware and access control equipment.

1. Manufacturers:

a. Securitron (SU) - AQ Series.

2.14 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.15 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch-Out Report): Reference Division 01 Section "Closeout Procedures". Final inspect installed door hardware and state in report whether work complies with or deviates from specification requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

B. The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.

1. MK - McKinney
2. PE - Pemko
3. RO - Rockwood
4. RU - Corbin Russwin
5. YA - Yale
6. MC - Medeco
7. HS - HES
8. RF - Rixson
9. NO - Norton
10. SA - SARGENT
11. SU - Securitron
12. LU - Lund Equipment Co

## Hardware Sets

### Set: 1.0

Door: 1

| | | | | | | |
|---|---|---|---|---|---|---|
| Continuous Hinge | CFM__SLI-HD1 X LAR | | PE | | | |
| Rim Exit Device | ED5200 K157ET x 6P M52 | 630 | RU | | | |
| Small Format Inter Core | Medeco X4 Cylinder as required | 26 | MC | | | |
| Door Pull | RM7920-12 (mounting as required) | US32D | RO | | | |
| Surface Closer | CPS7500 (brackets and drop plate as required) | 689 | NO | | | |
| Threshold | 2009APK MSES10SS | | PE | | | |
| Gasketing | By Door Manufacturer | | 00 | | | |
| Sweep | 307APK | | PE | | | |

### Set: 2.0

Doors: 2, 3

| | | | | | | |
|---|---|---|---|---|---|---|
| Continuous Hinge | CFM__HD1 PT | | PE | | | |
| Concealed Vert Rod Exit, Exit Only | ED5860 EO M92 MELR | 630 | RU | ⚡ | | |
| Restroom/Utilityroom | 603F | 626 | YA | | | |
| Small Format Inter Core | Medeco X4 Cylinder as required | 26 | MC | | | |
| Door Pull | RM7920-12 (mounting as required) | US32D | RO | | | |
| Surface Closer | CPS7500 (brackets and drop plate as required) | 689 | NO | | | |
| Threshold | 2009APK MSES10SS | | PE | | | |
| Gasketing | By Door Manufacturer | | 00 | | | |
| Sweep | 307APK | | | | PE | |
| ElectroLynx Harness (frame) | QC-C1500P | | | | MK | ⚡ |
| ElectroLynx Harness (door) | QC-C*** (Length / Type as Required) | | | | MK | ⚡ |
| Wiring Diagram | WD-SYSPK (Elevations and Point to Point) | | | | SA | |
| Electric Power Transfer | EL-CEPT | | | | SU | ⚡ |
| Power Supply | AQD4-8C8R2 | | | | SU | |

### Set: 3.0

Doors: See Horton Stack Manufacturer Specifications

END OF SECTION

# SECTION A910 - CERAMIC TILING

## 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 the following:

1. Ceramic mosaic tile.
2. Glazed wall tile.
3. Accent tile.
4. Porcelain floor tile.
5. Marble thresholds installed as part of tile installations.
6. Surface preparations materials.
7. Mortar materials.
8. Setting materials.
9. Grout materials.
10. Primer materials.
11. Self-leveling underlayment materials.
12. Waterproof membrane materials.
13. Crack isolation membrane materials.
14. Flexible sealant materials.
15. Grout release materials.
16. Penetrating tile and stone sealer materials.
17. Tile and stone maintenance, cleaners and grout haze remover materials.

B. Related Sections include the following:

1. Division 3 Section "Cast-in-Place Concrete" for monolithic slab finishes specified for tile substrates.
2. Division 7 Section "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.

### 1.3 PERFORMANCE REQUIREMENTS

A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:

1. Level Surfaces: Minimum 0.6.

### 1.4 SUBMITTALS

A. Product Data: For each type of tile, mortar, grout, and other products specified.

B. Shop Drawings: For the following:

1. Tile patterns and locations.
2. Widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Tile Samples for Initial Selection: Manufacturer's color charts consisting of actual tiles or sections of tiles showing the full range of colors, textures, and patterns available for each type and composition of tile indicated. Include Samples of accessories involving color selection.

D. Grout Samples for Initial Selection: Manufacturer's color charts consisting of actual sections of grout showing the full range of colors available for each type of grout indicated.

E. Samples for Verification: Of each item listed below, prepared on Samples of size and construction indicated. Where products involve normal color and texture variations, include Sample sets showing the full range of variations expected.

1. Each type and composition of tile and for each color and texture required, provide one full size tile in color or colors selected by Architect.
2. Full-size units of each type of trim and accessory for each color required.
3. Marble thresholds in 6-inch (150-mm) lengths.

F. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.

G. Product Certificates: Signed by manufacturers certifying that the products furnished comply with requirements.

H. Qualification Data: For firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names of architects and owners, and other information specified.

I. Tile Test Reports: Indicate and interpret test results for compliance of special-purpose tile with specified requirements.

J. Setting Material Test Reports: Indicate and interpret test results for compliance of tile-setting and -grouting products with specified requirements.

## 1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experienced installer who has completed tile installations similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Source Limitations for Tile: Obtain each color, grade, finish, type, composition, and variety of tile from one source with resources to provide products from the same production run for each contiguous area of consistent quality in appearance and physical properties without delaying the Work.

C. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.

D. Source Limitations for Other Products: Obtain each of the following products specified in this Section from one source and by a single manufacturer for each product:

1. Marble thresholds.
2. Joint sealants.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement of ANSI A137.1 for labeling sealed tile packages.

B. Prevent damage or contamination to materials by water, freezing, foreign matter, and other causes.

C. Handle tile with temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is completed and ambient temperature and humidity conditions are being maintained to comply with referenced standards and manufacturer's written instructions.

1.8 EXTRA MATERIALS

A. Deliver extra materials to Owner. Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size indicated.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide products indicated in the ceramic tile installation schedules at the end of this Section.

B. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Tile Products:

a. American Olean Tile Company.
b. Dal-Tile Corporation.

2. Tile-Setting and -Grouting Materials:

a. MAPEI Corporation.
b. American Olean Tile Company.
c. Laticrete International, Inc.

2.2 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard Grade requirements, unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting Materials" and "Grouting Materials" articles.

C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:

1. Provide Architect's selections from manufacturer's full range of colors, textures, and patterns for products of type indicated.
2. Provide tile trim and accessories that match color and finish of adjoining flat tile.

D. Factory Blending: For tile exhibiting color variations within the ranges selected during Sample submittals, blend tile in the factory and package so tile units taken from one package show the same range in colors as those taken from other packages and match approved Samples.

E. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating them with a continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.3 TILE PRODUCTS

A. Unglazed Ceramic Mosaic Tile: Provide factory-mounted flat tile complying with the following requirements for toilet facilities:

1. Composition: Porcelain.
2. Module Size: 2 by 2 inches (50.8 by 50.8 mm) in a pattern.
3. Nominal Thickness: 1/4 inch (6.35 mm).
4. Face: Plain with cushion edges.
5. Reference Product: American Olean unglazed ceramic mosaic – Group 1 & 2. (Accent tiles: Groups 1- 4)

or

6. Composition: Porcelain.
7. Module Size: 2 by 1 inches (50.8 by 50.8 mm).
8. Nominal Thickness: 1/4 inch (6.35 mm).
9. Face: Plain with cushion edges.
10. Reference Product: American Olean unglazed ceramic mosaic – Group 1 & 2.

B. Floor Tile: Provide square-edged flat tile complying with the following requirements for the following rooms Corridor and Lunch Room:

1. Composition: Colorbody Porcelain.
2. Module Size: 24 by 24 inches and 12 by 24 inches
3. Nominal Thickness: 1/2 inch (12.7 mm).
4. Face: Scattered color pattern.
5. Reference Product: American Olean Theoretical and Theoretical Bold.

C. Glazed Wall Tile: Provide flat tile complying with the following requirements:

1. Module Size: 4-1/4 by 8-1/2 inches.
2. Thickness: 5/16 inch (8 mm).
3. Face: Plain with cushion edges.
4. Reference Product: American Olean bright and matte glazed wall tile: Price Group 1 & 2.

D. Accent Wall Tile: Provide flat tile complying with the following requirements:

1. Composition: Wall.
2. Module Size: 4-1/4 by 12-3/4 inches wave tile.
3. Nominal Thickness: 5/16 inch.
4. Face: Pattern of design indicated.
5. Reference Product: American Olean wall – Group 1 & 2.

and

6. Composition: Glass.
7. Module Size: 1 by 1 inch.
8. Nominal Thickness: 5/16 inch.
9. Face: Pattern of design indicated with solids or blends.
10. Reference Product: American Olean unglazed ceramic mosaic – Group 1 & 2.

E. Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with the following requirements:

1. Size: As indicated, coordinated with sizes and coursing of adjoining flat tile where applicable.
2. Shapes: As follows, selected from manufacturer's standard shapes:
    a. Base for Thin-Set Mortar Installations: Coved.
    b. Base Cap for Thin-Set Mortar Installations: Surface bullnose.
    c. External Corners for Thin-Set Mortar Installations: Surface bullnose.
    d. Internal Corners: Field-butted square corners, except with coved base and cap angle pieces designed to member with stretcher shapes.

## 2.4 MARBLE THRESHOLDS

A. General: Provide stone thresholds that are uniform in color and finish, fabricated to sizes and profiles indicated to provide transition between tile surfaces and adjoining finished floor surfaces.

1. Fabricate thresholds to heights indicated, but not more than 1/2 inch (12.7 mm) above adjoining finished floor surfaces, with transition edges beveled on a slope of no greater than 1:2.

B. Marble Thresholds: Provide marble thresholds complying with ASTM C 503 requirements for exterior use and with a minimum abrasive-hardness value of 10 per ASTM C 241.

1. Provide white, honed marble complying with the Marble Institute of America's Group A requirements for soundness.

2.5 PRIMER MATERIALS

A. Textured Primer: Fast drying, high-performance, low-VOC, textured primer for nonporous substrates.

1) Product: MAPEI, Primer X.

B. All-Purpose Primer: Low odor, water-based acrylic primer for self-leveling underlayments, also suitable for a wide variety of porous and nonporous substrates.

1) Product: MAPEI, Primer T.

2.6 SELF-LEVELER UNDERLAYMENTS

A. Quick-Setting, Hydraulic Cement Underlayment: Polymer-modified, self-leveling, hydraulic cement. Applied Minimum Uniform Thickness: 1/8 to 1 inch (3 to 25 mm).

1. Product: MAPEI, Novoplan 2 Plus.

2.7 MORTAR BED MATERIALS

A. Thick Bed, Dry Pack, and Render Mortar: Pre-blended polymer-modified, dry pack, scratch coat and wall render, and concrete patch, can be applied 1/4 inch to 2 inches (6 mm to 51 mm), ANSI A108.1C.

1. Product: MAPEI, Modified Mortar Bed.

B. Latex additive (water emulsion) described below, serving as replacement for part or all of gaging water, of type specifically recommended by latex additive manufacturer for use with job-mixed portland cement and aggregate mortar bed.

1. Latex Additive: Manufacturer's standard.
2. Latex Additive: Styrene butadiene rubber.
3. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gauging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed Portland cement and aggregate mortar bed.

a) Product Subject to compliance with requirements, provide MAPEI, Planicrete AC.

2.8 SETTING MATERIALS

A. Portland Cement Mortar Installation Materials: Provide materials complying with ANSI A108.1A and as specified below:

Selected manufacturers also produce medium-bed, dry-set mortars. Insert here if required, with wording similar to that used below for ~~medium bed~~large and heavy tile, latex-portland cement mortar.

B. Dry-Set Portland Cement Mortar: ANSI A118.1.

1. For wall applications, provide nonsagging, latex-Portland cement mortar complying with ANSI A118.4T for mortar of this type defined in Section 2-2.1.4 and Section 9- 9.1.1.2.

C. Modified Dry-Set Cement Mortar: ANSI A118.4, composed as follows:

1. Prepackaged Dry-Mortar Mix: Factory-prepared mixture of Portland cement; dry, redispersible, ethylene vinyl acetate additive; and other ingredients to which only water needs to be added at Project site.
    a. Modified Dry-Set Cement Mortar: ANSI A118.4E, ANSI A118.11, and ISO 13007 C2EP1.
    b. et Cement Mortar: ANSI A118.4E, ANSI A118.11, and ISO 13007 C2EP1.
        1) Product: MAPEI, Ultraflex 2.See Evaluations for the difference between normal and nonsagging types.
2. For wall applications, provide nonsagging, latex-Portland cement mortar complying with ANSI A118.4T for mortar of this type defined in Section 2-2.1.2 and Section 9-9.1.1.2.
    a. Modified Dry-Set Cement Mortar for Glass Tile: ANSI A118.4TE, ANSI A118.11, and ISO 13007 C2TES1P1.
        1) Product: Subject to compliance with requirements, provide MAPEI, Adesilex P10 Mosaic & Glass Tile with MAPEI, Keraply.

D. Improved Modified Dry-Set Cement Mortar: ANSI A118.15.

1. Improved Modified Dry-Set Cement Mortar for Large and Heavy Tile (formerly medium bed): Non-Sag, ANSI A118.4HTE, ANSI A118.11, ANSI A118.15HTE, and ISO 13007 C2TES1P1.
    a. Product: MAPEI, Ultraflex LFT.
2. Improved Modified Dry-Set Cement Mortar, Lightweight, Non-Sag: ANSI A118.4HTE, ANSI A118.11, ANSI A118.15HTE, ANSI A138.1, and ISO 13007 C2TES1P1.
    a. Product: MAPEI, MAPEI Ultralite Mortar.

E. Polymer Ready-to-Use Tile Grout: grout joints from 1/16 to 1/2 inch (1.5 to 12 mm).

1. Product: MAPEI, Flexcolor CQ.

F. Insert chemical-resistant performance criteria for above if required. See ANSI A118.3 and ASTM C 267. Latter is test method for determining chemical resistance of mortars and grouts.100%-Solids, Water-Cleanable, epoxy bond coat: ANSI A118.3 and ISO 13007 R2.

1. Product: MAPEI, Kerapoxy 410.
2. Provide product with a VOC content of 65 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
3. Product shall comply with the testing and product requirements of the California Department of Health Services "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
4. Provide product capable of withstanding continuous and intermittent exposure to temperatures of up to 140 degrees F (60 degrees C) and 212 degrees F (100 degrees C), respectively, and certified by manufacturer for intended use.

## 2.9 GROUTING MATERIALS

A. Commercial Portland Cement Grout (Sanded Grout): ANSI A118.7, color as indicated, for joints 1/8 inch (3.2 mm) or wider.

B. High Performance Cement Grout: ANSI A118.7

1. High Performance Cement Tile Grout: For grout joints from 1/16 to 3/4 inch (1.5 to 19 mm) and meeting ANSI A118.7 and ISO 13007 CGWAF.

   a. Product: MAPEI, Ultracolor Plus FA.

## 2.10 ELASTOMERIC SEALANTS

A. General: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer and characteristics indicated that comply with applicable requirements of Division 7 Section "Joint Sealants."

B. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.

C. One-Part, Mildew-Resistant Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and temperature extremes.

D. Products: Subject to compliance with requirements, provide one of the following:

1. One-Part, Mildew-Resistant Silicone Sealants:

   a. MAPEI, Mapesil T.
   b. Dow Corning 786; Dow Corning Corporation.
   c. Pecora 898 Sanitary Silicone Sealant; Pecora Corp.
   d. Tremsil 600 White; Tremco, Inc.

## 2.11 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland-cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

1. Trowelable Concrete Floor Patch: High-Performance, Fast-Setting Cementitious Patching Compound. Can be applied at 1/16 inch to 1-1/2 inches (1.5 mm to 38 mm) neat and from 1-1/2 inches to 3 inches (38 mm to 76 mm) neat in areas no larger than 24 sq. ft. (2.23 $m^2$).

   a) Product: MAPEI, Mapecem Quickpatch.

2. Render Mortar: Quick-setting, polymer-modified, fiber-reinforced, cementitious rendering, patching, ramping and leveling mortar, can be applied from 1/8 to 1-1/14 inch (3 mm to 32 mm).

   a) Product: MAPEI, Planitop 330 Fast.

B. Temporary Protective Coating: Provide product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; is compatible with tile, mortar, and grout products; and is easily removable after grouting is completed without damaging grout or tile.

1. Petroleum paraffin wax, fully refined and odorless, containing at least 0.5 percent oil with a melting point of 120 to 140 deg F (49 to 60 deg C) per ASTM D 87.
2. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as a temporary protective coating for tile.

   a) Grout release: high-performance sacrificial coating that protects the tile surface from grout stains, improves cleanability and reduces the risk of grout haze or film residue, interior and exterior applications on all-natural stone; marble, limestone, sandstone, slate, granite and travertine, porcelain/ceramic tiles, masonry and quarry tiles.

1) Product: MAPEI, UltraCare Grout Release.

C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

1. Neutral pH Cleaner: Highly concentrated, zero-VOC, for ceramic, porcelain and natural stone surfaces and prevent soap scum buildup and hard water deposits.

a) Product: MAPEI, UltraCare Concentrated Tile and Grout Cleaner.

D. High-Alkaline Cleaner: Highly concentrated and degreaser that quickly removes waxes, grease, oil, light soap scum, mildew and algae stains. For areas that have been neglected or subject to heavy use.

1. Product: MAPEI, UltraCare Heavy-Duty Stone, Tile & Grout Cleaner.

## 2.12 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

## 2.13 CRACK PREVENTION AND WATER PROOFING MEMBRANE

A. Fluid-Applied Membrane: Advanced liquid-rubber; extremely quick-drying, premium waterproofing and crack- isolation membrane, IAPMO-listed, ANSI A118.10 and ANSI A118.12.

1. Product: Subject to compliance with requirements, provide MAPEI, Mapelastic AquaDefense.

a) With MAPEI, Reinforcing Fabric shall be used throughout all membrane locations.

2. Location:

a) Membrane and reinforcing fabric shall be installed under all ceramic floor tile and returned up the wall behind the cove base.
b) Membrane and reinforcing fabric shall be installed behind all wall ceramic tile installed on CMU.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.

1. Verify that substrates for setting tile are firm; dry; clean; free from oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 series of tile installation standards for installations indicated.

B. Do not proceed with installation until unsatisfactory conditions have been corrected.

## 3.2 PREPARATION

A. Remove coatings, including curing compounds, and other substances that contain soap, wax, oil, or silicone and are incompatible with tile-setting materials by using a terrazzo or concrete grinder, a drum sander, or a polishing machine equipped with a heavy-duty wire brush.

B. Provide concrete substrates for tile floors installed with dry-set or latex-portland cement mortars that comply with flatness tolerances specified in referenced ANSI A108 series of tile installation standards for installations indicated.

1. Use trowelable leveling and patching compounds per tile-setting material manufacturer's written instructions to fill cracks, holes, and depressions.
2. Remove protrusions, bumps, and ridges by sanding or grinding.

C. Blending: For tile exhibiting color variations within the ranges selected during Sample submittals, verify that tile has been blended in the factory and packaged so tile units taken from one package show the same range in colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

## 3.3 INSTALLATION, GENERAL

A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 series of tile installation standards in "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated.

1. Ceramic floor tile: TNCA Method F-113
2. Quarry Tile Floor: TNCA Method F-112
3. Ceramic wall tile: TNCA Method W-202

B. Expansion and Control Joints: TCNA method EJ171.

C. TNCA Installation Guidelines: TNCA's "Handbook for Ceramic, Glass and Stone Tile Installation." Comply with TCNA installation methods indicated in ceramic tile installation schedules.

D. Extend tile work into recesses and under or behind equipment and fixtures to form a complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

E. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

F. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are the same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.

G. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Locate joints in tile surfaces directly above joints in concrete substrates.
2. Prepare joints and apply sealants to comply with requirements of Division 7 Section "Joint Sealants."

H. Grout tile to comply with the requirements of the following tile installation standards:

1. For ceramic tile grouts (sand-portland cement, dry-set, commercial portland cement, and latex-portland cement grouts), comply with ANSI A108.10.

## 3.4 FLOOR TILE INSTALLATION

A. General: Install tile to comply with requirements in the Ceramic Tile Floor Installation Schedule, including those referencing TCNA installation methods and ANSI A108 series of tile installation standards.

B. Tile Pattern: All ceramic mosaic floors to use American Olean 2 x 2 pattern SP-8205.

C. Joint Widths: Install tile on floors with the following joint widths:

1. Ceramic Mosaic Tile: 1/16 inch (1.6 mm).
2. Quarry tile: 3/8" (9.5 mm).

D. Marble Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.

## 3.5 WALL TILE INSTALLATION

A. Install types of tile designated for wall installations to comply with requirements in the Ceramic Tile Wall Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.

B. Joint Widths: Install tile on walls with the following joint widths:

1. Wall Tile: 1/16 inch (1.6 mm).

C. Back Buttering: For installations indicated, obtain 100 percent mortar coverage by complying with applicable special requirements for back buttering of tile in referenced ANSI A108 series of tile installation standards:

1. Tile wall installations in wet areas, including showers.

## 3.6 CLEANING AND PROTECTING

A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove latex-portland cement grout residue from tile as soon as possible.

2. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Protect metal surfaces, cast iron, and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
3. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to brick and grout manufacturer. Trap and remove coating to prevent it from clogging drains.

B. Finished Tile Work: Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.

C. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure tile is without damage or deterioration at the time of Substantial Completion.

1. When recommended by tile manufacturer, apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
2. Prohibit foot and wheel traffic from tiled floors for at least 7 days after grouting is completed.

D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION

SECTION A-920 - PAINTING

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 surface preparation and field painting of the following:

1. Exposed exterior items and surfaces.
2. Exposed interior items and surfaces.
3. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.
4. Pavement-marking paint.

B. Paint exposed surfaces, except where the paint schedules indicate that a surface or material is not to be painted or is to remain natural. If the paint schedules do not specifically mention an item or a surface, paint the item or surface the same as similar adjacent materials or surfaces whether or not schedules indicate colors. If the schedules do not indicate color or finish, the Architect will select from standard colors and finishes available.

1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron work, and primed metal surfaces of mechanical and electrical equipment.

C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1. Prefinished items include the following factory-finished components:

a. Architectural woodwork and casework.
b. Acoustical wall panels.
c. Toilet enclosures.
d. Metal lockers.
e. Finished mechanical and electrical equipment.
f. Light fixtures.
g. Distribution cabinets.

2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:

a. Furred areas.
b. Ceiling plenums.
c. Pipe spaces.

3. Finished metal surfaces include the following:

a. Anodized aluminum.
b. Stainless steel.

c. Chromium plate.

4. Operating parts include moving parts of operating equipment and the following:

a. Valve and damper operators.
b. Linkages.
c. Sensing devices.
d. Motor and fan shafts.

5. Labels: Do not paint over Underwriters Laboratories (UL), Factory Mutual (FM), or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

D. Related Sections include the following:
1. Division Section "Gypsum Board Assemblies" for surface preparation for gypsum board.

## 1.3 SUBMITTALS

A. Product Data: For each paint system specified. Include block fillers and primers.

1. Submit manufacturer's literature including descriptive and performance date.
2. Submit application instructions and methods, including mixing, surface preparation, compatible primers and topcoats, recommended wet and dry film thickness.
3. Submit material safety data sheets (MSDS) for each product.
4. Certification by the manufacturer that products supplied comply with local regulations controlling use of volatile organic compounds (VOCs).

B. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated, if not indicated on Color Schedule.

## 1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain block fillers, primers, and undercoat materials for each coating system from the same manufacturer as the finish coats.

## 1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the Project Site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label, and the following information:

1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.6 PROJECT CONDITIONS

A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 and 90 deg F (10 and 32 deg C).

B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 and 95 deg F (7.2 and 35 deg C).

C. Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

1.7 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials applied in the quantities described below. Package paint materials in unopened, factory-sealed containers for storage and identify with labels describing contents. Deliver extra materials to the Owner.

1. Quantity: Furnish the Owner with an additional 5 percent, but not less than 1 gal. (3.785 L) or 1 case, as appropriate, of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products by Sherwin-Williams, Inc. are the basis of design and set the standard of quality required.

B. Substitutions: Equivalent products of other manufacturers may be submitted for approval providing the products submitted are of the same types, have label analyses similar to those specified, meet or exceed the performance criteria, and are suitable for the use intended.

C. Furnish manufacturer's material data and certificates of performance for proposed substitutions.

2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, undercoats, and finish-coat materials that are compatible with one another and the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

C. Colors: Match colors indicated by reference to manufacturer's color designations.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with the Applicator present, under which painting will be performed for compliance with paint application requirements.

1. Do not begin to apply paint until unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

1. Notify the Architect about anticipated problems using the materials specified over substrates primed by others.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of the size or weight of the item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean the substrates of substances that could impair the bond of the various coatings. Remove oil and grease before cleaning.

1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
2. Floors to receive the heavy duty epoxy floor coating shall be thoroughly cleaned and prepped in accordance with the manufacturer's specifications. Particular attention shall be taken on the existing concrete slab where old flooring has been removed, clean off all old adhesive and flash patch as necessary. The floor surface must be acceptable to the manufacturer and installer prior to start of application, any problems must be brought to the attention of the general contractor and the Architect, and corrected before work can start

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.

1. Provide barrier coats over incompatible primers or remove and reprime.
2. Cementitious Materials: Prepare concrete, concrete masonry block, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.

a. Use abrasive blast-cleaning methods if recommended by paint manufacturer.
b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's written instructions.
c. Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.

3. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.

a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
c. When transparent finish is required, backprime with spar varnish.
d. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.
e. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

4. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Council's (SSPC) recommendations.

a. Blast steel surfaces clean as recommended by paint system manufacturer and according to requirements of SSPC-SP 10.
b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with the same primer as the shop coat.

5. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Materials Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

## 3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.

1. Paint colors, surface treatments, and finishes are indicated in the schedules.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, convector covers, covers for finned-tube radiation, grilles, and similar components are in place. Extend coatings in these areas, as required, to maintain the system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before the final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
10. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and the film thickness required are the same regardless of application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer on metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, does not deform or feel sticky under moderate thumb pressure, and where application of another coat of paint does not cause the undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for the type of material applied. Use brush of appropriate size for the surface or item being painted.
2. Rollers: Use rollers of carpet, velvet back, or high-pile sheep's wool as recommended by the manufacturer for the material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by the manufacturer for the material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide the total dry film thickness of the entire system as recommended by the manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and in occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:

1. Piping, pipe hangers, and supports.
2. Heat exchangers.

G. Electrical items to be painted include, but are not limited to, the following:

1. Conduit and fittings.
2. Switchgear.
3. Panelboards.

H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

I. Prime Coats: Before applying finish coats, apply a prime coat of material, as recommended by the manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn through or other defects due to insufficient sealing.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

K. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.

1. Provide satin finish for final coats.

L. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

M. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

## 3.4 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Engineer.

B. Allow paving to age for 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

1. Broadcast glass spheres uniformly into wet pavement markings at a rate of 6 lb/gal.

## 3.5 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from the site.

1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping. Be careful not to scratch or damage adjacent finished surfaces.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others to protect their work after completing painting operations.

1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 INTERIOR PAINT SCHEDULE

A. Drywall and Plaster: (Walls, Ceilings, Gypsum Board and similar items)

1. Latex Systems:

a. Eg-Shel / Satin Finish:

1) 1st Coat: S-W ProMar 200 Zero VOC Interior Latex Primer, B28W2600 (4 mils wet, 1.5 mils dry).
2) 2nd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-12600 Series.
3) 3rd Coat: S-W ProMar 200 Zero VOC Latex Eg-Shel, B20-12600 Series (4 mils wet, 1.7 mils dry).

B. Wood: (Walls, Ceilings, Doors, Trim)

1. Latex Systems:

a. Semi-Gloss Finish:

1) 1st Coat: S-W Premium Wall and Wood Primer, B28W8111 (4 mils wet, 1.8 mils dry).
2) 2nd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series.
3) 3rd Coat: S-W ProClassic Waterborne Acrylic Semi-Gloss, B31 Series (4 mils wet, 1.3 mils dry per coat).

b. Stain and Varnish System: Satin Finish:

1) 1st Coat: SW Minwax Performance Series Tintable Wood Stain 250 VOC.
2) 2nd Coat: S-W Minwax Waterbased Oil-Modified Polyurethane.
3) 3rd Coat: S-W Minwax Waterbased Oil-Modified Polyurethane (4 mils wet, 1.0 mil dry per coat).

C. Metal: Aluminum, Galvanized.

1. Latex Systems:

a. Semi-Gloss Finish High Performance:

1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry).
2) 2nd Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
3) 3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series (2.0-4.0 mils dry per coat).

D. Metal: (Structural Steel Columns, Joists, Trusses, Beams, Miscellaneous and Ornamental Iron, Structural Iron, Ferrous Metal)

1. Latex Systems:

a. Gloss Finish High Performance:

1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry).
2) 2nd Coat: S-W Pro Industrial Acrylic Gloss, B66-600 Series.
3) 3rd Coat: S-W Pro Industrial Acrylic Gloss, B66-600 Series (2.0-4.0.0 mils dry per coat).

b. Semi-Gloss Finish High Performance:

1) 1st Coat: S-W Pro Industrial Pro-Cryl Universal Primer, B66-1310 Series (5.0 mils wet, 2.0 mils dry).
2) nd Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series.
3) 3rd Coat: S-W Pro Industrial Acrylic Semi-Gloss, B66-650 Series (2.0-4.0 mils dry per coat).

END OF SECTION

SECTION A-930 RESINOUS FLOORING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Resinous Systems of the Following Types:
   1. Sherwin-Williams HPF, Resuflor Performance HTS

1.2 RELATED SECTIONS

A. Section 03300 – Cast-In-Place Concrete.

1.3 REFERENCES

A. ASTM International (ASTM):
   1. ASTM C 413 - Standard Test Method for Absorption of Chemical-Resistant Mortars, Grouts, Monolithic Surfacings, and Polymer Concretes.
   2. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
   3. ASTM D 695 - Standard Test Method for Compressive Properties of Rigid Plastics.
   4. ASTM D1475 - Standard Test Method For Density of Liquid Coatings, Inks, and Related Products.
   5. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.
   6. ASTM D 2240 - Standard Test Method for Rubber Property—Durometer Hardness.
   7. ASTM D 2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
   8. ASTM D2369 - Standard Test Method for Volatile Content of Coatings.
   9. ASTM D 2370 - Standard Test Method for Tensile Properties of Organic Coatings.
   10. ASTM D 3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
   11. ASTM D 4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
   12. ASTM D 4366 - Standard Test Methods for Hardness of Organic Coatings by Pendulum Damping Tests
   13. ASTM D5441 - Standard Test Method for Analysis of Methyl Tert-Butyl Ether (MTBE) by Gas Chromatography.
   14. ASTM D 7234 - Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers.
   15. ASTM F 1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
   16. ASTM F 2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes
   17. ASTM G 154 - Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials.

B. Deutsches Institute fur Normung (DIN):
   1. DIN 53460 – Testing of Plastics; Determination of the Vicat Softening Temperature of Thermoplastics.

C. International Concrete Repair Institute (ICRI):

1. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.

D. Military Specifications (MIL):
1. MIL-D-3134J - Deck Covering Materials.

E. National Floor Safety Institute (NFSI):
1. ANSI/NFSI B101.1 - Test Method for Measuring Wet SCOF of Common Hard-Surface Floor Materials.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data:
1. Manufacturer's data sheets on each product to be used, including properties, VOC content, wet static coefficient of friction, compressive strength, tensile strength, elongation and similar properties.
2. Preparation instructions and recommendations.
3. Storage and handling requirements and recommendations.
4. Typical installation methods.

C. Verification Samples: Two representative units of each system, including color and texture.

D. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.

E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.

F. Manufacturer's Project References: Submit manufacturer's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems furnished.

G. Applicator's Project References: Submit applicator's list of successfully completed resinous flooring system projects, including project name and location, name of architect, and type and quantity of flooring systems applied.

H. Care and Maintenance Instructions: Submit manufacturer's care and maintenance instructions, including cleaning instructions.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

B. Applicator's Qualifications:
1. Applicator regularly engaged, for a minimum of 5 years, in application of resinous flooring systems of similar type to that specified.
2. Employ persons trained for application of resinous flooring systems.

C. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

D. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
   1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
   2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
   3. Retain mock-up during construction as a standard for comparison with completed work.
   4. Do not alter or remove mock-up until work is completed or removal is authorized.

1.6 PRE-INSTALLATION CONFERENCE

A. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name, manufacturer, and batch number.

B. Storage and Handling Requirements:
   1. Store and handle materials in accordance with manufacturer's instructions.
   2. Keep materials in manufacturer's original, unopened containers and packaging until application.
   3. Store materials in clean, dry area indoors between 65 and 80 degrees F (18 and 27 degrees C).
   4. Store materials out of direct sunlight.
   5. Keep materials from freezing.
   6. Protect materials during storage, handling, and application to prevent contamination or damage.

1.8 PROJECT CONDITIONS

A. Apply flooring system under the following ambient conditions:
   1. Ambient and Concrete Floor Temperatures: Between 65 and 85 degrees F (18 and 29 degrees C).
   2. Material Temperature: Between 65 and 85 degrees F (18 and 29 degrees C).
   3. Relative Humidity: Maximum 80 percent.
   4. Dew Point: Floor temperature more than 5 degrees over dew point.

B. Do not apply flooring system under ambient conditions outside manufacturer's limits.

1.9 WARRANTY

A. Submit manufacturer's standard warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: The Sherwin-Williams High Performance Flooring, 866-540-1299 swflooring@sherwin.com Website: https://industrial.sherwin-williams.com/na/us/en/resin-flooring.html

B. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 SHERWIN-WILLIAMS HPF, RESUFLOR PERFORMANCE HTS

A. Resuflor Performance HTS.
1. Primer Coat: Resuflor MPE, 3-5 mils.
2. Build Coat: Resuflor MPE, 17-13 mils.
3. Topcoat: Resutile HTS 100, 3 mils.
4. Color: As selected by Architect from manufacturer's full range.

2.3 SYSTEM PROPERTIES

A. Resuflor Performance HTS
1. Abrasion Resistance Taber Abraser CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060, 18 mg/loss
2. Adhesion to Concrete, psi (MPa), ASTM D4541, 450 [3.10] (concrete failed)
3. Adhesion to concrete, psi [MPa], ASTM D7234, 732[4.48] (concrete failed)
4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047, 0.63
5. Coefficient of Friction-Wet Static, BOT 3000, ANSI/NFSI B101.1, 0.94
6. Compressive Strength, psi [MPa], ASTM D695, 13,500 [93.08]
7. Flammability, mm/min, ASTM D635, 182
8. König Hardness 93 mil/0.08 mm film), ASTM D4366, 171.3
9. Resistance to Yellowing as measured using ASTM D2244 after 1000 consecutive hours UV exposure in QUV, ASTM G154, <10 increase of yellow units (CIE Lab Δ) if pigmented topcoat
10. Shore D Hardness, ASTM D2240, 80-85 @ 0 sec|75-80 @ 15 sec
11. Tensile Strength, psi [MPa], ASTM D2370, 6,250 [43.09]
12. Percent Elongation, ASTM D2370, 6%
13. Volatile Organic Compound, VOC lb./gal [g/l], ASTM D3960, Resuflor MPE A+B=0.41 [49] Resutile HTS 100 A+B=0.05 [6]
14. Water Absorption, 24- hour immersion, ASTM C413, 0.2% weight increase

2.4 PRODUCT PROPERTIES

A. Resuflor MPE: A neutral, two-component, high solids epoxy.
1. Percent Solids, by weight (by volume), ASTM D1475, A + B: 95.45 (94.56).
2. Volatile Organic Compound-VOC, ASTM D3960, Mixed A + B: 0.41 lb./gal (49 g/L).
3. Abrasion Resistance, mg loss, Taber Abraser, C-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060: 83.1.
4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047: 0.59-0.62.
5. Adhesion to Concrete, ASTM D5441: 732 psi (4.48 MPa) concrete failed.
6. Adhesion to Concrete, ASTM D7234: 450 psi (3.10 MPa) concrete failed.
7. Compressive Strength, ASTM D695: 13,500 psi (93.079 MPa).
8. Tensile Strength, ASTM D2370: 8,000 psi (55.158 MPa).
9. Percent Elongation, ASTM D2370: 5.
10. Shor D Hardness, ASTM D2240: 80-85 at 0 sec, 75-80 at 15 sec.

B. Resutile HTS 100: A clear high solids, three-component, satin finish, aliphatic, moisture-cure urethane.
1. Percent Solids, by weight (by volume), ASTM D2369, A + B + C: 94.02 (92.57).
2. Volatile Organic Compound-VOC, ASTM D3960, Mixed A + B + C: 0.05 lb/gal (6 g/L).

3. Abrasion Resistance, mg loss, Taber Abraser, C-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions, ASTM D4060: 18.
4. Coefficient of Friction-COF, James Friction Tester, ASTM D2047: 0.63.
5. Wet Static Coefficient of Friction, BOT 3000, ANSI/NFSI B101.1: 0.94.
6. Flammability, ASTM G154: 182 mm/min.
7. Resistance to Yellowing as measured using ASTM D2244 after 1000 consecutive hours UV exposure in QUV, ASTM G154, Less than 10 increase of yellow units (CIE Lab Δb)
8. Tensile Strength, (resin only), ASTM D2370: 6,250 psi (43,092 MPa).
9. Percent Elongation, (resin only), ASTM D2370: 6.
10. König Hardness, (3 mil/76.2 micron film), ASTM D4366: 171.3.
11. Water Absorption, 24-hour immersion, ASTM C413: 0.2 percent weight increase.

## PART 3 EXECUTION

### 3.1 EXAMINATION

A. Examine concrete surfaces to receive flooring system. Verify concrete is structurally sound.

B. Moisture Testing of Concrete: Perform at least one of the following two tests to determine moisture in concrete. Type of test and frequence as recommended by manufacturer and installer.
   1. In-situ Probe Test:
      a. Measure relative humidity in concrete in accordance with ASTM F 2170.
      b. Application of flooring system shall start only if test results are below 75 percent relative concrete humidity.
      c. If test results are above limits, notify Architect and flooring manufacturer in writing.

C. Do not begin preparation or installation until satisfactory moisture test results are achieved. Provide flooring manufacturer's recommended moisture vapor control coating if required.

### 3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Protection of In-Place Conditions: Protect adjacent surfaces and adjoining walls from contact with flooring system materials.

C. Surface Preparation:
   1. Prepare concrete surface in accordance with manufacturer's instructions.
   2. Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, paint, coatings, sealers, silicones, and other surface contaminants which could adversely affect application of flooring system.
   3. Steel shot blast concrete to a minimum surface profile of ICRI 310.2R, CSP 5.
   4. Key-cut termination points with 1/4-inch (6-mm) by 1/4-inch (6-mm) cut.
   5. Patch depressions, divots, and cracks in concrete in accordance with manufacturer's instructions.
   6. Mechanically remove loose, delaminated, and damaged concrete and repair in accordance with manufacturer's instructions.
   7. Joints: Fill joints in accordance with manufacturer's instructions.

### 3.3 INSTALLATION

A. Install flooring system in accordance with manufacturer's instructions and approved submittals at locations indicated on the Drawings.

B. Ensure concrete is dry, clean, and prepared in accordance with manufacturer's instructions.

C. Allow concrete to cure a minimum of 7 days before applying flooring system.

D. Mixing:
1. Mix material components together in accordance with manufacturer's instructions.
2. Mix only enough material that can be applied within working time.
3. Add and mix colorants with materials in accordance with manufacturer's instructions to achieve uniform color.

E. Apply flooring system materials to obtain consistent mil thickness and smooth, uniform appearance and texture.

F. Overlay: Apply overlay in accordance with manufacturer's instructions. Apply overlay to prepared concrete surface.

G. Traction Aggregate: Broadcast traction aggregate in accordance with manufacturer's instructions. Broadcast traction aggregate into wet overlay.

H. Cove:
1. Apply cove primer and cove in accordance with manufacturer's instructions at locations indicated on the Drawings.
2. Apply cove to height and shape as indicated on the Drawings.
3. Apply cove to create seamless, smooth transition between flooring and walls.

I. Seal Coat:
1. Apply seal coat in accordance with manufacturer's instructions.
2. Apply seal coat over traction aggregate.

3.4 FIELD QUALITY CONTROL

A. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

B. appropriate sections in Division 01.

3.5 CLEANING AND PROTECTION

A. Allow flooring system to dry in accordance with manufacturer's instructions before opening to traffic.

B. Allow flooring system to dry a minimum of 1 week before cleaning by mechanical means.

C. Protect completed flooring system from damage during construction.

END OF SECTION

# SECTION A-940 - GYPSUM BOARD ASSEMBLIES

## 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 the following:

1. Nonload-bearing steel framing members for gypsum board assemblies.
2. Gypsum board assemblies attached to steel framing.
3. Tile backing gypsum board.

### 1.3 DEFINITIONS

A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA-505 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

### 1.4 ASSEMBLY PERFORMANCE REQUIREMENTS

A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those of assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

### 1.5 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product Data for each type of product specified.

C. Shop Drawings showing locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

D. Product certificates signed by manufacturers of gypsum board assembly components certifying that their products comply with specified requirements.

### 1.6 QUALITY ASSURANCE

A. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer, unless otherwise indicated.

B. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.

C. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.

B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Neatly stack gypsum panels flat to prevent sagging.

1.8 PROJECT CONDITIONS

A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.

B. Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F (10 deg C) for 48 hours before application and continuously after until dry. Do not exceed 95 deg F (35 deg C) when using temporary heat sources.

C. Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:

1. Steel Framing and Furring:
    a. Dale Industries, Inc.
    b. Marino/Ware (formerly Marino Industries Corp.).
    c. National Gypsum Co.; Gold Bond Building Products Division.
2. Grid Suspension Assemblies:
    a. Armstrong World Industries, Inc.
    b. Chicago Metallic Corp.
    c. USG Interiors, Inc.
3. Gypsum Board and Related Products:
    a. Georgia-Pacific Corp.
    b. National Gypsum Co.; Gold Bond Building Products Division.
    c. United States Gypsum Co.

2.2 STEEL FRAMING COMPONENTS FOR SUSPENDED AND FURRED CEILINGS

A. General: Provide components complying with ASTM C 754 for conditions indicated.

B. Wire Ties: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, 0.062 inch (1.6 mm) thick.

C. Wire Hangers: ASTM A 641 (ASTM A 641M), Class 1 zinc coating, soft temper, 0.162-inch (4.1-mm) diameter.

D. Channels: Cold-rolled steel, 0.0598-inch (1.5-mm) minimum thickness of base (uncoated) metal and 7/16-inch- (11.1-mm-) wide flanges, and as follows:

1. Carrying Channels: 1-1/2 inches (38.1 mm) deep, 475 lb/1000 feet (70 kg/100 m), unless otherwise indicated.
2. Furring Channels: 3/4 inch (19.1 mm) deep, 300 lb/1000 feet (45 kg/100 m), unless otherwise indicated.
3. Finish: Rust-inhibitive paint, unless otherwise indicated.
4. Finish: ASTM A 653, G 60 (ASTM A 653M, Z 180) hot-dip galvanized coating for framing for exterior soffits and where indicated.

E. Steel Studs for Furring Channels: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch- (5-mm-) wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

1. Thickness: 0.0329 inch (0.84 mm), unless otherwise indicated.
2. Depth: 3-5/8 inches (92.1 mm), unless otherwise indicated.
3. Depth: As indicated.
4. Protective Coating: ASTM A 653, G 40 (ASTM A 653M, Z 90) hot-dip galvanized coating.

F. Steel Rigid Furring Channels: ASTM C 645, hat shaped, depth of 7/8 inch (22.2 mm), and minimum thickness of base (uncoated) metal as follows:

1. Thickness: 0.0329 inch (0.84 mm), unless otherwise indicated.
2. Thickness: As indicated.
3. Protective Coating: ASTM A 653, G 40 (ASTM A 653M, Z 90) hot-dip galvanized coating.

G. Grid Suspension System for Interior Ceilings: ASTM C 645, manufacturer's standard direct-hung grid suspension system composed of main beams and cross-furring members that interlock to form a modular supporting network.

2.3 STEEL FRAMING FOR WALLS AND PARTITIONS

A. General: Provide steel framing members complying with the following requirements:

1. Protective Coating: ASTM A 653, G 40 (ASTM A 653M, Z 90) hot-dip galvanized coating.

B. Steel Studs and Runners: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch- (5-mm-) wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:

1. Thickness: 0.0329 inch (20 gage) (0.84 mm) as follows:
2. Depth: 3-5/8 inches (92.1 mm), unless otherwise indicated.
3. Depth: 6 inches (152.4 mm) where indicated.

4. Thickness to be 0.0429 inch (18 gage) for walls over 12'-0" high.

C. Deflection Track: Manufacturer's top runner complying with the requirements of ASTM C 645 and with 2-inch- (50.8-mm-) deep flanges.

D. Steel Flat Strap and Backing Plate: Steel sheet for blocking and bracing complying with ASTM A 653 (ASTM A 653M) or ASTM A 568 (ASTM A 568M), length and width as indicated, and with a minimum base metal (uncoated) thickness as follows:

1. Thickness: 0.0329 inch (0.84 mm) where indicated.

E. Fasteners for Metal Framing: Provide fasteners of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel framing and furring members securely to substrates involved; complying with the recommendations of gypsum board manufacturers for applications indicated.

## 2.4 GYPSUM BOARD PRODUCTS

A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.

1. Widths: Provide gypsum board in widths of 48 inches (1219 mm).

B. Gypsum Wallboard: ASTM C 36, National Gypsum, Gold Bond XP (purple) Gypsum Board and as follows:

1. Type: Gold Bond XP (purple) for all interior locations.
2. Type: Gold Bond XP Fire-Shield Gypsum Board with Sporgard where required for fire-resistance-rated assemblies.
3. Type: Water-Resistant Gypsum Backing Board for tiled walls.
4. Type: Sag-resistant type for ceiling surfaces.
5. Edges: Tapered.
6. Thickness: 1/2 inch (12.7 mm), for ceilings and soffits.
7. Thickness: 5/8 inch (15.9 mm) unless otherwise indicated.

## 2.5 TRIM ACCESSORIES

A. Accessories for Interior Installation: Cornerbead, edge trim, and control joints complying with ASTM C 1047 and requirements indicated below:

1. Material: Formed metal or plastic, with metal complying with the following requirement:

a. Steel sheet zinc coated by hot-dip process or rolled zinc.

2. Shapes indicated below by reference to Fig. 1 designations in ASTM C 1047:

a. Cornerbead on outside corners, unless otherwise indicated.
b. L-bead with face flange only; face flange formed to receive joint compound. Use L-bead where indicated.
c. One-piece control joint formed with V-shaped slot and removable strip covering slot opening.
d. Reveal Bead in ceiling, "Reveal" Stock # 5110, ½"x ½", or equal, refer to ceiling plan.

## 2.6 JOINT TREATMENT MATERIALS

A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

B. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.

1. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.

C. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged vinyl-based products complying with the following requirements for formulation and intended use.

1. Ready-Mixed Formulation: Factory-mixed product.

a. Taping compound formulated for embedding tape and for first coat over fasteners and face flanges of trim accessories.
b. Topping compound formulated for fill (second) and finish (third) coats.
c. All-purpose compound formulated for both taping and topping compounds.

## 2.7 ACOUSTICAL SEALANT

A. Acoustical Sealant for Exposed and Concealed Joints: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 and the following requirements:

B. Acoustical Sealant for Concealed Joints: Manufacturer's standard nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce transmission of airborne sound.

C. Available Products: Subject to compliance with requirements, acoustical sealants that may be incorporated in the Work include, but are not limited to, the following:

1. See Section 07920 for acoustical sealants

## 2.8 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.

B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum panels.

C. Spot Grout: ASTM C 475, setting-type joint compound recommended for spot-grouting hollow metal door frames.

D. Fastening Adhesive for Metal: Special adhesive recommended for laminating gypsum panels to steel framing.

E. Steel drill screws complying with ASTM C 1002 for the following applications:

1. Fastening gypsum board to steel members less than 0.033 inch (0.84 mm) thick.

F. Sound-Attenuation Blankets: Unfaced mineral-fiber blanket insulation produced by combining mineral fibers of type described below with thermosetting resins to comply with ASTM C 665 for Type I (blankets without membrane facing).

1. Mineral-Fiber Type: Roxul or equal.

G. Thermal Insulation: See Section 07210 for Thermal Insulation

a. Mineral-Fiber Type: Fibers manufactured from glass.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Ceiling Anchorages: Coordinate installation of ceiling suspension systems with installation of overhead structural assemblies to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers that will develop their full strength and at spacing required to support ceilings.

3.3 INSTALLING STEEL FRAMING, GENERAL

A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 and with ASTM C 840 requirements that apply to framing installation.

B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Co.'s "Gypsum Construction Handbook."

C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement. Comply with details shown on Drawings.

1. Where partition framing and wall furring abut structure, except at floor.

a. Install deflection track top runner to attain lateral support and avoid axial loading.

D. Do not bridge building control and expansion joints with steel framing or furring members. Independently frame both sides of joints with framing or furring members as indicated.

3.4 INSTALLING STEEL FRAMING FOR SUSPENDED AND FURRED CEILINGS

A. Suspend ceiling hangers from building structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
4. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
5. Do not attach hangers to steel deck tabs.
6. Do not attach hangers to steel roof deck. Attach hangers to structural members.
7. Do not connect or suspend steel framing from ducts, pipes, or conduit.

B. Sway-brace suspended steel framing with hangers used for support.

C. Install suspended steel framing components in sizes and at spacings indicated, but not less than that required by the referenced steel framing installation standard.

1. Wire Hangers: 48 inches (1219 mm) o.c.
2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
3. Furring Channels (Furring Members): 16 inches (406 mm) o.c.

D. Installation Tolerances: Install steel framing components for suspended ceilings so that cross-furring or grid suspension members are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) as measured both lengthwise on each member and transversely between parallel members.

E. Wire-tie or clip furring members to main runners and to other structural supports as indicated.

F. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

## 3.5 INSTALLING STEEL FRAMING FOR WALLS AND PARTITIONS

A. Install runners (tracks) at floors, ceilings, and structural walls and columns where gypsum board stud assemblies abut other construction.

1. Where studs are installed directly against exterior walls, install asphalt felt strips or foam gaskets between studs and wall.

B. Installation Tolerances: Install each steel framing and furring member so that fastening surfaces do not vary more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent framing.

C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

1. Cut studs 1/2 inch (13 mm) short of full height to provide perimeter relief.

2. For STC-rated and fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid structural surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed, to support gypsum board closures needed to make partitions continuous from floor to underside of solid structure.

D. Install steel studs and furring in sizes and at spacings indicated.

1. Single-Layer Construction: Space studs 16 inches (406 mm) o.c., unless otherwise indicated.

E. Frame door openings to comply with GA-219, and with applicable published recommendations of gypsum board manufacturer, unless otherwise indicated. Attach vertical studs at jambs with screws either directly to frames or to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

1. Install 2 studs at each jamb, unless otherwise indicated.
2. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (12.7-mm) clearance from jamb stud to allow for installation of control joint.
3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

F. Frame openings other than door openings to comply with details indicated or, if none indicated, as required for door openings. Install framing below sills of openings to match framing required above door heads.

## 3.6 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.

B. Install sound-attenuation blankets, where indicated, prior to installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

D. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.

E. Locate both edge or end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings where possible.

F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

G. Attach gypsum panels to framing provided at openings and cutouts.

H. Spot grout hollow metal door frames for solid-core wood doors, hollow metal doors, and doors over 32 inches (813 mm) wide. Apply spot grout at each jamb anchor clip and immediately insert gypsum panels into frames.

I. Form control and expansion joints at locations indicated and as detailed, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.

J. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases that are braced internally.

1. Except where concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.

K. Where STC-rated gypsum board assemblies are indicated, seal construction at perimeters, behind control and expansion joints, openings, and penetrations with a continuous bead of acoustical sealant including a bead at both faces of the partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.

L. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.

1. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications.

## 3.7 GYPSUM BOARD APPLICATION METHODS

A. Single-Layer Application: Install gypsum wallboard panels as follows:

1. On ceilings, apply gypsum panels prior to wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless parallel application is required for fire-resistance-rated assemblies. Use maximum-length panels to minimize end joints.
    a. Stagger abutting end joints not less than one framing member in alternate courses of board.

B. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows:

1. Fasten with screws and glue.

C. Multiple Layer Application:

1. Install multiple layers by alternating horizontal and vertical panels.
2. Screws shall be long enough to penetrate the metal stud a minimum of ¾".

## 3.8 INSTALLING TRIM ACCESSORIES

A. General: For trim accessories with back flanges, fasten to framing with the same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.

B. Install corner bead at external corners.

C. Install edge trim where edge of gypsum panels would otherwise be exposed. Provide edge trim type with face flange formed to receive joint compound, except where other types are indicated.

1. Install L-bead where edge trim can only be installed after gypsum panels are installed.
2. Install aluminum trim and other accessories where indicated.

D. Install control joints according to ASTM C 840 and manufacturer's recommendations, with a maximum spacing of 30', or as shown in specific locations by the Architect for visual effect.

## 3.9 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, flanges of corner bead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration.

B. Prefill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

C. Apply joint tape over gypsum board joints and to flanges of trim accessories as recommended by trim accessory manufacturer.

D. Levels of Gypsum Board Finish: Provide the following levels of gypsum board finish per GA-214.

1. Level 1 for ceiling plenum areas, concealed areas, and where indicated, unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies.
2. Level 4 for gypsum board surfaces, unless otherwise indicated.

E. Use the following joint compound combination as applicable to the finish levels specified:

1. Embedding and First Coat: Ready-mixed, drying-type, all-purpose or taping compound. Fill (Second) Coat: Ready-mixed, drying-type, all-purpose or topping compound. Finish (Third) Coat: Ready-mixed, drying-type, all-purpose or topping compound.

F. For Level 4 gypsum board finish, embed tape in joint compound and apply first, fill (second), and finish (third) coats of joint compound over joints, angles, fastener heads, and accessories. Touch up and sand between coats and after last coat as needed to produce a surface free of visual defects and ready for decoration.

G. Where Level 1 gypsum board finish is indicated, embed tape in joint compound (above ceilings).

## 3.10 FIELD QUALITY CONTROL

A. Above-Ceiling Observation: Architect will conduct an above-ceiling observation prior to installation of gypsum board ceilings and report any deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.

1. Notify Architect one week in advance of the date and the time when the Project, or part of the Project, will be ready for an above-ceiling observation.
2. Prior to notifying Architect, complete the following in areas to receive gypsum board ceilings:
    a. Installation of 80 percent of lighting fixtures, powered for operation.
    b. Installation, insulation, and leak and pressure testing of water piping systems.
    c. Installation of air duct systems.
    d. Installation of air devices.
    e. Installation of mechanical system control air tubing.
    f. Installation of ceiling support framing.

3.11 CLEANING AND PROTECTION

A. Promptly remove any residual joint compound from adjacent surfaces.

B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 09255

APPENDIX A

## PREVAILING WAGE COMPLIANCE

The Contractor hereby agrees to comply in all respect with the New Jersey Prevailing Wage Act, Chapter 150, P.L. 1963 as amended, the Davis-Bacon Act, and the Copeland "Anti-Kickback" Act. Additional information on Davis-Bacon and Related Acts is provided herein.

Pursuant to N.J.S.A. 34:11-56.37 and 34.11-56.38 -Prevailing Wage Act, no public works contract may be awarded to any contractor and subcontractor or to any firm, corporation or partnership in which they have an interest on the disbarred list, until expiration date given.

The State of New Jersey disbarred list is available at following web address:

https://www.sam.gov/portal/SAM/

The Federal disbarred list is available at following web address:

https://www.epls.gov/

Workmen shall be paid not less than `such prevailing wage rate. In the event it is found that any workman employed by the Contractor or any Subcontractor covered by the contract herein has been paid a rate of wages less than the prevailing rate required to be paid by such contract, the Owner may terminate the Contractor's or Subcontractor's right to proceed with the work or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The Contractor and his sureties shall be liable to the Owner for any excess costs occasioned thereby.

Before final payment is made by or on behalf of the Owner of any sum or sums due to the work, the Contractor or Subcontractor shall file with the treasurer of the Owner, written statements in form satisfactory to the Commissioner of Labor and Industry certifying to the amounts then due and owing from such contractor or subcontractor filing such statement to any and all workmen for wages due on account for the work, setting forth therein the names of the persons whose wages are unpaid and the amount due to each respectively which statement shall be certified by the oath of the Contractor or Subcontractor as the case may be in accordance with the said New Jersey Prevailing Wage Act.

The prevailing wage rate shall be the higher of those determined by the New Jersey Commissioner of Labor and Industry or his duly authorized deputy or representative and the Davis Back Act Wage Rate Determinations for New Jersey as determined by the United States Department of Labor.

Contractor must utilize prevailing wage rates that are current to within ten (10) days of the signing of the construction contract.

"General Decision Number: NJ20250029 03/14/2025

Superseded General Decision Number: NJ20240029

State: New Jersey

Construction Type: Building

County: Cape May County in New Jersey.

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.<br>. The contractor must pay all covered workers at least $17.75 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 2025. |
| 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.<br>. The contractor must pay all covered workers at least $13.30 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 2025. |

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 | 01/03/2025 |
| 1 | 02/07/2025 |

2 03/14/2025

ASBE0089-004 07/01/2024

| | Rates | Fringes |
|---|---|---|
| ASBESTOS WORKER/HEAT & FROST INSULATOR ((includes the application of all insulating materials, protective coverings, coatings and finishings to all types of mechanical systems; also, the application of firestopping material to openings and penetrations in walls, floors, ceilings and curtain walls; also, all lead abatement)) | $ 55.15 | 38.80 |

PAID HOLIDAYS:
The last day prior to the Christmas and New Year's Day observed holiday: 4 hrs. pay.

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BRNJ0002-013 05/01/2021

| | Rates | Fringes |
|---|---|---|
| Bricklayer | $ 45.20 | 33.26 |

Work on high stacks: 22% per hour additional.

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BRNJ0007-012 07/04/2022

| | Rates | Fringes |
|---|---|---|
| Marble setter | $ 62.40 | 38.82 |

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BRNJ0007-013 06/06/2022

| | Rates | Fringes |
|---|---|---|
| Terrazzo finisher | $ 42.80 | 28.57 |

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BRNJ0007-017 06/06/2022

| | Rates | Fringes |
|---|---|---|
| Tile finisher | $ 42.80 | 28.57 |
| Tile setter | $ 50.14 | 34.05 |

Tile finisher:
Work grouting all epoxy: $10.00 additional per day.

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CARP0006-009 05/01/2024

| | Rates | Fringes |
|---|---|---|
| CARPENTER (Scaffold Builder) | $ 56.01 | 59.25%+$0.14 |

The first sixty feet at the regular rate, 10% per hour additional for each additional fifty feet thereafter.

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CARP0006-010 05/01/2024

| | Rates | Fringes |
|---|---|---|
| CARPENTER | | |
| Including Acoustical Ceiling Installation, Drywall Hanging, Formwork, Batt and Blown Insulation | $ 56.01 | 59.25%+$0.14 |

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CARP0029-006 05/01/2024

| | Rates | Fringes |
|---|---|---|
| Soft floor layer | $ 56.01 | 59.25%+$0.14 |

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CARP0715-007 05/01/2020

| | Rates | Fringes |
|---|---|---|
| Millwright | $ 51.58 | 58%+0.25 |

Work of erection and dismantling of elevators and towers, such as concrete conveyors and temporary material elevators, scaffolding or other structures to be used as scaffolding inside or outside of buildings: the first sixty feet at the regular rate, 10% per hour additional for each additional fifty feet thereafter.

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ELEC0351-009 09/01/2024

| | Rates | Fringes |
|---|---|---|
| ELECTRICIAN (Teledata Technicians) | | |
| 15 Voice Data Lines or Less | $ 41.00 | 32.12%+19.58 |
| 16 Voice or Data Lines or more and Fiber Optics | $ 41.00 | 32.12%+19.58 |

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ELEC0351-011 09/30/2024

| | Rates | Fringes |
|---|---|---|
| Electricians: | | |
| Cable splicer on lead cable | $ 46.51 | 72.54% + .65 |
| Electrician and cable splicer | $ 55.05 | 77.77%+5.95 |

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* ELEV0005-004 01/01/2025

| | Rates | Fringes |
|---|---|---|
| Elevator mechanic | $ 71.85 | 38.435+a+b |

A. PAID VACATION: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% for 6 months to 5 years of service.

B. Eight Paid Holidays (provided employee has worked 5 consecutive days before and the working day after the holiday): New Years's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day and the Friday after Thanksgiving Day, and Christmas Day.

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ENGI0825-017 07/01/2024

| | Rates | Fringes |
|---|---|---|
| Power equipment operators: | | |
| GROUP 1 | $ 60.47 | 36.25 |
| GROUP 2 | $ 58.88 | 36.25 |
| GROUP 3 | $ 56.97 | 36.25 |
| GROUP 4 | $ 55.34 | 36.25 |
| GROUP 5 | $ 51.63 | 36.25 |

Hazardous waste removal work:
Work on a state or federally designated hazardous waste site, where the worker is in direct contact with hazardous material, and when personal protective equipment is required for respiratory, skin and eye protection: 20% per hour additional.

PAID HOLIDAYS:
New Year's Day, Washington's Birthday observed, Memorial Day, Independence Day, Labor Day, Presidential Election Day, Veteran's Day, Thanksgiving Day and Christmas Day; provided 1) that the worker works three of the preceding five work days before the holiday; or, the work day before the holiday and the work day after the holiday; and, 2) that the worker works the work day before and the work day after the holiday.

DEFINITION OF GROUPS:

GROUP 1:
Backhoe, Including Backhoe Track; Boom; Concrete Paving Machine; Crane (all types, including overhead and straddle traveling type); Drill (down-the-hole drill, rotary drill, self-propelled hydraulic drill, self-powered drill); Elevating Grader; Excavator; Front End Loader (5 cu. yd. and over); Piledriver (length of boom, including length of leads, shall determine premium rate applicable); Trencher

GROUP 2:
Backhoe Loader Combo; Concrete Pumper; Grader/Blade (Finish); Hoist; Hydraulic Crane, 10 Tons and under; Front End Loader (2 cu. yd. but less than 5 cu. yd.); Scraper; Side Boom

GROUP 3:
Asphalt Spreader; Bulldozer;Compressor(2 or 3) (in Battery) (within 100 ft.); Forklift; Front End Loader (1 cu. yd. and over but less than 2 cu. yd.); Lull; Man Lift/Outside Elevator; Mechanic; Paver, Asphalt; Roller, Blacktop; Tractor;

GROUP 4:
Bobcat/Skid Loader; Compressor (Single); Farm Tractor; Front End Loader (under 1 cu. yd.); Hydroseeder; Roller, Grade; Pump, Hydraulic

GROUP 5:
Oiler

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IRON0399-011 07/01/2024

| | Rates | Fringes |
|---|---|---|
| Ironworkers: | | |
| Reinforcing | $ 53.24 | 38.40 |
| Structural and Ornamental | $ 54.24 | 38.40 |

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LABO0077-002 05/01/2022

| | Rates | Fringes |
|---|---|---|
| LABORER | | |
| MASON TENDER: | | |
| Brick/Cement/Concrete | $ 36.50 | 30.22 |

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LABO0077-003 05/01/2022

| | Rates | Fringes |
|---|---|---|
| Laborers: | | |
| Asphalt Raker, Asphalt Shoveler, Asphalt Spreader, Common or General Laborer, Landscape Laborer, Pipelayer, Power Toole Operator and Screedman | $ 35.75 | 30.22 |

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PAIN0021-035 05/01/2024

| | Rates | Fringes |
|---|---|---|
| Glazier | $ 48.00 | 34.27 |

Work at 30 ft. above the working surface, or on a swing stage: $1.00 per hour additional.

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PAIN0711-018 05/01/2024

| | Rates | Fringes |
|---|---|---|
| DRYWALL FINISHER/TAPER | $ 43.41 | 29.86 |

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PAIN0711-019 05/01/2017

| | Rates | Fringes |
|---|---|---|
| PAINTER (Brush & Roller) | $ 39.25 | 22.66 |
| PAINTER (Spray) | $ 40.28 | 19.98 |

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PLAS0008-007 05/01/2021

| | Rates | Fringes |
|---|---|---|
| Plasterer | $ 38.37 | 31.64 |

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PLAS0592-036 05/01/2023

| | Rates | Fringes |
|---|---|---|
| CEMENT MASON/CONCRETE FINISHER | $ 48.96 | 33.97 |

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PLUM0322-009 05/01/2024

| | Rates | Fringes |
|---|---|---|
| PIPEFITTER (Including HVAC Pipe Installation) | $ 50.60 | 52.71 |
| PLUMBER (Excluding HVAC Pipe Installation) | $ 50.60 | 52.71 |

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ROOF0030-027 05/01/2024

| | Rates | Fringes |
|---|---|---|
| Roofer | | |
| SHINGLES | $ 34.35 | 21.85 |
| SLATE AND TILE | $ 37.35 | 21.85 |
| ALL OTHER WORK | $ 44.13 | 34.33 |

Mopper, and operator of felt-laying machine: $.50 per hour additional.

Work applying roofing material, on any new construction job, on those days on which a felt-laying machine or slag dispensing machine is used: $.50 per hour additional.

PAID HOLIDAY:
The last working day before Christmas, to be paid at the rate of four hours pay.

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SFNJ0669-006 01/01/2025

| | Rates | Fringes |
|---|---|---|
| SPRINKLER FITTER (Fire Sprinklers) | $ 54.92 | 36.51 |

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SHEE0027-009 06/01/2024

| | Rates | Fringes |
|---|---|---|
| SHEET METAL WORKER (Including HVAC Duct Installation) | $ 59.08 | 47.06 |

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TEAM0676-003 05/01/2024

| | Rates | Fringes |
|---|---|---|
| Truck drivers: | | |
| Dump Truck Drivers | $ 43.30 | 32.3711 |
| Off the Road Truck | $ 43.65 | 32.3711 |

Hazardous waste removal work:
Work on a state or federally designated hazardous waste site, where the worker is in direct contact with hazardous materials, and when personal protective equipment is required for respiratory, skin and eye protection: $3.00 per hour additional.

Work on a state or federally designated hazardous waste site, where personal protection A, B, C or D is NOT required: $1.00 per hour additional.

SHIFT WORK:
An owner mandated irregular shift staring any time other than

between 6:00 am and 8:00 am to receive $1.00 per hour, for each hour worked, in addition to the regular rate of pay.

PAID HOLIDAYS:
New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Presidential Election Day, Veteran's Day (or the day after Thanksgiving, at the option of the contractor), Thanksgiving Day, the afternoon of the day before Christmas (Dec. 24) provided that the worker works in the morning, and Christmas Day, provided that the worker works or is available for work on at least two days in the week in which the holiday occurs.

BEREAVEMENT PAY:
In case of a death in the worker's immediate famiy (mother, father, wife, husband, children, brother, sister, current mother-in-law, current father-in-law, grandparents), the worker shall be allowed leave not to exceed three (3) days straight-time pay, provided that he or she shall receive no pay unless the day of death and the burial day falls on a regular work day, and not on days off, holidays, vacation, Saturdays or Sundays.

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

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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)).

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The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a

supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate 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. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the 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. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007

01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

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WAGE DETERMINATION APPEALS PROCESS

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

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

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

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail 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 an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail 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 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.

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END OF GENERAL DECISION"