

**SECTION 00 01 01
PROJECT MANUAL TITLE PAGE**

**PROJECT: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
 BLDG. 300/400 CONF. CENTER AND DINING REMODEL
 1800 BRONSON BLVD
 FENNIMORE, WISCONSIN 53809
 HSR PROJECT NO. 21051
 OWNER BID NO. 2122-05**

**OWNER: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
 1800 BRONSON BLVD
 FENNIMORE, WISCONSIN 53809**

**ARCHITECT/ENGINEER (AE): HSR ASSOCIATES, INC.
 ARCHITECTURE/ENGINEERING
 100 MILWAUKEE STEET
 LA CROSSE, WI 54603
 TEL: (608) 784-1830**

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JOB CAPTAIN:	MIKE LORENS	608-785-4705
INTERIORS:	SARAH BRAATZ	608-785-4734
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MECHANICAL:	JAKE BERAN	608-785-4709
ELECTRICAL:	CHRIS CRANDALL	608-785-4712
SPECIFICATIONS:	TOBIN FAUCHEUX	608-785-4717

AE CONSULTANTS:

STRUCTURAL: RA SMITH
4001 FELLAND RD, SUITE 108
MADISON, WI 53718
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HSR PROJECT NO: 21051

DATE OF PROJECT MANUAL: FEBRUARY 2022

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SECTION 00 11 13
ADVERTISEMENT FOR BIDS

Sealed bids for the construction of:

SOUTHWEST WISCONSIN TECHNICAL COLLEGE
BLDG. 300/400 CONF. CENTER AND DINING REMODEL
1800 BRONSON BLVD
FENNIMORE, WISCONSIN 53809
HSR PROJECT NO. 21051
OWNER BID NO. 2122-05

will be received by:

SOUTHWEST WISCONSIN TECHNICAL COLLEGE
1800 BRONSON BLVD
FENNIMORE, WISCONSIN 53809
DAN IMHOFF - EXEC. DIRECTOR FACILITIES, SAFETY & SECURITY

until **2:00 pm, March 10, 2022**, after which they will be opened publicly and read aloud. Bids received after the time set for receipt of bids will not be accepted. Bid opening will be held at Building 300/400 Conference Center.

In general, the Project consists of interior renovations to conference center and dining room. Interior renovations include demolition, concrete slab, masonry opening infill, gypsum assemblies, wood casework and paneling, paint, wall coverings, paint, carpet tile, resilient flooring, ceramic tile, acoustic ceiling tile, sound absorbing units, linear metal ceiling. Building services work includes lighting, AV wiring, power, toilet room remodel, plumbing, HVAC diffuser and duct modifications.

Lump-sum Bids will be received on a **SINGLE PRIME CONSTRUCTION CONTRACT FOR THE ENTIRE WORK.**

The Project Drawings, Project Manual and other Bidding Documents may be examined at the following locations:

AE's Office: HSR Associates, Inc.
 100 Milwaukee Street
 La Crosse, WI 54603
 608-784-1830

Builder's Exchanges: La Crosse, WI
 Northwest Regional (Eau Claire/Chippewa Falls)
 Wausau, WI
 Builders Exchange of Wisconsin (Appleton)
 Builders Exchange of Michigan (Grand Rapids)
 Minnesota (Minneapolis, MN)
 Rochester, MN
 Duluth, MN
 Northern Iowa (Mason City, IA)
 Master Builders of IA (Des Moines, IA)
 ConstructConnect (Norcross, GA)
 Dodge Data & Analytics (West Allis, WI)

Electronic Bidding Documents (.pdf) will be available from HSR Associates, Inc. via Sharefile electronic distribution and will be distributed to the listed Builders Exchanges. Electronic versions of addenda will be distributed via the same systems.

Hardcopy Bidding Documents may be picked up at HSR Associates' office. Bidders may request shipment of hardcopies by sending a check made out to HSR Associates in the amount of \$20.00. The shipping fee will not be refunded and must be received prior to shipment.

HSR Associates is responsible for distribution of addenda only to those who have requested project documents from HSR in formats described above.

HSR Associates will make AutoCAD files available to the Contractor following award of contract.

HSR Associates maintains a plan holder list at www.hsrassociates.com. This list includes only those who have requested plans from HSR and those who have requested to be added to our list.

Bid Security in the amount of five percent (5%) of the maximum amount of the Bid must accompany each Bid as described in the Project Manual, Instructions to Bidders.

The Owner reserves the right to waive irregularities and to reject any or all Bids. Bids may only be withdrawn in accordance with the Project Manual, Instructions to Bidders.

A pre-bid meeting will be conducted by the Owner and Architect/Engineer to answer questions and to enable bidders to examine conditions at the Project Site. Pre-Bid meeting will occur at **11:00 am February 24, 2022** at Bldg. 300/400 Conference Center.

By: Dan Imhoff

Title: Exec. Director Facilities, Safety & Security

Publish Date: February 16 & February 23, 2022, Dodgeville Chronicle

END OF DOCUMENT 00 11 13

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS

PART 1 GENERAL

1.01 SECTION INCLUDES:

- A. AIA Document A701, 2018 Edition, "Instructions to Bidders": The document is included in this project manual immediately following this coversheet type of section.

1.02 RELATED REQUIREMENTS

- A. Section 00 22 13 - Supplementary Instructions to Bidders: Modify Instructions to Bidders with the revisions, additions and deletions presented in the Supplementary Instructions to Bidders.
- B. Section 00 41 00 - Bid Form
- C. Section 00 43 25 - Substitution Request Form - During Procurement

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AIA[®] Document A701[™] – 2018

Instructions to Bidders

for the following Project:
(Name, location, and detailed description)

| See Supplementary Instructions

THE OWNER:

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

| See Supplementary Instructions

THE ARCHITECT:

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

| See Supplementary Instructions

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ADDITIONS AND DELETIONS:

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

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

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

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

ARTICLE 1 DEFINITIONS

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

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

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

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

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

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

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

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

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

ARTICLE 2 BIDDER'S REPRESENTATIONS

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

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

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)

§ 3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

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

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

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

§ 3.2 Modification or Interpretation of Bidding Documents

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

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least seven days prior to the date for receipt of Bids.
(Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall submit requests for clarification and interpretation.)

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

§ 3.3 Substitutions

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

§ 3.3.2 Substitution Process

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

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

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

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

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

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

§ 3.4 Addenda

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

(Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)

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

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

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

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

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

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

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

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

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

§ 4.1.6 Where two or more Bids for designated portions of the Work have been requested, the Bidder may, without forfeiture of the bid security, state the Bidder's refusal to accept award of less than the combination of Bids stipulated by the Bidder. The Bidder shall neither make additional stipulations on the bid form nor qualify the Bid in any other manner.

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

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

§ 4.2 Bid Security

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

(Insert the form and amount of bid security.)

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

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

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

§ 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

(Indicate how, such as by website, host site/platform, paper copy, or other method Bidders shall submit their Bid.)

§ 4.3.2 Paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

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

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

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

§ 4.4 Modification or Withdrawal of Bid

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

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

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

(State the terms and conditions, such as Bid rank, for returning or retaining the bid security.)

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

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

§ 5.2 Rejection of Bids

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

§ 5.3 Acceptance of Bid (Award)

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

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

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Qualification Statement

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

§ 6.2 Owner's Financial Capability

A Bidder to whom award of a Contract is under consideration may request in writing, fourteen days prior to the expiration of the time for withdrawal of Bids, that the Owner furnish to the Bidder reasonable evidence that financial arrangements have been made to fulfill the Owner's obligations under the Contract. The Owner shall then furnish such reasonable evidence to the Bidder no later than seven days prior to the expiration of the time for withdrawal of Bids. Unless such reasonable evidence is furnished within the allotted time, the Bidder will not be required to execute the Agreement between the Owner and Contractor.

§ 6.3 Submittals

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

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

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

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

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

ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

§ 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum.

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

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

(If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)

§ 7.2 Time of Delivery and Form of Bonds

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

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

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

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

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction, unless otherwise stated below.
(Insert the complete AIA Document number, including year, and Document title.)

- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
(Insert the date of the E203-2013.)

- .5 Drawings

Number	Title	Date
.6	Specifications	

Section	Title	Date	Pages
.7	Addenda:		

Number	Date	Pages
--------	------	-------

.8 Other Exhibits:
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
(Insert the date of the E204-2017.)

The Sustainability Plan:

Title	Date	Pages
-------	------	-------

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

.9 Other documents listed below:
(List here any additional documents that are intended to form part of the Proposed Contract Documents.)

Additions and Deletions Report for **AIA[®] Document A701[™] – 2018**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 17:40:02 ET on 01/20/2022.

PAGE 1

See Supplementary Instructions

...

See Supplementary Instructions

...

See Supplementary Instructions

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Tobin J. Faucheux, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 17:40:02 ET on 01/20/2022 under Order No. 7329489615 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A701™ – 2018, Instructions to Bidders, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

Tobin Faucheux

(Signed)

Specifier

(Title)

01/31/2022

(Dated)

SECTION 00 22 13
SUPPLEMENTARY INSTRUCTIONS

GENERAL

APPLICATION

The following Supplementary Instructions to Bidders modify, change, delete from or add to AIA Document A701-2018 Instructions to Bidders. Where any Article of the AIA Instructions to Bidders is modified or any Paragraph, Subparagraph or Clause thereof is modified or deleted by these Supplementary Instructions to Bidders, the unaltered provisions of that Article, Paragraph, Subparagraph or Clause shall remain in effect.

PAGE 1

PROJECT PROMPT

After the prompt "for the following PROJECT: (Name and location or address)" insert the following:

Southwest Wisconsin Technical College
Bldg. 300/400 Conf. Center and Dining Remodel
1800 Bronson Blvd
Fennimore, Wisconsin 53809
Bid Number: 2021-02

OWNER PROMPT

After the prompt "THE OWNER: (Name, legal status and address)" insert the following:

Southwest Wisconsin Technical College
1800 Bronson Blvd
Fennimore, Wisconsin 53809

ARCHITECT PROMPT

After the prompt "THE ARCHITECT: (Name, legal status and address) insert the following:

HSR Associates, Inc.
100 Milwaukee Street
La Crosse, WI 54603

ARTICLE 3

3.1.1

Delete the text of the existing sub-article including the prompt in parenthesis:

~~"Bidders shall obtain complete Bidding Documents, as indicated below, from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein. (Indicate how, such as by email, website, host site/platform, paper copy, or other method Bidders shall obtain Bidding Documents.)"~~

Replace with:

"Bidders shall obtain complete Bidding Documents. Refer to the Advertisement of Bids for sources of bidding documents."

3.1.2

Delete the existing sub-article:

~~"3.1.2 Any required deposit shall be refunded to Bidders who submit a bona fide Bid and return the paper Bidding Documents in good condition within ten days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded."~~

3.1.3

Delete the existing sub-article:

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

3.2.2

After 3.2.2, insert the following:

Contact the HSR Associates, Inc. project manager identified on the Project Manual Title Page.

3.3.2.2

Delete the text of the existing sub-article:

~~"Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents."~~

Replace with:

"Bidders shall submit substitution requests in accordance with Section 01 25 00 Substitution Procedures."

3.3.5

After 3.3.5, insert the following new sub-article:

3.3.6 Bidders may use the space on the Bid Form labeled Bidder's Choice Substitution to offer one or more substitutions with their bid. Bidders may provide a price for a substitute product or process that the Bidder deems comparable to that specified. These substitutions may be reviewed by the Architect on behalf of the Owner after the low bid has been accepted, but this application does not imply any obligation on the part of the Architect to review or accept any Bidder's Choice Substitution. Contractor may copy the Bidder's Choice Substitution portion of the Bid Form for multiple entries."

3.4.1

Delete the text of the existing sub-article including the prompt in parenthesis:

~~"Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents. (Indicate how, such as by email, website, host site/platform, paper copy, or other method Addenda will be transmitted.)"~~

Replace with:

"Addenda will be transmitted by email to the Builder's Exchanges listed in the Advertisement for Bids and to Plan Holders on the HSR Plan Holder list."

3.4.2

Delete the existing sub-article:

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

ARTICLE 4

4.2.1

After 4.2.1, insert the following:

"Make Bid Security payable to the Owner in an amount not less than five percent (5%) of the maximum amount of the Bid. Bid Security shall be either a certified check or AIA Document A310; Bid Bond issued by a surety licensed to conduct business in the State of Wisconsin and listed currently in Circular 570 issued by the U.S. Treasury Department."

4.2.2

In the sub-article change "~~such bonds if required~~" to "bonds as required in Article 7 of this document"

4.2.3

Delete the first sentence of the existing sub-article:

~~"If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond, unless otherwise provided in the Bidding Documents."~~

Replace with:

"If a surety bond is provided as bid security, it shall be written on AIA Document A310™, Bid Bond."

4.2.4

Insert "30" in the space indicating days after the opening of bids.

4.3.1

After 4.3.1, insert the following:

"See Document 00 11 13 Advertisement for Bids in the Project Manual for instructions."

4.3.2

Add the the following sentence to the end of 4.3.2:

"Also, write the Owner's project number on the face of the envelope."

4.4.3

After 4.4.3, insert the following:

"Bidders are not eligible for return of the bid security for a bid withdrawn pursuant to Section 4.4.3. Where applicable law expressly sets forth requirements for return of bid security it may be returned in accordance with the applicable law."

ARTICLE 7

7.1.1

In 7.1.1, change "~~If stipulated in the Bidding Documents, the~~" to "The".

Add the following sentence to the end of the modified sub-article:

"Refer to Document 00 73 17 Bond Requirements for additional requirements."

7.1.2

Delete the text of the existing sub-article:

~~"If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid. If the furnishing of such bonds is required after receipt of bids and before execution of the Contract, the cost of such bonds shall be added to the Bid in determining the Contract Sum."~~

Replace with:

"The cost of such bonds shall be included in the Bid."

7.1.3

Add the following sentences to the end of the existing sub-article:

"The bonds shall be written with such sureties secured through the Contractor's usual sources as may be agreeable to the parties. The sureties and any re-insuring companies shall be listed in the current Department of the Treasury circular No. 570 with an underwriting limitation equal to or greater than the penal sum of the bonds to be furnished. Bond amounts shall not exceed the single bond limit for the Contractor's bonding company as set forth in the Federal Register current as of the date."

7.1.4

Delete the text of the existing sub-article including the prompt in parenthesis:

~~"Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum. (If Payment or Performance Bonds are to be in an amount other than 100% of the Contract Sum, indicate the dollar amount or percentage of the Contract Sum.)"~~

Replace with:

"The Penal Sum of the Payment and Performance Bonds shall be the amount of the Contract Sum."

7.2.2

In 7.2.2, change "~~Unless otherwise provided, the~~" to "The".

ARTICLE 8

8.1.1

Delete the following words from the existing sub-article:

~~" , unless otherwise stated below. (Insert the complete AIA Document number, including year, and Document title.)"~~

Replace with:

","

8.1.2

Delete the existing sub-article:

~~"8.1.2 AIA Document A101-2017, Exhibit A, Insurance and Bonds, unless otherwise stated below. (Insert the complete AIA Document number, including year, and Document title.)"~~

8.1.3

Delete the following words from the existing sub-article:

~~" , unless otherwise stated below. (Insert the complete AIA Document number, including year, and Document Title.)"~~

Replace with:

","

8.1.4

Delete the existing sub-article:

~~"8.1.4 AIA Document E203-2014, Building Information Modeling and Digital Data Exhibit, dated as indicated below: (Insert the date of the E203-2013.)"~~

8.1.5

Delete the following words:

~~"Number Title Date"~~

Replace with:

"See Index of drawings on sheet 000 Cover Sheet."

8.1.6

Delete the following words:

~~"Section Title Date Pages"~~

Replace with:

"See document 00 01 10 Table of Contents in the Project Manual for a listing of specification sections to be included in the contract documents. Sections not listed in the Table of Contents that are distributed as part of the Project Manual and those that are added and revised via Addenda shall be Contract Documents. Except, documents listed in document 00 30 00 Information Available to Bidders shall not be Contract Documents. Sections removed via Addenda are shall not be Contract Documents."

8.1.7

Delete the following words:

~~"Number Date Pages"~~

Replace with:

"The existence of Addenda is not known at the time of the first issuance of this Supplementary Instructions to Bidders."

8.1.8

Place checkmark in the box next to "Supplementary and other Conditions of the Contract:"

Prior to 8.1.9, insert the following new sentence:

"00 73 00 Supplementary Conditions and sections listed therein are included in the Project Manual."

8.1.9

Delete the existing sub-article:

~~"8.1.9 Other documents listed below: (List here any additional documents that are intended to form part of the Proposed Contract Documents.)"~~

END OF SECTION

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DOCUMENT 00 41 00

BID FORM

BIDDER: _____

BID FOR SINGLE PRIME CONTRACT

**PROJECT: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
BLDG. 300/400 CONF. CENTER AND DINING REMODEL
1800 BRONSON BLVD
FENNIMORE, WI 53809
HSR PROJECT NO. 21051
OWNER BID NO. 2122-05**

**TO: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
1800 BRONSON BLVD
FENNIMORE, WISCONSIN 53809**

BASE BID

The undersigned, having examined the site where the Work is to be executed and become familiar with local conditions affecting the cost of the Work and carefully examined the Project Manual, the Project Drawings, all other Bidding Documents and Addenda thereto prepared by the AE, HSR Associates, Inc., hereby agrees to provide all labor, materials, equipment and services necessary for the complete and satisfactory execution of the ENTIRE WORK, in the time frame stipulated in these contract documents, for the Base Bid stipulated sum of:

_____ Dollars (\$_____ .00)

ALTERNATE BIDS

The undersigned further agrees to perform the alternative portions of the Work as described in the Project Manual, Section 01 23 00 Alternates, for the following additions to or deductions from the Base Bid sum stipulated above:

Alternate No. 1 (Reconfigure Meeting Rooms 340 & 341)

Add _____ Dollars (\$_____ .00)

Alternate No. 2 (Folding Panel Partition in Conference Center 115)

Add _____ Dollars (\$_____ .00)

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Alternate No. 3 (Large Group Room 126)

Add _____ Dollars (\$_____.00)

BIDDER'S CHOICE SUBSTITUTIONS

The following Bidder's Choice Substitution is proposed for your consideration subject to the requirements set forth in Document 00 22 13 Supplementary Instructions to Bidders, Subparagraph 3.3.5:

Substitution No. S1:

For substituting _____

Type, Brand, Catalog No. _____

Manufacturer _____

Deduct from BASE BID _____ Dollars (\$_____.00)

In submitting this Bid, the undersigned agrees to:

1. Hold this Bid open for **30** days.
2. Accept the provisions of Instructions to Bidders regarding disposition of Bid Security.
3. Enter into and execute an Agreement, if awarded on the basis of this Bid, and to furnish Performance and Labor and Material Payment Bonds according to the Supplementary Conditions.
4. Accomplish work according to the Contract Documents.
5. Complete the work by the time stated in Section 01 10 00 Summary of the Work.

Receipt of the following Addenda and inclusion of their provisions in this Bid is hereby acknowledged:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Attached hereto are the required:

- a. () Bid Security

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(Affix seal if
Corporation)

FIRM NAME: _____

By: _____

Title: _____

By: _____

Title: _____

Date: _____

Official Address: _____

Telephone: _____

END OF DOCUMENT 00 41 00

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SUBSTITUTION REQUEST FORM – DURING PROCUREMENT

Use this form for substitution requests that will be made prior to signed agreement. This form is not strictly mandatory but may be required by the Architect for specific requests. The bidding documents, including those identified below, define the process for requesting a substitution.

Complete the form and provide attachments that document any other information necessary for an evaluation of the substitute items. Provide a complete description of the proposed substitution including the name of the material or equipment proposed, performance and test data, and relevant drawings. Identify reference standards and provide test results that fully explain how the proposed substitution compares to the specified items. Identify any changes to contract documents that are necessary for inclusion of the substitute items into the project.

Reference Documents (AIA A701):

- A. Instructions to Bidders Article 3.3.
- B. Supplementary Instructions to Bidders Article 3 (if Supplementary Instructions apply).
- C. Section 01 25 00 Substitution Procedures.

PROJECT NAME: _____ PROJ. #: _____

REQUESTING COMPANY: _____

CONTACT PERSON: _____ DATE OF REQUEST: _____

CONTACT EMAIL: _____ CONTACT PHONE: _____

SPECIFIED ITEM: _____ SECTION #: _____

PROPOSED SUBSTITUTE ITEM: _____

REASON FOR REQUESTED SUBSTITUTION: _____

ATTACHMENTS:

The undersigned certifies that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on drawings.
2. The undersigned will pay for changes to the building design, including architectural/engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse affect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The function appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item

SUBMITTER SIGNATURE: _____

HSR Reviewer: _____

- Watch for acceptance of the substitution in a future addendum and any associated notes clarifying the acceptance.
- This item can be submitted as a bidder's choice substitution if bidder choice substitutions are defined and permitted on the bid form.
- Not accepted
- Received too late

HSR Reviewer Notes: _____

END OF DOCUMENT

DOCUMENT 00 52 13

AGREEMENT FORMS

The following agreement form will be provided by the Owner and shall be reviewed and completed by the successful Contractor and submitted to the Owner at the Owner's direction following notification.

1. "Standard Form of Agreement Between Owner and Contractor - Stipulated Sum", AIA Document A101, 2017 Edition.

END OF DOCUMENT 00 52 13

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 **AIA**[®] Document A101[™] – 2017

Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum

AGREEMENT made as of the _____ day of _____ in the year _____
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

and the Contractor:
(Name, legal status, address and other information)

for the following Project:
(Name, location and detailed description)

The Architect:
(Name, legal status, address and other information)

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

The parties should complete A101[™]-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement.

AIA Document A201[™]-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

The Owner and Contractor agree as follows.

Init.

AIA Document A101[™] – 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017 by The American Institute of Architects. All rights reserved. **WARNING: This AIA[®] Document is protected by U.S. Copyright Law and International Treaties. Unauthorized reproduction or distribution of this AIA[®] Document, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under the law.** To report copyright violations of AIA Contract Documents, e-mail The American Institute of Architects' legal counsel, copyright@aia.org.

TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
- 7 TERMINATION OR SUSPENSION
- 8 MISCELLANEOUS PROVISIONS
- 9 ENUMERATION OF CONTRACT DOCUMENTS

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:

(Check one of the following boxes.)

- The date of this Agreement.
- A date set forth in a notice to proceed issued by the Owner.
- Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:

(Check one of the following boxes and complete the necessary information.)

- Not later than () calendar days from the date of commencement of the Work.

By the following date:

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date
-----------------	-----------------------------

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be (\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price
------	-------

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement. *(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)*

Item	Price	Conditions for Acceptance
------	-------	---------------------------

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
------	-------

§ 4.4 Unit prices, if any:

(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

§ 4.5 Liquidated damages, if any:

(Insert terms and conditions for liquidated damages, if any.)

§ 4.6 Other:

(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the _____ day of a _____ month, the Owner shall make payment of the amount certified to the Contractor not later than the _____ day of the month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than () days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™-2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

§ 5.1.7.1.1 The following items are not subject to retainage:
(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:
(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7. The Application for Payment submitted at Substantial Completion shall not include retainage as follows:
(Insert any other conditions for release of retainage upon Substantial Completion.)

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

(Insert rate of interest agreed upon, if any.)

_____ %

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

- Arbitration pursuant to Section 15.4 of AIA Document A201–2017
- Litigation in a court of competent jurisdiction
- Other *(Specify)*

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner’s convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:

(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner’s convenience.)

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

(Name, address, email address, and other information)

§ 8.3 The Contractor’s representative:

(Name, address, email address, and other information)

§ 8.4 Neither the Owner’s nor the Contractor’s representative shall be changed without ten days’ prior notice to the other party.

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.6 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)

§ 8.7 Other provisions:

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction
- .4 AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:

(Insert the date of the E203-2013 incorporated into this Agreement.)

.5 Drawings

Number	Title	Date
--------	-------	------

.6 Specifications

Section	Title	Date	Pages
---------	-------	------	-------

.7 Addenda, if any:

Number	Date	Pages
--------	------	-------

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other Exhibits:

(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:

(Insert the date of the E204-2017 incorporated into this Agreement.)

The Sustainability Plan:

Title	Date	Pages
-------	------	-------

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
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9 Other documents, if any, listed below:

(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™-2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

This Agreement entered into as of the day and year first written above.

OWNER (Signature)

CONTRACTOR (Signature)

(Printed name and title)

(Printed name and title)

DOCUMENT 00 60 00

PROJECT FORMS

The following is a partial list of forms used during the project.

1.01 BOND FORMS REQUIRED OF THE CONTRACTOR

- A. Document 00 61 13.13 Performance Bond Form
- B. Document 00 61 13.16 Payment Bond Form

1.02 CLARIFICATION AND MODIFICATION FORMS

- A. Document 00 63 25 Substitution Request Form – During Construction

1.03 OWNER FORMS

- A. Document 00 64 00 Sales and Use Tax Form: A completed version of this form will be provided by the Owner following award of the contract.

1.04 CLOSEOUT FORMS

- A. Document 00 65 19.19 Consent of Surety to Final Payment

END OF DOCUMENT 00 60 00

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Performance Bond Form (Sample)

AIA[®] Document A312[™] – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL **SURETY**
Company: *(Corporate Seal)* Company: *(Corporate Seal)*

Signature: _____ Signature: _____
Name Name
and Title: and Title:
(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)
AGENT or BROKER: **OWNER'S REPRESENTATIVE:**
(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 **Balance of the Contract Price.** The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 **Construction Contract.** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 **Contractor Default.** Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____ *(Corporate Seal)*

Company: _____ *(Corporate Seal)*

Signature: _____

Signature: _____

Name and Title: _____

Name and Title: _____

Address _____

Address _____

Init.

Payment Bond Form (Sample)

 **AIA** Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)

SURETY:
(Name, legal status and principal place of business)

OWNER:
(Name, legal status and address)

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

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

CONSTRUCTION CONTRACT
Date:

Amount:

Description:
(Name and location)

BOND
Date:
(Not earlier than Construction Contract Date)

Amount:

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL
Company: *(Corporate Seal)*

SURETY
Company: *(Corporate Seal)*

Signature: _____
Name and Title:
(Any additional signatures appear on the last page of this Payment Bond.)

Signature: _____
Name and Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:
(Architect, Engineer or other party:)

§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 **Owner Default.** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 **Contract Documents.** All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

Sample

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

SURETY

Company: _____ *(Corporate Seal)*

Company: _____ *(Corporate Seal)*

Signature: _____

Signature: _____

Name and Title: _____

Name and Title: _____

Address _____

Address _____

Init.

SUBSTITUTION REQUEST FORM – DURING CONSTRUCTION

Use this form for substitution requests following signed agreement. This form is not strictly mandatory but may be required by the Architect for specific requests. The contract documents, including those identified below, define the process for requesting a substitution or getting approval of an item.

Complete the form and provide attachments that document any other information necessary for an evaluation of the substitute items. Provide a complete description of the proposed substitution including the name of the material or equipment proposed, performance and test data, and relevant drawings. Identify reference standards and provide point by point comparison that documents how the proposed substitute item compares to the specified item. Identify any changes to contract documents that are necessary for inclusion of the substitute items into the project.

Reference Documents (AIA A201):

- A. General Conditions Articles 3.4.2 & 3.5.
- B. Section 01 25 00 Substitution Procedures.

PROJECT NAME: _____ PROJ. #: _____

REQUESTING COMPANY: _____

CONTACT PERSON: _____ DATE OF REQUEST: _____

CONTACT EMAIL: _____ CONTACT PHONE: _____

SPECIFIED ITEM: _____ SECTION #: _____

PROPOSED SUBSTITUTE ITEM: _____

REASON FOR NOT PROVIDING THE SPECIFIED ITEM: _____

COST SAVINGS TO OWNER FOR SUBSTITUTION: \$ _____

SCHEDULE IMPACT DUE TO SUBSTITUTION: _____

DAYS ADD: _____ DAYS DEDUCT: _____ NEW SUB. COMP. DATE: _____

ATTACHMENTS:

The undersigned certifies that the following paragraphs, unless modified on attachments, are correct:

1. The proposed substitution does not affect dimensions shown on drawings.
2. The undersigned will pay for changes to the building design, including architectural/engineering design, detailing and construction costs caused by the requested substitution.
3. The proposed substitution will have no adverse effect on other trades, the construction schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The function appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.
6. Cost and schedule information provided are complete. Any additional costs or schedule delays associated with this substitution will be paid for and remediated by the requestor without claim to the Owner or Architect.

SUBMITTER SIGNATURE: _____

HSR Reviewer: _____

HSR Reviewer Notes: _____

Disposition of submittal request:

- Watch for acceptance of the substitution in a future change order or change directive including any associated notes clarifying the acceptance.
- Not accepted – Use specified item

Date of Disposition: _____

END OF DOCUMENT

Document 00 64 00
Sales and Use Tax Exemption Certificate (Sample)
WISCONSIN SALES AND USE TAX EXEMPTION CERTIFICATE

Check One Single Purchase Continuous

Purchaser's Business Name	Purchaser's Address
---------------------------	---------------------

The above purchaser, whose signature appears on the reverse side of this form, claims exemption from Wisconsin state, county, baseball or football stadium, local exposition, and premier resort sales or use tax on the purchase, lease, license, or rental of tangible personal property, property under sec. 77.52(1)(b), items under sec. 77.52(1)(c), goods under sec. 77.52(1)(d), or taxable services, as indicated by the box(es) checked below.

I hereby certify that I am engaged in the business of selling, leasing, licensing, or renting: _____

(Purchaser's description of property, items, goods, or services sold by purchaser.)

Purchaser's description of property or services purchased (itemize property, items, or goods purchased if "single purchase"):

Seller's Name	Seller's Address
---------------	------------------

REASON FOR EXEMPTION

Resale (Enter purchaser's seller's permit or use tax certificate number) _____

Manufacturing and Biotechnology

- Tangible personal property (TPP) or item under s.77.52(1)(b) that is used exclusively and directly by a manufacturer in manufacturing an article of TPP or items or property under s.77.52(1)(b) or (c) that is destined for sale and that becomes an ingredient or component part of the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale or is consumed or destroyed or loses its identity in manufacturing the article of TPP or items or property under s.77.52(1)(b) or (c) destined for sale.
- Machines and specific processing equipment and component parts or replacements thereof, exclusively and directly used by a manufacturer in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) and safety attachments for those machines and equipment.
- The repair, service, alteration, fitting, cleaning, painting, coating, towing, inspection, and maintenance of machines and specific processing equipment, that the above purchaser would be authorized to purchase without sales or use tax, at the time the service is performed. Tools used to repair exempt machines are not exempt.
- Fuel and electricity consumed in manufacturing tangible personal property or items or property under s.77.52(1)(b) or (c) in this state. Percent of fuel exempt: _____ Percent of electricity exempt: _____ %
- Portion of the amount of fuel converted to steam for purposes of resale. Percent of fuel exempt: _____ %
- Property used exclusively and directly in qualified research, by persons engaged in manufacturing at a building assessed under s. 70.995, by persons engaged primarily in biotechnology in Wisconsin, or a combined group member conducting qualified research for another combined group member that meets these requirements.

Farming (To qualify for this exemption, the purchaser must use item(s) exclusively and directly in the business of farming, including dairy farming, agriculture, horticulture, floriculture, silviculture, or custom farming services.)

- Tractors (except lawn and garden tractors), all-terrain vehicles (ATV) and farm machines, including accessories, attachments, and parts, lubricants, nonpowered equipment, and other tangible personal property or items or property under s.77.52(1)(b) or (c) that are used exclusively and directly, or are consumed or lose their identities in the business of farming. This includes services to the property and items above.
- Feed, seeds for planting, plants, fertilizer, soil conditioners, sprays, pesticides, and fungicides.
- Breeding and other livestock, poultry, and farm work stock.
- Containers for fruits, vegetables, grain, hay, and silage (including containers used to transfer merchandise to customers), and plastic bags, sleeves, and sheeting used to store or cover hay and silage. Baling twine and baling wire.
- Animal waste containers or component parts thereof (may only mark certificate as "Single Purchase").
- Animal bedding, medicine for farm livestock, and milk house supplies.

Governmental Units and Other Exempt Entities

Enter CES No., if applicable

- The United States and its unincorporated agencies and instrumentalities.
- Any federally recognized American Indian tribe or band in this state.
- Wisconsin state and local governmental units, including the State of Wisconsin or any agency thereof, Wisconsin counties, cities, villages, or towns, and Wisconsin public schools, school districts, universities, or technical college districts.
- Organizations organized and operated exclusively for religious, charitable, scientific, or educational purposes, or for the prevention of cruelty to children or animals. CES Number _____ (Required for Wisconsin organizations).

Other

- Containers and other packaging, packing, and shipping materials, used to transfer merchandise to customers of the purchaser.
 - Trailers and accessories, attachments, parts, supplies, materials, and service for motor trucks, tractors, and trailers which are used exclusively in common or contract carriage under LC, IC, or MC No. (if applicable) _____.
 - Machines and specific processing equipment used exclusively and directly in a fertilizer blending, feed milling, or grain drying operation, including repair parts, replacements, and safety attachments.
 - Building materials acquired solely for and used solely in the construction or repair of holding structures used for weighing and dropping feed or fertilizer ingredients into a mixer or for storage of such grain, if such structures are used in a fertilizer blending, feed milling, or grain drying operation.
 - Tangible personal property purchased by a person who is licensed to operate a commercial radio or television station in Wisconsin, if the property is used exclusively and directly in the origination or integration of various sources of program material for commercial radio or television transmissions that are generally available to the public free of charge without a subscription or service agreement.
 - Fuel and electricity consumed in the origination or integration of various sources of program material for commercial radio or television transmissions that are generally available to the public free of charge without a subscription or service agreement.
Percent of fuel exempt: _____ % Percent of electricity exempt: _____ %
 - Tangible personal property and items, property and goods under s.77.52(1)(b), (c), and (d) to be resold by _____ on my behalf where _____ is registered to collect and remit sales tax to the Department of Revenue on such sales.
 - Tangible personal property, property, items and goods under s.77.52(1)(b), (c), and (d), or services purchased by a Native American with enrollment # _____, who is enrolled with and resides on the _____ Reservation, where buyer will take possession of such property, items, goods, or services.
 - Tangible personal property and items and property under s.77.52(1)(b) and (c) becoming a component of an industrial or municipal waste treatment facility, including replacement parts, chemicals, and supplies used or consumed in operating the facility. Caution: Do not check the "continuous" box at the top of page 1.
 - Portion of the amount of electricity or natural gas used or consumed in an industrial waste treatment facility.
(Percent of electricity or natural gas exempt _____ %)
 - Electricity, natural gas, fuel oil, propane, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel for **residential or farm** use.

	% of Electricity Exempt	% of Natural Gas Exempt	% of Fuel Exempt
<input type="checkbox"/> Residential	_____ %	_____ %	_____ %
<input type="checkbox"/> Farm	_____ %	_____ %	_____ %
- Address Delivered: _____
- Percent of printed advertising material solely for out-of-state use. _____ %
 - Catalogs, and the envelopes in which the catalogs are mailed, that are designed to advertise and promote the sale of merchandise or to advertise the services of individual business firms.
 - Computers and servers used primarily to store copies of the product that are sent to a digital printer, a plate-making machine, or a printing press or are used primarily in prepress or postpress activities, by persons whose NAICS code is 323111, 323117, or 323120.
 - Purchases from out-of-state sellers of tangible personal property that are temporarily stored, remain idle, and not used in this state and that are then delivered and used solely outside this state, by persons whose NAICS code is 323111, 323117, or 323120.
 - Other purchases exempted by law. (State items and exemption). _____

(DETACH AND PRESENT TO SELLER)

I hereby certify that if the item(s) being purchased are not used in an exempt manner, I will remit use tax on the purchase price at the time of first taxable use. I understand that failure to remit the use tax may result in a future liability that may include tax, interest, and penalty.

Signature of Purchaser	Print or Type Name	Title	Date
------------------------	--------------------	-------	------

INSTRUCTIONS

This certificate may be used to claim exemption from Wisconsin state, county, baseball and football stadium, local exposition, and premier resort sales or use taxes.

Under the sales and use tax law, all receipts from sales of tangible personal property, property, items and goods under sec. 77.52(1)(b), (c), and (d), or taxable services are subject to the tax until the contrary is established. However, a seller who receives a fully completed exemption certificate no later than 90 days after the date of sale is relieved of any responsibility for collection or payment of the tax upon transactions covered by the certificate. A fully completed certificate is one which is completely filled in and indicates the reason for exemption.

RESALE: A purchaser using the resale exemption is attesting that the tangible personal property, property, items, or goods under sec. 77.52(1)(b), (c), or (d), or taxable services being purchased will be resold, leased, licensed, or rented. However, in the event any such property, items, or goods is used for any purpose other than retention, demonstration, or display while holding it for sale, lease, license, or rental in the regular course of business, the purchaser is required to report and pay the tax on the purchase of the property, item, or good.

The following purchasers may make purchases for resale even though they do not hold a Wisconsin seller's permit or use tax certificate: (a) A wholesaler who only sells to other sellers for resale may insert "Wholesale only" in the space for the seller's permit number; (b) A person who only sells or repairs exempt property, such as to a manufacturer or farmer, may insert "Exempt sales only"; (c) A nonprofit organization may insert "Exempt sales only" if its subsequent sales of the tangible personal property, property, items, or goods under sec. 77.52(1)(b), (c), or (d), or taxable services are exempt as occasional sales.

A seller is allowed to accept an exemption certificate from an out-of-state retailer claiming the resale exemption for tangible personal property and items, property, and goods under sec. 77.52(1)(b), (c) and (d), Wis. Stats., drop shipped to a Wisconsin location, regardless of whether or not the out-of-state retailer holds a Wisconsin seller's permit. The out-of-state retailer's permit number, if the other state issues one, and state should be listed on the exemption certificate. If the exemption certificate does not list the Wisconsin seller's permit number or the out-of-state retailer's permit number and state, to be fully complete and valid the exemption certificate must contain a statement indicating the out-of-state retailer is a seller that is not required to hold a permit.

A resale exemption may be granted if the purchaser is unable to ascertain at the time of purchase whether the property will be sold or will be used for some other purpose. If the buyer purchases an item without tax for resale, but uses the item, the buyer owes use tax on its purchase of the item.

MANUFACTURING: "Manufacturing" means the production by machinery of a new article of tangible personal property or items or property under sec. 77.52(1)(b) or (c) with a different form, use, and name from existing materials, by a process popularly regarded as manufacturing, and that begins with the conveying raw materials and supplies from plant inventory to the place where work is performed in the same plant and ends with conveying finished units of tangible personal property or items or property under sec. 77.52(1)(b) or (c) to the point of first storage in the same plant.

FARMING: This certificate may not be used by farmers to claim exemption for the purchase of motor vehicles or trailers for highway use, lawn or garden tractors, snowmobiles, or for items used for the personal convenience of the farmer. When claiming an exemption for an ATV which is also registered for public use, a written description including the percentages of time for personal and farm use, must be submitted with the ATV Registration Application.

The sales price from the sale of electricity, natural gas, and other fuels for use in farming are exempt all 12 months of the year. Farmers claiming this exemption should check the box for electricity and fuel located in the "Other" section.

This certificate cannot be used as an exemption for paying Wisconsin motor vehicle fuel tax.

GOVERNMENTAL UNITS AND OTHER EXEMPT ENTITIES: A seller may accept exemption certificates from federal and Wisconsin governmental units and federally recognized American Indian tribes or bands in Wisconsin. Instead of obtaining an exemption certificate, a seller may (1) accept a purchase order from the governmental unit or tribe or band, or (2) record the governmental unit or tribe or band's Certificate of Exempt Status (CES) number on its invoices. Governmental units of other countries and states are not exempt from Wisconsin sales tax.

The exemption for the United States and its unincorporated agencies and instrumentalities may also be claimed by any incorporated agency or instrumentality of the United States wholly owned by the United States or by a corporation wholly owned by the United States.

The exemption for Wisconsin governmental units and other exempt entities may be claimed by: Local Exposition District, Professional Baseball Park District, Professional Football Stadium District, UW Hospitals and Clinics Authority, Wisconsin Aerospace Authority, Health Insurance Risk-Sharing Plan Authority, Wisconsin Economic Development Authority, Fox River Navigational System Authority, public inland lake protection and rehabilitation districts, municipal public housing authorities, uptown business improvement districts, local cultural arts districts, county-city hospitals, sewerage commissions, metropolitan sewerage districts, or joint local water authorities.

Organizations holding a Certificate of Exempt Status (CES) number: Wisconsin organizations organized and operated exclusively for religious, charitable, scientific, or educational purposes, or for the prevention of cruelty to children or animals, may purchase products or services exempt from Wisconsin sales tax if the organization holds a CES number issued by the Wisconsin Department of Revenue. Wisconsin and federal governmental units, and any federally recognized American Indian tribe or band in Wisconsin, will also qualify for a CES.

A similar out-of-state organization, generally organized under sec. 501(c)(3) of the Internal Revenue Code, may purchase products or services exempt from Wisconsin sales tax even though it has not been issued a CES number. This exemption does *not* apply to out-of-state public schools, including public colleges and universities, and governmental units from other states.

Purchases (for lodging, meals, auto rental, etc.) by employees/representatives of exempt organizations performing organization business, are exempt from sales tax, provided 1) the retailer issues the billing or invoice in the name of the exempt organization, 2) the CES number is entered on the billing or invoice, and 3) the retailer retains a copy of that document.

OTHER:

Containers: This exemption applies regardless of whether or not the containers are returnable. Containers used by the purchaser only for storage or to transfer merchandise owned by the purchaser from one location to another do not qualify for the exemption.

Common or contract carriers: The exemption available to common or contract carriers for certain vehicles and repairs listed on this certificate applies only to those units used "exclusively" in such common or contract carriage. A carrier may qualify for the common or contract carriage exemption even if it does not hold a LC or IC number. The fact that a carrier holds a LC or IC number is not in itself a reason for exemption. A carrier may qualify for the common or contract carrier exemption even if it does not hold an LC or IC number.

Waste treatment facilities: The exemption applies to the sale of tangible personal property and items and property under sec. 77.52(1)(b) and (c) to a contractor for incorporation into real property which is part of an industrial or commercial waste treatment facility that qualifies for property tax exemption or a Wisconsin or federal governmental waste treatment facility.

Electricity, natural gas, fuel oil, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel:

- The sales price from the sale of electricity and natural gas for residential use during the months of November through April are exempt from sales and use tax.
- The sales price from sales of fuel oil, propane, coal, steam, corn, and wood (including wood pellets which are 100% wood) used for fuel sold for residential use are exempt from sales or use tax. Wood pellets are considered 100% wood even though the pellets may contain a small amount of binding material used to form the pellets.
- The sales price from the sale of fuel and electricity for use in farming are exempt all year.

A retailer of electricity, fuel, or natural gas shall have a signed exemption certificate for exempt sales for residential or farm use unless any of the following apply:

1. 100% of the electricity, fuel, or natural gas is for exempt use.
2. The sale is to an account which is properly classified as residential or farm pursuant to schedules which are filed for rate tariff with the Wisconsin Public Service Commission which are in force at the time of sale.
3. The sale is to an account which is properly classified as residential or farm for classification purposes as directed by the Federal Rural Electrification Administration.

"Farm use" means used in farming, including use in a tractor or other farm machines used directly in farming, in a furnace heating a farm building, in providing lighting in farm buildings, and use in operating motors of machines used directly in farming.

"Residential use" means use in a structure or portion of a structure which is a person's permanent principal residence. It does not include use in motor homes, travel trailers, other

recreational vehicles, or transient accommodations. "Transient accommodations" means rooms or lodging available to the public for a fee for a continuous period of less than one month in a building such as a hotel, motel, inn, tourist home, tourist house or court, summer camp, resort lodge, or cabin.

Other purchases exempted by law include:

1. Printed material which is designed to advertise and promote the sale of merchandise, or to advertise the services of individual business firms, which printed material is purchased and stored for the purpose of subsequently transporting it outside the state by the purchaser for use thereafter solely outside the state.
2. Parts, supplies, or repairs for a school bus used exclusively as a contract carrier pursuant to a contract with a school or other organization.
3. Waste reduction and recycling machinery and equipment, including parts and repairs, which are exclusively and directly used for waste reduction and recycling activities.
4. Railway cars, locomotives, and other rolling stock used in railroad operations, or accessories, attachments, parts, lubricants, or fuel therefor.
5. Commercial vessels and barges of 50-ton burden or over engaged in interstate or foreign commerce or commercial fishing, and accessories, attachments, parts, and fuel therefor.
6. Fuel sold for use in motorboats that are regularly employed in carrying persons for hire for sport fishing in and upon the outlying waters, as defined in sec. 29.001(63), Wis. Stats., and the rivers and tributaries specified in sec. 29.2285(2) (a)1. and 2., Wis. Stats., if the owner and all operators are licensed under sec. 29.514, Wis. Stats., to operate the boat for that purpose.
7. A product whose power source is the wind, direct radiant energy received from the sun, or gas generated by the anaerobic digestion of animal manure and other agricultural waste, if the product produces at least 200 watts of alternating current or at least 600 British thermal units per day, but not including a product that is an uninterruptible power source that is designed primarily for computers.
8. Effective July 1, 2013, snowmaking and snow-grooming machines and equipment, including accessories, attachments, and parts for the machines and fuel and electricity used to operate such machines and equipment, that are used exclusively and directly for snowmaking at ski hills, ski slopes, and ski trails.
9. Effective July 1, 2013, advertising and promotional direct mail and printing services used to produce advertising and promotional direct mail.

SIGNATURE: For corporations, this form must be signed by an employee or officer of the corporation.

QUESTIONS: If you have questions, please contact us.

WISCONSIN DEPARTMENT OF REVENUE
Customer Service Bureau
PO Box 8949
Madison WI 53708-8949

Phone: (608) 266-2776
Fax: (608) 267-1030
Website: revenue.wi.gov

CONSENT OF SURETY TO FINAL PAYMENT

PROJECT: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
BLDG. 300/400 CONF. CENTER AND DINING REMODEL
1800 BRONSON BLVD
FENNIMORE, WI 53809
HSR PROJECT NO. 21051
OWNER BID NO. 2122-05

OWNER: SOUTHWEST WISCONSIN TECHNICAL COLLEGE
1800 BRONSON BLVD
FENNIMORE, WI 53809

CONTRACTOR: _____

CONTRACT FOR: ENTIRE WORK for single prime contractor.

CONTRACT DATE: _____

In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, _____, SURETY

COMPANY, on bond of _____, Contractor, hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to the Owner, named above, as set forth in said Surety Company's bond.

It is further agreed that, in giving this consent, the Surety has made its own investigation to determine that said payment should be made to the Contractor and has not relied on any representation by the Architect/Engineer which has induced it to consent to such payment. Surety hereby expressly waives all claims against the Architect/Engineer and the Owner for wrongful release of funds to the Contractor.

IN WITNESS WHEREOF,

The Surety Company has hereunto set its hand this day of _____, 20____.

Surety Company _____

Attest: Signature of Authorized Representative _____

(Seal)

Title _____

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DOCUMENT 00 72 00

GENERAL CONDITIONS

The "General Conditions of the Contract for Construction" AIA Document A201, 2017 Edition, Articles 1-15, are hereby made a part of this Project Manual.

END OF DOCUMENT 00 72 00

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AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

| See Supplementary Conditions

THE OWNER:
(Name, legal status and address)

| See Supplementary Conditions

THE ARCHITECT:
(Name, legal status and address)

| See Supplementary Conditions

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ADDITIONS AND DELETIONS:

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

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

For guidance in modifying this document to include supplementary conditions, see AIA Document A503™, Guide for Supplementary Conditions.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and

delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- .1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and
- .5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- .3 failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

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- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- .6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

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- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and
- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act

or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 **Failure to Purchase Required Property Insurance.** If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 **Notice of Cancellation or Expiration of Owner's Required Property Insurance.** Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- .4 The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- .1 damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

§ 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.



Additions and Deletions Report for **AIA[®] Document A201[®] – 2017**

This Additions and Deletions Report, as defined on page 1 of the associated document, reproduces below all text the author has added to the standard form AIA document in order to complete it, as well as any text the author may have added to or deleted from the original AIA text. Added text is shown underlined. Deleted text is indicated with a horizontal line through the original AIA text.

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 17:39:03 ET on 01/20/2022.

PAGE 1

See Supplementary Conditions

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See Supplementary Conditions

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See Supplementary Conditions

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, Tobin J. Faucheux, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 17:39:03 ET on 01/20/2022 under Order No. 7329489615 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

Tobin Faucheux

(Signed)

Specifier

(Title)

01/31/2022

(Dated)

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**SECTION 00 73 00
SUPPLEMENTARY CONDITIONS**

GENERAL

APPLICATION

The following amendments modify, delete and add to AIA document A201-2017 General Conditions. Where any article, paragraph or subparagraph in the general conditions is supplemented by one of the following paragraphs, the provisions of such article, paragraph or subparagraph shall remain in effect and the supplemental provisions shall be considered as added thereto. Where any article, paragraph or subparagraph of the general conditions is not supplemented, amended, voided or superseded by any of the following paragraphs, the provisions of such article, paragraph or subparagraph not so amended, voided or superseded shall remain in effect.

DOCUMENTS INCLUDED IN THE SUPPLEMENTARY CONDITIONS:

Document 00 73 16 Insurance Requirements

Document 00 73 17 Bond Requirements

PAGE 1

PROJECT PROMPT

After the prompt "for the following PROJECT: (Name and location or address)" insert the following:

**Southwest Wisconsin Technical College
Bldg. 300/400 Conf. Center and Dining Remodel
1800 Bronson Blvd
Fennimore, Wisconsin 53809**

OWNER PROMPT

After the prompt "THE OWNER: (Name, legal status and address)" insert the following:

**Southwest Wisconsin Technical College
1800 Bronson Blvd
Fennimore, Wisconsin 53809**

ARCHITECT PROMPT

After the prompt "THE ARCHITECT: (Name, legal status and address) insert the following:

**HSR Associates, Inc.
100 Milwaukee Street
La Crosse, WI 54603**

ARTICLE 1

1.1.3

Add the following sentence to the end of the existing sub-article:

"The word 'provide' shall also be understood to require 'furnish and install'."

1.1.4

Add the following sentence to the end of the existing sub-article:

"A detailed description of the Project can be found in Document 00 11 13."

1.2.3

After 1.2.3, insert the following new sub-articles:

"1.2.4 Where a number is listed in the Project Manual (as for gauges, weights, temperatures, amount of time, etc.) the number shall be interpreted as that or better."

"1.2.5 Whenever the words 'approved', 'satisfactory', 'directed', 'submitted', 'inspected', or similar words or phrases are used in the product specification sections, it shall be assumed that the words 'Architect/Engineer or Architect/Engineer's representative' follows

the verb as the object of the clause, such as 'approved by the Architect/Engineer or Architect/Engineer's representative'."

ARTICLE 2

2.1.2

After 2.1.2, insert the following new sub-article:

"2.1.3 Refer to Document 00 22 13 for a detailed description of the Owner."

ARTICLE 3

3.3.3

After 3.3.3, insert the following new sub-article:

"3.3.4 Refer to Section 01 40 00 for detailed quality control requirements."

3.5.1

Add the following sentence to the end of the existing sub-article:

"Refer to Article 12 to see the time frame for correcting defective Work."

After 3.5.1, insert the following new sub-article:

"3.5.1.1 Where the Contract Documents require Work better than that required by statute, the Contract Documents shall govern."

3.6

After 3.6, insert the following new sub-article:

"3.6.1 As of July 1, 2018, and in accordance with Section 77.54(9m), Wis. Stats. (2015-2016) Wisconsin contractors are exempt from sales tax on real property materials purchased for this Project. A Wisconsin Sales and Use Tax Exemption Certificate will be included with the contract.

The exemption only applies to a contractor's purchase of materials and other components that become part of a **real property improvement** that is a "facility." The sale of a real property improvement is not subject to tax, regardless of who is the purchaser.

"Facility" means any building, shelter, parking lot, parking garage, athletic field, athletic park, storm sewer, water supply system, or sewerage and waste water treatment facility, but does not include a highway, street, or road.

The exemption does not apply to lab equipment or other property that remains **tangible personal property** after sale or installation. However, all of a Wisconsin Technical College's purchases of tangible personal property are already exempt from tax. The contractor may purchase property without tax, for resale, that remains tangible personal property after sale or installation. The contractor must be sure to make all invoices and other billing documents out in the name of the Wisconsin Technical College District to substantiate that its sale was to an exempt entity."

3.7.1

Add the following sentence to the end of the existing sub-article:

"Contractor shall provide permits for driveway/curb-cuts, and cost for relocation of light poles and tree."

3.7.4

In 3.7.4, change "~~14 days after first observance~~" to "10 days after first observance"

3.8.3

After 3.8.3, insert the following new sub-article:

"3.8.4 Refer to Section 01 21 00 for detailed description of allowances."

3.12.6

After 3.12.6, insert the following new sub-articles:

".1 Contractor shall use a verification stamp with signature and date to signify Contractor's approval of Shop Drawings."

"2 Refer to Sections 01 30 00, 01 40 00 and 01 60 00 for detailed submittal information."

3.14.2

After 3.14.2, insert the following new sub-article:

"**3.14.3** Refer to Section 01 70 00 for detailed cutting and patching requirements."

ARTICLE 4

4.1.1

Add the following sentence to the end of the existing sub-article:

"Wherever the term 'Architect' appears, it shall be changed to 'Architect/Engineer (AE)'."

After 4.1.1, insert the following new sub-article:

"**.1** Refer to Document 00 21 13 for a detailed description of the AE and any applicable consultants."

ARTICLE 5

5.2.1

Delete the first sentence of the existing sub-article:

~~"Unless otherwise stated in Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design."~~

Replace with:

"The successful bidder, within 10 calendar days from notification of selection for award of contract, shall furnish in writing to the Owner through the Architect a listing of major subcontractors and suppliers, their addresses, phone numbers, and the portions of the work which they will perform."

ARTICLE 7

7.2.1

After sub-article 7.2.1, insert the following new sub-article:

"**7.2.2** Refer to Section 01 20 00 and 7.3.4 below for detailed change order procedures."

7.3.3.2

Delete the text of existing sub-article:

~~"Unit prices stated in the Contract Documents or subsequently agreed upon;"~~

Replace with:

"Unit prices stated in the Contract Documents including Section 01 22 00 or subsequently agreed upon;"

7.3.4

In the first sentence of sub-article 7.3.4, change "~~a reasonable amount~~." to "an allowance for overhead and profit in accordance with percentage fee stated in Subparagraph 7.3.11 below."

7.3.10

After 7.3.10, insert the following new sub-article:

"**7.3.11** In Subparagraphs 7.3.3 and 7.3.4 the percentage fee allowance for the combined overhead and profit included in the total cost to the Owner shall be based on the following schedule:

- .1** for the Contractor, for Work performed by the Contractor's own forces, 10 percent of the cost.
- .2** for the Contractor, for Work performed by the Contractor's Subcontractor, 7 percent of the amount due the Subcontractor.
- .3** for each Subcontractor or Sub-subcontractor involved, for Work performed by that Subcontractor's or Sub-subcontractor's own forces, 7 percent of the cost.

.4 for each Subcontractor, for Work performed by the Subcontractor's Sub-subcontractor, 5 percent of the amount due the Sub-subcontractor.

.5 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in manner prescribed above. Where major cost items are subcontracts, they shall be itemized also. In no case will a change involving over \$500.00 be approved without such itemization."

7.4

After 7.4, insert the following new sub-article:

"7.5 Bulletins

A Bulletin is a written document prepared by the Architect/Engineer as a statement of changes in the scope of Work which may or may not change the Contract Amount or Time. The Contractor shall return the executed Bulletin to the Architect/Engineer on or before the date stated in the Bulletin stating Contractor's agreement to change the Scope of Work and any proposed adjustment to the Contract Amount and the Contract Time. All Bulletin items shall subsequently be recorded on a Change Order."

ARTICLE 9

9.2

After 9.2, insert the following new sub-article:

"9.2.1 Refer to Section 01 20 00 for detailed schedule of values requirements."

9.3.1

Delete the first sentence of the existing sub-article:

~~"At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work."~~

Replace with:

Submission of Applications for Payment shall follow sub-article 9.6 of the Supplementary Conditions.

9.6.8

After 9.6.8, insert the following new sub-article:

"9.6.9 Based upon Applications for Payment submitted to the Architect by the Contractor, the Owner shall make progress payment on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

.1 The period covered by each Application for Payment shall be on the 25th day of the month.

.2 Provided an Application for Payment is received by the Architect not later than the 25th day of a month, the Owner shall make payment to the Contractor not later than the 25th day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than 60 days after the Architect receives the Application for Payment.

.3 Each Application for Payment shall be based upon the Schedule of Values submitted by the Contractor in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

.4 Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

.5 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

The retainage shall be an amount equal to not more than 5% of the estimate until 50% of the work has been completed. At 50% completion, no additional amounts shall be retained except that at 50% completion or any time thereafter when the progress of the work is not satisfactory, additional amounts may be retained, but in no event shall the total retainage be more than 10% of the value of the work completed.

.6 The progress payment amount determined in accordance with Paragraph 9.6.9.5 shall be further modified per Paragraph 9.6.9.6.1 of the Supplementary Conditions.

.6.1 Upon Substantial Completion of the Work, retainage to remain at 5% of Contract Sum until the Contract is closed out. This amount MAY be reduced to a lower percentage or lump sum if agreed to by Owner, Contractor and A/E.

.7 Reduction or limitation of retainage, if any, shall be per Paragraph 9.6 of the Supplementary Conditions."

9.8.5

After 9.8.5, insert the following new sub-article:

"9.8.6 Failure to reach final completion within 60 days from total Substantial Completion of the Project shall be cause to terminate the Contract and the Contractor's surety shall be notified accordingly."

9.10.1

After 9.10.1, insert the following new sub-articles:

".1 Upon completion of the Final Inspection if the Work is not acceptable and the Contract not fully performed, the AE will notify the Contractor, in writing, of all unfinished Work and fix the time within which the Contractor shall complete the items listed. Upon notification by the Contractor that the list of uncompleted items is complete, the AE will make a follow-up inspection trip."

".2 Time spent by the AE to follow-up on such unfinished Work to determine that the Contractor has fully performed the Contract shall be paid for by the Contractor on the basis of the AE's regular hourly rate schedule for supplementary services and reimbursable expenses as stated in the AE's agreement for services with the Owner."

".3 Payment for all such additional services required of the AE will be deducted from the balance due the Contractor, duly noted on the final Certificate for Payment and paid by the Owner directly to the AE."

9.10.5

After 9.10.5, insert the following new sub-article:

"9.10.6 Refer to Section 01 78 00 for detailed Contract closeout procedures."

ARTICLE 11

11.1.1

After 11.1.1, insert the following new sub-article:

".1 Refer to Supplementary Conditions for requirements and coverages for bonds and insurance."

11.2.1

After 11.2.1, insert the following new sub-article:

".1 The Contractor shall provide and maintain Property Insurance to cover the deductible of the Owner's property insurance in the amount of \$1,000 of loss on any claim, or provide evidence satisfactory to the Owner that the Contractor shall pay for all such losses not

covered by the Owner against the same peril as described for the Owner's Property Insurance."

END OF SECTION

INSURANCE REQUIREMENTS

1.01 SUMMARY

- A. This Section includes instructions for insurance.

1.02 RELATED REQUIREMENTS

- A. Section 00 72 00 General Conditions of the Contract for Construction, AIA A201. Note the requirements of Article 11.
- B. Section 00 73 17 Bond Requirements

1.03 INSTRUCTIONS FOR INSURANCE

- A. Notification to Owner: The Contractor shall, in consultation with insurance provider, submit documentation for the insurance coverages listed below.
- B. Contractor's Liability Insurance: Concerning the insurance referenced in Article 11 in AIA Document A201, 2017 edition, policy shall be written for the following minimum limits or greater if required by law.
 - 1. Workers' Compensation:
 - a) State Statutory Limit
 - b) Employer's Liability: \$500,000 per Accident.
 - 2. Comprehensive or Commercial General Liability (including Premises-Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):
 - a) Bodily Injury and Property Damage:
\$1,000,000 Each Occurrence
Minimum \$2,000,000 Aggregate or Per Project Endorsement
 - 3. Contractual Liability:
 - a) Bodily Injury and Property Damage:
\$1,000,000 Each Occurrence
Minimum \$2,000,000 Aggregate or Per Project Endorsement.
 - 4. Business Auto Liability (including owned, non-owned and hired vehicles):
 - a) Bodily Injury and Property Damage:
\$1,000,000 Combined Single Limit (CSL) Each Occurrence
 - 5. Umbrella Excess Liability:
\$2,000,000 over primary insurance.
Maximum self-insured retention of \$25,000.
 - 7. The Owner and AE shall be named as additional insureds.
 - 8. If this insurance is written on the Comprehensive General Liability policy form, the Certificates shall be AIA Document G705, Certificate of Insurance. If this insurance is written on a Commercial General Liability policy form, ACORD form 25 will be acceptable.

END OF DOCUMENT 00 73 16

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DOCUMENT 00 73 17

BOND REQUIREMENTS

1.01 SUMMARY

- A. This Section includes instructions for performance and payment bonds.

1.02 RELATED REQUIREMENTS

- A. Document 00 21 00 Instructions to Bidders: Requirements for Bid Bond.
- B. Document 00 61 13.13 Performance Bond Form
- C. Document 00 61 13.16 Payment Bond Form
- D. Section 00 72 00 General Conditions of the Contract for Construction, AIA A201. Note the requirements of Article 11.
- E. Section 00 73 16 Insurance Requirements

1.03 INSTRUCTIONS FOR PERFORMANCE AND PAYMENT BOND

- A. The Contractor shall furnish bonds as described below, covering the faithful performance of the Contract and the payments of all obligations arising thereunder.
- B. Furnish both AIA A312 Performance Bond and AIA A312 Payment Bond, 2010 edition, each in the amount of 100% of the contract price.
- C. Bond amounts shall not exceed the single bond limit for the Contractor's bonding company as set forth in the Federal Register current as of the date.
- D. The bonds shall be written with such sureties secured through the Contractor's usual sources as may be agreeable to the parties. In addition, the sureties shall be authorized to conduct surety business in the state in which the Project is located, and the sureties and any reinsuring companies shall be listed in the current Department of the Treasury Circular No. 570 with an underwriting limitation equal to or greater than the penal sum of the bonds to be furnished.
- E. The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the attorney-in-fact's power of attorney.
- F. Form of bond shall be "Public Improvement Performance/Labor and Material Payment Bond," pursuant to Section 779.14 Wisconsin Statutes, WIS. AIA Document WIS A312, published by the Wisconsin Society of Architects/AIA.
- G. All bonds shall be signed by an agent or official of the surety company and shall include the certified power of attorney provided by the surety company showing that the person who signs the bonds has the power of attorney to so sign for the surety company. Such certification shall be signed by the Secretary or Assistant Secretary of the company and not by an attorney-in-fact. This certification shall bear the same or earlier date as the bonds.

- H. Surety company shall have a B, or better, rating by the "Best Guide," licensed to do business in the State of Wisconsin.
- I. Provide four copies each of the bonds and the power of attorney to attachment to each copy of the Agreement.
- J. Contractor shall pay the premiums for the surety bonds.
- K. Date of Agreement and surety bonds shall be the same.
- L. Contractor shall sign the bonds, consistent with the following, as applicable:
 - 1. Under a partnership or a joint venture, the Agreement may be signed by one partner of the partnership, or one partner of each firm comprising the joint venture, but the surety bonds shall be signed by all partners.
 - 2. Under a corporation, the bonds shall be signed by the official signing the Agreement and the corporate seal affixed to the Agreement and the surety bonds. If the corporation has no seal, include a statement to the effect that the corporation has no seal.

1.04 AVAILABILITY OF FORMS

Sample document forms as specified above are attached hereto, and may be purchased directly from:

WISCONSIN SOCIETY OF ARCHITECTS/AIA
321 South Hamilton Street
Madison, Wisconsin 53703
Telephone: (608) 257-8477 or (800) 272-4483

END OF DOCUMENT 00 73 17

SECTION 01 10 00

SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Refer to Cover Sheet on Drawings for project title and location.
- B. Refer to 00 11 13 Advertisement for Bids for brief description of Project.

1.02 RELATED REQUIREMENTS

- A. Section 01 50 00 - Temporary Facilities: Requirements for temporary utilities.
- B. Section 01 70 00 - Administrative Requirements: Contract limits and protection of existing conditions.

1.03 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Document 00 52 00 - Agreement Form.

1.04 PHASED CONSTRUCTION

- A. The Work shall be conducted in a single phase.

1.05 WORK BY OTHERS

- A. Items indicated "N.I.C." on the Project Drawings will be furnished and installed by others not a party to the Prime Contracts.
- B. The Owner will procure and install audio visual equipment to the extent noted in the drawings.

1.06 MATERIALS PROVIDED BY OWNER, INSTALLED BY CONTRACTOR

- A. As noted on drawings.

1.07 MATERIALS OR EQUIPMENT SALVAGED AND REINSTALLED BY CONTRACTOR

- A. As noted on drawings.

1.08 OWNER OCCUPANCY

- A. Owner intends to continue to occupy adjacent portions of the existing building during the entire construction period.
- B. Owner intends to occupy the Project area upon Substantial Completion.
- C. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- D. Schedule the Work to accommodate Owner occupancy.

1.09 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to Areas required to perform the work and approved by the Owner..
- B. Arrange use of site and premises to allow:
 - 1. Owner occupancy.
 - 2. Work by Others.
 - 3. Work by Owner.
- C. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
- D. Time Restrictions:
 - 1. Work on the Project shall be done during normal working hours. If at any time during construction it becomes necessary to accelerate the Work in order to meet completion dates for portions or all of the Work, all trades shall work overtime at no additional cost to Owner.
- E. Utility Outages and Shutdown:
 - 1. Notify Owner within 48 hours of necessary interruptions of services including, but not limited to: HVAC systems, water service (hot & cold), electrical service, communications systems.
 - 2. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7 days notice to Owner and authorities having jurisdiction.
 - 3. Prevent accidental disruption of utility services to other facilities.

1.10 CONSTRUCTION SCHEDULE

- A. Date of Commencement of the Work: April 1, 2022
- B. Date of Substantial Completion: October 1, 2022
- C. Final Completion: The completion of all Work according to the contract Documents, approved by the AE and accepted by the Owner shall be within 30 days after the Date of Substantial Completion.
- D. Exceptions: The only exceptions to the above completion dates are delay or termination because of a national emergency and/or extension of time for completion claimed and allowed according to the General Conditions and/or Supplementary Conditions

1.11 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Architect.

END OF SECTION

SECTION 01 20 00
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedures for preparation and submittal of applications for progress payments.
- B. Documentation of changes in Contract Sum and Contract Time.
- C. Change order procedures.
- D. Correlation of Contractor submittals based on changes.
- E. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Document 00 52 13 - Agreement Forms AIA-A101: Contract Sum, payment period.
- B. Section 00 72 00 - General Conditions and Document 00 73 00 - Supplementary Conditions: Additional requirements for progress payments, final payment, changes in the Work.
- C. Section 00 73 00 - Supplementary Conditions: Percentage allowances for Contractor's overhead and profit.
- D. Document 00 73 00 - Supplementary Conditions: Dates for applications for payment.

1.03 SCHEDULE OF VALUES

- A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- B. Forms filled out by hand will not be accepted.
- C. At least 10 days prior to submission of the first Application for Payment, secure A/E's approval of the schedule of values required to be submitted under 9.2 of the General Conditions.
- D. Base requests for payment on the approved schedule of values.
- E. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Dollar value shall be rounded to the nearest ten dollars (\$10).
- F. Revise schedule to list approved Change Orders, with each Application For Payment.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates of Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.
- B. Payment Period: One calendar month time frame.
- C. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.
- D. Forms filled out by hand will not be accepted.
- E. Provided an Application for Payment per 9.6 of 00 73 00 Supplementary Conditions.
- F. Each Application for Payment shall be based upon the Schedule of Values submitted in accordance with the Contract Documents. The Schedule of Values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This Schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Applications for Payment.
- G. The Applications for Payment shall indicate the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.
- H. Execute certification by signature of authorized officer.
- I. Use data from approved Schedule of Values. Provide dollar value in each column for each line item for portion of work performed and for stored products.
- J. The progress payment amount determined in accordance with 00 73 00 Supplementary Conditions, Paragraph 9.6.
- K. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.

- L. Submit one electronic and three hard-copies of each Application for Payment.
- M. Include the following with the application:
 - 1. Transmittal letter as specified for submittals in Section 01 30 00.
 - 2. Construction progress schedule, revised and current as specified in Section 01 30 00.
 - 3. Current construction photographs specified in Section 01 30 00.
- N. When Architect requires substantiating information, submit data justifying dollar amounts in question. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

1.05 PRODUCT HANDLING

- A. Maintain a "Register of Bulletins and Change Orders" at the job site, accurately reflecting current status of all pertinent data.
- B. Make the Register available for review upon request.

1.06 PROCESSING CHANGES INITIATED BY THE OWNER AND/OR AE

- A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Architect will issue instructions directly to Contractor.
- B. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the Architect/Engineer, upon Owner direction, will issue a "Bulletin" to the Contractor.
 - 1. Bulletins will be dated and will be numbered in sequence.
 - 2. The Bulletin will describe the contemplated change.
 - a. Promptly advise Architect/Engineer as to credit or cost and time required proposed for the described change. This is not an authorization to proceed with the change.
- C. If the Contractor has been directed by Architect/Engineer to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Architect/Engineer as provided for under Article 7 of the General Conditions.
- D. If the Contractor has been directed by Architect/Engineer to make the described change subject to later determination of cost or credit in accordance with Article 7 of the General Conditions, the Contractor shall:
 - 1. Take such measures as needed to make the change;
 - 2. Consult with Architect/Engineer and reach agreement on the most appropriate method for determining credit or cost for the change.

1.07 PROCESSING CHANGES INITIATED BY CONTRACTOR

- A. Should the Contractor discover a discrepancy among the Contract Documents, a concealed condition or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify Architect/Engineer as required by pertinent provisions of the Contract Documents.
- B. Upon agreement by Architect/Engineer that there is reasonable cause to consider the Contractor's proposed change, Architect/Engineer will issue a Bulletin in accordance with the provisions described in Article 1.06 above.

1.08 PROCESSING OF BULLETINS

- A. Make written reply to Architect/Engineer in response to each Bulletin by date stated on the Bulletin:
 - 1. State proposed change in the Contract Sum, if any.
 - 2. State proposed change in the Contract Time of Completion, if any.
 - 3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any.
 - 4. Include full backup data such as subcontractor's letter of proposal or similar information.
- B. When cost or credit for the proposed change has been agreed upon by the Owner and the Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of Article 7 of the General conditions, A/E will notify contractor in writing. A formal Change Order will be initiated and executed at the time of completion of the Contract, or at a time when the payment for work completed is due. All approved Bulletins previously not incorporated into the Contract by a Change Order, shall be combined into a Change Order to adjust the final Contract Sum to compensate for all Changes in the Work to date.

1.09 PROCESSING CHANGE ORDERS

- A. Change Orders will be dated and will be numbered in sequence.
- B. The Change Order will describe the change or changes, will refer to the Bulletin or Bulletins involved, and will be endorsed by Architect/Engineer and signed by the Contractor and the Owner.
- C. Architect/Engineer will issue three copies of each Change Order.
 - 1. The Contractor promptly shall sign all three copies and return all copies to Architect/Engineer.
 - 2. Architect/Engineer shall forward the Change Order to the Owner for his signature. Upon approval, he shall distribute two fully executed copies of the Change Order to Architect/Engineer. A/E to distribute one to the Contractor.
- D. Substantiation of Costs: Provide full information required for evaluation.
 - 1. On request, provide the following data:
 - a. Quantities of products, labor, and equipment.
 - b. Taxes, insurance, and bonds.
 - c. Overhead and profit.
 - d. Justification for any change in Contract Time.
 - e. Credit for deletions from Contract, similarly documented.
 - 2. Support each claim for additional costs with additional information:
 - a. Origin and date of claim.
 - b. Dates and times work was performed, and by whom.
 - c. Time records and wage rates paid.
 - d. Invoices and receipts for products, equipment, and subcontracts, similarly documented.
 - 3. For Time and Material work, submit itemized account and supporting data after completion of change, within time limits indicated in the Conditions of the Contract.
- E. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.
- F. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.
- G. Promptly revise progress schedules to reflect any change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
- H. Promptly enter changes in Project Record Documents.

1.10 APPLICATION FOR FINAL PAYMENT

- A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01 70 00 and as outlined in paragraph 9.10 of the Supplementary Conditions.

END OF SECTION

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SECTION 01 23 00

ALTERNATES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Description of Alternates.

1.02 RELATED REQUIREMENTS

- A. Document 00 21 13 - Instructions to Bidders: Instructions for preparation of pricing for Alternates.

1.03 DESCRIPTION

- A. Conditions of the Contract and pertinent portions of Sections in Division One of this Project Manual, apply to the Work of this Section as fully as though repeated herein.
- B. This Section describes the alternates to the project. Refer to the Product/Execution Articles of the Contract Documents for information pertaining to the work of each alternate.
- C. Each proposal under an alternate shall include all incidental work and all adjustments necessary to accommodate the changes. All work shall meet the requirements of the Contract Documents.
- D. Each alternate proposal shall be submitted as an individual cost for the particular alternate and shall be proposed under the premise that no other alternates have been accepted. Should the work of an alternate called for by the Bid Form not affect the cost of the work, "No Change" shall be stated.
- E. Owner may, at Owner's option, vary the scope of the work by authorizing alternates which will add to the work, deduct from the work or substitute materials, equipment or methods.
- F. Immediately following Award of Contract, awarded Contractor shall prepare and distribute to each party involved, notification of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for consideration at a later date. Include a complete description of negotiated modifications to alternates, if any.

1.04 ACCEPTANCE OF ALTERNATES

- A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

1.05 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Reconfigure Meeting Rooms 340 & 341
 - 1. The following work shall be priced under Alternate No. 1: State the amount to be added to the base bid perform work at existing rooms 340 and 341 that is identified as an alternate on the drawings. Work includes but is not limited to modifying walls, replacing finishes and ceilings so that the rooms become a new space that includes the adjacent corridors. Refer to Specification Sections 03 30 00 Cast-in-place concrete manual. Refer to drawings: A090 Demo Floor Plan, A091 Demo Ceiling Plan, A111 Remodel Plan and RCP, ID101 Finish Plan - Alternate, E090 Demolition Ceiling, E091 Demolition Floor, E100 Lighting Plan, E200 Power Plan, M090 Removal Sheets, M100 Remodel Sheets.
- B. Alternate No. 2: Folding Panel Partition in Conference Center 115
 - 1. The following work shall be priced under Alternate No. 2: State the amount to be added to the base bid to supply and install a folding panel partition in Conference Center room 115 and modify the adjacent work to accommodate the folding panel partition. Refer to Specification Section 05 12 00 Structural Steel Framing and 10 22 39 Folding Panel Partitions. Refer to Drawings: A100 Remodel Plans, A110 Reflected Ceiling Plans.
- C. Alternate No. 3: Large Group Room 126
 - 1. The following work shall be priced under Alternate No. 3: State the amount to be added to the base bid to enclose a portion of the dining room to create Large Group Room 126. Work includes but is not limited to constructing a partition wall, and providing alternate configurations for finishes. Refer to Specification Section 08 43 13 Aluminum-Framed Storefronts. Refer to Drawings A100 Remodel Plans and A110 Reflected Ceiling Plans.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

- A. Document 00 43 25 - Substitution Request Form - During Procurement: Form for substitution requests made prior to award of contract (During procurement).
- B. Document 00 63 25 - Substitution Request Form - During Construction: Required form for substitution requests made after award of contract (During construction).

1.03 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions during Procurement: Proposed changes prior to contract award.
 - 2. Substitutions during Construction:
 - a. Substitutions for Cause: Proposed changes following contract award due to changed Project circumstances beyond Contractor's control.
 - 1) Unavailability.
 - 2) Regulatory changes.
 - b. Substitutions for Convenience: Proposed changes following contract award due to possibility of offering substantial advantage to the Project. Substitution requests offering advantages solely to the Contractor will not be considered without a fair credit being offered to the owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
 - 1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
 - 2. Agrees to provide the same warranty for the substitution as for the specified product.
 - 3. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Agrees to reimburse Owner and Architect for review or redesign services associated with re-approval by authorities.
- B. A Substitution Request for a specified installer constitutes a representation that the submitter:
 - 1. Has acted in good faith to obtain services of specified installer, but was unable to come to commercial, or other terms.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
 - 1. Explicitly note any non-compliant characteristics.
- D. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
 - 1. Forms indicated in the Project Manual are adequate for this purpose, and must be used.
- E. Limit each request to a single proposed substitution item.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

- A. Submittal Time Restrictions:
 - 1. Instructions to Bidders specifies time restrictions and the documents required for submitting substitution requests during the bidding period.

- B. Document 00 22 13 Supplementary Instructions to Bidders describes substitution process during bidding and specifies time restrictions for submitting requests for substitutions during the bidding period, and the documents required.
 - 1. Bidder's Choice Substitution described for use in Bid procedure.
- C. Submittal Form (before award of contract):

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Submittal Form (after award of contract):
 - 1. Submit substitution requests by completing the form in Document 00 63 25; see this section for additional information and instructions. Use only this form; other forms of submission are unacceptable.
- B. Architect will consider requests for substitutions only within 15 days after date of Agreement.
- C. Submit request for Substitution for Cause within 14 days of discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
- D. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.
 - 1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
 - 2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
 - 3. Bear the costs engendered by proposed substitution of:
 - a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
- E. Substitutions will not be considered under one or more of the following circumstances:
 - 1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
 - 2. Without a separate written request.
 - 3. When acceptance will require revisions to Contract Documents.

3.04 RESOLUTION

- A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.
- B. Architect will notify Contractor in writing of decision to accept or reject request.
 - 1. Architect's decision following review of proposed substitution will be noted on the submitted form.

3.05 ACCEPTANCE

- A. Accepted substitutions will be documented and incorporated into work of the project only by Addendum, Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

- A. See Section 01 78 00 - Closeout Submittals, for closeout submittals.

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General administrative requirements.
- B. Electronic document submittal service.
- C. Preconstruction meeting.
- D. Progress meetings.
- E. Construction progress schedule.
- F. Progress photographs.
- G. Coordination drawings.
- H. Submittals for review, information, and project closeout.
- I. Number of copies of submittals.
- J. Requests for Interpretation (RFI) procedures.
- K. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 25 00 - Substitution Procedures
- B. Section 01 40 00 - Quality Requirements: Testing reports
- C. Section 01 60 00 - Product Requirements: General product requirements.
- D. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- E. Section 01 78 00 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 GENERAL ADMINISTRATIVE REQUIREMENTS

- A. Comply with requirements of Section 01 70 00 - Execution and Closeout Requirements for coordination of execution of administrative tasks with timing of construction activities.
- B. Make the following types of submittals to Architect:
 - 1. Requests for Interpretation (RFI).
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

1.04 PROJECT COORDINATOR

- A. Project Coordinator: Contractors jobsite superintendent.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for equipment access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

- G. Make the following types of submittals to Architect through the Project Coordinator:
1. Requests for Interpretation.
 2. Requests for substitution.
 3. Shop drawings, product data, and samples.
 4. Test and inspection reports.
 5. Design data.
 6. Manufacturer's instructions and field reports.
 7. Applications for payment and change order requests.
 8. Progress schedules.
 9. Coordination drawings.
 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 ELECTRONIC DOCUMENT SUBMITTAL SERVICE

- A. All documents transmitted for purposes of administration of the contract are to be in electronic (PDF, MS Word, or MS Excel) format, as appropriate to the document, and transmitted via an Internet-based submittal service that receives, logs and stores documents, provides electronic stamping and signatures, and notifies addressees via email.
1. Besides submittals for review, information, and closeout, this procedure applies to Requests for Interpretation (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, Contractor's correction punchlist, and any other document any participant wishes to make part of the project record.
 2. Contractor and Architect are required to use this service.
 3. It is Contractor's responsibility to submit documents in allowable format.
 4. Subcontractors, suppliers, and Architect's consultants and Owner are to be permitted to use the service at no extra charge.
 5. Users of the service need an email address, internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, www.adobe.com, or Bluebeam PDF Revu, www.bluebeam.com), unless such software capability is provided by the service provider.
 6. Paper document transmittals will not be reviewed without prior authorization; emailed electronic documents will not be reviewed.
 7. All other specified submittal and document transmission procedures apply, except that electronic document requirements do not apply to samples or color selection charts.
 8. Physical samples or color charts required for color selection shall be scanned into PDF format and submitted for approval via the Electronic Document Submittal Service in addition to physical delivery of the samples.
 9. If the service allows for customization of the submittal review and acknowledgement categories then the Contractor shall adjust the categories to match the following categories. If the service is not customizable, then the reviewer is free to pick the category of the service that best matches the desired workflow for the submittal without changing the substance of the reviewer's stamped response.
 - a. The Architect's Review Stamp includes the following categories:
 - 1) Review Completed
 - 2) Exceptions as Noted
 - 3) Rejected
 - 4) Revise and Resubmit
 - 5) Confirmation Required
 - 6) Additional Information Requested
 - 7) Not Required for Review
- B. Submittal Service: The selected service is:
1. Sharefile or Contractor's preferred submittal system subject to AE's approval.
- C. Project Closeout: Architect will determine when to terminate the service for the project and is responsible for obtaining archive copies of files for Owner.

3.02 PRECONSTRUCTION MEETING

- A. Architect will schedule a meeting within 10 working days after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Major subcontractors.
 - 5. Architect/Engineer will advise other interested parties, and request their attendance.
- C. Agenda:
 - 1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and Architect/Engineer.
 - 2. Channels and procedures for communication.
 - 3. Construction schedule, including sequence of critical work.
 - 4. Coordination of separate contract work, if any.
 - 5. Distribution of Contract Documents.
 - 6. Designation of personnel representing the parties to Contract and Architect.
 - 7. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 - 8. Rules and regulations governing performance of the Work.
 - 9. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.
- D. Architect will conduct meeting, record and distribute minutes.

3.03 PROGRESS MEETINGS

- A. Meetings to be held throughout progress of the Work at maximum monthly intervals.
- B. Architect will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings, record and distribute minutes.
- C. Attendance Required:
 - 1. Contractor.
 - 2. Owner.
 - 3. Architect.
 - 4. Contractor's superintendent.
 - 5. Major subcontractors.
 - 6. Assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
 - 7. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.
- D. Minimum Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Review of off-site fabrication and delivery schedules.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Coordination of projected progress.
 - 11. Maintenance of quality and work standards.
 - 12. Effect of proposed changes on progress schedule and coordination.
 - 13. Other business relating to work.
- E. Revisions to minutes
 - 1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.

2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

3.04 CONSTRUCTION PROGRESS SCHEDULE

- A. Within 7 days after date of the Agreement, submit preliminary schedule defining planned operations for the first 60 days of work, with a general outline for remainder of work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Within 7 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- D. Within 7 days after joint review, submit complete schedule.
- E. Submit updated schedule with each Application for Payment.
- F. Submit updated schedule periodically as required to reflect progress made and remaining work to achieve contractual completion date.

3.05 PHOTOGRAPHS

- A. Take photographs as evidence of existing project conditions as follows:
 1. Interior views: Verify conditions of adjacent surfaces and finish conditions for future verification.
 2. Exterior views: Verify conditions of adjacent items (i.e. sidewalks, paving, sod, walls etc.) for future verification.
- B. Digital Photographs: 24 bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 1. Delivery Medium: Via email.
 2. File Naming: Include project identification, date and time of view, and view identification.

3.06 COORDINATION DRAWINGS

- A. Provide information required by Project Coordinator for preparation of coordination drawings.
- B. Review drawings prior to submission to Architect.

3.07 REQUESTS FOR INTERPRETATION (RFI)

- A. Definition: A request seeking one of the following:
 1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
 2. A resolution to an issue which has arisen due to field conditions and affects design intent.
- B. Whenever possible, request clarifications at the next appropriate project progress meeting, with response entered into meeting minutes, rendering unnecessary the issuance of a formal RFI.
- C. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
 1. Prepare a separate RFI for each specific item.
 - a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
 - b. Do not forward requests which solely require internal coordination between subcontractors.
 2. Prepare in a format and with content acceptable to Architect.
- D. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents (Drawings, Addenda and Specifications) to confirm that information sufficient for their interpretation is definitely not included.
 1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
 2. Unacceptable Uses for RFIs: Do not use RFIs to request the following:
 - a. Approval of submittals (use procedures specified elsewhere in this section).

- b. Approval of substitutions (see Section - 01 25 00 Substitution Procedures)
 - c. Changes that entail change in Contract Time and Contract Sum (comply with provisions of the Conditions of the Contract).
 - d. Different methods of performing work than those indicated in the Contract Drawings and Specifications (comply with provisions of the Conditions of the Contract).
3. Improper RFIs: Requests not prepared in compliance with requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response, with an explanatory notation.
 4. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, Contract Documents, with no additional input required to clarify the question. They will be returned without a response, with an explanatory notation.
- E. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.
1. Official Project name and number, and any additional required identifiers established in Contract Documents.
 2. Owner's, Architect's, and Contractor's names.
 3. Discrete and consecutive RFI number, and descriptive subject/title.
 4. Issue date, and requested reply date.
 5. Contractor shall confirm that their research of the issue has included review of both the Project Drawings and Specification Manual.
 6. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
 7. Annotations: Field dimensions and/or description of conditions which have engendered the request.
 8. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.
- F. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.
- G. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
 2. Note dates of when each request is made, and when a response is received.
 3. Highlight items requiring priority or expedited response.
 4. Highlight items for which a timely response has not been received to date.
 5. Identify and include improper or frivolous RFIs.
- H. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 1:00 p.m. will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.
- I. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
 2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
 3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
 4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.08 SUBMITTAL SCHEDULE (LOG)

- A. Submit to Architect for review a schedule for submittals in tabular format.
 - 1. Submit at the same time as the preliminary schedule.
 - 2. Coordinate with Contractor's construction schedule and schedule of values.
 - 3. Format schedule to allow tracking of status of submittals throughout duration of construction.
 - 4. Arrange information to include scheduled date for initial submittal, specification number and title, description of item of work covered, role and name of subcontractor, and Categorization: Review, Information, Closeout, Maintenance Materials.
 - 5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.
 - a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.09 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 - 1. Product data.
 - 2. Delegated design - Instruments of Service.
 - 3. Shop drawings.
 - 4. Samples for selection.
 - 5. Samples for verification.
- B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.
- C. Samples will be reviewed for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.10 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Certificates.
 - 2. Test and evaluation reports.
 - 3. Inspection reports.
 - 4. Manufacturer's instructions.
 - 5. Manufacturer reports.
 - 6. Qualification documentation.
 - a. Manufacturer
 - b. Supplier
 - c. Fabricators
 - d. Installers, Applicators, Erectors
 - 7. Source quality control documentation.
 - 8. Field quality control documentation
 - 9. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

3.11 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 78 00 - Closeout Submittals:
 - 1. Maintenance Contracts
 - 2. Project record documents.
 - 3. Operation and maintenance data.
 - 4. Warranties.
 - 5. Bonds.
 - 6. sustainable Design Closeout Documentation
 - 7. Software
 - 8. Other types as indicated.

- D. Submit for Owner's benefit during and after project completion.

3.12 MAINTENANCE MATERIALS SUBMITTALS

- A. When the following are specified in individual sections, provide the specified items to the Owner and submit documentation of the owner's acceptance of the items, the date of transfer to the Owner and location at time of transfer.
 - 1. Spare Parts
 - 2. Extra Stock
 - 3. Tools
- B. Unless otherwise required by the Owner or Architect maintenance materials submittals can be documented in single combined transmittal at project closeout.

3.13 NUMBER OF COPIES OF SUBMITTALS

- A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.
- B. Hard Copy Documents for Review: (If PDF format is not possible)
 - 1. Small Size Sheets, Not Larger Than 8-1/2 by 11 inches: Submit the number of copies that Contractor requires, plus one copy that will be retained by Architect.
 - 2. Larger Sheets, Not Larger Than 36 by 48 inches: Submit the number of opaque reproductions that Contractor requires, plus one copy that will be retained by Architect.
 - 3. Hard Copy Documents for product data Information: Submit number of copies required to be returned plus one copy which will be retained by the A/E.
- C. Extra Copies at Project Closeout: See Section 01 78 00.

3.14 SAMPLES

- A. Samples: Submit the number specified in individual specification sections, but no fewer than two; at least one of which will be retained by Architect.
 - 1. Retained samples will not be returned to Contractor unless specifically so stated.

3.15 SUBMITTAL PROCEDURES

- A. General Requirements:
 - 1. Submittal Transmittal Requirements
 - a. Use a single transmittal for related submittal items. Do not combine submittal items from more than one of the following categories into a single transmittal: review, information, closeout, and maintenance materials.
 - 1) This project manual may contain specification sections that require transmittals that include submittal items from multiple sections as a single combined transmittal. Follow the instructions within the specification sections.
 - 2) For specification sections that explicitly identify related submittal items provide transmittals that combine the items indicated.
 - (a) If related items are explicitly identified they will be categorized into any of the following groups:
 - (1) Review Submittals - Preparatory
 - (2) Review Submittals - Samples
 - (3) Information Submittals - Preparatory
 - (4) Information Submittals - During Execution
 - (5) Closeout Submittals
 - (6) Maintenance Materials
 - 3) For specification sections that do not explicitly identify related submittal items, provide a separate transmittal for each item or coordinate with the Architect for approval of grouping submittal items into combined transmittals.
 - b. Transmit using approved form / coversheet.
 - 1) Use Contractor's form, subject to prior approval by Architect.
 - 2) Use form generated by Electronic Document Submittal Service software.
 - 3) Provide space for Contractor and Architect review stamps.
 - c. Sequentially identify each item. For revised submittals use original number and a sequential numerical suffix.
 - d. Identify: Project; Contractor; subcontractor or supplier; pertinent drawing and detail number; and specification section number and article/paragraph, as appropriate on each copy.

- e. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
 - 2. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
 - 3. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
 - a. Deliver hardcopy and sample submittals to Architect at business address. Submit in hardcopy form only for physical sample submittals or other submittals with prior approval by the Architect.
 - b. Upload submittals in electronic form to Electronic Document Submittal Service website.
 - 4. Schedule submittals to expedite the Project, and coordinate submission of related items.
 - a. For each submittal for review, allow 10 days excluding delivery time to and from the Contractor.
 - b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 5 days.
 - 5. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
 - 6. When revised for resubmission, identify all changes made since previous submission.
 - 7. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
 - 8. Where contents of submitted product data include data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.
 - a. Circle, box or callout the applicable items in the submittal.
 - b. Strikethrough or cross-out non-applicable items in the submittal.
 - 9. Within 30 days after notification of selection for award of contract, provide a listing of suppliers and manufacturers, include their address, phone number, and the portions of work which they will perform.
 - 10. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.
 - 11. Submittals not requested will be recognized and will be returned "Not Required for Review."
- B. Product Data Procedures:
- 1. Submit only information required by individual specification sections.
 - 2. Collect required information into a single submittal.
 - 3. Submit concurrently with related shop drawing submittal.
 - 4. Do not submit (Material) Safety Data Sheets for materials or products.
- C. Shop Drawing Procedures:
- 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work. Prepare drawings to a scale sufficiently large to show all pertinent aspects of the item and method of connection.
 - 2. Do not reproduce Contract Documents to create shop drawings.
 - 3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Samples Procedures:
- 1. Transmit related items together as single package.
 - 2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
 - 3. Include with transmittal high-resolution image files of samples to facilitate electronic review and approval. Provide separate submittal page for each item image.
 - 4. In situations specifically so approved by the Architect, the Architect's sample may be used in the construction as one of the installed items.
 - 5. Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts to the Architect for review and selection.
- E. Reviewing and conditional approval are only for conformance with the design concept of the Project and compliance with the information given in the Contract Documents.

- F. Conditions of approval: The Contractor is responsible for dimensions to be confirmed and correlated at the site; for information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction and for coordination of the Work of all trades. Corrections or comments made on this shop drawing submittal do not relieve the Contractor from compliance with requirements of Contract Documents.
- G. Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the Contract Completion date.

3.16 SUBMITTAL REVIEW

- A. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.
- B. Submittals for Information: Architect will acknowledge receipt and review. See below for actions to be taken.
- C. Submittals for Project Closeout: Architect will review with closeout documentation.
- D. Submittals for Maintenance Materials: Architect will review with closeout documentation.
- E. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
 - 1. Notations may be made directly on submitted items and/or listed on appended Submittal Review cover sheet.
- F. Architect's and consultants' actions on items submitted for review:
 - 1. Authorizing purchasing, fabrication, delivery, and installation:
 - a. "Review Completed", or language with same legal meaning.
 - b. "Exceptions as Noted", or language with same legal meaning.
 - 1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
 - c. "Additional Information Requested", or language with the same legal meaning.
 - 1) Resubmit with additional information, with review notations acknowledged and incorporated.
 - 2) Non-responsive resubmittals may be rejected.
 - d. "Review Completed and Confirmation Required", or language with same legal meaning.
 - 1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
 - 2) Non-responsive resubmittals may be rejected.
 - 2. Not Authorizing fabrication, delivery, and installation:
 - a. "Revise and Resubmit".
 - 1) Resubmit revised item, with review notations acknowledged and incorporated.
 - 2) Non-responsive resubmittals may be rejected.
 - b. "Rejected".
 - 1) Submit item complying with requirements of Contract Documents.
- G. Architect's and consultants' actions on items submitted for information:
 - 1. Acknowledgement of the submittal without noting any further action required by the Contractor regarding the submittal:
 - a. "Review Completed", or language with the same legal meaning.
 - 2. Returning the submittal to the contractor for correction:
 - a. "Rejected", or language with the same legal meaning. This categorization of the submittal may be accompanied by further instruction or other categorization in the stamp to advise the contractor what needs to be corrected.
- H. Architect's and consultants' actions on items submitted that were not requested.
 - 1. "Not Required for Review" - to notify the contractor the submittal is not required.

END OF SECTION

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SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Submittals.
- B. References and standards.
- C. Inspection agencies and services.
- D. Control of installation.
- E. Tolerances.
- F. Manufacturers' field services.
- G. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Document 00 72 00 - General Conditions: Inspections and approvals required by public authorities.
- B. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- C. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

- A. ASTM C1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008 (Reapproved 2014).
- B. ASTM C1077 - Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation; 2016.
- C. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2015a.
- D. ASTM D3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2012a.
- E. ASTM E329 - Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection; 2014a.
- F. ASTM E543 - Standard Specification for Agencies Performing Nondestructive Testing; 2015.
- G. ASTM E699 - Standard Specification for Agencies Involved in Testing, Quality Assurance, and Evaluating of Manufactured Building Components; 2016.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Test Reports: After each test/inspection, promptly submit two copies of report to Architect and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Compliance with Contract Documents.
 - k. When requested by Architect, provide interpretation of results.
 - 2. Test report submittals are for Architect's knowledge as contract administrator for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents, or for Owner's information.
- C. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Architect, in quantities specified for Product Data.

1. Indicate material or product complies with or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Architect.
- D. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- E. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
1. Submit report in duplicate within 30 days of observation to Architect for information.
 2. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.

1.05 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Comply with reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Architect before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Architect shall be altered from Contract Documents by mention or inference otherwise in any reference document.

1.06 CONFLICTING REQUIREMENTS

- A. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but indicated as equal to the Architect for a decision.

1.07 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Contractor shall employ and pay for services of an independent testing agency to perform specified testing and inspection.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. Contractor Employed Agency:
 1. Testing agency: Comply with requirements of ASTM E329, ASTM E543, ASTM E699, ASTM C1021, ASTM C1077, ASTM C1093, and ASTM D3740.
 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
 3. Laboratory: Authorized to operate in the State in which the Project is located.
 4. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.

- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect before proceeding.
- D. Comply with specified standards as minimum quality for the work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Architect before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.03 TESTING AND INSPECTION

- A. See individual specification sections for testing required.
- B. Testing Agency Duties:
 1. Test samples of mixes submitted by Contractor.
 2. Provide qualified personnel and required equipment at site. Cooperate with Architect and Contractor in performance of services.
 3. Perform specified sampling and testing of products in accordance with specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 6. Perform additional tests and inspections required by Architect.
 7. Submit reports of all tests/inspections specified. Test results and reports shall be furnished simultaneously to the Architect/Engineer (1 copy) and the General Contractor (1 copy) within one week of testing.
- C. Limits on Testing/Inspection Agency Authority:
 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
 1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel, and provide access to the Work.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- E. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- F. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

3.04 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance equipment as applicable, and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.
- B. If, in the opinion of Architect, it is not practical to remove and replace the work, Architect will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Transportation, handling, storage and protection.
- C. Product option requirements.
- D. Substitution limitations.
- E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Section 01 25 00 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- B. Section 01 40 00 - Quality Requirements: Product quality monitoring.

1.03 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.04 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by Contract Documents.
- B. Use of products having any of the following characteristics is not permitted:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Made of wood from newly cut old growth timber.

2.02 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.03 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 25 00 - Substitution Procedures.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication. See Section 01 74 19.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- J. Prevent contact with material that may cause corrosion, discoloration, or staining.
- K. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- L. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition.
- C. Pre-installation meetings.
- D. Cutting and patching.
- E. Cleaning and protection.
- F. Starting of systems and equipment.
- G. Demonstration and instruction of Owner personnel.
- H. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- I. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures, Electronic document submittal service.
- C. Section 01 40 00 - Quality Requirements: Testing and inspection procedures.
- D. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching Beyond Work Identified on Plans: Submit written request in advance of cutting or alteration which affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.
 - 6. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed work and products to be used.
 - e. Alternatives to cutting and patching.
 - f. Effect on work of Owner or separate Contractor.
 - g. Written permission of affected separate Contractor.
 - h. Date and time work will be executed.
- C. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.04 REQUIREMENTS OF REGULATORY AGENCIES

- A. Comply with National Electric Code for temporary power.
- B. Comply with Federal, State and local codes and regulations, and with utility company requirements.

1.05 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.

- C. Rodent Control: Provide methods, means, and facilities to prevent rodents from accessing or invading premises.
- D. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

1.06 CONTRACT LIMITS AND PROTECTION OF EXISTING CONDITIONS

- A. All work shall be confined within the areas required to perform the work and approved by the Owner. Do not infringe upon other areas without the permission of the AE.
- B. Existing property, buildings, walks, curbs, trees, shrubs, lawns, boulevards, and the Work of other Contractors, which are damaged or disturbed outside the Contract limits shall be restored to original condition or better. Contractor shall be responsible for the damage or disturbance and shall restore disturbed lawn areas with sod and replace damaged trees and shrubs.
- C. Existing Pavement and Flatwork Protection
 - 1. Where excessive loading of trucks and travel of tracked equipment occurs over existing asphalt paving and concrete flatwork, provide constructions mats to prevent cracking, deformation or similar damage. Damaged pavements, slabs or curb and gutter shall be replaced with new. Prior to construction start, review existing conditions with Owner and A/E and document with photos
- D. Existing shrubs and trees indicated on the Project Drawings to remain shall be protected from physical damage. Observe the following precautions within a distance of 15 feet of the trunk of such trees:
 - 1. Install temporary fencing as required to control traffic under trees.
 - 2. Dump no trash, especially concrete, plaster, mortar, or wash water.
 - 3. No storing of cement, plaster, concrete block, brick and similar products.
 - 4. Provide and maintain good drainage; no ponding water permitted.
 - 5. Clean up the area immediately as nearby construction work is completed

1.07 COORDINATION

- A. See Section 01 10 00 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on drawings. Follow routing indicated for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- G. Coordinate completion and clean-up of work of separate sections.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.
- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or miss-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.04 ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
 - 1. Verify that construction and utility arrangements are as indicated.
 - 2. Report discrepancies to Architect before disturbing existing installation.
 - 3. Beginning of alterations work constitutes acceptance of existing conditions.
- B. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
 - 1. Provide, erect, and maintain temporary dustproof partitions of construction specified in Section 01 50 00 .
- C. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 - 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- D. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove rotted wood, corroded metals, and deteriorated masonry and concrete; replace with new construction specified.
 - 2. Remove items indicated on drawings.
 - 3. Relocate items indicated on drawings.
 - 4. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.

5. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- E. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. See Section 01 10 00 for other limitations on outages and required notifications.
 - c. Provide temporary connections as required to maintain existing systems in service.
 4. Verify that abandoned services serve only abandoned facilities.
 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- F. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 3. Repair adjacent construction and finishes damaged during removal work.
- G. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
1. When existing finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.
 2. Where removal of partitions or walls results in adjacent spaces becoming one, rework floors, walls, and ceilings to a smooth plane without breaks, steps, or bulkheads.
 3. Where a change of plane of 1/4 inch or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
- H. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- I. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- J. Clean existing systems and equipment.
- K. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- L. Do not begin new construction in alterations areas before demolition is complete.
- M. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 1. Complete the work.
 2. Fit products together to integrate with other work.
 3. Provide openings for penetration of mechanical, electrical, and other services.
 4. Match work that has been cut to adjacent work.
 5. Repair areas adjacent to cuts to required condition.

6. Repair new work damaged by subsequent work.
 7. Remove samples of installed work for testing when requested.
 8. Remove and replace defective and non-complying work.
- D. Unless noted otherwise, each major subcontractor shall be responsible for all cutting and patching of the existing structure and appurtenances to complete that subcontractors Work for this Project.
 - E. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
 - F. General Contractor is responsible to verify warranty requirements at areas of alteration and to make certain that required certified installers are employed for repairs to maintain said warranty.
 - G. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
 - H. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
 - I. Restore work with new products in accordance with requirements of Contract Documents.
 - J. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
 - K. Patching:
 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 2. Match color, texture, and appearance.
 3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
 4. At patches/repairs in rated walls verify required UL fire rating design to confirm integrity of fire rating at completion of repair.

3.06 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition. Accomplish rubbish removal weekly and additionally as directed by the AE. Keep interior of building free of unattended combustible rubbish at all times.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.
- E. Remove all tools, equipment, scaffolding and temporary facilities immediately when no longer required for execution of the Work.
- F. As used herein, the term "premises" shall include all areas within and outside the construction limits which have been soiled, littered or disturbed in any manner by the Work of the Project.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Protect installed work from damage by construction operations. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
 1. The General Contractor shall assume responsibility for the floors being in like new condition upon completion of the Project.
 2. Exercise care to prevent damage to exposed, finished concrete floor surfaces during the course of construction of the Project. Remove all spills or smears immediately and sweep floors frequently.

3. Instruct all workmen and deliverymen to exercise caution against accidental damage to the floors by actions such as dropping heavy objects like tools and products, or scratching by sliding objects, or scoring by vibration from metal legs of stand mounted power tools, or permanent discoloration from oil dripping from pipe thread cutting machine, or the like.
 4. Allowable Carpet Protection:
 - a. Pedestrian Traffic: Polyethylene protective film, industrial duty, temporary protection, plastic carpet film with a pressure sensitive water-based self-adhesive system allowing clean release for easy removal without adhesive transfer. Any other protection system shall be approved by A/E.
 - b. Equipment Traffic (wheelbarrows, carts etc.): Plywood or similar board protection over 10 mil minimum reinforced plastic taped in place over floor finish.
 5. Allowable Resilient and Hard Surface Floor Protection:
 - a. Plywood sheets over 10 mil minimum reinforced plastic, resin paper or tarp taped in place.
- F. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.08 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

- A. Execute final cleaning after Substantial Completion but before making final application for payment. Clean all surfaces to condition acceptable for immediate occupancy by the Owner.
- B. Use cleaning materials that are nonhazardous.
- C. Remove all marks, stains, fingerprints, paint droppings and other foreign matter from all finished surfaces.
- D. Clean and polish all hardware.
- E. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
- F. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- G. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- H. Replace filters of operating equipment.

3.10 SUBSTANTIAL COMPLETION

- A. Comply with General Conditions of the Contract for Construction and Supplementary Conditions for reaching Substantial Completion.

3.11 FINAL INSPECTION

- A. Comply with General Conditions of the Contract for Construction and Supplementary Conditions for completing Final Inspection.
- B. Refer to 00 73 00 Supplementary Conditions, Article 9 for time line to complete Final Inspection.

END OF SECTION

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project record documents.
- B. Operation and maintenance data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 00 72 00 - General Conditions: Performance bond and labor and material payment bonds, warranty, and correction of work.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- C. Section 01 70 00 - Execution and Closeout Requirements: Contract closeout procedures.
- D. Individual Product Sections: Specific requirements for operation and maintenance data.
- E. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Prior to requesting Architect/Engineer's final inspection for certification of final acceptance and final payment, as required by General Conditions, complete the following and list known exceptions (if any) in request:
 - 1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 - 3. Submit certified copy of Architect/Engineer's final punch list of itemized work to be completed or corrected (including equipment requiring final connection), stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Architect/Engineer.
 - 4. Submit record documents, as-built drawings, maintenance manuals, damage or settlement survey, property survey, and similar final record information as described in Part 3 below.
 - 5. Complete final clean up requirements, including touch-up painting of marred surfaces.
 - 6. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of Substantial Completion or when Owner took possession of and responsibility for corresponding elements of the work.
 - 7. Submit consent of surety.
 - 8. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 9. Submit test, inspection and acceptance certificates as required in each product section of the Specifications.
 - 10. Submit Contractor's Affidavit and Lien Waivers.
 - 11. Submit lien waivers from all Subcontractors, sub-subcontractors and major material suppliers who have furnished material or labor for the Work under contract with the Contractor or Subcontractor. The lien waivers shall be in the full amount of the Contract involved.
 - 12. Operation and Maintenance Data:
 - a. As requested by the Owner and prior to final acceptance, organize maintenance-and-operating manual information into two (2) complete sets, each in manageable size, and bind into individual 3-ring binders properly identified with table of contents and tabbed accordingly. Or organized in similar fashion in PDF format. Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information.
 - b. If project includes multiple sites, provide number of sets of manuals for each site as indicated above.
 - c. Provide additional manuals as required by product specification sections.
 - d. As-built temperature control drawings.
 - e. Mechanical testing report from Division 23.

13. Warranties and Bonds:
 - a. Guarantees and warranties as required in each product section of the Specifications.
 - b. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - c. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - d. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 1. Drawings.
 2. Specifications.
 3. Addenda.
 4. Change Orders and other modifications to the Contract.
 5. Reviewed shop drawings, product data, and samples.
 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following: .
 1. Manufacturer's name and product model and number.
 2. Product substitutions or alternates utilized.
 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 3. Field changes of dimension and detail.
 4. Details not on original Contract drawings.

3.02 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.
- E. Include originals of each in operation and maintenance manuals, indexed separately on Table of Contents.

END OF SECTION

SECTION 02 41 00

DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on Contractor's use of site and premises.
- B. Section 01 10 00 - Summary: Sequencing and staging requirements.
- C. Section 01 50 00 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal packages that contain all the information identified in the submittal groups identified below. Follow any instructions regarding coordinating submittal timing between submittals of different sections.
- C. Closeout Submittals
 - 1. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 SCOPE

- A. Refer to drawings for extents of work.
- B. Remove other items indicated, for salvage, relocation, and recycling.

3.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

- A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
 - 1. Obtain required permits.
 - 2. Use of explosives is not permitted.
 - 3. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
 - 4. Provide, erect, and maintain temporary barriers and security devices.
 - 5. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 6. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 7. Do not close or obstruct roadways or sidewalks without permit.
 - 8. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
- B. Do not begin removal until receipt of notification to proceed from Owner.
- C. Do not begin removal until vegetation to be relocated has been removed and specified measures have been taken to protect vegetation to remain.
- D. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Prevent movement or settlement of adjacent structures.
 - 3. Stop work immediately if adjacent structures appear to be in danger.

- E. Temporary Shoring
 1. Provide temporary shoring of load bearing structure where new openings are cut in load bearing walls, floors or ceilings. When required, Contractor shall provide services of a structural engineer registered in the state where work is performed for design of shoring. Use means and methods to prevent damage to floors and adjacent finished surfaces. Repair adjacent construction and finishes damaged during removal work.
- F. Minimize production of dust due to demolition operations; do not use water if that will result in ice, flooding, sedimentation of public waterways or storm sewers, or other pollution.
- G. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.
- H. Perform demolition in a manner that maximizes salvage and recycling of materials.
 1. Dismantle existing construction and separate materials.
 2. Set aside reusable, recyclable, and salvageable materials; store and deliver to collection point or point of reuse.
- I. Partial Removal of Paving and Curbs: Neatly saw cut at right angle to surface.

3.03 EXISTING UTILITIES

- A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.
- B. Protect existing utilities to remain from damage.
- C. Do not disrupt public utilities without permit from authority having jurisdiction.
- D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.
- E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.
- F. Locate and mark interior utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.
- G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.
- H. Prepare building demolition areas by disconnecting and capping utilities outside the demolition zone; identify and mark utilities to be subsequently reconnected, in same manner as other utilities to remain.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Drawings showing existing construction and utilities are based on casual field observation only.
 1. Verify that construction and utility arrangements are as indicated.
 2. Report discrepancies to Architect before disturbing existing installation.
 3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.
- B. Remove existing work as indicated and as required to accomplish new work.
 1. Remove items indicated on drawings.
- C. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 2. Verify that abandoned services serve only abandoned facilities before removal.
 3. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Remove from site all materials not to be reused on site; do not burn or bury.
- C. Leave site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

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SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Floors and slabs on grade.
- B. Fiber reinforcement.
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Concrete curing.

1.02 RELATED REQUIREMENTS

- A. Refer to Structural Drawings for additional design information.
- B. Section 01 40 00 - Quality Requirements
- C. Division 9 Floor Finishes: Restrictions for compatibility of flooring adhesives in regards to curing compounds, sealers and slab moisture content.
- D. Section 09 05 61 Common Work Results for Flooring Preparation: Additional floor flatness testing at large format tile locations.

1.03 REFERENCE STANDARDS

- A. ACI 117 - Standard Specifications for Tolerances for Concrete Construction and Materials; 2010.
- B. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).
- C. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).
- D. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).
- E. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000.
- F. ACI 305R - Hot Weather Concreting; 2010.
- G. ACI 306R - Cold Weather Concreting; 2010.
- H. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).
- I. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).
- J. ACI 347R - Guide to Formwork for Concrete; 2014.
- K. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.
- L. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- M. ASTM C1609/C1609M - Standard Test Method for Flexural Performance of Fiber-Reinforced Concrete (Using Beam With Third-Point Loading); 2012.
- N. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2016.
- O. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2016b.
- P. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete; 2016a.
- Q. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.
- R. ASTM C171 - Standard Specification for Sheet Materials for Curing Concrete; 2016.
- S. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a (Reapproved 2016).
- T. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2011.
- U. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2016.

- V. ASTM C618 - Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete; 2015.
- W. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.
- X. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 2014.
- Y. ASTM E1155M - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers (Metric); 2014.
- Z. ASTM E1643 - Standard Practice for Selection, Design, Installation and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs; 2011.
- AA. ASTM E1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2011.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal transmittals that include all submittal items identified in each submittal group below.
- C. Review Submittals - Preparatory
 - 1. Mix Design: Submit proposed concrete mix designs prior to proceeding with any concrete work. Do not proceed until A/E responds to permit use of the concrete mixes.
 - a. Aggregates: Include service record data indicating absence of deleterious expansion of concrete due to alkali aggregate reactivity.
 - b. Admixtures required to meet job and environment requirements.
 - 2. Product Data: Submit manufacturers' data on manufactured products showing compliance with specified requirements and installation instructions.
 - a. For curing compounds, provide data on method of removal in the event of incompatibility with floor covering adhesives.
- D. Closeout Submittals
 - 1. Copies of delivery tickets for each load of concrete delivered to Project shall be submitted with closeout documents.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.
- C. Follow recommendations of ACI 306R when concreting during cold weather.
- D. Contractor shall confirm and coordinate various requirements, restrictions or special conditions (i.e. slump, surface finish, curing and sealing compatibility) with floor finish suppliers prior to placing concrete.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Formwork Design and Construction: Comply with guidelines of ACI 347R to provide formwork that will produce concrete complying with tolerances of ACI 117.

2.02 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).
 - 1. Type: Deformed billet-steel bars.
 - 2. Finish: Unfinished, unless otherwise indicated.
- B. Slab-On-Grade Poly Fiber Reinforcement Systems: (To be used in lieu of welded wire fabric)
 - 1. Synthetic Structural Fiber Reinforcement: Provide synthetic structural fibers complying with the following requirements:
 - a. Synthetic structural fibers shall meet requirements of ASTM C 1116, Paragraph 4.1.3, Type III.
 - b. Synthetic structural fibers shall be monofilament, made of polypropylene or polypropylene/polyethylene blend.
 - c. Synthetic structural fibers shall have a minimum length of 1.38 inches (35 mm) and a maximum length of 2.00 inches (51 mm).

- d. Specific gravity between 0.90 and 0.95.
- e. Synthetic structural fibers shall have an aspect ratio (length divided by equivalent diameter of fiber) between 60 and 100.
- f. Dosage rate:
 - 1) Slab-On-Grades: 5.0 lbs/cubic yard or the addition rate to achieve the concrete required minimum equivalent flexural strength, f_{e3} of 165 psi for a concrete with a compressive strength of 4,000 psi at 28 days. Determined from the manufacturer's test data verifying fiber performance in concrete based on ASTM C1609/C1609M, utilizing the beam size 6" x 6"x 20" (f_{e3}) calculated using JCI-SF4 method.
- g. Synthetic structural fibers shall be:
 - 1) Grace STRUX, 90/40 synthetic fiber.
 - 2) Propex Concrete Systems, Novomesh 950 Synthetic Fiber.
 - 3) Euclid Chemical Company, Tuf-Strand SF.
- C. Steel Welded Wire Reinforcement (WWR): Plain type, ASTM A1064/A1064M.
 - 1. Form: Flat Sheets.
 - 2. WWR Style: 6 x 6-W/2.1 x W/2.1

2.03 CONCRETE MATERIALS

- A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
 - 1. Acquire cement for entire project from same source.
- B. Fine and Coarse Aggregates: ASTM C33/C33M.
 - 1. Acquire aggregates for entire project from same source.
- C. Fly Ash: ASTM C618, Class C.
- D. Calcined Pozzolan: ASTM C618, Class C.
- E. Water: Clean and not detrimental to concrete in accordance with ASTM C1602/C1602M.

2.04 ADMIXTURES

- A. Except for air entraining and water reducing, admixtures are not permitted without approval of Architect/Engineer. Submit manufacturer's information to A/E with historical stress testing.
- B. Do not use chemicals that will result in soluble chloride ions in excess of 0.1 percent by weight of cement.
- C. Air Entrainment Admixture: ASTM C260/C260M. Use for exterior walls, exterior slabs, walks, platforms, ramps, steps, portions of parking ramp and other concrete exposed to freezing and thawing. Air entrainment not allowed at interior floor slabs.
 - 1. Products:
 - a. Darex II - W.R. Grace.
 - b. AEA 92S - Euclid.
 - c. Catexol AE 260 - Axim Concrete Technologies
 - d. General Resource Technology - Polychem SA-50
 - e. MasterAir Series – Master Builders Solutions
 - f. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Mid-Range Water Reducing: ASTM C494/C494M Type A or Type F.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Daracem 65 - W.R. Grace.
 - b. Eucon MR - Euclid.
 - c. Catexol 3500N" – Axim Concrete Technologies
 - d. General Resource Technology - KB-1200
 - e. MasterPolyheed Series" - Master Builders Solutions
 - f. Substitutions: See Section 01 60 00 - Product Requirements.
- E. High Range Water Reducing Admixture (Super Plasticizer): ASTM C494/C494M Type F or type G.
 - 1. Products: Subject to compliance with requirements, provide one of the following
 - a. Daracem 19 - W.R. Grace.
 - b. ADVA 100 - W.R. Grace & Co.
 - c. Catexol 1000SP-MN – Axim Concrete Technologies
 - d. General Resource Technology - Melchem Superplasticizer
 - e. MasterRheobuild 1000 or MasterGlenium Series - Master Builders Solutions
 - f. Substitutions: See Section 01 60 00 - Product Requirements.

- F. Water Reducing, Non-Chloride Accelerating Admixture: ASTM C494/C494M Type C or E.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Polarset - W.R. Grace.
 - b. Catexol 2000RHE – Axim Concrete Technologies
 - c. General Resource Technology - Polychem Superset
 - d. MasterSet AC 534 or MasterSet FP 20 - Master Builders Solutions
 - e. Substitutions: See Section 01 60 00 - Product Requirements.
- G. Water Reducing and Retarding Admixture: ASTM C494/C494M Type D.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Daratard 17 - W.R. Grace.
 - b. Eucon Retarder 100 - Euclid.
 - c. Catexol 1000R – Axim Concrete Technologies
 - d. MasterSet R Series or MasterSet DELVO Series - Master Builders Solutions
 - e. Substitutions: See Section 01 60 00 - Product Requirements.
- H. Water Reducing Admixture: ASTM C494/C494M Type A.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. WRDA 82 - W.R. Grace.
 - b. MasterPozzolith Series – Master Builders Solutions
 - c. Catexol 1000N – Axim Concrete Technologies
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 ACCESSORY MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf.
- B. Moisture-Retaining Cover: ASTM C171; clear polyethylene, white polyethylene, or white burlap-polyethylene sheet.
- C. Bond Breaker: 4 mil plastic, 15# building paper, or vapor retarder returned up on wall.

2.06 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.
 - 1. Products:
 - a. Kaufman Products Inc; SureBond: www.kaufmanproducts.net/#sle.
 - b. SpecChem, LLC; Strong Bond Acrylic Bonder: www.specchemllc.com/#sle.
 - c. W. R. Meadows, Inc; ACRY-LOK-: www.wrmeadows.com/#sle.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 CURING MATERIALS

- A. Curing Agent, Water-Cure Equivalent Type: Clear, water-based, non-film-forming, liquid-water cure replacement agent.
 - 1. Comply with ASTM C309 standards for water retention.
 - 2. Compressive Strength of Treated Concrete: Equal to or greater than strength after 14-day water cure when tested according to ASTM C39/C39M.
 - 3. VOC Content: Zero.
 - 4. Products:
 - a. Sinak Corporation; LithiumCure 2000: www.sinak.com/#sle.
 - b. SpecChem, llc. LithSeal SC: www.specchemllc.com
- B. Moisture-Retaining Sheet: ASTM C171.
 - 1. Curing paper, regular.
 - 2. Polyethylene film, white opaque, minimum nominal thickness of 4 mil, 0.004 inch.
 - 3. White-burlap-polyethylene sheet, weighing not less than 3.8 ounces per square yard.
- C. Water: Potable, not detrimental to concrete.

2.08 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
 - 1. Replace as much Portland cement as possible with fly ash, ground granulated blast furnace slag, silica fume, or rice hull ash as is consistent with ACI recommendations.

- B. Admixtures: Add acceptable admixtures as recommended in ACI 211.1 and at rates recommended or required by manufacturer.
- C. Normal Weight Concrete: Design all concrete mixes from the following table of requirements:

	W/C	%AIR	MAX	MIN
	MAX	+/-1%	SLUMP (inches)	f'c(psi) 28 day
1. Concrete backfilled or protected from weather:				
a. Slabs - Interior on Grade:	0.50		3	4000

- 1. Fly Ash Content: Maximum 20 percent of cementitious materials by weight when used alone.
 - a. At interior slab on grade: A maximum of 50 percent total replacement of portland cement with fly ash at a 1:1 ratio; up to 350 pounds, with a maximum 20 percent fly ash.
- 2. Calcined Pozzolan Content: Maximum 10 percent of cementitious materials by weight.
 - a. Note: Total of combination of flyash and calcined pozzalon shall not exceed 20 percent.
- 3. Maximum Coarse Aggregate Size: For slabs: 3/4 inch.

2.09 MIXING

- A. Transit Mixers: Comply with ASTM C94/C94M except where requirements in table above are more restrictive.
- B. Adding Water: If concrete arrives on-site with slump less than suitable for placement, do not add water that exceeds the maximum water-cement ratio or exceeds the maximum permissible slump.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

- A. Inspect all substrates for suitability of pouring concrete. No standing water, organic material, debris, etc., should be present. Slab subgrade should be compacted as specified and have optimum moisture content.
- B. Points of concrete placement shall be clean, damp but not wet surfaces, or properly consolidated fills, but never soft mud, dry porous earth, or frozen ground.
- C. Contractor shall make certain that references to all related sections for floor finishes and their substrate finish requirements are complied with including but not limited to; mix/slump, flatness, curing/sealing compounds, curing timeframe, aggregate colors etc.
- D. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning and applying bonding agent in according to bonding agent manufacturer's instructions.
 - 1. Use latex bonding agent only for non-load-bearing applications.
- E. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Comply with ASTM E1643. Lap joints 6 inches if possible without enlarging the pour area. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

- A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. **Addition of water or admixtures to concrete on site without written approval of Architect/Engineer is prohibited and shall be grounds for rejection.**
- D. Convey concrete from mixing to point of placement rapidly and continuously until unit of operation is completed using methods which prevent segregation or loss of ingredients. Deposit at or very near final placement position. Use chutes such that the concrete slides in the chute and does not flow. For vertical drops more than 5 feet, utilize tremies or similar devices to prevent segregation of concrete ingredients. Do not convey or handle concrete in containers or devices made of aluminum.
- E. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.
- F. Placing concrete shall be continuous between vertical construction joints. Make vertical construction joints at approximately the center of a panel or beam, in a straight line to the full depth. See Project Drawings for location of architecturally delineated construction joints.

3.05 FLOOR FLATNESS AND LEVELNESS TOLERANCES

- A. Coordinate with flooring installer for acceptance of the flatness of the concrete slab patch at the removed wall in accordance with the flooring finish manufacturer's instructions.
- B. Typical Minimum F(F) Floor Flatness and F(L) Floor Levelness Values:
 - 1. Exposed to View and Foot Traffic: F(F) of 20; F(L) of 15, on-grade only.
 - 2. Under Thick-Bed Tile: F(F) of 20; F(L) of 15, on-grade only.
 - 3. Under Carpeting: F(F) of 25; F(L) of 20, on-grade only.
 - 4. Under Thin Resilient Flooring and Thinset Tile: F(F) of 35; F(L) of 25, on-grade only.
- C. If necessary to coordinate, measure F(F) Floor Flatness and F(L) Floor Levelness in accordance with ASTM E1155 (ASTM E1155M), within 48 hours after slab installation; report both composite overall values and local values for each measured section.
- D. Correct the slab surface if composite overall value is less than specified and if local value is less than two-thirds of specified value or less than F(F) 13/F(L) 10.
- E. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.06 COLD WEATHER REQUIREMENTS

- A. Cold weather requirements govern when minimum ambient temperature is expected to fall below 40 degrees F.
 - 1. Concrete will not be placed on frozen ground.
 - 2. Mix, place, protect and cure concrete in strict accordance with ACI 306 R-88 "cold Weather Concreting".

3.07 HOT WEATHER REQUIREMENTS

- A. Hot weather requirements govern when maximum ambient temperature is expected to rise above 85 degrees F.
- B. Mix, place, protect and cure concrete in strict accordance with ACI 305R.
- C. Admixtures proposed for construction under these conditions, such as water-reducing retarders, shall be tested thoroughly with concrete mixes for this job. All aspects of concrete construction applicable shall be considered before approval. Submit specifications on retarder to Engineer for approval with concrete mix designs.
- D. Batch, mix and transport concrete per ACI 304R.
- E. Water curing will be required for hot weather construction.

3.08 CONCRETE FINISHING

- A. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
 - 1. Surfaces to Receive Thin Floor Coverings: "Steel trowel" as described in ACI 302.1R thin floor coverings include carpeting and resilient flooring. High gloss finish from power trowel not acceptable.
 - 2. Surfaces to be Sealed: Troweled finish.

3.09 CURING AND PROTECTION

- A. Take every precaution to insure that all concrete operations are performed promptly and without interruption.
- B. Moisture cure slabs or use the specified curing agents.
- C. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.
- D. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than seven days.
 - 2. High early strength concrete: Not less than four days.
- E. Begin final curing after initial curing but before surface is dry.
- F. Surfaces Not in Contact with Forms:
 - 1. Slabs and Floors To Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
 - 2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water-fog spray or saturated burlap.
 - 3. Final Curing: Begin after initial curing but before surface is dry.
 - a. Moisture-Retaining Cover: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - b. Curing/Sealing Compound (At sealed concrete locations only): Apply in two coats at right angles, using application rate recommended by manufacturer.

3.10 FIELD QUALITY CONTROL

- A. Cooperate Owner's independent concrete tester at Owner's option.
- B. Record time, place, mix design, quantity, slump, concrete temperature, air temperature and weather conditions, cylinders taken, date shoring is removed, curing and other data pertaining to concrete placement.
- C. Tests of concrete and concrete materials may be performed at any time to ensure compliance with specified requirements.
- D. Deviation from specifications shall be grounds for rejection.
- E. **Addition of water or admixtures to concrete on site without written approval of Architect/Engineer is prohibited and shall be grounds for rejection.**

3.11 MOISTURE TESTING

- A. Testing requirements are addressed in Section 09 05 61.

3.12 DEFECTIVE CONCRETE

- A. Test Results: The testing agency shall report test results in writing to Architect and Contractor within 24 hours of test.
- B. Defective Concrete: Concrete not complying with required lines, details, dimensions, tolerances or specified requirements.
- C. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.
- D. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect for each individual area.

END OF SECTION

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SECTION 04 05 11
MORTAR AND MASONRY GROUT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Mortar for masonry.

1.02 RELATED REQUIREMENTS

- A. Section 04 20 00 - Unit Masonry: Installation of mortar.

1.03 REFERENCE STANDARDS

- A. ASTM C1714/C1714M - Standard Specification for Preblended Dry Mortar Mix for Unit Masonry; 2016.
- B. ASTM C5 - Standard Specification for Quicklime for Structural Purposes; 2010.
- C. ASTM C91/C91M - Standard Specification for Masonry Cement; 2012.
- D. ASTM C144 - Standard Specification for Aggregate for Masonry Mortar; 2011.
- E. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.
- F. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).
- G. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- H. ASTM C387/C387M - Standard Specification for Packaged, Dry, Combined Materials for Concrete and High Strength Mortar; 2015.
- I. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2015a.
- J. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide single, combined submittals that contain all the items information identified in the submittal groups identified below.
- C. Review Submittals - Preparatory
 - 1. Product Data: Include design mix and indicate whether the Proportion or Property specification of ASTM C270 is to be used. Also include required environmental conditions and admixture limitations.
- D. Information Submittals - Preparatory
 - 1. Reports: Submit reports on mortar indicating compliance of mortar to property requirements of ASTM C270 and test and evaluation reports per ASTM C780.

1.05 QUALITY ASSURANCE

- A. Comply with provisions of TMS 402/602, except where exceeded by requirements of Contract Documents.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Maintain packaged materials clean, dry, and protected against dampness, freezing, and foreign matter.

1.07 FIELD CONDITIONS

- A. Maintain materials and surrounding air temperature to minimum 40 degrees F prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F prior to, during, and 48 hours after completion of masonry work.

PART 2 PRODUCTS

2.01 MORTAR AND GROUT APPLICATIONS

- A. At Contractor's option, mortar may be field-mixed from packaged dry materials or made from factory premixed dry materials with addition of water only.
- B. Mortar Mix Designs: ASTM C270, Property Specification.
 - 1. Interior, Non-loadbearing Masonry: Type O.

2.02 MATERIALS

- A. Packaged Dry Material for Mortar for Unit Masonry: Premixed Portland cement, hydrated lime, and sand; complying with ASTM C387/C387M and capable of producing mortar of the specified strength in accordance with ASTM C270 with the addition of water only.
 - 1. Color: Standard gray.
 - 2. Use Integral Water Repellent Mortar at joints adjacent to water repellent masonry units.
 - 3. Manufacturers:
 - a. Spec Mix, Inc. (licensed manufacturers only) using the same materials and proportions of material specified above.
 - 1) Licensed Manufacturers:
 - (a) Minnesota: Twin City Concrete Products 651-489-8095
 - (b) Wisconsin: Twin City Concrete Products 800-642-3887, Quickrete Wisconsin 800-657-0789,
 - 2) Material shall be delivered to jobsite in manufacturer's prepackaged bags indicating manufacturer's name, materials and proportions of materials.
 - 3) Use manufacturer's proprietary dispensing silo.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Portland Cement: ASTM C150/C150M.
 - 1. Type: Type I - Normal; ASTM C150/C150M.
 - 2. Color: Standard gray.
 - 3. Only one brand and kind of Portland cement from one source shall be used for the work unless prior written approval is obtained from the A/E. Brands are subject to approval of the A/E based upon the mortar color desired and obtainable by use of the various brands readily available. No white cement or non-staining cement will be required.
- C. Masonry Cement: ASTM C91/C91M.
 - 1. Type: Types as scheduled in this section; ASTM C91/C91M.
- D. Hydrated Lime: ASTM C207, Type N.
- E. Quicklime: ASTM C5, non-hydraulic type.
- F. Mortar Aggregate: ASTM C144.
- G. Masonry Sand: Shall be clean, sharp, free from loam, silt, vegetable matter, salts, and other injurious substances, and shall conform to ASTM C144. Sand is further subject to approval of the A/E, based on mortar color desired and obtainable by use of local sands readily available, and shall be from one source.
- H. Water: Clean and potable.
- I. Plasticizer: Not permitted.
- J. Bonding Agent: Latex type.
- K. Other Admixtures: Shall not be used at any time. Use of special air-entraining admixtures, chlorides or nitrates, with or without approval, will be sufficient cause to require removal and replacement of all masonry work containing or treated with same.
- L. Not Allowed: Anti-freeze compounds and masons cement.

2.03 MORTAR MIXING

- A. Conventional Job Mixed Mortar in accordance with ASTM C270: Measure materials for mortars by volume, in a manner whereby proportions can be controlled within two percent. Mix materials dry and then water to bring to proper consistency for use. Mix materials in the approved type machine mixer of adequate capacity for 3 to 5 minutes after all materials have been introduced, until materials are evenly distributed throughout the batch and the mixture is uniform in color with a workable consistency.
- B. Silo Metered and Bulk Container Mortar: Shall comply with ASTM C1714/C1714M. Use materials specified hereinbefore and proportion mixes as specified hereinafter. Add water and mix according to system manufacturer's recommendations.
- C. Maintain sand uniformly damp immediately before the mixing process.
- D. Add admixtures in accordance with manufacturer's instructions; mix uniformly.
- E. Do not use anti-freeze compounds to lower the freezing point of mortar.

- F. If water is lost by evaporation, re-temper only within two hours of mixing.
- G. Use mortar within two hours after mixing at temperatures of 90 degrees F, or two-and-one-half hours at temperatures under 40 degrees F.

PART 3 EXECUTION

3.01 PREPARATION

- A. Apply bonding agent to existing concrete surfaces.

3.02 INSTALLATION

- A. Install mortar to requirements of section(s) in which masonry is specified.

END OF SECTION

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SECTION 04 20 00

UNIT MASONRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete block.
- B. Reinforcement and anchorage.
- C. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 20 00 - Concrete Reinforcing: Reinforcing steel for grouted masonry.
- B. Section 04 05 11 - Mortar and Masonry Grout.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. ASTM A641/A641M - Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire; 2009a (Reapproved 2014).
- C. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2016.
- D. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- E. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2014a.
- F. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.

1.04 SUBMITTALS

- A. See General Requirements for submittal procedures.
- B. Provide single, combined submittals that contain all the items information identified in the submittal groups identified below.
- C. Review Submittals - Preparatory
 - 1. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
- D. Information Submittals - Preparatory
 - 1. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.
 - 2. Manufacturer's Certificate: Certify that water repellent admixture manufacturer has certified masonry unit manufacturer as an approved user of water repellent admixture in the manufacture of concrete block.
 - 3. Test Reports: Concrete masonry manufacturer's test reports for units with integral water repellent admixture.

1.05 QUALITY ASSURANCE

- A. Comply with provisions of ACI 530/530.1/ERTA, except where exceeded by requirements of Contract Documents.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, handle, and store masonry units by means that will prevent mechanical damage and contamination by other materials.

PART 2 PRODUCTS

2.01 CONCRETE MASONRY UNITS

- A. Concrete Block: Comply with referenced standards and as follows:
 - 1. Size: Standard units with nominal face dimensions of 16 by 8 inches and nominal depths as indicated on drawings for specific locations.
 - 2. Nonloadbearing Units: ASTM C129.
 - a. Hollow block, as indicated.
 - b. Normal weight.

2.02 MORTAR MATERIALS

- A. Mortar: As specified in Section 04 05 11.

2.03 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers:
 - 1. Hohmann & Barnard, Inc: www.h-b.com.
 - 2. Masonry Reinforcing Corporation of America: www.wirebond.com.
 - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Reinforcing Steel: Type specified in Section 03 30 00, size as indicated
- C. Single Wythe Joint Reinforcement: ASTM A951/A951M.
 - 1. Type: Ladder.
 - 2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M, Class 3.
 - 3. Size: 0.1483 inch side rods with 0.1483 inch cross rods; width as required to provide not less than 5/8 inch of mortar coverage on each exposure.
- D. Strap Anchors: Bent steel shapes, 1-1/2 inch width, 0.105 inch thick, 24 inch length, with 1-1/2 inch long, 90 degree bend at each end to form a U or Z shape or with cross pins, hot dip galvanized to ASTM A153/A153M, Class B.

2.04 ACCESSORIES

- A. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive masonry.
- B. Verify that related items provided under other sections are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.

3.02 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied for installation under other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.03 COLD AND HOT WEATHER REQUIREMENTS

- A. Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

3.04 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.
- C. Concrete Masonry Units:
 - 1. Bond: Running, unless noted otherwise.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches.
 - 3. Mortar Joints: Concave.

3.05 PLACING AND BONDING

- A. Lay solid masonry units in full bed of mortar, with full head joints, uniformly jointed with other work.
- B. Lay hollow masonry units with face shell bedding on head and bed joints.
- C. Buttering corners of joints or excessive furrowing of mortar joints is not permitted.
- D. Remove excess mortar and mortar smears as work progresses.
- E. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- F. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- G. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.
- H. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.

- I. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler or firestopping system as required.

3.06 REINFORCEMENT AND ANCHORAGE - GENERAL, SINGLE WYTHE MASONRY, AND CAVITY WALL MASONRY

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches.
- D. Reinforce stack bonded unit joint corners and intersections with strap anchors 16 inches on center.

3.07 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution as recommended by brick supplier. If no recommendation contact A/E for direction.
- D. Use non-metallic tools in cleaning operations.

END OF SECTION

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SECTION 05 12 00
STRUCTURAL STEEL FRAMING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural steel framing members.

1.02 RELATED REQUIREMENTS

- A. Section 01 23 00 - Alternates: Section 05 12 00 is a contractor option for an alternate to install a folding panel partition in the conference room.
- B. Section 01 40 00 - Quality Requirements: Requirements for Contractor's Design Related Professional Design Services
- C. Section 10 22 39 - Folding Panel Partitions: Use section 05 12 00 if contractor opts to replace the existing support channel for the folding panel partition.

1.03 REFERENCE STANDARDS

- A. AISC (MAN) - Steel Construction Manual; 2011.
- B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges; 2016.
- C. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength; 2014.
- D. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2014.
- E. ASTM A490 - Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength; 2014a.
- F. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- G. ASTM A108 - Standard Specification for Steel Bar, Carbon and Alloy, Cold Finished; 2013.
- H. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- I. ASTM A307 - Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength; 2014.
- J. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2013.
- K. ASTM A563 - Standard Specification for Carbon and Alloy Steel Nuts; 2015.
- L. ASTM A563M - Standard Specification for Carbon and Alloy Steel Nuts (Metric); 2007 (Reapproved 2013).
- M. ASTM A992/A992M - Standard Specification for Structural Steel Shapes; 2011 (Reapproved 2015).
- N. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2015.
- O. ASTM C827/C827M - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens of Cementitious Mixtures; 2016.
- P. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015 (Errata 2016).
- Q. RCSC (HSBOLT) - Specification for Structural Joints Using High-Strength Bolts; Research Council on Structural Connections; 2009.

1.04 SUBMITTALS

- A. See General Requirements for submittal procedures.
- B. Provide single, combined submittals that contain all the items identified in the submittal groups identified below.
- C. Coordinate the submittals for this section with related sections within Division 5 Metals. It is permissible to combine submittal items from a single supplier into a combined transmittal. For any combined submittal list all sections that are included in the combined submittal.

- D. Review Submittals - Preparatory
 - 1. Shop Drawings:
 - a. Indicate profiles, sizes, spacing, locations of structural members, openings, and attachments.
 - b. Include erection plans, setting diagrams, erection details showing work required for structural steel framing installation, type of steel, details of structural members including cuts, connections, camber, holes, and other modifications to base member.
 - c. Indicate type, size and length of bolts, distinguishing between shop and field bolts.
 - d. Indicate welds with standard AWS symbols, distinguishing between shop and field welds, and identifying size, length and type of weld
 - e. Connections not detailed.
 - f. Indicate cambers and loads.
- E. Information Submittals - Preparatory
 - 1. Manufacturer's Mill Certificate: (Upon request) Certify that products meet or exceed specified requirements.
- F. Information Submittals - During Execution
 - 1. Mill Test Reports: (Upon request) Indicate structural strength, destructive test analysis and non-destructive test analysis.
 - 2. Fabricator Test Reports: (Upon request) Comply with ASTM A1011/A1011M.
 - 3. Welders Certificates: (Upon request) Certify welders employed on the Work, verifying AWS qualification within the previous 12 months.

1.05 QUALITY ASSURANCE

- A. Fabricate structural steel members in accordance with AISC (MAN) "Steel Construction Manual."
- B. Design connections not detailed on drawings under direct supervision of a Professional Engineer experienced in design of this work and licensed in the State in which the Project is located.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Steel Angles, Plates, and Channels: ASTM A36/A36M.
- B. Steel W Shapes and Tees: ASTM A992/A992M.
- C. Rolled Steel Structural Shapes: ASTM A992/A992M.
- D. Cold-Formed Structural Tubing: ASTM A500/A500M, Grade B.
- E. Pipe: ASTM A53/A53M, Grade B, Finish black.
- F. Shear Stud Connectors: Made from ASTM A108 Grade 1015 bars.
- G. Structural Bolts and Nuts: Carbon steel, ASTM A307, Grade A and galvanized in compliance with ASTM A153/A153M, Class C.
- H. High-Strength Structural Bolts, Nuts, and Washers: ASTM A325, Type 1, medium carbon, plain, with matching compatible ASTM A563 nuts and ASTM F436/F436M washers or ASTM A490; Type 1 alloy steel, with matching compatible ASTM A563 nuts and ASTM F436/F436M washers.
- I. Welding Materials: AWS D1.1/D1.1M; type required for materials being welded.
- J. Shop and Touch-Up Primer: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.
- K. Touch-Up Primer for Galvanized Surfaces: Fabricator's standard, complying with VOC limitations of authorities having jurisdiction.
 - 1. ZRC Worldwide; Galvilite. www.zrcworldwide.com.

2.02 FABRICATION

- A. General
 - 1. Fabricate items of structural steel according to approved Shop Drawings. Fabrication from Shop Drawings not approved by the Engineer is at the sole risk of the Fabricator.
 - 2. Camber structural steel where noted. Where no camber is noted, beams shall be fabricated so that natural camber is upward in the erected condition.
 - 3. Perform thermal cutting by machine. For cut edges to be welded, comply with AWS D1.1.

4. Combinations of bolts and welds on the same faying surface in the same connection are not permitted unless otherwise detailed.
 5. Required straightening of built-up sections shall be performed to minimize residual stresses.
 6. Provide holes required for securing other work to structural steel framing and for passage of other work through steel framing members as shown on Structural Drawings or approved by Engineer.
 7. Complete structural-steel assemblies before starting shop painting operations.
- B. Shop fabricate to greatest extent possible.
 - C. Continuously seal joined members by continuous welds. Grind exposed welds smooth.
 - D. Fabricate connections for bolt, nut, and washer connectors.

2.03 FINISH

- A. Coordinate surface preparation with paint/coating requirements specified in Division 9 Paint Sections. Follow recommendations of paint/coating supplier.
- B. Shop prime structural steel members. Do not prime surfaces that will be fireproofed, field welded, in contact with concrete, or high strength bolted.
- C. Apply structural steel primer paint in accordance with manufacturer's instructions, but in no case at a rate less than that which provides a uniform dry film thickness of 2.0 mils to 3.5 mils for interior unexposed steel or 2.5 mils to 3.5 mils for interior exposed and exterior steel.
- D. Use painting methods which result in coverage of joints, corners, edges and exposed surfaces. Stripe paint corners, crevices, bolts, welds, and sharp edges. Stripe paint shall set to touch before applying primer coat.

2.04 SOURCE QUALITY CONTROL

- A. General
 1. Cooperate with inspection and testing personnel to provide access at point of fabrication.
 2. Maintain schedule which permits required visual inspection and non-destructive tests to be performed in groups. Notify testing agency 48 hours prior to performing operations which require inspecting or testing prior to proceeding.
 3. Testing agency shall specifically state in a report whether individual test specimens comply with or deviate from requirements of the Contract Documents.
 4. Correct deficiencies that inspections and test reports indicate do not comply with the Contract Documents. Bear costs for repair or replacement of work that has been rejected for non-conformance, including the cost of additional testing or retesting.
- B. Welded Connections:
 1. Verify that welders performing work on the project are qualified according to AWS D1.1 for the welds being performed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.02 PREPARATION

- A. Coat all steel surfaces below grade with bituminous coating.
- B. At columns exposed in cavity walls or surrounded with masonry and having a cavity between the masonry, coat column with bituminous coating a minimum 24 inches above grade.

3.03 ERECTION

- A. Erect structural steel in compliance with AISC Standards.
- B. Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing.
- C. Use carbon steel bolts only for temporary bracing during construction, unless otherwise specifically permitted on drawings. Install high-strength bolts in accordance with RCSC (HSBOLT) "Specification for Structural Joints Using High-Strength Bolts".
- D. Do not field cut or alter structural members without approval of Architect.

- E. After erection, prime welds, abrasions, and surfaces not shop primed, except surfaces to be in contact with concrete.

3.04 FIELD QUALITY CONTROL

A. General

1. Cooperate with inspection and testing personnel to provide access at point of fabrication.
2. Maintain schedule which permits required visual inspection and non-destructive tests to be performed in groups. Notify testing agency 48 hours prior to performing operations which require inspecting or testing prior to proceeding.
3. Testing agency shall specifically state in a report whether individual test specimens comply with or deviate from requirements of the Contract Documents.
4. Correct deficiencies that inspections and test reports indicate do not comply with the Contract Documents. Bear costs for repair or replacement of work that has been rejected for non-conformance, including the cost of additional testing or retesting.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Communications and electrical room mounting boards.
- B. Concealed wood blocking, nailers, and supports.

1.02 RELATED REQUIREMENTS

- A. Section 06 41 00 - Architectural Wood Casework: Wood blocking requirements for cabinet installation.
- B. Division 26 - Electrical: Coordinate with panel installation.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- C. PS 1 - Structural Plywood; 2009.
- D. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2010.
- E. PS 20 - American Softwood Lumber Standard; 2010.
- F. WWPA G-5 - Western Lumber Grading Rules; 2011.

1.04 DELIVERY, STORAGE, AND HANDLING

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

PART 2 PRODUCTS

2.01 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Refer to Structural Drawings for design stresses.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.02 CONSTRUCTION PANELS

- A. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.03 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel complying with ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 - 2. Anchors: Expansion shield and lag bolt type for anchorage to solid masonry or concrete.

PART 3 EXECUTION

3.01 PREPARATION

- A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

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

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

3.04 INSTALLATION OF CONSTRUCTION PANELS

- A. Communications and Electrical Room Mounting Boards: Secure with screws to studs with edges over firm bearing; space fasteners at maximum 24 inches on center on all edges and into studs in field of board.
 - 1. Install adjacent boards without gaps.
 - 2. Size and Location: As indicated on drawings.

3.05 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.

3.06 CLEANING

- A. Waste Disposal:
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

SECTION 06 20 00
FINISH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Plastic laminate wainscot, paneling and trim
- B. Wood door frame removal and replacement

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 06 41 00 - Architectural Wood Casework: Plastic laminate and MDF specifications.

1.03 REFERENCE STANDARDS

- A. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.
- B. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- C. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

1.04 SUBMITTALS

- A. See General Requirements for submittal procedures.
- B. Action Submittals - Primary Group
 - 1. Provide submittal packages that contain all the information identified in the submittal groups identified below. Follow any instructions regarding coordinating submittal timing between submittals of different sections.
 - 2. Product Data:
 - a. Provide manufacturer's product data, storage and handling instructions for factory-fabricated units.
 - b. Provide instructions for attachment hardware.
 - 3. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
- C. Action Submittals - Sample Group
 - 1. Samples: Provide samples for any substitute materials.
 - 2. Samples: If necessary to replace door trim provide samples for comparison and approval by architect.
- D. Information Submittals - Information Group

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
 - 1. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.
- B. Quality Certification:
 - 1. Comply with AWI (QCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section: www.awiqcp.org/#sle.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect from moisture damage.

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

- A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI (AWS) for Premium Grade.
- B. Interior Woodwork Items:
 - 1. Moldings, Bases, Casings, and Miscellaneous Trim: Salvage existing materials and reinstall. If damaged by removal provide new of like species and finish.
 - 2. Wainscot & paneling: As described in drawings and by reference to 06 41 00.

2.02 SHEET MATERIALS

- A. Refer to Master Color Schedule on ID Drawings for product selection and Section 06 41 00 for materials.

2.03 ACCESSORIES

- A. Aluminum Panel Joint Trim:
 - 1. Millwork Channel with Return Keys: Installed at panel to panel vertical joints.
 - 2. Millwork Channel L Angle with Return Key: Installed at panel edges
 - 3. Manufacturer: Fry Reglet. www.fryreglet.com
 - a. Color: Clear anodized
- B. Wall Panel Trim System: Hanger clips, reveals and perimeter aluminum trim.
 - 1. Monarch Metal Fabrication: Monarch Easy Wall Panel System.
- C. Wood Filler: Oil base, tinted to match surface finish color.
- D. Wood Glue: Product specific for wood applications. Construction adhesive not allowed.

2.04 FABRICATION

- A. Shop assemble work for delivery to site, permitting passage through building openings.
- B. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

2.05 SHOP FINISHING

- A. Sand work smooth and set exposed nails and screws.
- B. Apply wood filler in exposed nail and screw indentations.
- C. On items to receive transparent finishes, use wood filler that matches surrounding surfaces and is of type recommended for the applicable finish.
- D. Finish work in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
 - 1. Transparent:
 - a. System - 11, Polyurethane, Catalyzed.
 - b. Stain: As selected by Architect.
 - c. Sheen: Satin.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.

3.02 INSTALLATION

- A. Install custom fabrications in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS) requirements for grade indicated.
- B. Set and secure materials and components in place, plumb and level.

3.03 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.

3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 06 41 00
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Countertops.
- C. Hardware.

1.02 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants.

1.03 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. ANSI A208.2 - American National Standard for Medium Density Fiberboard for Interior Use; 2009.
- C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- D. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.
- E. BHMA A156.9 - American National Standard for Cabinet Hardware; 2010.
- F. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Action Submittals - Primary Group
 - 1. Shop Drawings: Indicate materials, component profiles and elevations of casework layout, assembly methods, joint details, fastening methods, accessory listings, rough-in locations, hardware location and schedule of finishes. Show details of countertop construction including backsplash, end splash and edge details, and type of substrate core material.
 - a. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
 - b. Provide information as required by AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS).
 - 2. Product Data: Provide data for hardware accessories.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
 - 1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from moisture damage.

1.07 FIELD CONDITIONS

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

1.08 WARRANTY REQUIREMENTS

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Manufacturer's standard form in which manufacturer agrees to repair or replace components of manufactured wood casework that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Delamination of components or other failures of glue bond.
 - b. Warping of components.
 - c. Failure of operating hardware.
 - d. Deterioration of finishes.
- C. Correct defective Work within a one year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.

2.02 LUMBER MATERIALS

- A. Cabinet Rib Materials, Base Frames and Kicks: Kiln dried hardwood or softwood with a moisture content of 5-10% or 3/4" APA B-B G-2 Exp 1 exterior plywood. Construction lumber (s-dry) not allowed.

2.03 PANEL MATERIALS

- A. Particleboard: ANSI A208.1; medium density industrial type as specified in AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, composed of wood chips bonded with waterproof resin binders under heat and pressure; sanded faces; thickness as required; use for countertops and back splash.
- B. Medium Density Fiberboard (MDF): ANSI A208.2; type as specified in AWI/AWMAC Architectural Woodwork Quality Standards Illustrated; composed of wood fibers pressure bonded with moisture resistant adhesive to suit application; sanded faces; thickness as required.
 - 1. Use for components not indicated as another material.
 - 2. Use as backing for plastic laminate unless otherwise indicated.

2.04 LAMINATE MATERIALS

- A. Manufacturers: Refer to Master Color Schedule on ID Drawings for basis of design.
 - 1. Panolam Industries International, Inc; Nevamar: www.nevamar.com.
 - 2. Panolam Industries International, Inc; Pionite Standard HPL: www.panolam.com/#sle.
 - 3. Wilsonart: www.wilsonart.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- C. Provide specific types as indicated.
 - 1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, through color, color as selected, finish as indicated.
 - 2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, through color, color as selected, finish as indicated.
 - 3. Post-Formed Horizontal Surfaces: HGP, 0.039 inch nominal thickness, through color, color as selected, finish as indicated.
 - 4. Post-Formed Vertical Surfaces: VGP, 0.028 inch nominal thickness, through color, color as selected, finish as indicated.
 - 5. Cabinet Liner: CLS, 0.020 inch nominal thickness (melamine), color as selected, finish as selected.
 - 6. Laminate Backer: BKL, 0.020 inch nominal thickness (melamine), undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.05 COUNTERTOPS

- A. Plastic Laminate Countertops: Medium density industrial particle board substrate covered with HPDL. Back/end splash shall be coved joint. Countertop edge shall be post formed with self edge economy.

2.06 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Plastic Edge Banding: Extruded 0.018 PVC, flat shaped; smooth finish; of width to match component thickness.
 - 1. Color: As selected by Architect from manufacturer's full range.
 - 2. Use at all door, drawer and exposed front edge of shelves (except wood shelves receive hardwood edge) and all face frames.
- C. Fasteners: Size and type to suit application.
- D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.
- E. Concealed Joint Fasteners: Threaded steel.

2.07 HARDWARE

- A. Hardware: BHMA A156.9, types as indicated for quality grade specified.
- B. Adjustable Cabinet Shelf Supports: Double pin side-mounted system using multiple holes for pin supports and coordinated shelf rests, for nominal 1 inch spacing adjustments. Load rating to be 300 lbs. per support without failure.
 - 1. Product: #55 Double Pin manufactured by Allenfield Manufacturing and Development.
 - 2. Shelf Support Clip #3220CL from Bainbridge Manufacturing Inc.
- C. Drawer and Door Pulls: U-shaped, 4" centers.
 - 1. Product: [Wire Pull], brushed stainless steel finish, manufactured by [TMi Systems].
 - 2. Or comparable.
- D. Catches: Magnetic. Install one at base and wall cabinets, two (top and bottom) at each door of tall storage units.
 - 1. Product: 326 Mighty Might Heavy Duty Magnetic Latch or comparable, manufactured by Ives.
- E. Hinges: 5 knuckle type, institutional style, hospital tipped, stainless steel with satin finish.
 - 1. Manufacturers:
 - a. Blum, Inc: www.blum.com/#sle.
 - b. Rockford Process Control (RPC): www.rockfordprocess.com.
 - c. Hardware Resources: www.hardwareresources.com/#sle.
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.08 FABRICATION

- A. Cabinet Style: Flush overlay.
- B. Base Cabinets:
 - 1. Construct in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Custom quality.
- C. Shelves-3/4": Finish to match inside face of cabinet. All shelves shall be full depth of cabinet. Exposed shelving outside of cabinets shall be plastic laminate finish unless noted otherwise.
 - 1. Particleboard: 40 lb limit to 37" long. 50 lb limit to 35 inches.
 - 2. Medium Density Fiberboard: 40 lb limit to 37" long. 50 lb limit to 35 inches.
- D. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- E. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- F. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- G. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Where countertop length exceeds manufacturer's maximum sheet length locate counter butt joints minimum 2 feet from sink cut-outs.
 - 1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
 - 2. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- H. Mechanically fasten back splash to countertops with steel brackets at 16 inches on center.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

- E. Secure cabinets to floor using appropriate angles and anchorages.
- F. Where casework meets wall surfaces, set with uniform space not to exceed 1/8 inch. Seal all joints to a slightly concave joint. Use backer rod where required. Refer to Section 07 92 00 for sealant type.

3.03 ADJUSTING

- A. Adjust installed work.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 06 61 00
CAST POLYMER FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Washroom vanities with integral sink and countertop.

1.02 RELATED REQUIREMENTS

- A. Section 06 41 00 - Architectural Wood Casework
- B. Section 07 92 00 - Joint Sealers.
- C. Section 09 30 00 - Tiling: Confirm dimensions in consultation with the tiling contractor.
- D. Division 22 - Plumbing fixtures.

1.03 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.

1.04 SUBMITTALS

- A. See General Requirements for submittal procedures.
- B. Provide submittal packages that contain all the information identified in the submittal groups identified below. Follow any instructions regarding coordinating submittal timing between submittals of different sections.
- C. Action Submittals - Primary Group
 - 1. Shop Drawings: Indicate dimensions, thicknesses, required clearances, tolerances, materials, colors, finishes, fabrication details, field jointing, adjacent construction, methods of support, integration of components, and anchorages.
 - 2. Product Data: Provide data on specified component products, electrical characteristics and connection requirements.
- D. Action Submittals - Sample Group
 - 1. Samples: Submit two samples representative of solid surface material, 6x6 inch in size, illustrating color, texture, and finish.
- E. Information Submittals - Information Group
 - 1. Manufacturer's Installation Instructions: Indicate preparation of opening required, rough-in sizes; provide templates for cast-in or placed frames or anchors; tolerances for item placement, temporary bracing of components .
- F. Closeout Submittals - Closeout Group
 - 1. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - 2. Maintenance Data: Indicate list of approved cleaning materials and procedures required; list of substances that are harmful to the component materials.
 - a. Include instructions for stain removal, surface and gloss restoration .
- G. Maintenance Materials Submittals - Materials Group
 - 1. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.

1.06 WARRANTY

- A. Correct defective Work within a one year period after Date of Substantial Completion.
- B. Provide ten year manufacturer warranty for countertops against defects in workmanship.

PART 2 PRODUCTS

2.01 MANUFACTURERS: ALL ITEMS LISTED SHALL BE SINGLE SOURCE. REFER TO MASTER COLOR SCHEDULE ON ID DRAWINGS FOR BASIS OF DESIGN COLORS.

- A. Solid Surface Fabrications: A precise blend of polymer, polyester, or acrylic modified polyester resins, catalyst, fire retardant fillers, fiber reinforcement and coloring agents. Product shall have consistent color through its cross section. vanities, window sills, or countertops/wall caps shall be single sourced.

- B. Includes vanity countertop with integral sink, back/end splash and apron or under counter protection panel as detailed. Sinks and countertops shall be same color. Refer to Master Color Schedule on ID Drawings for basis of design. Comparable products by prior approval from:
 - 1. Marble Shop Inc.: www.marbleshopinc.com
 - 2. Swan Corporation: www.swanstone.com
 - 3. Vendura: www.vendura.com
 - 4. LG Hi-Macs: www.lghimacsusa.com
 - 5. Quarry Stone; www.quarrystone.net
 - 6. Romanite; www.romanite.com
 - 7. Hanex; www.hanwhasurfaces.com
 - 8. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Countertops: Solid surfacing sheet self-supporting over structural members with back splash as detailed.
 - 1. Flat Sheet Thickness: 1/2 inch, minimum.
 - 2. Solid Surfacing Sheet and Plastic Resin Castings: Complying with ISFA-2 and NEMA LD 3; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.
 - a. Surface Burning Characteristics: Flame spread 25, maximum; smoke developed 450, maximum; when tested in accordance with ASTM E84.
 - b. Finish on Exposed Surfaces: Matte, gloss rating of 5 to 20.
 - 3. Other Components Thickness: 1/2 inch, minimum.
 - 4. Exposed Edge Treatment at Countertops: Built up to minimum 1 1/2 inch thick; eased edge.

2.02 MATERIALS

- A. Cast Polymer:
 - 1. Provide finished products having flame spread index of 35 and smoke developed index of 15, when tested in accordance with ASTM E84 in thickness of 3/4 inch.
 - 2. Resin: Proprietary; integrally-colored, stain-resistant and resistant to domestic chemicals and cleaners.
 - 3. Filler Material: ASTM E84 Class A rated.
 - 4. Polishing Cream: Compatible polishing cream to achieve specified sheen to gel coat.
 - 5. Adhesive: Manufacturer's standard, two part type, cartridge dispensed.

2.03 FABRICATION - COUNTERTOPS

- A. Fabricate in accordance with standards governing fabrication quality that are specified in Section 06 41 00.
- B. Fabricate components by mold to achieve shape and configuration.
- C. Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
 - 1. Join lengths of tops using best method recommended by manufacturer.
 - 2. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall or otherwise noted.
 - 3. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
 - 4. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
 - a. Secure to countertop with concealed fasteners and with contact surfaces set in waterproof glue.
 - b. Height: 4 inches, unless otherwise indicated.
- D. Drain location at sinks shall be towards back of sink to allow for ADA pipe protection panel installation under countertop.
- E. Gel coat the finish exposed surfaces smooth and polish to a gloss sheen.
- F. Radius corners and edges.
- G. Coordinate necessary penetrations with plumbing requirements. One piece fixture required.
- H. No cracked, chipped, broken, stained or defective material will be accepted.
- I. Color match differences: Minimal

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that joint preparation and affected dimensions are acceptable.
- C. Verify plumbing, mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 PREPARATION

- A. Provide anchoring devices for installation .
- B. Provide templates and rough-in measurements.

3.03 INSTALLATION

- A. Install components in accordance with approved shop drawings and manufacturer's instructions.
- B. Align work plumb and level.
- C. Rigidly anchor to substrate to prevent misalignment.
- D. Install window sills with recommended adhesive. Seal perimeter with clear silicone.

3.04 CLEANING

- A. Clean and polish surfaces in accordance with manufacturer's instructions.

3.05 PROTECTION

- A. Do not permit construction near unprotected surfaces.
- B. After setting protect window sills with non-staining, easily removed covering.
- C. Replace damaged and defective work.

END OF SECTION

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SECTION 07 92 00

JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-sag gunnable joint sealants.
- B. Self-leveling pourable joint sealants.
- C. Joint backings and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 40 00 - Quality Requirements: Testing information.
- B. Section 06 41 00 - Architectural Wood Casework: Application of sealants at countertops/wall intersection.
- C. Section 06 61 00 - Cast Polymer Fabrications: Bathroom vanities.
- D. Section 08 80 00 - Glazing: Glazing sealants and accessories.
- E. Section 09 21 16 - Gypsum Board Assemblies: Sealant for acoustical and sound-rated walls and ceilings.
- F. Section 09 30 00 - Tiling: Sealant at tile control joints and changes in plane.

1.03 REFERENCE STANDARDS

- A. ASTM C661 - Standard Test Method for Indentation Hardness of Elastomeric-Type Sealants by Means of a Durometer; 2015.
- B. ASTM C834 - Standard Specification for Latex Sealants; 2014.
- C. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014a.
- D. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- E. ASTM C1330 - Standard Specification for Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants; 2002 (Reapproved 2013).
- F. ASTM C1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints; 2013.
- G. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.04 SUBMITTALS

- A. See General Requirements for submittal procedures.
- B. Provide submittal packages that contain all the information identified in the submittal groups identified below. Follow any instructions regarding coordinating submittal timing between submittals of different sections.
- C. Action Submittals - Primary Group
 - 1. Product Data for Sealants: Submit manufacturer's technical data sheets for each product to be used, that includes the following.
 - a. Physical characteristics, including movement capability, VOC content, hardness, cure time, and color availability.
 - b. List of backing materials approved for use with the specific product.
 - c. Substrates that product is known to satisfactorily adhere to and with which it is compatible.
 - d. Substrates the product should not be used on.
 - e. Substrates for which use of primer is required.
 - f. Substrates for which laboratory adhesion and/or compatibility testing is required.
 - g. Installation instructions, including precautions, limitations, and recommended backing materials and tools.
 - h. Sample product warranty.
 - i. Certification by manufacturer indicating that product complies with specification requirements.
 - j. Instructions for repairing and replacing failed sealant joints.
 - 2. Product Data for Accessory Products: Submit manufacturer's technical data sheet for each product to be used, including physical characteristics, installation instructions, and recommended tools.

- D. Action Submittals - Sample Group
 - 1. Color Cards for Selection: Where sealant color is not specified, submit manufacturer's color cards showing standard colors available for selection.
 - 2. Samples for Verification: Where custom sealant color is specified, obtain directions from Architect and submit at least two physical samples for verification of color of each required sealant.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document covering installation requirements on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section and with at least three years of documented experience.
- D. Non-Destructive Field Adhesion Test: Test for adhesion in accordance with ASTM C1521, using Nondestructive Spot Method.
 - 1. Record results on Field Quality Control Log.
 - 2. Repair failed portions of joints.
- E. Field Adhesion Tests of Joints: Test for adhesion using most appropriate method in accordance with ASTM C1521, or other applicable method as recommended by manufacturer.
- F. Sample Color Verification: At locations identified by A/E, install selected color of sealant at interior and exterior building locations agreed upon with Architect and Owner for final approval.

1.06 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Correct defective work within a one year period after the Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories that fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
 - 1. Adhesives Technology Corporation: www.atcepoxy.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dow Corning Corporation: www.dowcorning.com/construction/sle.
 - 4. Franklin International, Inc: www.titebond.com.
 - 5. Hilti, Inc: www.us.hilti.com/#sle.
 - 6. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us/#sle.
 - 7. Lucas Products: www.rmlucas.com
 - 8. Momentive Performance Materials, Inc (formerly GE Silicones): www.momentive.com/sle.
 - 9. Pecora Corporation: www.pecora.com.
 - 10. The QUIKRETE Companies: www.quikrete.com.
 - 11. Sherwin-Williams Company: www.sherwin-williams.com.
 - 12. Sika Corporation: www.usa-sika.com.
 - 13. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
 - 14. W.R. Meadows, Inc: www.wrmeadows.com.
 - 15. Novagard Solutions: www.novagard.com
 - 16. csl Silicones Inc: www.cslsilicones.com
 - 17. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Self-Leveling Sealants: Pourable or self-leveling sealant that has sufficient flow to form a smooth, level surface when applied in a horizontal joint.
 - 1. Adhesives Technology Corporation: www.atcepoxy.com.
 - 2. Bostik Inc: www.bostik-us.com.
 - 3. Dayton Superior Corporation: www.daytonsuperior.com.
 - 4. Dow Corning Corporation: www.dowcorning.com/construction/sle.
 - 5. Master Builders Solutions by BASF: www.master-builders-solutions.basf.us/en-us/#sle.
 - 6. Lucas Products: www.rmlucas.com

7. Pecora Corporation: www.pecora.com.
8. The QUIKRETE Companies: www.quikrete.com.
9. Sherwin-Williams Company: www.sherwin-williams.com.
10. Sika Corporation: www.usa-sika.com.
11. SpecChem: www.specchemllc.com
12. Tremco Commercial Sealants & Waterproofing: www.tremcosealants.com/#sle.
13. W.R. Meadows, Inc: www.wrmeadows.com.
14. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

- A. Scope:
 1. Interior Joints: Interior joints to be sealed include, but are not limited to, the following items.
 - a. Joints between door, window, and other frames and adjacent construction.
 - b. Intersection of countertop/backsplash at wall.
 - c. Other joints indicated below.
 2. Do not seal the following types of joints.
 - a. Intentional weepholes in masonry.
 - b. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
 - c. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
 - d. Joints where installation of sealant is specified in another section.
 - e. Joints between suspended panel ceilings/grid and walls.
 - f. Weepholes in window frames.
- B. Type JS-3 - Interior Joints: Use non-sag polyurethane sealant, unless otherwise indicated.
 1. Type JS-5 - Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
 2. Type JS-1 - Joints between Fixtures in Wet Areas and Floors, Walls, and Ceilings: Mildew-resistant silicone sealant; clear.
- C. Interior Wet Areas: Bathrooms and restrooms; fixtures in wet areas include plumbing fixtures, countertops, cabinets, and other similar items.

2.03 JOINT SEALANTS - GENERAL

- A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

- A. Type JS-1 - Mildew-Resistant Silicone Sealant: ASTM C920, Grade NS, Uses M and A; single component, mildew resistant; not expected to withstand continuous water immersion or traffic.
 1. Color: Clear.
 2. Manufacturers:
 - a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com.
 - b. Dow Corning Corporation: Silicone 786 Silicone Sealant.
 - c. General Electric: Sanitary 1700 Sealant.
 - d. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com.
 - e. Mapei; Keracaulk. www.mapei.com.
 - f. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: www.merkrete.com.
 - g. Pecora Corporation; 890NST Sanitary Silicone Sealant. Class 50: www.pecora.com.
 - h. ProSpec, an Oldcastle Brand; ProColor Advantage Caulk: www.prospec.com.
 - i. Sherwin Williams; White Lightning Silicone
 - j. Sika Corporation; Sikasil GP: www.usa.sika.com/#sle.
 - k. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Type JS-3 - Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multicomponent; not expected to withstand continuous water immersion or traffic.
 1. Movement Capability: Plus and minus 35 percent, minimum.
 2. Hardness Range: 20 to 35, Shore A, when tested in accordance with ASTM C661.
 3. Color: To be selected by Architect from manufacturer's standard range.
 4. Service Temperature Range: Minus 40 to 180 degrees F.

5. Manufacturers:
 - a. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - b. Lucas Products: #9600 Joint & Termination Sealant. www.rmlucas.com.
 - c. Sherwin-Williams Company; Loxon S1: www.sherwin-williams.com/#sle.
 - d. Sika Corporation; Sikaflex-1a: www.usa.sika.com/#sle.
 - e. Sika Corporation; Sikaflex-15 LM: www.usa.sika.com/#sle.
 - f. Sika Corporation; Sikaflex-2c NS: www.usa.sika.com/#sle.
 - g. W. R. Meadows, Inc; POURTHANE NS: www.wrmeadows.com/#sle.
 - h. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Type JS-5 - Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging, paintable; not intended for exterior use.
 1. Color: To be selected by Architect from manufacturer's full range.
 2. Grade: ASTM C834; Grade 0 Degrees F (Minus 18 Degrees C).
 3. Manufacturers:
 - a. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - b. Pecora Corporation; AC-20 + Silicone Acrylic Latex Caulking Compound: www.pecora.com.
 - c. Sherwin-Williams Company; White Lightning 3006 Siliconized Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
 - d. Sherwin-Williams Company; 850A Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
 - e. Sherwin-Williams Company; 950A Siliconized Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
 - f. Sherwin-Williams Company; Bolt Quickdry Siliconized Acrylic Latex Caulk: www.sherwin-williams.com/#sle.
 - g. Sherwin-Williams Company; Powerhouse Siliconized Acrylic Latex Sealant: www.sherwin-williams.com/#sle.
 - h. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 ACCESSORIES

- A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.
 1. Type for Joints Not Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type O - Open Cell Polyurethane.
 2. Type for Joints Subject to Pedestrian or Vehicular Traffic: ASTM C1330; Type B - Bi-Cellular Polyethylene.
 3. Open Cell: 40 to 50 percent larger in diameter than joint width.
 4. Closed Cell and Bi-Cellular: 25 to 33 percent larger in diameter than joint width.
- B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.
- D. Joint Cleaner: Non-corrosive and non-staining type, type recommended by sealant manufacturer; compatible with joint forming materials.
- E. Primers: Type recommended by sealant manufacturer to suit application; non-staining.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that joints are ready to receive work.
- B. Verify that backing materials are compatible with sealants.
- C. Verify that backer rods are of the correct size.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

- E. Concrete Floor Joints That Will Be Exposed in Completed Work: Test joint filler in inconspicuous area to verify that it does not stain or discolor slab.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.
- D. Install bond breaker backing tape where backer rod cannot be used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.
- F. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.
- G. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.
- H. Concrete Floor Joint Filler: After full cure, shave joint filler flush with top of concrete slab.

3.04 FIELD QUALITY CONTROL

- A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.
- B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

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SECTION 08 12 13
HOLLOW METAL FRAMES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-fire-rated hollow metal frames for non-hollow metal doors.

1.02 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: Sealing joints between door frames and adjacent construction.
- B. Section 08 14 16 - Flush Wood Doors: Leaf material
- C. Section 08 71 00 - Door Hardware: Hardware, silencers, and weatherstripping.
- D. Section 09 91 23 - Interior Painting: Field painting.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.
- C. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
- D. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.
- E. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- F. ASTM A1008/A1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable; 2016.
- G. ASTM A1011/A1011M - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength; 2015.
- H. ASTM C143/C143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2015a.
- I. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- J. ASTM C476 - Standard Specification for Grout for Masonry; 2016.
- K. BHMA A156.115 - American National Standard for Hardware Preparation in Steel Doors and Steel Frames; 2014.
- L. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- M. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.
- N. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.
- O. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.
- P. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal transmittals that include all submittal items identified in each submittal group below.
- C. It is permissible for a single supplier to combine submittal items for multiple sections within Division 8 Openings. This permission applies to sections that describe requirements for glazing, hardware, any passage door and windows that are framed using the same systems as the passage doors. Identify all sections that are included in the transmittal on the coversheet.
- D. Review Submittals - Preparatory
 - 1. Product Data: Materials and details of design and construction, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.

2. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and identifying location of different finishes, if any.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years of documented experience.
- B. Supplier: A company experienced in the builders' hardware industry representing hollow metal products for a minimum of two (3) years.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Store in accordance with applicable requirements and in compliance with standards and/or custom guidelines as indicated.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Frames with Integral Casings:
 1. Ceco Door, an Assa Abloy Group company: www.assaabloydss.com.
 2. Curries, an Assa Abloy Group company: www.assaabloydss.com.
 3. Curries Door: www.curries.com
 4. Republic Doors, an Allegion brand: www.republicdoor.com/#sle.
 5. Steelcraft, an Allegion brand: www.allegion.com/us.
 6. Mesker Door: www.meskerdoor.com.
 7. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS

- A. Refer to Door and Frame Schedule on drawings for frame sizes, fire ratings, sound ratings, finishing, door hardware to be installed, and other variations, if any.
- B. Door Frame Type: Provide hollow metal door frames with integral casings.
- C. Steel Sheet: Comply with one or more of the following requirements; galvanized steel complying with ASTM A653/A653M, cold-rolled steel complying with ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel complying with ASTM A1011/A1011M, commercial steel (CS) Type B, for each.
- D. Accessibility: Comply with ICC A117.1 and ADA Standards.
- E. Combined Requirements: If a particular door and frame unit is indicated to comply with more than one type of requirement, comply with the specified requirements for each type; for instance, an exterior frame that is also indicated as being sound-rated must comply with the requirements specified for exterior frames and for sound-rated frames; where two requirements conflict, comply with the most stringent.
- F. Hardware Preparations, Selections and Locations: Comply with BHMA A156.115, NAAMM HMMA 830, NAAMM HMMA 831 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.

2.03 HOLLOW METAL DOOR FRAMES WITH INTEGRAL CASINGS

- A. Frame Finish: Factory primed and field finished.
- B. Interior Door Frames, Non-Fire Rated: Face welded type.
 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 2 - Heavy-duty.
 - b. Physical Performance Level B, 500,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Frame Metal Thickness: 16 gage, 0.053 inch, minimum.

2.04 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.05 ACCESSORIES

- A. Silencers: Resilient rubber, fitted into drilled hole; provide three on strike side of single door, three on center mullion of pairs, and two on head of pairs without center mullions.
- B. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Verify that finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

- A. Install frames in accordance with manufacturer's instructions and related requirements of specified frame standards or custom guidelines indicated.
- B. Coordinate frame anchor placement with wall construction.
- C. Install door hardware as specified in Section 08 71 00.
- D. Coordinate installation of electrical connections to electrical hardware items.

3.03 TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

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SECTION 08 14 16
FLUSH WOOD DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Flush wood doors; flush configuration; non-rated.

1.02 RELATED REQUIREMENTS

- A. Section 08 11 13 - Hollow Metal Doors and Frames.
- B. Section 08 71 00 - Door Hardware.
- C. Section 08 80 00 - Glazing.

1.03 REFERENCE STANDARDS

- A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- B. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.
- C. ICC (IBC) - International Building Code; 2015.
- D. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2013.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal transmittals that include all submittal items identified in each submittal group below.
- C. It is permissible for a single supplier to combine submittal items for multiple sections within Division 8 Openings. This permission applies to sections that describe requirements for glazing, hardware, any passage door and windows that are framed using the same systems as the passage doors. Identify all sections that are included in the transmittal on the coversheet.
- D. Review Submittals - Preparatory
 - 1. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
 - 2. Shop Drawings: Show doors and frames, elevations, sizes, types, swings, undercuts, beveling, blocking for hardware, factory machining, factory finishing, cutouts for glazing and other details.
- E. Review Submittals - Samples
 - 1. Samples: Submit two samples of door construction, 12 by 12 inch in size cut from top corner of door.
 - 2. Samples: Submit two samples of door veneer, 12 by 12 inch in size illustrating wood grain, stain color, and sheen.
- F. Information Submittals - Preparatory
- G. Closeout Submittals
 - 1. Warranty, executed in Owner's name.

1.05 QUALITY ASSURANCE

- A. Maintain one copy of the specified door quality standard on site for review during installation and finishing.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section, with not less than three years of documented experience.
- C. Supplier: A company experienced in the builders' hardware industry representing wood door products for a minimum of two (2) years, and can call upon an AHC, registered Architectural Hardware Consultant, for consultation during the full extent of the project.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Package, deliver and store doors in accordance with specified quality standard.
- B. Accept doors on site in manufacturer's packaging, and inspect for damage.
- C. Protect doors with resilient packaging sealed with heat shrunk plastic; do not store in damp or wet areas or areas where sunlight might bleach veneer; seal top and bottom edges with tinted sealer if stored more than one week, and break seal on site to permit ventilation.

1.07 PROJECT CONDITIONS

- A. Coordinate the work with door opening construction, door frame and door hardware installation.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Interior Doors: Provide manufacturer's warranty for the life of the installation.
- C. Include coverage for delamination of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Wood Veneer Faced Doors:
 - 1. Graham-Maiman Series Wood Doors: www.architectural.masonite.com
 - 2. Masonite Architectural: : www.architectural.masonite.com.
 - 3. Oshkosh Architectural Door Company; www.oshkoshdoor.com.
 - 4. Mohawk; www.architectural.masonite.com.
 - 5. VT Industries; www.vtindustries.com
 - 6. Streko; www.strekodoors.com
 - 7. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 DOORS

- A. Doors: See drawings for locations and additional requirements.
 - 1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with WDMA I.S. 1A.
 - 2. Wood Veneer Faced Doors: 5-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at each location.

2.03 DOOR AND PANEL CORES

- A. Non-Rated Solid Core and 20 Minute Rated Doors: Type particleboard core (PC), plies and faces as indicated.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Red oak, veneer grade in accordance with quality standard indicated, plain sliced (flat cut), with book match between leaves of veneer, running match of spliced veneer leaves assembled on door or panel face.
 - 1. Vertical Edges: laminated.
 - 2. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet of each other when doors are closed.
- B. Facing Adhesive: Type I - waterproof.

2.05 DOOR CONSTRUCTION

- A. Fabricate doors in accordance with door quality standard specified.
- B. Cores Constructed with stiles and rails:
- C. Provide solid blocks at lock edge for hardware reinforcement.
- D. Where supplementary protective edge trim is required, install trim after veneer facing has been applied full-width.
- E. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- F. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- G. Provide edge clearances in accordance with the quality standard specified.

2.06 FINISHES - WOOD VENEER DOORS

- A. Finish work in accordance with WDMA I.S. 1A for grade specified and as follows:
 - 1. Transparent:
 - a. System - TR-6, Catalyzed Polyurethane.
 - b. Stain: As selected by Architect.
 - c. Sheen: Satin.
- B. Factory finish doors in accordance with approved sample. Stain colors shall be selected from manufacturer's full line.
- C. Seal edges as required by manufacturer's standards to meet lifetime warranty.

2.07 ACCESSORIES

- A. Hollow Metal Door Frames: See Section 08 11 13.
- B. Glazing: See Section 08 80 00.
- C. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.
- D. Door Hardware: See Section 08 71 00.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.02 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and specified quality standard.
- B. Factory-Finished Doors: Do not field cut or trim; if fit or clearance is not correct, replace door.
- C. Use machine tools to cut or drill for hardware.
- D. Coordinate installation of new doors with installation of frames and hardware.
- E. Coordinate installation of glazing.
- F. Seal all job site sawn surfaces with two coats of polyurethane.

3.03 TOLERANCES

- A. Comply with specified quality standard for fit and clearance tolerances.
- B. Comply with specified quality standard for telegraphing, warp, and squareness.

3.04 ADJUSTING

- A. Adjust doors for smooth and balanced door movement.
- B. Adjust closers for full closure.

3.05 SCHEDULE - SEE DRAWINGS

END OF SECTION

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SECTION 08 43 13
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum-framed storefront, with vision glass.

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 01 23 00 - Alternates: This item is part of an alternate.
- C. Section 07 92 00 - Joint Sealants: Sealing joints between frames and adjacent construction.
- D. Section 08 71 00 - Door Hardware: Hardware items other than specified in this section.
- E. Section 08 80 00 - Glazing: Glass and glazing accessories.
- F. Division 26 and 28: Connection to related powered and access control accessories.

1.03 REFERENCE STANDARDS

- A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- B. AAMA 1503 - Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections; 2009.
- C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2013.
- D. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; 2010, with 2013 Supplements and Errata.
- E. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- F. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.
- G. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- H. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2016).
- I. ICC (IBC)-2015 - International Building Code; 2015.
- J. ICC (IECC)-2015 - International Energy Conservation Code; 2015.
- K. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal transmittals that include all submittal items identified in each submittal group below.
- C. It is permissible for a single supplier to combine submittal items for multiple sections within Division 8 Openings. This permission applies to sections that describe requirements for glazing, hardware, any passage door and windows that are framed using the same systems as the passage doors. Identify all sections that are included in the transmittal on the coversheet.
- D. Coordinate submittals for the following sections so they are submitted available for review by the Architect for the full duration of the review period.
 - 1. Section 07 92 00 - Joint Sealants: Sealants related to curtain wall systems (including perimeter sealant).
 - 2. Section 08 14 16 - Flush Wood Doors
 - 3. Section 08 43 13 - Aluminum-Framed Storefronts
 - 4. Section 08 71 00 - Finish Hardware
 - 5. Section 08 80 00 - Glazing: For glass occurring within curtain wall systems
- E. Review Submittals - Preparatory
 - 1. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details .

2. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required.
3. Design Data: Provide framing member structural and physical characteristics, dimensional limitations.

F. Closeout Submittals

1. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.
- B. Unit U-value factors shall be labeled in accordance with NFRC 100 and 500.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.07 FIELD CONDITIONS

- A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Correct defective Work within a one year period after the Date of Substantial Completion.
- C. Provide ten year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.
- D. Provide 10 year manufacturer warranty against excessive degradation of exterior PVDF finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Aluminum-Framed Storefronts Manufacturers:
 1. Kawneer North America: www.kawneer.com/#sle.
 2. Manko Window Systems, Inc: www.mankowindows.com/#sle.
 3. Oldcastle BuildingEnvelope: www.oldcastlebe.com/#sle.
 4. Tubelite, Inc: www.tubeliteinc.com/#sle.
 5. YKK AP America Inc: www.ykkap.com.
 6. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ALUMINUM-FRAMED STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
 1. Glazing Position: Centered (front to back).
 2. Vertical Mullion Dimensions: 2 inches wide x 4 1/2 inches deep
 3. Frame Member Wall Thickness: 1/8 inch.
 4. Finish: Superior performing organic coatings.
 - a. Factory finish all surfaces that will be exposed in completed assemblies.
 - b. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.
 - c. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
 5. Finish Color: As selected by Architect from manufacturer's standard line.
 6. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.

7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
8. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
9. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

2.03 DOOR COMPONENTS

- A. Interior Aluminum Door Framing Members: Tubular aluminum sections, non-thermally broken, drainage holes and internal weep drainage system.
 1. Glazing stops: Applied

2.04 WINDOW AND SIDELIGHT COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
 1. Framing members for interior applications need not be thermally broken.
 2. Glazing Stops: Applied.
- B. Glazing: See Section 08 80 00.
- C. Swing Doors: See Section 08 14 16.

2.05 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.
- C. Extruded Sills: Aluminum to match window frame. Profile as detailed.
- D. Perimeter Sealant: Type specified in Section 07 92 00.
- E. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.06 FINISHES

- A. Superior Performing Organic Coatings System: Manufacturer's standard multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent polyvinylidene fluoride (PVDF) resin, and at least 80 percent of aluminum extrusion and panels surfaces having minimum total dry film thickness (DFT) of 1.2 mils, 0.0012 inch.

2.07 HARDWARE

- A. Other Door Hardware: See Section 08 71 00.

2.08 FABRICATION

- A. Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet enabling installation and dynamic movement of perimeter seal.
- B. Accurately fit and secure joints and corners. Make joints flush, hairline.
- C. Prepare components to receive anchor devices. Fabricate anchors.
- D. Coat concealed metal surfaces that will be in contact with cementitious materials or dissimilar metals with bituminous paint.
- E. Arrange fasteners and attachments to conceal from view.
- F. Reinforce components internally for door hardware .
- G. Reinforce framing members for imposed loads.
- H. Finishing: Apply factory finish to all surfaces that will be exposed in completed assemblies.
 1. Touch-up surfaces cut during fabrication so that no natural aluminum is visible in completed assemblies, including joint edges.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.

- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. Install glass in accordance with Section 08 80 00, using glazing method required to achieve performance criteria.
- F. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.02 ADJUSTING

- A. Adjust operating hardware for smooth operation.

3.03 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.

END OF SECTION

SECTION 08 71 00

DOOR HARDWARE

PART 1: GENERAL

1.01 RELATED DOCUMENTS

- A. Conditions of the Contract and portions of Division One of this Project Manual apply to this Section as though repeated herein.

1.02 WORK INCLUDED

- A. Furnish all finish hardware specified herein, listed in the hardware schedule, or required by the drawings.
- B. Where items of hardware are not definitely or correctly specified and are required for the intended service, such omission, error, or other discrepancy should be directed to the Architect prior to the bid date for clarification by addendum. Otherwise, furnish such items in the type and quantity established by this specification for the appropriate service intended.

1.03 RELATED WORK

- A. Section 08 12 13 – Hollow Metal Frames
- B. Section 08 14 16 – Flush Wood Doors.
- C. Section 08 43 13 – Aluminum-Framed Storefronts: All hardware including cylinders to be supplied by 08 71 00. Manufacturer's standard weatherstrip and sweeps shall be supplied by aluminum door and frame supplier.

1.04 REFERENCES

- A. A.D.A. - Americans with Disabilities Act.
- B. ANSI ICC A117.1-2009: Specifications for making facilities accessible.
- C. NFPA 80 - Standards For Fire Doors and Windows.
- D. NFPA 101 - Life Safety Code.
- E. U.L. - Building Material Directory.
- F. D.H.I. - Recommended Locations for Architectural Hardware.
- G. Applicable State and Local Building Codes, including IBC 2009.

1.05 SUBMITTALS

- A. Submit five (5) copies of a detailed hardware schedule, vertical format. Prepare under the supervision of an AHC, registered Architectural Hardware Consultant, and under provisions of Division One.
 - 1. Itemize hardware in the sequence and format established by this specification.
 - 2. List and describe each opening separately. Include all doors with identical hardware, except hand, in a single heading. Include door number, room designations, degree of swing, and hand.
 - 3. List related details. Include dimensions, door and frame material, and other considerations affecting hardware.
 - 4. List all hardware items to be supplied. Include manufacturer's name, quantity, product name, catalog number, size, finish, attachments, and related details where applicable.
 - 5. Resubmit five (5) copies of the corrected schedule when required.

- B. Keying Schedule: After receipt of approved hardware schedule submit a copy of keying schedule as a result of a keying meeting between the Owner and the hardware supplier.
- C. Samples: If so directed by the Architect, submit samples of finish hardware items for approval. Properly identify each sample as to make and number, and furnish in the specified finish.
- D. Templates: Furnish a copy of approved hardware schedule, along with applicable templates for factory-prepared hardware to each door and frame fabricator.
- E. Electrical Hardware: Submit electrical specifications and applicable information to the electrical contractor after receipt of the approved hardware schedule.
- F. Substitutions: Submit under provisions of Division One. Provide detailed information and catalog cuts indicating the comparison to the specified hardware. If requested by the Architect, provide a sample accompanied by a sample of the specified item for comparison.

1.06 QUALITY ASSURANCE

- A. Qualifications:
 1. Manufacturer: Except where specified in the hardware schedule, furnish products of only one manufacturer for each type of hardware.
 2. Supplier: A company experienced in the builders' hardware industry for a minimum of two (2) years, and can call upon an AHC, registered Architectural Hardware Consultant, for consultation during the full extent of the project
- B. Regulatory Requirements:
 1. Furnish UL or Warnock Hersey listed hardware for all fire labeled and 20 minute openings in conformance with requirements for class of opening scheduled, whether specifically called for in this specification or not.
 2. Furnish hardware that conforms to all applicable state and local building codes, including IBC 2009 positive pressure testing requirements. Where specified hardware is not in conformance with applicable codes, such omission or error should be directed to the Architect prior to the bid date for clarification by addendum; otherwise furnish hardware as required by code.
- C. Training and Inspection:
 1. Hold pre-installation meeting to coordinate training of installation personnel. Installers shall be trained by manufacturer's representative.
 2. Manufacturer's representative shall inspect installation of hardware as part of substantial completion requirements.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle in accordance with Division One. Mark each original container with a door number that corresponds to the approved hardware schedule for the installation location.
- B. Receive, inventory and store hardware in a secure and dry environment; protect against loss and damage.
- C. Report any shortages to the hardware supplier no later than 48 hours after receipt of delivery to the job site.
- D. Stockpile items sufficiently in advance to ensure their availability. Coordinate delivery, handling, and installation of hardware items to ensure orderly progress of total work, and minimize or eliminate losses and damage.

PART 2: PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

<u>Products</u>	<u>Specified</u>	<u>Acceptable</u>
Hinges	McKinney	Stanley, Ives, Hager
Flush Bolts	Rockwood	DCI, Trimco, Ives
Locks and Latches	Corbin	no sub
Push/Pull Latches	Rockwood	Trimco, Burns, Hager
Exit Devices	Corbin	no sub
Door Closers	Norton	no sub
Protective Plates	Rockwood	Burns, Hager
Overhead Stops/holders	Glynn Johnson	Dorma, ABH
Wall Stops/Floor Stops	Rockwood	Trimco, Hager, DCI
Electromagnetic Door Holders	LCN	Rixson
Thresholds, Sweeps, Weatherstrip	Reese	National Guard Products, Pemko

2.02 HINGES

A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Ives</u>	<u>Stanley</u>	<u>McKinney</u>	<u>Hager</u>
Std. Wt. Plain Bearing - Steel	5PB1	F179	T2714	1279
Std. Wt. Ball Bearing - Steel	5BB1	FBB179	TA2714	BB1279
Std. Wt. Ball Bearing -non ferrous	5BB1	FBB191	TB2314	BB1191
Hvy. Wt. Ball Bearing Steel	5BB1HW	FBB168	T4B3786	BB1168
Hvy. Wt. Ball Bearing – non ferrous	5BB1HW	FBB179	T4B3386	BB1199
			MPB	

B. Hinges supplied must be tested and comply with ANSI/BHMA standards for consistency, wear and corrosion resistance.

C. Quantity: Furnish hinges for each door leaf as follows, unless otherwise noted in groups:

1. Doors up to and including 90" high - 3 hinges.
2. Doors over 90" high through 120" high - 4 hinges.

D. Type: Furnish as follows, unless otherwise noted in groups:

1. Standard weight, plain bearing hinge for interior openings through 36" wide without a door closer.
2. Standard weight, ball bearing hinge for interior openings over 36" through 40" wide with a door closer, and for interior openings through 40" wide with a door closer.
3. Heavy weight, four ball bearing hinge for all exterior openings unless noted in groups.

E. Size: Furnish as follows, unless otherwise noted in groups:

1. 1 3/4" doors: 4-1/2" x 4-1/2"
2. Provide proper hinge width to clear trim and allow full 180° swing.

F. Hinges for all lockable doors opening outward shall have non-removable pin (NRP). All other hinges shall have non-rising pins.

2.03 FLUSH BOLTS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Rockwood</u>	<u>Ives</u>	<u>Trimco</u>	<u>DCI</u>
Manual - Metal Door	555	FB458	3917	780F
Manual - Wood Door	557	FB358	3913	790F
Automatic - Metal Door	1842	FB31P	3810	842
Automatic - Wood Door	1962	-----	----	962
Self Latching - Metal Door	1845	FB51P	3820	845
Self Latching - Wood Door	1945	FB61P	3825	945
Dust Proof Strike	570	DP2	3911	82

- B. Furnish a dustproof strike for all bottom bolts.

2.04 LOCKS AND LATCHES

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Corbin</u>
CYLINDRICAL LOCKS	3300 SERIES SEE GROUPS

- B. Furnish lock types and functions as specified in the hardware schedule, and as follows:
1. Provide 2-3/4" backset.
 2. Provide 2-3/4" x 1-1/8" "T" strike with a dust box for use in wood doors or frames.
 3. Provide 4-7/8" x 1-1/4" ANSI strike for installation in a hollow metal door or frame.
 4. Locksets to conform to ANSI A156.2, Series 4000, Grade 1 and be UL listed.

2.05 EXIT DEVICES

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Norton</u>
EXIT DEVICES	5000 SERIES-SEE GROUPS

- B. Furnish exit device types and functions as specified in the hardware schedule.
- C. Lever handles supplied with exit devices shall match the design specified for locks and latches.

2.06 PULLS, PUSHBARS, PUSH/PULL PLATES

- A. Acceptable manufacturers and respective catalog numbers are listed in the groups below.
- B. Supply product as listed in groups or equal to acceptable manufacturers.

2.07 DOOR CLOSERS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Norton</u>
CLOSERS	7500 SERIES-SEE GROUPS

- B. Furnish complete with mounting brackets, drop plates, spacers, special shoes, and thru bolts as may be required by the door and frame conditions.

2.08 PROTECTIVE PLATES

- A. Acceptable manufacturers: Rockwood, Trimco, Burns, Hager.
- B. All kickplate heights shall be as listed in groups and 2" less door width single doors and 1" less for pairs.
- C. Thickness shall be .050" (16 gauge).

2.09 OVERHEAD STOPS/HOLDERS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>A.B.H.</u>	<u>Glynn Johnson</u>
Heavy Duty Surface	9000	90
Heavy Duty Concealed	1000	100
Standard Duty Surface	4400	450
Standard Duty Concealed	4000	410

- B. Furnish an overhead stop if a door opens against equipment, casework, sidelights, or other objects that would make wall bumpers inappropriate, and as specified in the hardware groups.

2.10 WALL STOPS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Rockwood</u>	<u>Hager</u>
Wrought Convex Wall	407	232W
Wrought Concave w/Toggle	409	237W

- B. When "wall stop" is called for in hardware group, provide 407 or 409. When overhead stops are required, they will be specified by product number in the group.
- C. Wall stops shall not be mounted to casework, cabinet work, sidelights, or equipment.

2.11 ELECTROMAGNETIC DOOR HOLDERS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>LCN</u>	<u>Rixson</u>
Floor Mounted - Single	SEM7820	FM980
Floor Mounted - Double	----	FM981
Flush Wall Mount - Std. Catch Plate	SEM7850	FM998
Surface Wall Mount	SEM7830	FM996

- B. Provide the voltage as required by electrical.

2.12 THRESHOLDS, SWEEPS, WEATHERSTRIP, DRIP CAPS, GASKET, ASTRAGALS

- A. Acceptable manufacturers and respective catalog numbers:

<u>Description</u>	<u>Reese</u>	<u>Pemko</u>	<u>National Guard</u>
Threshold	S205	171A	425A
Sweep	323	315N	200N
Sweep	967	18133CP	OV633
Weatherstrip	970	45100CP	603
Weatherstrip	DS78	315CR	130N
Gasket	797B	S88	1010

- B. Where specified in groups, furnish the above products unless otherwise detailed.

2.13 DOOR HARDWARE FINISHES

A. Unless indicated otherwise in the groups provide finishes as follows:

1. Hinges, exterior: US32D
2. Hinges, interior: US26D
3. Flush Bolts: US26D
4. Exit Devices: US32D
5. Locks and Latches: US26D
6. Pulls, Pushbars, Push/Pull: US32D
7. Door Closers: Painted Aluminum
8. Low Energy Automatic Operators: Painted Aluminum
9. Protective Plates: US32D
10. Overhead Stops: Painted Aluminum
11. Wall Stops: US32D
12. Gasket: Black
13. Thresholds: Mill Aluminum
14. Weatherstrip, Sweeps: Clear Anodized Aluminum

2.14 KEYING

- A. The Hardware Supplier, in consultation with the Owner's authorized representative, shall prepare a detailed keying schedule. A copy of the final approved keying schedule bearing the signature of approval of the Owner's Representative shall be filed with the Architect. All locks shall be keyed into the same system as is used on the existing building.
- B. Key locks in sets or subsets, master key and grand master key as directed by Owner.
- C. Furnish the required number of keys for each keyed group in quantity as directed by the Owner.
- D. Grand master and master keys shall be delivered by registered mail direct from the manufacturer to the Owner.
- E. KEY SYSTEM TO BE KEYED INTO OWNERS EXISTING SYSTEM.**

PART 3: EXECUTION

3.01 EXAMINATION

- A. Examine doors, frames, and related items for conditions that would prevent the proper application of finish hardware. Do not proceed until defects are corrected.

3.02 INSTALLATION

- A. Install each hardware item in strict compliance with the manufacturer's printed instructions and recommendations, using only fasteners supplied by, or called for by the manufacturer.
- B. Set units level, plumb and true to the line and location. Prepare and reinforce the attachment substrate as necessary for proper installation and operation.
- C. Mortise and cut to close tolerance and conceal evidence of cutting in the finished work. Drill and countersink units which are not factory prepared for anchorage fasteners.
- D. If manufacturer's instructions do not call out a mounting location, refer to the Door and Hardware Institute's publication *Recommended Locations for Architectural Hardware*.

- E. Deliver to the Owner one (1) complete set of installation and adjustment instructions, as well as all tools that were furnished with the hardware.

3.03 ADJUSTMENT AND CLEANING

- A. At final completion, adjust and check each operating item of hardware at each door to ensure proper operation and function of every unit. Lubricate any moving parts that do not operate freely, smoothly, and quietly using only lubricant as recommended by the manufacturer of the hardware item. Replace units that cannot be adjusted or lubricated to operate properly.
- B. Instruct the Owner's personnel in the proper adjustments of the hardware as needed.
- C. Clean and restore hardware to the original finish.

3.04 HARDWARE SCHEDULE

SOUTHWEST TECH COLLEGE BLDG 300/400 CONF/DINING

HARDWARE GROUP 1

EACH SINGLE OR PAIR OF DOORS TO HAVE:

DR. 114A, 114B, 115A, 115B, 115C

REPLACE WOOD DOOR, REUSE EXISTING FRAME AND HARDWARE. CONTRACTOR AND HARDWARE VENDOR TO VERIFY HARDW AND FRAME PRIOR TO ORDERING NEW DOOR.

HARDWARE GROUP 2

EACH PAIR OF DOORS TO HAVE:

DR. 126

2 EA	GEAR HINGES	BY FRP/ALUM SUPPLIER	
1 EA	EXIT ONLY DEVICE	ED5200EO 630	CORBIN
1 EA	EXIT DEVICE	ED5200 X K157 630	CORBIN
1 EA	KEYED REMOV MULL	CR910KM 7'	CORBIN
1 EA	RIM CYLINDER	3080-178 628	CORBIN
1 EA	MORT CYL (MULLION)	1080-1140A62-6P-628	CORBIN
2 EA	OFFSET PULLS	BF157 US32D	ROCKWOOD
2 EA	CLOSERS	CPS7500T 689	NORTON
2 EA	DROP PLATE	7788 689	NORTON
2 EA	SHOE SUPPORT	6890 689	NORTON
2 EA	BLADE SPACER	6891 689	NORTON
1 EA	SEALS	BY ALUM SUPPLIER IF REQ	

HARDWARE GROUP 3

EACH PAIR OF DOORS TO HAVE:

DR. 127

6 EA	HINGES	MPB79 4.5 X 4.5 652 NRP	MCKINNEY
1 EA	CLASSROOM RM LOCK	CL3355 NZD 626	CORBIN
2 EA	SURFACE OHS	450S 652	GLYNN JOHN
1 EA	GASKET	F797B25	REESE
2 EA	FINNED AST	S771D7	PEMKO

END OF SECTION 08 71 00

SECTION 08 80 00
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Glazing units.

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 07 92 00 - Joint Sealants: Sealants for other than glazing purposes.
- C. Section 08 14 16 - Flush Wood Doors: Glased lites in doors.
- D. Section 08 43 13 - Aluminum-Framed Storefronts: Glazing provided as part of storefront assembly.

1.03 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 2010.
- C. ASTM C1036 - Standard Specification for Flat Glass; 2011.
- D. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- E. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- F. GANA (GM) - GANA Glazing Manual; 2009.
- G. GANA (SM) - GANA Sealant Manual; 2008.
- H. GANA (LGRM) - Laminated Glazing Reference Manual; 2009.
- I. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (2004).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Provide submittal transmittals that include all submittal items identified in each submittal group below.
- C. Review Submittals - Preparatory Group
 - 1. Product Data on Glazing Unit Glazing Types: Provide structural, physical and environmental characteristics, size limitations, special handling and installation requirements.
 - 2. Product Data on Glazing Compounds and Accessories: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
- D. Closeout Submittals
 - 1. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with GANA (GM), GANA (SM), and IGMA TM-3000 for glazing installation methods. Maintain one copy on site.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

1.06 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than 40 degrees F.

- B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Insulating Glass Units: Provide a ten (10) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Float Glass Manufacturers:
 - 1. AGC Glass Company North America, Inc: www.us.agc.com.
 - 2. Cardinal Glass Industries: www.cardinalcorp.com.
 - 3. Guardian Industries Corp: www.sunguardglass.com.
 - 4. Oldcastle Glass: www.oldcastleglass.com
 - 5. Pilkington North America Inc: www.pilkington.com/na.
 - 6. PPG Industries, Inc: www.ppgideascales.com.

2.02 GLASS MATERIALS

- A. Float Glass: Provide float glass based glazing unless otherwise indicated.
 - 1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality - Q3.
 - 2. Kind HS - Heat-Strengthened Type: Complies with ASTM C1048.
 - 3. Kind FT - Fully Tempered Type: Complies with ASTM C1048.
 - 4. Fully Tempered Safety Glass: Complies with ANSI Z97.1 or 16 CFR 1201 criteria for safety glazing used in hazardous locations.
 - 5. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

2.03 GLAZING UNITS

- A. GLT-4 - Monolithic Safety Glazing: Non-fire-rated.
 - 1. Applications:
 - a. Glazed lites in doors, except fire doors.
 - b. Glazed sidelights to doors, except in fire-rated walls and partitions.
 - c. Other locations required by applicable federal, state, and local codes and regulations.
 - d. Other locations indicated on drawings.
 - 2. Glass Type: Fully tempered safety glass as specified.
 - 3. Tint: Clear.
 - 4. Thickness: 1/4 inch, nominal.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

- A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

- A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

- A. Install glazing in compliance with written instructions of glass, gaskets, and other glazing material manufacturers, unless more stringent requirements are indicated, including those in glazing referenced standards.
- B. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.
- C. Do not exceed edge pressures around perimeter of glass lites as stipulated by glass manufacturer.
- D. Set glass lites of system with uniform pattern, draw, bow, and similar characteristics.
- E. Set glass lites in proper orientation so that coatings face exterior or interior as indicated.
- F. Prevent glass from contact with any contaminating substances that may be the result of construction operations such as, and not limited to the following; weld splatter, fire-safing, plastering, mortar droppings, etc.

3.04 INSTALLATION - DRY GLAZING METHOD (GASKET GLAZING)

- A. Application - Exterior and/or Interior Glazed: Set glazing infills from either the exterior or the interior of the building.
- B. Place setting blocks at 1/4 points with edge block no more than 6 inch from corners.
- C. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- D. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.05 CLEANING

- A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.
- B. Remove nonpermanent labels immediately after glazing installation is complete.
- C. Clean glass and adjacent surfaces after sealants are fully cured.
- D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.06 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste; do not mark heat absorbing or reflective glass units.
- B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

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SECTION 09 05 61
COMMON WORK RESULTS FOR FLOORING PREPARATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This section applies to floors identified in Contract Documents that are receiving the following types of floor coverings:
 - 1. Resilient tile and sheet.
 - 2. Carpet tile.
- B. Preparation of new and existing concrete floor slabs for installation of floor coverings.
- C. Testing of concrete floor slabs for moisture and alkalinity (pH).
- D. Testing of floor flatness at areas receiving large format tile.
- E. Patching compound.

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 01 40 00 - Quality Requirements: Additional requirements relating to testing agencies and testing.
- C. Section 03 30 00 - Cast-In-Place Concrete: Limitations on curing requirements for new concrete floor slabs and coordination of any other special requirements affecting concrete floor preparations.
- D. Section 03 30 00 - Cast-In-Place Concrete: Performance values for floor flatness tolerances for cast-in-place concrete.

1.03 REFERENCE STANDARDS

- A. ASTM E1155 - Standard Test Method for Determining F(F) Floor Flatness and F(L) Floor Levelness Numbers; 2014.
- B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
- C. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2011.
- D. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes; 2011.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate scheduling of cleaning and testing, so that preliminary cleaning has been completed for at least 24 hours prior to testing.

1.05 SUBMITTALS

- A. Floor Covering and Adhesive Manufacturers' Product Literature: For each specific combination of substrate, floor covering, and adhesive to be used; showing:
 - 1. Moisture and alkalinity (pH) limits and test methods.
 - 2. Manufacturer's required bond/compatibility test procedure.
- B. Testing Agency's Report:
 - 1. Description of areas tested; include floor plans and photographs if helpful.
 - 2. Summary of conditions encountered.
 - 3. Moisture and alkalinity (pH) test reports.
 - 4. Copies of specified test methods.
 - 5. Recommendations for remediation of unsatisfactory surfaces.
 - 6. Submit report to Architect.
 - 7. Submit report not more than two business days after conclusion of testing.
- C. Adhesive Bond and Compatibility Test Report.

1.06 QUALITY ASSURANCE

- A. Moisture and alkalinity (pH) testing shall be performed by an independent testing agency employed and paid by Contractor.

- B. Testing Agency Qualifications: Independent testing agency experienced in the types of testing specified.
 - 1. Submit evidence of experience consisting of at least 3 test reports of the type required, with Owner's project contact information.
- C. Contractor's Responsibility Relating to Independent Agency Testing:
 - 1. Provide access for and cooperate with testing agency.
 - 2. Confirm date of start of testing at least 10 days prior to actual start.
 - 3. Allow at least 4 business days on site for testing agency activities.
 - 4. Achieve and maintain specified ambient conditions.
 - 5. Notify Architect when specified ambient conditions have been achieved and when testing will start.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, handle, and protect products in accordance with manufacturer's instructions and recommendations.
- B. Deliver materials in manufacturer's packaging; include installation instructions.
- C. Keep materials from freezing.

1.08 FIELD CONDITIONS

- A. Maintain ambient temperature in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 65 degrees F or more than 85 degrees F.
- B. Maintain relative humidity in spaces where concrete testing is being performed, and for at least 48 hours prior to testing, at not less than 40 percent and not more than 60 percent.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Floor Topping, Leveler and Patching Compound: Free flowing self-leveling, pumpable, cement-based compound for applications from 1-1/2 inch thick to feathered edges, minimum strength of 4000 psi.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Schonox; US. www.hpsubfloors.com
 - b. Schonox; AP. www.hpsubfloors.com
 - c. MAPEI Corporation; Ultraplan Easy with Primer T. www.mapei.com.
 - d. Maxxon Great Lakes; Level-Right Maxx. www.maxxon.com
 - e. Ardex, Inc; K-15. www.ardexamericas.com
- B. Alternate Flooring Adhesive: Floor covering manufacturer's recommended product, suitable for the moisture and pH conditions present; low-VOC. In the absence of any recommendation from flooring manufacturer, provide a product recommended by adhesive manufacturer as suitable for substrate and floor covering and for conditions present.

PART 3 EXECUTION

3.01 CONCRETE FLOOR FLATNESS TESTING

- A. Minimum floor flatness performance at completion of cast-in-place concrete is indicated in Section 03 30 00. Where large format tile is installed, maximum allowable floor flatness tolerances shall be no more than 1/8 inch in 10 feet and 1/16 inch in 24 inches. (Approximate minimum FF 50/FL35 per ASTM E1155) Large format tile locations not meeting this standard shall have leveling compound installed. Refer to Division 1 Allowances when applicable.
 - 1. At locations receiving large format tile measure floor flatness to confirm tolerances are within industry acceptable range as stated above.

3.02 CONCRETE SLAB PREPARATION

- A. Refer to Section 03 30 00 for responsibilities of all contractors to protect concrete floors from contamination. Start of work by flooring contractor indicate acceptance of conditions.
- B. Follow recommendations of testing agency.
- C. Perform following operations in the order indicated: (Moisture testing shall occur a minimum of 60 days prior to installation of flooring systems, with any required remediation efforts to begin immediately after test results.)
 - 1. Preliminary cleaning.

2. Internal relative humidity tests; 3 tests in the first 1000 square feet and one test in each additional 1000 square feet, unless otherwise indicated or required by flooring manufacturer.
3. Alkalinity (pH) tests; in same locations as moisture vapor emission tests, unless otherwise indicated.
4. Specified remediation, if required.
5. Patching, smoothing, and leveling, as required to meet manufacturer's requirements.
6. Other preparation specified by flooring manufacturer.
7. Adhesive bond and compatibility test.
8. Protection of installed flooring.

3.03 PRELIMINARY CLEANING

- A. Clean floors of dust, solvents, paint, wax, oil, grease, asphalt, residual adhesive, adhesive removers, film-forming curing compounds, sealing compounds, alkaline salts, excessive laitance, mold, mildew, and other materials that might prevent adhesive bond.
- B. Do not use solvents or other chemicals for cleaning.

3.04 MOISTURE VAPOR EMISSION TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.
- C. Verify that concrete sub-floor surfaces are ready for flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F1869. Obtain instructions if test results are not within the following limits:
 1. Moisture emission rate: Not greater than 3 lb per 1000 sq ft per 24 hours when tested using calcium chloride moisture test kit for 72 hours.
 2. At floors to receive finish materials, perform three tests for the first 1000 square feet and at least one additional test for each additional 1000 square feet.
- D. Plastic sheet test and mat bond test may not be substituted for the specified ASTM test method, as those methods do not quantify the moisture content sufficiently.
- E. In the event that test values exceed floor covering manufacturer's limits, perform remediation as required. In the absence of manufacturer limits, perform remediation if test values exceed 3 pounds per 1000 square feet per 24 hours.
- F. Report: Report the information required by the test method.

3.05 INTERNAL RELATIVE HUMIDITY TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. Where this specification conflicts with the referenced test method, comply with the requirements of this section.
- C. Test in accordance with ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes and as follows.
- D. Verify that new and existing concrete sub-floor surfaces are ready for flooring installation by testing for moisture emission rate and alkalinity. Obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer. Testing procedures shall be:
 1. Maximum allowable moisture levels for each type of floor finish shall be received from flooring suppliers prior to testing.
 2. At floors to receive finish materials, perform three tests for the first 1000 square feet and at least one additional test for each additional 1000 square feet.
 3. Select test locations to provide information about moisture distribution across the entire floor slab, especially areas of potential high moisture. For slabs on-grade and below-grade, include a test location within three feet of each exterior wall.
- E. Testing with electrical impedance or resistance apparatus may not be substituted for the specified ASTM test method, as the values determined are not comparable to the ASTM test values and do not quantify the moisture content sufficiently.

- F. In the event that test values exceed floor covering manufacturer's limits, perform remediation as required. In the absence of manufacturer limits, perform remediation if any test value exceeds 75 percent relative humidity.
- G. Report: Report the information required by the test method.

3.06 ALKALINITY TESTING

- A. Where the floor covering manufacturer's requirements conflict with either the referenced test method or this specification, comply with the manufacturer's requirements.
- B. The following procedure is the equivalent of that described in ASTM F710, repeated here for the Contractor's convenience.
 - 1. Use a wide range alkalinity (pH) test paper, its associated chart, and distilled or deionized water.
 - 2. Place several drops of water on a clean surface of concrete, forming a puddle approximately 1 inch in diameter. Allow the puddle to set for approximately 60 seconds, then dip the alkalinity (pH) test paper into the water, remove it, and compare immediately to chart to determine alkalinity (pH) reading.
 - 3. Use of a digital pH meter with probe is acceptable; follow meter manufacturer's instructions.
- C. In the event that test values exceed floor covering manufacturer's limits, perform remediation as indicated. In the absence of manufacturer limits, perform remediation if alkalinity (pH) test value is over 10.

3.07 PREPARATION

- A. See individual floor covering section(s) for additional requirements.
- B. Comply with requirements and recommendations of floor covering manufacturer.
- C. Fill and smooth surface cracks, grooves, depressions, control joints and other non-moving joints, and other irregularities with patching compound.
- D. Do not fill expansion joints, isolation joints, or other moving joints.

3.08 ADHESIVE BOND AND COMPATIBILITY TESTING

- A. Comply with requirements and recommendations of floor covering manufacturer.

3.09 APPLICATION OF REMEDIAL FLOOR COATING

- A. Comply with requirements and recommendations of coating manufacturer.

3.10 PROTECTION

- A. Cover prepared floors with building paper or other durable covering.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Metal stud wall framing.
- B. Metal channel ceiling framing.
- C. Acoustic insulation.
- D. Gypsum wallboard.
- E. Joint treatment and accessories.
- F. Acoustic sealant and installation of acoustic accessories, (sealants, insulation, etc.).

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 07 92 00 - Joint Sealants: Sealing acoustical gaps in construction other than gypsum board or plaster work.
- C. Section 09 91 23 - Interior Painting.
- D. Section 09 72 00 - Wall Coverings: Priming at wall covering locations.

1.03 REFERENCE STANDARDS

- A. AISI S100 - North American Specification for the Design of Cold-Formed Steel Structural Members; 2016.
- B. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- C. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- D. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- E. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- F. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- G. ASTM C954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2015.
- H. ASTM C1002 - Standard Specification for Steel Self-Piercing Tapping Screws for Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2014.
- I. ASTM C1047 - Standard Specification for Accessories For Gypsum Wallboard and Gypsum Veneer Base; 2014a.
- J. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014a.
- K. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2016.
- L. ASTM E72 - Standard Test Methods of Conducting Strength Tests of Panels for Building Construction; 2015.
- M. GA-216 - Application and Finishing of Gypsum Board; 2013.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
- C. Product Data: Provide manufacturer's data on partition head to structure connectors, showing compliance with requirements.
- D. Test Reports: For stud framing products that do not comply with ASTM C645 or ASTM C754, provide independent laboratory reports showing maximum stud heights at required spacings and deflections.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum 3 years of experience.
- B. Stud Design: Manufacturer shall design stud gauge and confirm stud depth to meet performance requirements based on stud height.

PART 2 PRODUCTS

2.01 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. ClarkDietrich Building Systems: www.clarkdietrich.com/#sle.
 - 2. Jaimes Industries: www.jaimesind.com/#sle.
 - 3. Marino: www.marinoware.com/#sle.
 - 4. MBA Metl Framing: www.mbastuds.com
 - 5. Phillips Manufacturing Co: www.phillipsmfg.com/#sle.
 - 6. Safti-Seal: www.saftiseal.com.
 - 7. Telling Industries: www.buildstrong.com
 - 8. The Steel Network, Inc: www.SteelNetwork.com.
- B. Non-structural Framing System Components: ASTM C645; galvanized, G40 coated, sheet steel, of size and properties necessary to comply with ASTM C754 for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf.
 - 1. Exception: The minimum metal thickness and section properties requirements of ASTM C645 are waived provided steel of 40 ksi minimum yield strength is used, the metal is continuously dimpled, the effective thickness is at least twice the base metal thickness, and maximum stud heights are determined by testing in accordance with ASTM E72 using assemblies specified by ASTM C754.
 - 2. Studs: C-shaped with knurled or embossed faces.
 - 3. Runners: U shaped, sized to match studs.
 - 4. Ceiling Channels: C-shaped.
 - 5. Furring Members: Hat-shaped sections, minimum depth of 7/8 inch.
 - 6. Z-Furring: Z sections at depth indicated on Drawings.
 - 7. Resilient Furring Channels: 1/2 inch depth, for attachment to substrate through one leg only.
 - a. Products:
 - 8. Column and Beam Clips: Snap on metal clips that receive metal corner bead for attaching gypsum board to structural members.
 - a. The Claw. www.clawinternational.com
 - 9. Preformed Notched Backing Plates: 20 ga, G40 coated, cold formed plate with preformed lip, having stud notches at 16 inches on center. Install for backing to attach wall mounted items.
 - a. SaftiFrame: PS51 Notched Strong Back Backing Profile. www.saftiseal.com
 - b. SaftiFrame: PS52 Flush Backing Plate Flush Mount Backing Profile. www.saftiseal.com
- C. Soffit Framing System:
 - 1. Armstrong Ceiling Solutions: Quickstix Soffits.
- D. Partition Head to Structure Connections: Provide mechanical anchorage devices that accommodate deflection using slotted holes, screws, and anti-friction bushings, preventing rotation of studs while maintaining structural performance of partition.
 - 1. Structural Performance: Maintain lateral load resistance and vertical movement capacity required by applicable code, when evaluated in accordance with AISI S100.
 - 2. Material: ASTM A653/A653M steel sheet, SS Grade 50/340, with G60/Z180 hot-dipped galvanized coating.
 - 3. Provide top track preassembled with connection devices spaced to fit stud spacing indicated on drawings; minimum track length of 10 feet.
 - 4. Deep legged track, minimum 2 inches with crimped stud allowed.
- E. Non-structural Framing Accessories:
 - 1. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

2. Framing Connectors: ASTM A653/A653M G90 galvanized steel clips; secures cold rolled channel to wall studs for lateral bracing.
 - a. Products:
 - 1) ClarkDietrich; FastBridge Clip (FB33): www.clarkdietrich.com/#sle.
- F. Suspension System
1. Chicago Metallic 640 system or system by USG as follows:
 - a. Hanger Wire: 8-gage, annealed.
 - b. Carrying Channels: 1-1/2 inch cold rolled steel.
 - c. Furring Channels: USG metal furring channel, attached with USG furring channel clips.
 - d. Screws: USG type S. Length as required.

2.02 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board: Note: No offshore produced gypsum board allowed.
1. American Gypsum Company: www.americangypsum.com.
 2. Certainteed Gypsum Inc.: www.certainteed.com.
 3. Continental Building Products: www.continental-bp.com.
 4. Georgia-Pacific Gypsum: www.gpgypsum.com.
 5. National Gypsum Company: www.nationalgypsum.com.
 6. USG Corporation: www.usg.com.
 7. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 - a. Mold resistant board is required restrooms and kitchens.
 3. At Assemblies Indicated with Fire-Resistance Rating: Use type required by indicated tested assembly; if no tested assembly is indicated, use Type X board, UL or WH listed.
 4. Thickness:
 - a. Vertical Surfaces: 5/8 inch.
 5. Paper-Faced Products:
 - a. American Gypsum Company; FireBloc Type X Gypsum Wallboard: www.americangypsum.com/#sle.
 - b. American Gypsum Company; FireBloc Type C Gypsum Wallboard: www.americangypsum.com/#sle.
 - c. CertainTeed Corporation; Type X Drywall: www.certainteed.com/#sle.
 - d. Georgia-Pacific Gypsum; ToughRock: www.gpgypsum.com/#sle.
 - e. National Gypsum Company; Gold Bond BRAND Fire-Shield Gypsum Board: www.nationalgypsum.com/#sle.
 - f. USG Corporation; USG Sheetrock Brand Firecode X Panels: www.usg.com/#sle.
 - g. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 GYPSUM WALLBOARD ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: 3 inch or as noted on Drawings.
- B. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
1. Composition: Permanently tacky non-hardening butyl sealant.
 2. Products:
 - a. Bostik Inc: www.bostik-us.com.
 - b. Franklin International, Inc.; GREENchoice Acoustical Smoke & Sound Sealant: www.titebond.com.
 - c. Pecora Corporation; AC-20 FTR Acoustical and Insulation Sealant: www.pecora.com.
 - d. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 - e. Tremco Global Sealants; Tremco Acoustical Sealant: www.tremcosealants.com.
 - f. Hilti, Inc.; CP 506 Smoke and Acoustical Sealant: www.us.hilti.com.
 - g. Hilti, Inc.; CP 605BoW Bottom-of-Wall Firestop Sealant: www.us.hilti.com.
 - h. Substitutions: See Section 01 60 00 - Product Requirements.

- C. Beads, Joint Accessories, and Other Trim: ASTM C1047, rigid plastic, unless noted otherwise.
 - 1. Corner Beads: Low profile, for 90 degree outside corners.
 - 2. Wall Mounted Deflection Beads: Flexible gasket and bead with 1-1/8 inch flange.
 - a. Products:
 - 1) Trim-Tex, Inc.; Wall mounted Deflection Bead 9220: www.trim-tex.com.
 - 3. Edge Seal Bead: Use to seal around windows, doors, and where drywall butts up to a different wall materials. Gasket compresses upon installation to form a permanent seal and no sealant required. Do not install at acoustical wall perimeters.
 - a. Trim-Tex: Super Seal Tear Away L Bead
 - 4. Expansion Joints:
 - a. Type: Accordion profile with factory-installed protective tape.
 - b. Products:
 - 1) Trim-Tex, Inc; Hideaway Expansion: www.trim-tex.com/#sle.
- D. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
 - 1. Tape for Rated Assemblies: E-Z Taping System. For tightly butted vertical and horizontal gypsum board joints above ceilings in 1 and 2 hour wood or metal stud assemblies. Follow manufacturer's requirements.
- E. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inches in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion-resistant.
- F. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch in Thickness: ASTM C954; steel drill screws, corrosion-resistant.
- G. Anchorage to Substrate: Tie wire, nails, screws, and other metal supports, of type and size to suit application; to rigidly secure materials in place.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C754 and manufacturer's instructions.
- B. Studs: Space studs at 16 inches on center.
 - 1. Extend partition framing to structure in all locations. Install slip track at structure as detailed on drawings.
 - 2. Partitions Terminating at Structure: Attach top runner to structure, maintain clearance between top of studs and structure, and connect studs to track using specified mechanical devices in accordance with manufacturer's instructions; verify free movement of top of stud connections; do not leave studs unattached to track.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Top of Wall: Coordinate installation of required top of wall firestopping or sound control materials.
- E. Blocking: Install wood blocking or mechanically fastened steel sheet for support of:
 - 1. Framed openings.
 - 2. Wall-mounted cabinets.
 - 3. Plumbing fixtures.
 - 4. Toilet partitions.
 - 5. Toilet accessories.
 - 6. Wall-mounted door hardware.

3.03 ACOUSTIC ACCESSORIES INSTALLATION

- A. Acoustic Insulation in Non-Fire-Rated Construction: seal around all penetrations by conduit, pipe, ducts, and rough-in boxes. Tape oversized piece of 2 inch sound blanket over backside of boxes. See plans for additional instruction. Seal pipe and conduit penetrations with acoustical sealant backed with backer rod or acoustic insulation. Follow manufacturer's recommendations for control of annular space. HVAC contractor responsible for sound attenuation controls in duct work.

- B. Acoustic Sealant: Install in accordance with manufacturer's instructions. and according to directions on plan.
 - 1. Place one bead continuously on substrate before installation of perimeter framing members.
 - 2. Place continuous bead at perimeter of each layer of gypsum board.
 - 3. Seal around all penetrations by conduit, pipe, ducts, and rough-in boxes, except where firestopping is provided.
 - 4. Follow rating requirements for fire rated walls that are sound walls as well. Firestopping contractor shall install required materials at rated walls.

3.04 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Nonrated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.
 - 1. Exception: Tapered edges to receive joint treatment at right angles to framing.
- C. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of nonrated double-layer assemblies, which may be installed by means of adhesive lamination.

3.05 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control joint placement indicated is an industry recommended minimum. Follow manufacturer and industry location and detail recommendations. Review project plans and consult with A/E to confirm appropriate joint placement.
- B. Control Joints: Place control joints consistent with lines of building spaces and as follows:
 - 1. Not more than 30 feet apart on walls and ceilings over 50 feet long.
 - 2. Install continuous from each door jamb to top of partition.
 - 3. At wings of "L", "U", and "T" shaped ceilings.
 - 4. Control joints in rated walls shall be constructed to meet tested assemblies.
 - 5. All control joints shall have double studs located behind them.
- C. Corner Beads: Install at external corners, using longest practical lengths.
- D. Edge Trim: Install at locations where gypsum board abuts dissimilar materials and as indicated.

3.06 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
 - 1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 - 2. Level 3: Walls to receive textured wall finish.
 - 3. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.
 - 4. Level 1: Fire-resistance-rated wall areas above finished ceilings, whether or not accessible in the completed construction.
 - 5. Level 0: Temporary partitions.
- B. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 - 1. Feather coats of joint compound so that camber is maximum 1/32 inch.
 - 2. Taping, filling, and sanding are not required at surfaces behind adhesive applied ceramic tile and fixed cabinetry.
 - 3. Taping, filling, and sanding are not required at base layer of double-layer applications.
- C. Fill and finish joints and corners of cementitious backing board as recommended by manufacturer.

3.07 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

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SECTION 09 30 00

TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Sealant at tile control joints.
- D. Non-ceramic trim.

1.02 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- B. Section 09 05 61 - Common Work Results for Flooring Preparation: Directions for floor flatness testing at large format tile locations.

1.03 REFERENCE STANDARDS

- A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2017.
 - 1. ANSI A108.2 - American National Standard General Requirements: Materials, Environmental and Workmanship; 2019.
 - 2. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
 - 3. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Reaffirmed 2016).
 - 4. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
 - 5. ANSI A108.19 - American National Standard Specifications for Interior Installation of Gauged Porcelain Tiles and Gauged Porcelain Tile Panels/Slabs by the Thin-Bed Method Bonded with Modified Dry-Set Cement Mortar or Improved Modified Dry-Set Cement Mortar; 2017.
 - 6. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Revised).
 - 7. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014.
 - 8. ANSI A118.15 - American National Standard Specifications for Improved Modified Dry-Set Cement Mortar; 2012.
 - 9. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2013.1.
- B. TCNA (HB) - Handbook for Ceramic, Glass and Stone Tile Installation; 2019.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.05 DEFINITIONS

- A. LFT-Large format tile. Tile larger than 15 inches in one direction.
- B. LHT-large and heavy tile.
- C. Lippage- Condition of one edge of a tile is higher than the adjacent tile.

1.06 PERFORMANCE REQUIREMENTS

- A. Dynamic Coefficient of Friction: For walkway surfaces, install products with the following values as determined by testing identical products per the DCOF AcuTest as described in ANSI A137.1.
 - 1. Level Surfaces: 0.42 Minimum
 - 2. Step Treads: 0.42 Minimum

1.07 QUALITY ASSURANCE

- A. Maintain one copy of ANSI A108/A118/A136 and TCNA (HB) on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- C. Installer Qualifications:
 - 1. Company specializing in performing tile installation, with minimum of five years of documented experience.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.09 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature above 50 degrees F and below 100 degrees F during installation and curing of setting materials.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: Refer to Master Color Schedule on ID drawings for product selection.

2.02 TRIM AND ACCESSORIES

- A. Non-Ceramic Trim: As described in the master color schedule, style and dimensions to suit application, for setting using tile mortar or adhesive.
 - 1. Manufacturers:
 - a. Refer to Master Color Schedule on ID Drawings for product selection basis of design
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 SETTING MATERIALS

- A. Improved Latex-Portland Cement Mortar Bond Coat for Large and Heavy Tile: ANSI A118.15.
 - 1. Applications: Use this type of bond coat where indicated and where no other type of bond coat is indicated.
 - 2. Products:
 - a. Custom Building Products; Complete Contact-LFT Premium Rapid Setting Large Format Tile Mortar, with Multi-Surface Bonding Primer: www.custombuildingproducts.com.
 - b. LATICRETE International, Inc; 4-XLT Rapid: www.laticrete.com/#sle.
 - c. Mapei Corporation: Ultraflex LFT Rapid. www.mapei.com.
 - d. Merkrete, by Parex USA, Inc; Merkrete 720 Marble Pro: www.merkrete.com/sle.
 - e. ProSpec, an Oldcastle brand; Medium Bed Permaflex 550: www.prospec.com.
 - f. TEC, an H.B. Fuller Construction Products Brand; Ultimate Large Tile Mortar: www.tecspecialty.com/#sle.
 - g. Substitutions: See Section 01 60 00 - Product Requirements.

2.04 GROUTS

- A. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
 - 1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
 - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
 - a. At large format tile install wider grout joints as required by industry standards.
 - 3. Color(s): As selected by Architect from manufacturer's full line.
 - 4. Products:
 - a. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: www.laticrete.com/#sle.
 - b. Merkrete, by Parex USA, Inc; Merkrete Pro Grout: www.merkrete.com/#sle.
 - c. Mapei; Keracolor Ultracolor Plus FA. www.mapei.com
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.05 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
 - 1. Applications: Tile control and expansion joints.
 - 2. Color(s): As selected by Architect from manufacturer's full line.

3. Products:
 - a. ARDEX Engineered Cements; ARDEX SX: www.ardexamericas.com/#sle.
 - b. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.
 - c. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: www.merkrete.com/#sle.
 - d. Mapei; Mapesil T. www.mapei.com.
 - e. General Electric: Sanitary 1700 Sealant.
 - f. Dow Corning Corporation: Silicone 786 mildew resistant.
 - g. Pecora Corporation: 898 Sanitary Silicone Sealant
 - h. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 1. Composition: Water-based colorless silicone.
 2. Products:
 - a. Merkrete, by Parex USA, Inc; Merkrete Revive: www.merkrete.com/#sle.
 - b. Miracle Sealants Company: 511 Impregnator: www.miraclesealants.com
 - c. Gundlack Grout Sealer GS02 or GW09.
 - d. Custom Building Products: TileLab Grout and Tile Sealer
 - e. Mapei: UltraCare Grout Sealer. www.mapei.com
 - f. Substitutions: See Section 01 60 00 - Product Requirements.

2.06 THICK-BED MATERIALS

- A. Mortar Bed Materials: Portland cement, sand, latex additive, and water.
 1. Products:
 - a. AVM Industries, Inc; AVM Crete 6460: www.avmindustries.com.
 - b. LATICRETE International, Inc; LATICRETE 3701 Fortified Mortar Bed: www.laticrete.com.
 - c. Miracle Sealants Company: 511 Impregnator: www.miraclesealants.com
 - d. MAPEI Corporation: Modified Mortar Bed
 - e. Merkrete, by Parex USA, Inc.; Merkrete Underlay C: www.merkrete.com.
 - f. Miracle Sealants Company: 511 Impregnator: www.miraclesealants.com
 - g. Substitutions: See Section 01 60 00 - Product Requirements.

2.07 ACCESSORY MATERIALS

- A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
 1. Crack Resistance: No failure at 1/16 inch gap, minimum.
 2. Fluid or Trowel Applied Type:
 - a. Material: Synthetic rubber or Acrylic.
 - b. Thickness: 20 mils, maximum.
 - c. Products:
 - 1) LATICRETE International, Inc; LATICRETE Blue 92 Anti-Fracture Membrane: www.laticrete.com/#sle.
 - 2) MAPEI Corporation; Mapelastic 400 with Fiberglass Mesh. www.mapei.com
 - 3) Merkrete, by Parex USA, Inc; Merkrete Fracture Guard: www.merkrete.com/#sle.
 - 4) Substitutions: See Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile. Refer to Section 09 05 61 for floor flatness guidelines.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- C. Verify that subfloor surfaces are dust free and free of substances that could impair bonding of setting materials to subfloor surfaces.
- D. Cementitious Subfloor Surfaces: Verify that substrates are ready for tiling installation by testing for moisture and alkalinity (pH).
 1. Test in accordance with Section 09 05 61.
 2. Obtain instructions if test results are not within limits recommended by tiling material manufacturer and setting material manufacturer.
- E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler.
- D. Install backer board in accordance with board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.
- E. Install crack control membrane in accordance to manufacturer's recommendations and TCNA guidelines.
 - 1. Install membrane over construction and expansion control joints in existing concrete as recommended by manufacturer and according to TCA recommendations. Install soft joint at tile as recommended.
 - 2. Install full coverage membrane over tile areas on new and existing concrete slabs on grade and topping slabs over structural framing per manufacturer's recommendation.
- F. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

3.03 INSTALLATION - GENERAL

- A. Install tile and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.19, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. See Master Color Schedule in ID 600.
- C. Where required by tile manufacturer install mortar type in thickness as required for large and heavy tile (LHT).
 - 1. Mortar at large format tile shall be installed with notched trowel in one direction to achieve minimum 95% coverage. Circular or other motion application is prohibited.
 - 2. Apply full bed of mortar to backside of large format tile.
- D. At large format tile, in accordance to ANSI A108.02, grout joints shall be at least three times the actual facial variation of the tile, but never less than 1/16 inch.
- E. For large format tile use mechanical edge leveling system to align edges.
- F. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- G. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.
- H. Form internal angles square and external angles bullnosed.
- I. Install non-ceramic trim in accordance with manufacturer's instructions.
- J. Sound tile after setting. Replace hollow sounding units.
- K. Keep control and expansion joints free of mortar, grout, and adhesive.
- L. Locate movement joints for slab on grade 20 to 25 feet in each direction. For structurally supported concrete slab substrate, 8 to 12 feet in each direction. Follow TCNA EJ171 movement joint guidelines for joint width, installation details and additional locations requiring movement control.
- M. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- N. Grout tile joints unless otherwise indicated.
- O. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.
- P. Apply grout sealer to all joints.
- Q. Apply sealant to junction of tile and dissimilar materials and junction of dissimilar planes.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete slab on grade substrates with crack isolation membrane. Install in accordance with TCA Handbook Method F113, dry-set or latex-portland cement bond coat, with polymer modified grout per ANSI A118.7.

3.05 INSTALLATION - WALL TILE

- A. Over CMU Masonry, install in accordance with the TCNA Handbook Method W211-19, cementitious bond coat, with polymer modified grout per ANSI A118.7.

3.06 CLEANING

- A. Clean tile and grout surfaces.

3.07 PROTECTION

- A. Do not permit traffic over finished floor surface for 2 days after installation.

END OF SECTION

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SECTION 09 51 00
ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 RELATED REQUIREMENTS

- A. Section 09 54 23 - Linear Metal Ceilings: Coordinate suspension systems
- B. Section 09 84 30 - Sound-Absorbing Wall and Ceiling Units: Coordinate and provide suspension system for the sound-absorbing wall and ceiling units.
- C. Mechanical Supply and Return Devices Division 23
- D. Electrical Light Fixtures Division 26

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- B. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021.
- C. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.
- D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on suspension system components and acoustical units.
- C. Samples: Submit two samples 12 by 12 inch in size illustrating material and finish of acoustical units.
- D. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

1.05 QUALITY ASSURANCE

- A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 FIELD CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acoustic Tiles/Panels:
 - 1. Armstrong World Industries, Inc: www.armstrongceilings.com/#sle.
 - 2. Acoustic Ceiling Products, Inc: www.acpideas.com/#sle.
 - 3. CertainTeed Corporation: www.certainteed.com/#sle.
 - 4. USG Corporation: www.usg.com/ceilings/#sle.
 - 5. National Gypsum; www.nationalgypsum.com
 - 6. Roxul Rockfon. www.rockfon.com
 - 7. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Steel Suspension Systems:
 - 1. Armstrong World Industries, Inc: www.armstrongceilings.com/#sle.
 - 2. CertainTeed Corporation; 15/16" Classic Hook System: www.certainteed.com/#sle.
Rockfon, LLC: www.rockfon.com.
 - 3. USG Corporation: www.usg.com/ceilings/#sle.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

- C. Aluminum Suspension Systems:
 1. Armstrong World Industries, Inc; Prelude Plus: www.armstrong.com.
 2. Acoustic Ceiling Products, Inc.; comparable: www.acpideas.com.
 3. CertainTeed Corporation; 15/16" Classic Aluminum Hook System: www.certainteed.com.
 4. Rockfon, LLC: www.rockfon.com.
 5. USG: www.usg.com.
 6. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Painted Grid System:
 1. Armstrong World Industries, Inc; 360 Painted Grid: www.armstong.com

2.02 ACOUSTICAL UNITS

- A. Acoustical Units - General: ASTM E1264, Class A.
- B. BOARD TYPE ACT-1: 2'x2' Lay-In, Square Edge
 1. Rockfon: Sonar #SQ16100 NRC .95
- C. BOARD TYPE ACT-2: 2'x2' Tegular
 1. Rockfon: Sonar #SLN16200
- D. BOARD TYPE ACT-3: 2'x2' Vinyl Faced Gyp Bd
 1. Certainteed Corp: Capual, Vinylrock-X
 2. USG Corporation: Clean Room
 3. National Gypsum: Gridstone
- E. BOARD TYPE ACT-4: High Acoustic Tegular Edge
 1. Rockfon: Sonar #SLN16207. NRC .95

2.03 SUSPENSION SYSTEM(S)

- A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, and perimeter moldings as required.
 1. Materials:
 - a. Steel Grid: ASTM A653/A653M, G30 coating, unless otherwise indicated.
 - b. Aluminum Grid: Aluminum sheet, ASTM B209/B209M.
- B. Exposed Suspension System: Aluminum grid and cap.
 1. Application(s): Restrooms.
 2. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.
 3. Profile: Tee; 15/16 inch face width.
 4. Finish: Baked enamel.
- C. Exposed Suspension System: Hot-dipped galvanized steel grid and cap.
 1. Structural Classification: Intermediate-duty, when tested in accordance with ASTM C635/C635M.
 2. Profile: Tee; 15/16 inch face width.
 3. Finish: Baked enamel.

2.04 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.
- B. Hanger Wire: 12 gauge, 0.08 inch galvanized steel wire.
- C. Perimeter Moldings: Same metal and finish as grid.
 1. Angle Molding: L-shaped, for mounting at same elevation as face of grid.
- D. Metal Edge Trim for "Cloud" Suspension Systems: Steel or extruded aluminum; provide attachment clips, splice plates, and preformed corner pieces for complete trim system.
 1. Trim Height: 4 inch.
 2. Finish: Baked enamel.
 3. Color: to be selected from manufacturer's full range.
 4. Products:
 - a. USG Corporation; Compasso Suspension Trim: www.usg.com/ceilings/#sle.
 - b. Armstrong: Axiom Classic. www.armstrongceilings.com

- E. Metal Edge Trim for painted Grid "PG": Manufacturer of "PG" system's recommended product.
 - 1. Trim Height: 4 inch.
 - 2. Finish: Baked enamel.
 - 3. Color: to be selected from manufacturer's full range.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- B. Locate system on room axis according to reflected plan.
- C. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Miter corners.
- D. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- E. Cutting Acoustical Units:
 - 1. Cut to fit irregular grid and perimeter edge trim.
 - 2. Make field cut edges of same profile as factory edges.
- F. Where round obstructions occur, provide preformed closures to match perimeter molding.
- G. Provide tegular edge at walls and other abutting vertical surfaces. Field paint cut edges to surface color and sheen.

END OF SECTION

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SECTION 09 54 23
LINEAR METAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Linear metal ceilings.
- B. Suspended metal support system and perimeter trim.

1.02 RELATED REQUIREMENTS

- A. Section 09 51 00 - Acoustical Ceilings

1.03 REFERENCE STANDARDS

- A. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.
- C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2014.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate work of this section with installation of mechanical and electrical components and with other construction activities affected by work of this section.
- B. Sequencing: Supply hanger clips during steel deck erection. Supply additional hangers and inserts as required.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Furnish for component profiles.
- C. Shop Drawings: Indicate reflected ceiling plan.
- D. Samples: Submit two samples 4 by 12 inch in size illustrating color and finish of exposed to view components.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing the work of this section.
 - 1. Minimum 3 years documented experience.

1.07 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Linear Metal Ceilings
 - 1. American Decorative Ceilings; Linear Pan Ceilings. www.am-dec.com
 - 2. ASI Architectural: www.asiarchitectural.com
 - 3. Hunter Douglas Architectural: www.hunterdouglasarchitectural.com/#sle.
 - 4. Rockfon, LLC; Planar Macro: www.rockfon.com/#sle.
 - 5. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 LINEAR METAL CEILINGS

- A. Type LMC-1: Linear Metal Ceiling and Wall System: Panels, suspension members, trim and accessories as required to provide a complete system.
 - 1. Basis of Design: Planx-Mirra System with Plain Slice Walnut Arboreal finish. www.ceilingplus.com

- B. Type LMC-2: Linear Metal Ceiling System: Panels suspension members, trim and accessories as required to provide a complete system.
 - 1. Basis of Design: USG Barz: www.usg.com
 - 2. Color: 2-38 Natural Walnut no perforations.
 - 3. See profiles and sizes on the drawings.
- C. Performance Requirements:
 - 1. Design to support imposed loads of indicated items without eccentric loading of supports.
 - 2. Design for maximum deflection of 1/360 of span.

2.03 COMPONENTS

- A. Linear Panels:
 - 1. Sight-exposed Surface Finish: Anodized finish; of wood look from manufacturer's standard range.
- B. Edge Molding and Splices: Same material, thickness, and finish as linear panels.
- C. End Caps: Formed metal; same color and finish as sight-exposed surfaces of linear panels.
- D. Accessories: Stabilizer bars as required for suspended grid system; sight-exposed surfaces same color and finish as sight-exposed surfaces of linear panels.
- E. Suspension Members: Formed steel sections, with integral attachment points; galvanized finish; size and type to suit application and ceiling system flatness requirement specified.
- F. Suspension Wire: Steel, annealed, galvanized finish, 9 gauge, 0.1144 inch diameter.
- G. Subgirt Members: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating; formed to resist imposed loads and to provide attachment for linear ceiling and accessories.

2.04 FABRICATION

- A. Shop cut linear panels to accommodate mechanical and electrical items.
- B. Factory-form internal and external corners of same material, thickness, finish, and profile to match exposed linear panels; back brace internal corners.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.
- C. Verify that required utilities are available, in proper location, and ready for use.
- D. Verify that field measurements are as indicated.

3.02 INSTALLATION

- A. Suspension Components:
 - 1. Install after above-ceiling work is complete in accordance with manufacturer's instructions, ASTM C636/C636M, and ASTM E580/E580M.
 - 2. Hang carrying members independent of walls, columns, ducts, light fixtures, pipe, and conduit; where carrying members are spliced, avoid visible displacement of face panels with adjacent panels.
 - 3. Where ducts or other equipment prevent regular spacing of hangers, reinforce nearest adjacent hangers to span the required distance.
 - 4. Locate suspension system for linear panel layout parallel to building lines according to reflected plan.
- B. Linear Metal Ceiling:
 - 1. Install linear panels, baffles, and other system components in accordance with manufacturer's instructions.
 - 2. Provide 1 inch space between panels.
 - 3. Stagger end joints minimum 12 inches.
 - 4. Butt interior end joints tight.
 - 5. Install filler strips between linear panels at interior locations.
 - 6. Install edge moldings at junctions with other finishes and at vertical surfaces; use maximum piece lengths.
 - 7. Exercise care when site cutting sight-exposed finished components to ensure surface finish is not defaced.

3.03 CLEANING

- A. Clean polished surfaces.
- B. Replace damaged or abraded components.

END OF SECTION

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SECTION 09 65 00
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient tile flooring.
- B. Resilient base.
- C. Installation accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied resilient flooring.
- B. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.
- C. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.

1.03 REFERENCE STANDARDS

- A. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012).
- B. RFCI (RWP) - Recommended Work Practices for Removal of Resilient Floor Coverings; Resilient Floor Covering Institute; October 2011.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Verification Samples: Submit a sample of each tile product minimum in full size.
- D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect roll materials from damage by storing on end.

1.06 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

1.07 EXTRA MATERIALS

- A. Deliver stock of extra materials to Owner. Furnish extra materials from same manufactured lot as materials installed and enclosed in protective packaging with appropriate identifying labels.
 - 1. Furnish one box for each type, color, pattern and size installed.

PART 2 PRODUCTS

2.01 TILE FLOORING

- A. Luxury Vinyl Tile: Plank type tile as indicated on Master Color Schedule on ID Drawings. Comparable products by prior approval of submitted samples showing color match and equal performance criteria.

2.02 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TV, vinyl, thermoplastic; top set Style B, Cove.
 - 1. Height: 4 inch.
 - 2. Thickness: 0.125 inch.
 - 3. Finish: Satin.
 - 4. Length: Roll.
 - 5. Color: Refer to master Color Schedule for basis of design.

2.03 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers and Adhesives: Waterproof; types recommended by flooring manufacturer.
- C. Moldings, Transition and Edge Strips: Same material as flooring.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate. Refer to Section 09 05 61 for floor flatness tolerances.
- B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for resilient flooring installation by testing for moisture and alkalinity (pH).
 - 1. Test in accordance with Section 09 05 61.
 - 2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.
- D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

- A. Remove existing resilient flooring and flooring adhesives; follow the recommendations of RFCI (RWP).
- B. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- C. Remove subfloor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with subfloor filler to achieve smooth, flat, hard surface.
- D. Prohibit traffic until filler is fully cured.
- E. Clean substrate.
- F. Apply primer as required to prevent "bleed-through" or interference with adhesion by substances that cannot be removed.

3.03 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install in accordance with manufacturer's written instructions.
- C. Adhesive-Applied Installation:
 - 1. Spread only enough adhesive to permit installation of materials before initial set.
 - 2. Fit joints and butt seams tightly.
 - 3. Set flooring in place, press with heavy roller to attain full adhesion.
- D. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- E. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
 - 1. Resilient Strips: Attach to substrate using adhesive.
- F. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

3.05 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.
- B. Miter internal corners. At external corners, use premolded units. At exposed ends, use premolded units.

- C. Install base on solid backing. Bond tightly to wall and floor surfaces. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient wall base with manufacturer's recommended adhesive filler material.
 - 1. Adhesive shall cover a minimum of 90 percent of ribbed back of base.
 - 2. Leave 1/4 inch uncovered at top edge of base to prevent oozing.
 - 3. Roll base firmly, roll back toward starting point.
- D. Scribe and fit to door frames and other interruptions.

3.06 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.

3.07 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

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SECTION 09 68 13

TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Carpet tile, fully adhered.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors to receive adhesive-applied flooring.
- B. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.
- C. Section 09 05 61 - Common Work Results for Flooring Preparation: Concrete slab moisture and alkalinity testing and remediation procedures.
- D. Section 09 65 00 - Resilient Flooring: Resilient base.

1.03 REFERENCE STANDARDS

- A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2016.
- B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
- C. CRI 104 - Standard for Installation of Commercial Carpet; 2015.
- D. CRI (GLP) - Green Label Plus Testing Program - Certified Products; www.carpet-rug.org; current edition.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.
- D. Manufacturer's Installation Instructions: Indicate special procedures.
- E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in installing carpet with minimum 3 years experience who is certified by the Floor Covering Installation Board (FCIB) or who can demonstrate compliance with FCIB certification program requirements.
- B. Single Source Responsibility: Obtain carpet tile from one source and by a single manufacturer.

1.06 WARRANTY

- A. Provide carpet manufacturer's 5 year warranty against defects in materials. Warranty coverage shall include:
 - 1. Surface Wear: Not more than 10 percent by weight throughout life of project.
 - 2. Static: Maintain static generation at less than 3.5 kV at 70 degrees F, and 20 percent R.H. throughout life of product.
 - 3. No delamination throughout life of product.
 - 4. No edge ravel throughout life of product.
 - 5. Provide tuft bind consistent with industry standards.
 - 6. No dimensional instability (i.e. shrinkage, curling and doming), which adversely affects ability of carpet tile to lie flat throughout life of product.
- B. Provide carpet installer's one (1) year warranty against defects in installation.

1.07 FIELD CONDITIONS

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.

1.08 EXTRA MATERIALS

- A. Provide one full carton of carpet tiles of each color and pattern selected.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Tile Carpeting: Tufted, manufactured in one color dye lot.
 - 1. Refer to Master Color Schedule affiliated with Interior Drawings for product selection.
 - 2. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").

2.02 ACCESSORIES

- A. Edge Strips: Vinyl, color as selected by Architect.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
- B. If surfaces cannot be put into proper condition for carpet tile installation by customary cleaning and prepping operations, Contractor shall report defects immediately to Architect in writing. Application of carpet tile materials is considered acceptance of surfaces condition by this Contractor and any subsequent repairs and/or refinishing required shall be performed at this Contractor's expense.
- C. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.
- D. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
 - 1. Test in accordance with Section 09 05 61.
 - 2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare floor substrates for installation of flooring in accordance with Section 09 05 61.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions and CRI 104 (Commercial).
- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
- F. Locate change of color or pattern between rooms under door centerline.
- G. Fully adhere carpet tile to substrate.
- H. Trim carpet tile neatly at walls and around interruptions.
- I. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 72 00
WALL COVERINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation and prime painting.
- B. Wall covering.
- C. Tackable roll stock.

1.02 RELATED REQUIREMENTS

- A. Section 09 21 16 - Gypsum Board Assemblies: Wall substrate.

1.03 REFERENCE STANDARDS

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on wall covering and adhesive.
- C. Shop Drawings: Indicate wall elevations with seaming layout.
- D. Samples: Submit two samples of wall covering, 12 x 12 inch in size illustrating color, finish, and texture.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Maintenance Data: Submit data on cleaning, touch-up, and repair of covered surfaces.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Inspect roll materials at arrival on site, to verify acceptability.
- B. Protect packaged adhesive from temperature cycling and cold temperatures.
- C. Do not store roll goods on end.

1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the adhesive or wall covering product manufacturer.
- B. Maintain these conditions 24 hours before, during, and after installation of adhesive and wall covering.

PART 2 PRODUCTS

2.01 WALL COVERINGS

- A. General Requirements:
 - 1. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
 - 2. Vinyl materials at exterior walls shall be breathable.
- B. Wall Covering: See Master Color Schedule on ID600 for selected product.
- C. Adhesive: Type recommended by wall covering manufacturer to suit application to substrate.
- D. Termination Trim: Extruded plastic, clear.
- E. Substrate Filler: As recommended by adhesive and wall covering manufacturers; compatible with substrate.
- F. Substrate Primer and Sealer: Alkyd enamel type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are prime painted and ready to receive work, and comply with requirements of wall covering manufacturer.
- B. Measure moisture content of surfaces using an electronic moisture meter. Do not apply wall coverings if moisture content of substrate exceeds level recommended by wall covering manufacturer.
- C. Verify flatness tolerance of surfaces does not vary more than 1/8 inch in 10 feet nor vary at a rate greater than 1/16 inch/ft.
- D. Verify that all casework, markerboards, door and window jambs, finished ceiling, and other finished items abutting tackable wall systems have been installed.

3.02 PREPARATION

- A. Acclimate roll stock cork in area of installation for 48 hours. Cut sheets to length as directed by supplier. Lay sheets flat for 24 hours at a minimum temperature of 68 degrees prior to installation.
- B. Fill cracks in substrate and smooth irregularities with filler; sand smooth.
- C. Wash impervious surfaces with tetra-sodium phosphate, rinse and neutralize; wipe dry.
- D. Surface Appurtenances: Remove or mask electrical plates, hardware, light fixture trim, escutcheons, and fittings prior to preparing surfaces or finishing.
- E. Surfaces: Correct defects and clean surfaces that affect work of this section. Remove existing coatings that exhibit loose surface defects.
- F. Marks: Seal with shellac those that may bleed through surface finishes.
- G. Apply one coat of primer sealer to substrate surfaces. Allow to dry. Lightly sand smooth.
- H. Vacuum clean surfaces free of loose particles.

3.03 INSTALLATION

- A. Apply adhesive and wall covering in accordance with manufacturer's instructions.
- B. Use wall covering in roll number sequence.
- C. Razor trim edges on flat work table. Do not razor cut on gypsum board surfaces.
- D. Apply wall covering smooth, without wrinkles, gaps or overlaps. Eliminate air pockets and ensure full bond to substrate surface.
- E. Horizontal seams are not acceptable.
- F. Do not seam within 2 inches of internal corners or within 6 inches of external corners.
- G. Install wall covering before installation of bases and items attached to or spaced slightly from wall surface.
- H. Do not install wall covering more than 1/4 inch below top of resilient base.
- I. Cover spaces above and below windows, above doors, in pattern sequence from roll.
- J. Apply wall covering to electrical wall plates prior to replacing.
- K. Where wall covering tucks into reveals, or metal wallboard or plaster stops, apply with contact adhesive within 6 inches of wall covering termination. Ensure full contact bond.
- L. Install termination trim.
- M. Remove excess adhesive while wet from seam before proceeding to next wall covering sheet. Wipe clean with dry cloth.

3.04 CLEANING

- A. Clean wall coverings of excess adhesive, dust, dirt, and other contaminants.
- B. Reinstall wall plates and accessories removed prior to work of this section.

3.05 PROTECTION

- A. Do not permit construction activities at or near finished wall covering areas.

END OF SECTION

SECTION 09 84 30
SOUND-ABSORBING WALL AND CEILING UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sound-absorbing panels.
- B. Mounting accessories.

1.02 RELATED REQUIREMENTS

- A. Applicable provisions of Division 1 shall govern the work of this section.
- B. Section 09 51 00 - Acoustical Ceilings: Ceiling suspension system.

1.03 REFERENCE STANDARDS

- A. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2009a.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- C. ASTM E795 - Standard Practices for Mounting Test Specimens During Sound Absorption Tests; 2016.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's printed data sheets for products specified.
- C. Shop Drawings: Fabrication and installation details, panel layout, fabric orientation, and wood grain orientation.
- D. Selection Samples: Manufacturer's color charts for fabric covering, indicating full range of fabrics, colors, and patterns available.
- E. Verification Samples: Fabricated samples of each type of panel specified; 12 by 12 inch, showing construction, edge details, and fabric covering.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with at least three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Protect acoustical units from moisture during shipment, storage, and handling. Deliver in factory-wrapped bundles; do not open bundles until units are needed for installation.
- B. Store units flat, in dry, well-ventilated space; do not stand on end.
- C. Protect edges from damage.

PART 2 PRODUCTS

2.01 FABRIC-COVERED SOUND-ABSORBING UNITS

- A. General:
 - 1. Panels are to be field painted. See drawings. Coordinate field painting with painting contractor. Provide manufacturer instructions.
 - 2. Surface Burning Characteristics: Flame spread index of 25 or less and smoke developed index of 50 or less, when tested in accordance with ASTM E84.
- B. Fabric-Covered Acoustical Ceiling Baffles:
 - 1. Product: See Master Color Schedule on ID600 for product selection
 - 2. Baffle Core: Manufacturer's standard core.
 - 3. Mounting: Horizontally suspended from ceiling or structure as shown on A110 and A300 .

2.02 FABRICATION

- A. Tolerances: Fabricate to finished tolerance of plus or minus 1/16 inch for thickness, overall length and width, and squareness from corner to corner.

2.03 ACCESSORIES

- A. Back-Mounting Accessories: Manufacturer's standard accessories for concealed support, designed to allow panel removal:
 - 1. Two-part clip and base-support bracket system; brackets designed to support full weight of panels and clips designed for lateral support, with one part mechanically attached to back of panel and the other attached to substrate.
 - a. Hanger Options: Monarch Metal Fabrication. www.monarchmetal.com
- B. Ceiling-Suspended Accessories: Manufacturer's standard accessories at locations as indicated on each acoustical unit, sized appropriately for weight of acoustical unit.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine substrates for conditions detrimental to installation of acoustical units. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install acoustical units in locations as indicated, following manufacturer's installation instructions.
- B. Install mounting accessories and supports in accordance with shop drawings.
- C. Align panels accurately, with edges plumb and top edges level. Scribe to fit accurately at adjoining work and penetrations.
- D. Suspend ceiling baffles at locations and heights as indicated.
- E. Install acoustical units to construction tolerances of plus or minus 1/16 inch for the following:
 - 1. Plumb and level.
 - 2. Flatness.

3.03 CLEANING

- A. Clean fabric facing upon completion of installation from dust and other foreign materials, following manufacturer's instructions.

3.04 PROTECTION

- A. Provide protection of installed acoustical panels until Date of Substantial Completion.
- B. Replace panels that cannot be cleaned and repaired to satisfaction of the Architect.

END OF SECTION

SECTION 09 91 23
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Materials for backpriming woodwork.
- D. Identification of rated walls.
- E. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
 - 1. Painting contractor shall review both architectural and interior Drawings for complete paint scope.
 - 2. Hollow metal doors and frames.
 - 3. Both sides and edges of plywood backboards for electrical and telecom equipment before installing equipment.
 - 4. Mechanical and Electrical:
 - a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.
 - b. In finished areas, paint shop-primed items.
- F. Do Not Paint or Finish the Following Items:
 - 1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
 - 5. Stainless steel, anodized aluminum, bronze, terne-coated stainless steel, and lead items.
 - 6. Marble, granite, slate, and other natural stones.
 - 7. Floors, unless specifically indicated.
 - 8. Ceramic and other tiles.
 - 9. Brick, architectural concrete, cast stone, integrally colored plaster, and stucco.
 - 10. Glass.
 - 11. Concrete masonry units in utility, mechanical, and electrical spaces.
 - 12. Acoustical materials, unless specifically indicated.
 - 13. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section 08 12 13 - Steel Door Frames: Frames to be field painted.

1.03 DEFINITIONS

- A. Comply with ASTM D16 for interpretation of terms used in this section.

1.04 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2016.
- C. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating; 2005 (Reapproved 2012).
- D. SSPC-SP 1 - Solvent Cleaning; 2015.
- E. SSPC-SP 2 - Hand Tool Cleaning; 1982 (Ed. 2004).

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

- B. Product Data: Provide complete list of products to be used, with the following information for each:
 1. Manufacturer's name, product name and/or catalog number, and general product category (e.g., "alkyd enamel").
 2. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
 3. Manufacturer's installation instructions.
 4. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.
- C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
 1. Where sheen is specified, submit samples in only that sheen.
 2. Where sheen is not specified, discuss sheen options with Architect before preparing samples, to eliminate sheens not required.
- D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.
- E. Manufacturer's Instructions: Indicate special surface preparation procedures.
- F. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets (MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
 3. Label each container with color in addition to the manufacturer's label.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.07 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Do not apply materials when relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or to damp or wet surfaces.
- D. Minimum Application Temperatures for Paints: 50 degrees F for interiors unless required otherwise by manufacturer's instructions.
- E. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.
- B. Paints:
 1. Halman-Lindsay (HL): www.hallmanlindsay.com
 2. Behr Process Corporation: www.behr.com/#sle.
 3. Benjamin Moore: www.benjaminmoore.com
 4. Diamond Vogel Paints: www.diamondvogel.com/#sle.
 5. PPG Paints: www.ppgpaints.com/#sle.
 6. Pratt & Lambert Paints: www.prattandlambert.com/#sle.
- C. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

- A. Paints and Finishes: Ready-mixed, unless intended to be a field-catalyzed paint.
 - 1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Provide 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.
 - 3. For opaque finishes, tint each coat including primer coat and intermediate coats, one-half shade lighter than succeeding coat, with final finish coat as base color.
 - 4. Supply each paint material in quantity required to complete entire project's work from a single production run.
 - 5. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.
 - 6. Paint for insulated piping shall be latex based. If the insulation taping is rippled due to oil based application, the Painter shall be responsible for replacement of the insulation. Certain Class A, non-combustible paints may maintain a 25/50 smoke rating for the painted pipe insulation, PVC jacketing and fittings. Check with state and local building codes and fire marshal for approved practice before painting.
- B. Volatile Organic Compound (VOC) Content:
 - 1. Provide paints and finishes that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- C. Flammability: Comply with applicable code for surface burning characteristics.
- D. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.
- E. Colors: As indicated in Color Schedule.
 - 1. Allow for minimum of three colors for each system, unless otherwise indicated, without additional cost to Owner.
 - 2. Extend colors to surface edges; colors may change at any edge as directed by Architect.
 - 3. In finished areas, diffusers, grilles, registers, finish pipes, ducts, conduit, and equipment the same color as the wall/ceiling they are mounted on/under.
 - 4. In unfinished areas: Paint all woodwork, doors and metal frames, convectors, ladders, railings, gratings and the like.

2.03 PAINT SYSTEMS - INTERIOR

- A. IPS 2 Painted Plywood (i.e. trim): 100% Acrylic Latex, Satin/Semi-gloss, Non-blocking
 - 1. (SW) One coat PrepRite ProBlock Latex Primer/Sealer B51-600 Series and two coats ProClassic Waterborne Acrylic, Semi-Gloss B31-1100 Series.
 - 2. (HL) One coat Stainguard 100% Acrylic Primer 526 and two coats Duratech 100% Acrylic Stain Enamel 318.
- B. IPS 5 Ferrous Metal (Primed Ferrous metal and Hollow Metal Doors and Frames): Satin/Semi-Gloss
 - 1. (SW) One coat Pro Industrial Pro-Cryl Universal Primer B66-310 Series, one coat Pro Industrial Pre-Catalyzed Waterbased Epoxy Semi-Gloss K46-1150 Series.
 - 2. (HL) One coat Metalguard DTM Acrylic Primer/finish 338 and two coats two coats Rustoleum High Performance DTM Acrylic 3800.
- C. IPS 8 Exposed Overhead Work: 100% Acrylic Dryfall Flat, Flash Rust Resistant
 - 1. (SW) Spot prime with ProCryl Universal Primer B66-1310 Series, one coat Low VOC Acrylic Dryfall B42W81 Series.
 - 2. (HL) Spot primer with Metalguard DTM Primer/Finish 338, one coat Fast Dry Latex Flat Dryfall 251.

- D. IPS 9 Concrete Block: Vinyl Acrylic Latex Eggshell over 100% Acrylic Block Filler, certifiable to ph13, surface to be pinhole free
 - 1. (SW) One coat Loxon Block Surfacer LX2W50, two coats ProMar 200 0 VOC Latex Eg-shel B20W12600 Series.
 - 2. (HL) One coat Fill Tite Acrylic Block Filler 179, two coats Pro Kote Interior Latex Zero VOC Eggshell 284.
- E. IPS 10 Concrete Block: Pre-Catalyzed Epoxy Semi-gloss over 100% Acrylic Block Filler, certifiable to ph13, surface to be pinhole free
 - 1. (SW) One coat Loxon Block Surfacer A24W200, two coats Pre-catalyzed Epoxy K46W1151
 - 2. (HL) One coat Fill Tite Acrylic Block Filler 179, two coats of Aqua Precat WB Semi-Gloss Epoxy 515.
- F. IPS 14 Gypsum Board: Vinyl Acrylic Latex Eggshell over Vinyl Acrylic Primer
 - 1. (SW) One coat ProMar 200 Zero VOC Interior Latex primer B28W02600 Series. two coats ProMar 200 Zero VOC Interior Latex Low Gloss Eg-Shel B41-2600 Series.
 - 2. (HL) One coat Pro Wall Primer Zero VOC 227, two coats Pro Kote Interior Latex Zero VOC Eggshell 284.
- G. IPS 15 Gypsum Board: Pre-Catalyzed Epoxy Semi-Gloss over Acrylic Latex Primer
 - 1. (SW) One coat ProMar 200 0 VOC Latex Wall Primer B28W2600, two coats Pre-catalyzed Epoxy K46W1151
 - 2. (HL) One coat Pro Wall Primer Zero VOC 227, two coats of Aqua Precat WB Semi-Gloss Epoxy 515.
- H. IPS 16 Gypsum Board-Ceilings and Soffits: Latex Flat
 - 1. (SW) One coat ProMar 200 0 VOC Latex Wall Primer B28W2600, two coats ProMar 400 Flat Latex B30W400 Series.
 - 2. (HL) One coat Pro Wall Primer Zero VOC 227, two coats Masterkote Interior Latex Flat 267.
- I. IPS 21 Existing Painted Concrete Block: Latex Egg Shell
 - 1. (SW) Two coats ProMar 200 Zero VOC Interior Latex Low Gloss Eg-Shel B41-2600 Series.
 - 2. (HL) Two coats Pro Kote Interior Latex Zero VOC Eggshell 284.
- J. IPS 24 Existing Painted Gypsum Board: Vinyl Acrylic Latex Eggshell Over Existing Paint
 - 1. (SW) One coat Extreme Bond Interior/Exterior Bonding Primer B51W00150 Series, two coats ProMar 200 Zero VOC Interior Latex Low Gloss Eg-Shel, B41-2600 Series.
 - 2. (HL) One coat Stainguard 100% Acrylic Primer 526, two coats Pro Kote Interior Latex Zero VOC Eggshell 284.
- K. IPS 25 Existing Painted Gypsum Board: Pre-Catalyzed Epoxy Semi-Gloss over existing epoxy paint
 - 1. (SW) One coat Interior/Exterior Adhesion Primer B51W150, two coats Pre-catalyzed Epoxy K46W1151.
 - 2. (HL) One coat Rustoleum UMA Bonding Primer, two coats of Aqua Precat WB Semi-Gloss Epoxy 515.

2.04 ACCESSORY MATERIALS

- A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- B. Patching Material: Latex filler.
- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin application of paints and finishes until substrates have been adequately prepared.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces is below the following maximums:
 1. Gypsum Wallboard: 12 percent.
 2. Masonry, Concrete, and Concrete Masonry Units: 12 percent.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to application. Fill damaged/indented and holes in all wall surfaces from equipment removal flush with wall surface. Spot prime.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or repair existing paints or finishes that exhibit surface defects.
- D. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- E. Seal surfaces that might cause bleed through or staining of topcoat.
- F. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- G. Concrete:
 1. Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 2. Clean concrete according to ASTM D4258. Allow to dry.
- H. Masonry:
 1. Remove efflorescence and chalk. Do not coat surfaces if moisture content, alkalinity of surfaces, or if alkalinity of mortar joints exceed that permitted in manufacturer's written instructions. Allow to dry.
 2. Prepare surface as recommended by top coat manufacturer.
- I. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.
- J. Ferrous Metal:
 1. Coordinate surface preparation in accordance with requirements of selected paint/coating supplier recommendations.
 2. Solvent clean according to SSPC-SP 1.
 3. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces.
 4. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer. Protect from corrosion until coated.
- K. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.
- L. Existing Painted Hollow Metal to Receive Paint:
 1. Remove loose paint, dirt and grime. Sand edges of paint chipping tapered smooth.
 2. Wipe frames down with solvent cleaner.
- M. Metal Doors and/or Frames to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

- A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.
- B. Apply products in accordance with manufacturer's written instructions.
- C. Where adjacent sealant is to be painted, do not apply finish coats until sealant is applied.
- D. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- E. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

- F. Hollow Metal Doors and Frames: Doors and frames shall be painted with sprayer, no exceptions.
- G. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.
- H. Sand wood and metal surfaces lightly between coats to achieve required finish.
- I. Use tack cloth to remove dust and particles just prior to applying next coat.
- J. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 IDENTIFICATION OF FIRE WALLS

- A. Refer to Section 07 05 53. Coordinate type of identification (stencil paint or applied sign) with Lead Contractor.
- B. Refer to Code Plans, floor plans and referenced sections and details for scope of rated walls.

3.05 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.06 PROTECTION

- A. Protect finishes until completion of project.
- B. Touch-up damaged finishes after Substantial Completion.

END OF SECTION

SECTION 10 21 13.19
PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Solid plastic toilet compartments.

1.02 RELATED REQUIREMENTS

- A. Section 09 30 00 - Tiling: Substrate
- B. Section 10 28 00 - Toilet, Bath, and Laundry Accessories.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010
- B. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on panel construction, hardware, and accessories.
- C. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.
- D. Samples: Submit two samples of partition panels, 6 x 6 inch in size illustrating panel finish, color, and sheen.
- E. Manufacturer's Installation Instructions: Indicate special procedures.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Solid Plastic Toilet Compartments:
 - 1. Accurate Partitons Corp: www.accuratepartitions.com
 - 2. American Sanitary Partitions: www.am-sanitary-partition.com
 - 3. AJW Architectural Products; www.ajw.com/#sle.
 - 4. Bobrick Washroom Equipment Inc: www.bobrick.com
 - 5. Bradley Bradmor: www.bradleycorp.com
 - 6. Hadrian: www.hadrian-inc.com
 - 7. Knickerbocker Partition Corp: www.knickerbockerpartition.com
 - 8. Metpar Corp: www.metpar.com.
 - 9. Partition Systems International of South Carolina: www.psisc.com/#sle.
 - 10. Scranton Products Co., Inc: www.scrantonproducts.com.
 - 11. Substitutions: Section 01 60 00 - Product Requirements.

2.02 PLASTIC TOILET COMPARTMENTS

- A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), floor-mounted headrail-braced.
- B. Doors:
 - 1. Thickness: 1 inch.
 - 2. Width: 28 inch.
 - 3. Width for Handicapped Use: 36 inch.
 - 4. Height: 55 inch.
- C. Panels:
 - 1. Thickness: 1 inch.
 - 2. Height: 55 inch.
- D. Pilasters:
 - 1. Thickness: 1 inch.
 - 2. Width: As required to fit space; minimum 3 inch.

2.03 ACCESSORIES

- A. Pilaster Shoes: Stainless steel, satin finish, 3 inches high; concealing floor fastenings.
- B. Head Rails: Extruded aluminum, anti-grip profile.
- C. Wall and Pilaster Brackets: Stainless steel; manufacturer's standard type for conditions indicated on drawings.
- D. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
 - 1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.
- E. Door Hardware: Stainless steel, manufacturer's standard finish.
 - 1. Door Latch: Slide type with exterior emergency access feature.
 - 2. Door Strike and Keeper with Rubber Bumper: Mount on pilaster in alignment with door latch.
 - 3. Provide door pull for outswinging doors.
 - 4. Hinges shall be calibrated to close to 10°.
 - 5. Provide wall bumper where doors swing towards adjacent wall.
- F. Coat Hook: One per compartment, mounted on door.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify correct spacing of and between plumbing fixtures.
- C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Maintain 3/8 inch to 1/2 inch space between wall and panels and between wall and end pilasters.
- C. Attach panel brackets securely to walls using anchor devices.
- D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.
- E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

- A. Maximum Variation From True Position: 1/4 inch.
- B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.
- B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.
- C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 10 22 39
FOLDING PANEL PARTITIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Top-supported folding panel partitions, horizontal opening.
- B. Ceiling track and operating hardware.

1.02 RELATED REQUIREMENTS

- A. Section 05 12 00 - Structural Steel: Overhead track structural support framing.
- B. Section 09 21 16 - Gypsum Board Assemblies: Acoustic barrier placed between top of partition track and roof deck above.

1.03 REFERENCE STANDARDS

- A. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- B. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.
- D. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.
- E. ASTM E413 - Classification for Rating Sound Insulation; 2016.
- F. ASTM E557 - Standard Guide for Architectural Design and Installation Practices for Sound Isolation between Spaces Separated by Operable Partitions; 2012.
- G. ASTM E596 - Standard Test Method for Laboratory Measurement of Noise Reduction of Sound-Isolating Enclosures; 1996 (Reapproved 2009).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on partition materials, operation, hardware and accessories, electric operating components, and colors and finishes available.
- C. Shop Drawings: Indicate opening sizes, track layout, details of track and required supports, static and dynamic loads, location and details of pass door and frame, adjacent construction and finish trim, and stacking depth.
- D. Samples for Selection: Submit two samples of full manufacturer's color range for selection of colors.
- E. Samples for Review: Submit two samples of surface finish, 12 by 12 inches size, illustrating quality, colors selected, texture, and weight.
- F. Manufacturer's Instructions: Indicate special procedures.
- G. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods. Describe cleaning materials detrimental to finish surfaces and hardware finish.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified this section with minimum three years of documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years of documented experience.

1.06 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within one year period after Date of Substantial Completion.
- C. Provide two year manufacturer warranty against defects in material and workmanship, excluding abuse.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Folding Panel Partitions - Horizontal Opening:
 - 1. Moderco, Inc; Signature 842: www.moderco.com/#sle.
 - 2. Modernfold, a DormaKaba Group Company; Acousti-Seal Encore: www.modernfold.com/#sle.
 - 3. Panelfold, Inc; 810PP: www.panelfold.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 FOLDING PANEL PARTITIONS - HORIZONTAL OPENING

- A. Folding Panel Partitions: Side opening; paired panels; center stacking; manually operated.
- B. Panel Construction:
 - 1. Frame: 18 gage, 0.0478 inch thick formed sheet steel frame top, bottom, jambs, and intermediates; welded construction, with acoustical insulation fill.
 - 2. Substrate: Gypsum board.
 - 3. Panel Substrate Facing: Steel sheet, manufacturer's standard thickness. Gypsum board alone for panel face shall not be acceptable.
 - 4. Panel Hinges: 18 ga. minimum, shall be integral with or concealed by metal edge frame. Butt type hinges protruding more than 1/4" from panel face not acceptable.
 - 5. Hardware: Latching door handles of cast steel, satin chrome finish; lock cylinder keyed to building keying system; pull bars.
 - 6. Panel Properties:
 - a. Thickness With Finish: 4 inches.
 - b. Width: Standard width.
 - c. Weight: 10 lb/sq ft.
- C. Panel Finishes:
 - 1. Facing: Vinyl coated fabric.
 - 2. Exposed Metal Trim: Clear anodized or powder coated in one of manufacturer's standard colors.
- D. Panel Seals:
 - 1. Panel to Panel Seals: Grooved and gasketed astragals, with continuous flexible ribbed vinyl seal fitted to panel edge construction; color to match panel finish.
 - 2. Retractable top and bottom pressure sound seals on all panels. Top and bottom seals to activate by a removable handle located approximately 30 inches above the floor. Retractable floor seals shall exert minimum 120 pounds downward force.
 - 3. Provide a positive vertical seal between the partition and the building. The panel at the stacking end of each opening shall be provided with an expandable jamb. Panel shall consist of a basic panel equipped with an expanding jamb member and operated from either face by a removable handle. Panels shall be capable of compensating for out-of-plumb condition or minor wall irregularities. Expanding jamb member shall have approximately 6" of travel. Lead panels to have 1" vinyl bulb type compression seal
- E. Suspension System:
 - 1. Track and Suspension System: Furnish manufacturer's standard heavy-duty steel track. Exposed track trim may be painted steel or anodized aluminum. Unexposed steel track shall have factory-applied black paint. Aluminum track joints shall be keyed to assure proper alignment. Furnish track with integral supports for adjoining soffit and required track switches. Provide manufacturer's standard 4-wheel self-lubricating ball bearing carrier located as required for panel type and to carry imposed loads, with threaded pendant bolt for vertical adjustment. Track or carriers requiring any lubrication shall not be permitted. Tracks incorporating rub or guide rails not permitted. No floor tracks permitted.
- F. Performance:
 - 1. Acoustic Performance:
 - a. Noise Reduction Coefficient (NRC): ASTM E596, NRC of 0.65 minimum.
 - b. Sound Transmission Class (STC): 52 +/- 1 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90, on panel size of 100 sq ft.
 - 2. Surface Burning Characteristics of Panel Finish: Flame spread/smoke developed index of 25/50, maximum, when tested in accordance with ASTM E84.
 - 3. Installed partition system track capable of supporting imposed loads, with maximum deflection of 1/360 of span.

- G. Accessories:
 - 1. Clear anodized aluminum ceiling closure, jamb and head molding fittings and attachments.

2.03 MATERIALS

- A. Aluminum Extrusions: ASTM B221 (ASTM B221M), 6063 alloy, T6 temper.
- B. Vinyl Coated Fabric: ASTM F793/F793M, Category VI, polyvinyl fluoride (PVC) finish for washability and improved flame retardance; color as selected by Architect from manufacturer's standard range.
- C. Acoustic Insulation:
 - 1. Type: As required for acoustic performance indicated.
 - 2. Thickness: As required for acoustic performance indicated.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify track supports are laterally braced and will permit track to be level within 1/4 inch of required position and parallel to the floor surface.
- C. Verify floor flatness of 1/8 inch in 10 feet, non-cumulative.
- D. Verify wall plumbness of 1/8 inch in 10 feet, non-cumulative.

3.02 INSTALLATION

- A. Install partition in accordance with manufacturer's instructions and ASTM E557.
- B. Fit and align partition assembly level and plumb.
- C. Lubricate moving components.
- D. Coordinate electrical connections.

3.03 ADJUSTING

- A. Complete break-in operation as recommended by door supplier.
- B. Adjust partition assembly to provide smooth operation from stacked to full open position. Do not over-compress acoustic seals.
- C. Visually inspect partition in full extended position for light leaks to identify a potential acoustical leak.
- D. Adjust partition assembly to achieve lightproof seal.

3.04 CLEANING

- A. Clean finish surfaces and partition accessories.

3.05 CLOSEOUT ACTIVITIES

- A. Start-up Services: Provide the services of a factory-authorized service representative to provide start-up service and to demonstrate and train Owner's representative.
- B. Test and adjust controls and safeties. Replace damaged or malfunctioning controls and equipment.
- C. Train Owner's representative on procedures and schedules related to start-up and shut down, troubleshooting, servicing and preventative maintenance.
- D. Demonstrate operation of partition and identify potential operational problems.

END OF SECTION

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SECTION 10 28 00
TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Mirrors.
- C. Diaper changing stations.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry and 09 21 16 - Gypsum board Assemblies: Concealed supports for accessories, including in wall framing and plates.
- B. Section 10 21 13.19 - Plastic Toilet Compartments.

1.03 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015a (Reapproved 2019).
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- D. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
- E. ASTM C1036 - Standard Specification for Flat Glass; 2011.
- F. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2018.
- G. ASTM F2285 - Standard Consumer Safety Performance Specification for Diaper Changing Tables for Commercial Use; 2004, with Editorial Revision (2016).

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Samples: Submit two samples of partition panel, illustrating color and finish.
- D. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Commercial Toilet, Shower, and Bath Accessories:
 - 1. AJW Architectural Products: www.ajw.com.
 - 2. ASI - American Specialties, Inc: www.americanspecialties.com.
 - 3. Bradley Corporation: www.bradleycorp.com.
 - 4. Bobrick Washroom Equipment Inc: www.bobrick.com
 - 5. PSISC Manufacturer of Columbia Accessories: www.psisc.com
 - 6. Substitutions: Section 01 60 00 - Product Requirements.
- B. Provide products of each category type by single manufacturer.

2.02 MATERIALS

- A. Accessories - General: Shop assembled, free of dents and scratches and packaged complete with anchors and fittings, steel anchor plates, adapters, and anchor components for installation.
 - 1. Grind welded joints smooth.
 - 2. Fabricate units made of metal sheet of seamless sheets with flat surfaces.
- B. Stainless Steel Sheet: ASTM A666, Type 304.
- C. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.

- D. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- E. Mirror Glass: Annealed float glass, ASTM C1036 Type I, Class 1, Quality Q2, with silvering, protective and physical characteristics complying with ASTM C1503.
- F. Adhesive: Two component epoxy type, waterproof.
- G. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.
- H. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.

2.03 FINISHES

- A. Stainless Steel: Satin finish, unless otherwise noted.
- B. Baked Enamel: Pretreat to clean condition, apply one coat primer and minimum two coats epoxy baked enamel.

2.04 COMMERCIAL TOILET ACCESSORIES

- A. Grab Bars - Concealed Flange
 - 1. Grab Bars: Stainless steel, 1-1/2 inches outside diameter, minimum 0.05 inch wall thickness, nonslip grasping surface finish, exposed flange mounting with torx head screws; 11 ga closure plate at bottom of bar. Length and configuration as indicated on drawings
 - a. American Specialties, Inc.: 3800 Series.
 - b. Bobrick: B-6806.99.
 - c. Bradley: Equal with concealed anchors and secured flanges.
- B. Stainless Steel Baby Changing Station
 - 1. Koala Corp.: KB110SSWM
 - 2. Bradley Corp: 962-11
 - 3. or comparable
- C. Mirrors: Stainless steel framed, 1/4 inch thick annealed float glass; ASTM C1036.
 - 1. Annealed Float Glass: Silvering, protective and physical characteristics in compliance with ASTM C1503.
 - 2. Size: As scheduled on Drawings.
 - 3. Frame: 0.05 inch angle shapes, with mitered and welded and ground corners, and tamperproof hanging system; bright annealed or satin finish.
 - 4. Backing: Full-mirror sized, minimum 0.03 inch galvanized steel sheet and nonabsorptive filler material.
 - 5. Products:

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.
- C. Verify that field measurements are as indicated on drawings.
- D. See Section 06 10 00 and 09 21 16 for installation of blocking and concealed anchors in walls.

3.02 PREPARATION

- A. Deliver inserts and rough-in frames to site for timely installation.
- B. Provide templates and rough-in measurements as required.

3.03 INSTALLATION

- A. Install accessories in accordance with manufacturers' instructions in locations indicated on drawings.
- B. Install plumb and level, securely and rigidly anchored to substrate.
- C. Mounting Heights: As required by accessibility regulations, and indicated on accessory schedule on drawings.
- D. Mounting Heights and Locations: As required by accessibility regulations and as indicated on drawings

END OF SECTION

SECTION 26 00 00
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SECTION 26 05 00

BASIC ELECTRICAL REQUIREMENTS

PART 1: GENERAL

Requirements of the General Conditions, Supplementary Conditions and Division 1 General Requirements of this Project Manual apply to all work under all Sections of Divisions 26, 27 and 28.

1.01 SECTION INCLUDES

- A. Basic Electrical Requirements are specifically applicable to Divisions 26, 27 and 28 Sections, in addition to Division 1 - General Requirements.

1.02 INDUSTRY STANDARDS

- A. Comply with all applicable OSHA regulations.
- B. All materials shall have a U.L. label where a U.L. Standard and/or test exists.

1.03 TEMPORARY ELECTRICITY

- A. Refer to Division 1, Section 01 50 00.

1.04 UNIT PRICES

- A. Refer to Division 1, Section 01 22 00.

1.05 ALTERNATES

- A. Refer to Division 1, Section 01 23 00.

1.06 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.
- B. 2015 International Building Code.
- C. Wisconsin Department of Commerce.

1.07 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Submit Drawings where required in various Sections throughout this Division.
- C. Identification numbers/letters used on shop drawings shall correlate with related product identification shown on the Drawings and mentioned in this Division.
- D. Where more than one product, catalog number, etc. is shown on individual shop drawing sheet, the product to be provided shall be conspicuously identified.

- E. Submitted Drawings shall bear the review stamp of the Electrical Contractor.

1.08 REGULATORY REQUIREMENTS

- A. Electrical: Conform to NFPA 70.
- B. Obtain permits, and request inspections from authority having jurisdiction.

1.09 TERMINOLOGY

- A. The word "PROVIDE" means to furnish and install.
- B. The word "ENERGIZE" means all material and labor necessary to apply voltage to a device or item of equipment to make same operational.
- C. The word "CODE" means all applicable codes.
- D. Unless noted otherwise, the terminology used throughout the Specifications shall be interpreted as defined in Article 100 of the NEC.

1.10 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on Drawings, unless prevented by Project conditions.
- B. Prepare drawings showing proposed rearrangement of Work to meet Project conditions, including changes to Work specified in other Sections. Obtain permission of Architect/Engineer before proceeding.

1.11 QUALIFICATIONS

- A. Where specified in various Sections of this DIVISION, final wiring terminations to all equipment and testing of the completed system, shall be done by a factory authorized representative. The representative shall be part of a fully equipped service organization capable of furnishing adequate maintenance to the entire system, including factory replacement parts.

1.12 PRODUCTS

- A. Provide all new materials and equipment unless noted otherwise.
- B. Products specified by manufacturer only, or identified by manufacturer's type, style, model, catalog number, etc., establishes the quality required. Unless indicated otherwise, products of other manufacturers mentioned may be used without prior approval of the AE, provided the quality, performance, etc. is equal to that of the product specifically identified; and provided that any additional costs for labor and/or materials required to adapt another manufacturer's product to the original system design shall be included in the Bid.
- C. Products furnished by the Electrical Contractor shall be purchased based on the electrical characteristics indicated on the Drawings and Specifications. Where this information is not given, this Contractor shall verify the voltage, phase, etc. with the AE before ordering concerned products.
- D. It shall be understood that the use of materials or equipment other than those specified, or approved equal by the AE, shall constitute a violation of contract and that the AE shall have the right to require the removal of such materials or equipment and their replacement with the specified materials or equipment at the Contractor's expense.

- E. All products used shall be the latest type or model produced by the manufacturers specified. If descriptive specifications or model number is obsolete, substitute current product.
- F. All similar materials and equipment shall be a product of the same manufacturer.
- G. All products shall be UL Listed/Labeled, where applicable.

1.13 SUBSTITUTIONS

- A. Manufacturers not mentioned in this Division must request permission to use their products. Requests must be received no later than ten (10) days prior to the time set for receipt of Bids. Refer to "Approved Substitutions" in the INSTRUCTIONS TO BIDDERS.
- B. No request for approval of "or equal" materials will be entertained except from the Prime Contractor, under whose jurisdiction the work in question is to be provided.

1.14 APPLICABLE CODES

- A. Install all Electrical Work in accordance with the National Electrical Code, Wisconsin Administrative Code and Local Electrical Codes.
- B. The Electrical Contractor is charged with responsibility for full compliance with local interpretations of applicable Codes. After entering into contract, this Contractor will be held to complete all work as per the foregoing without extra compensation.
- C. Where conflict occurs between referenced Codes, the Code containing the most stringent requirements govern.
- D. Comply with Drawings and Specifications when requirements are more stringent than the requirements of applicable Codes.

1.15 EXCAVATION AND BACKFILL

- A. Provide all excavation and backfilling as required for the installation of the Electrical work.
- B. Perform all stripping of topsoil, excavation, backfilling, compaction, grading, surface repair, and similar work as per applicable Sections of Division 31.

1.16 CONCRETE

- A. Provide concrete pads, bases, etc. where indicated on the Drawings.
- B. Construct as per applicable Sections of Division 3.

1.17 ACCESS PANELS

- A.** Provide metal access panels, where necessary, to make electrical system components accessible where required by Code.
- B.** Access panels shall be as specified in section 08 31 00.

1.18 PAINTING

- A.** By General Contractor:
 - 1) For painting of Electrical Work by the General Contractor, refer to Division 9.
- B.** By Electrical Contractor:
 - 1) Touch up or completely paint all factory painted Electrical System components which have become rusted, scratched, or otherwise damaged during construction (which are not painted under Division 9) to match the original finish or pay for restoration of such items as may be stipulated by the AE.
 - 2) Building surfaces/finishes previously painted by the General Contractor and damaged by the Electrical Contractor shall be repainted/refinished by the General Contractor at the Electrical Contractor's expense.

1.19 INTERRUPTION OF POWER

- A.** Relative to an electric power interruption due to building construction and/or remodeling:
 - 1) All power interruptions shall be verified in advance with the Owner.
 - 2) After the power has been restored, the Electrical Contractor shall inspect all areas affected by the outage and restore all automatically controlled, electrically operated equipment to the same operating condition which existed prior to the interruption.

1.20 Fire, Smoke and Fire/Smoke Rated Surfaces:

- A.** 3M CP 25N/S or CP 25S/L caulk, 3M FS 195 wrap/strip with restricting collar, 3M CS 195 composite sheet, Pipe Shields Inc. Series F fire barrier kits, Proset Systems fire Rated floor and wall penetrations, Insta-Foam Products Insta-Fire Seal Firestop Foam or Dow Corning Fire Stop System.
- B.** All fire stopping systems shall be provided by the same manufacturer.
- C.** UL listed or tested by independent testing laboratory, approved by State and Local Code Jurisdictions.
- D.** Use product that has a rating not less than rating of wall or floor being penetrated. Reference architectural drawings for identification of fire and/or smoke rated walls and Floors.

- E. Sleeves in concrete to be Schedule 40 steel pipe with integral water stop unless fire stop Material used includes a sleeve that is an integral part of rated assembly.
- F. Use firestop putty, caulk sealant, intumescent wrapstrips, intumescent firestop collars, Firestop blocks, firestop mortar or a combination of these products to provide a UL listed System for each application required for this project. Provide mineral wool backing where Specified in manufacturer's application detail.

1.21 Non-Rated Surfaces:

- A. Stamped steel, chrome plated, hinged, split ring escutcheons or floor/ceiling plates for Covering openings in occupied spaces.
- B. In exterior wall openings below grade, use modular mechanical type seal consisting of Interlocking synthetic rubber links shaped to continuously fill the annular space between The un-insulated pipe and cored opening or a water-stop type wall sleeve.
- C. At interior partitions where pipe penetrations are sealed, use Tremco Dymonic, Sika Corp. Sikaflex 1a, Sonneborn Sonolastic NPI, or Mameco Vulken 116 urethane caulk to Effectively seal. Use galvanized sheet metal sleeves in hollow wall penetrations.

1.22 AS-BUILT DRAWINGS

- A. Refer to Section 01 78 00.

1.23 TESTS

- A. Upon completion of work, adjust voltage taps on transformers for an optimum operating voltage.
- B. Balance loads between phases at each panelboard and at main switchboard. Correct unbalance greater than 5%.
- C. Test all raceway systems to insure proper, effective grounding.
- D. Lighting and power system and signals/communications systems wiring shall test free of shorts and grounds.
- E. Perform other tests identified in various Sections throughout this Division.
- F. Note: The above tests apply to all Work provided as part of this Project, unless indicated otherwise.

1.24 DEMONSTRATIONS

- A. Provide competent personnel to meet the Owner or his representative to fully explain and familiarize the Owner with the operation of all equipment and systems installed under this Division.

1.25 OPERATING AND MAINTENANCE INSTRUCTIONS

- A. This Contractor shall instruct the Owner relative to the operation and proper maintenance of all systems; and, the method of periodic system testing, where applicable.
- B. Refer to Section 01 78 00.

1.26 GUARANTEE

- A. Refer to General Conditions and Division 1.
- B. Where technical specifications require, provide longer guarantee periods stipulated.

END OF SECTION

SECTION 26 05 19

LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Building Wires.
- B. Wire Color
- C. Wiring connectors and connections.

1.02 RELATED SECTIONS

- A. Section 26 05 34 - Conduit.
- B. Section 26 05 37 - Boxes.
- C. Section 26 05 53 – Identification for Electrical Systems.

1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

1.04 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years documented experience.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.06 PROJECT CONDITIONS

- A. Verify that field measurements are as shown on Drawings.
- B. Conductor sizes are based on copper.
- C. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

1.07 COORDINATION

- A. Coordinate Work under provisions of Division 1.
- B. Determine required separation between cable and other work.

- C. Determine cable routing to avoid interference with other work.

PART 2: PRODUCTS

2.01 BUILDING WIRES

- A. Description: Single conductor insulated wire.
- B. Conductor: Copper
- C. Insulation Voltage Rating: 600 volts.
- D. Insulation: ANSI/NFPA 70; Type THHN/THWN-2.

2.02 WIRE COLOR

- A. General
 1. For wire sizes 10 AWG and smaller - Wire shall be colored as indicated below.
 2. For wire sizes 8 AWG and larger - Identify wire with colored tape at all terminals, splices and boxes. Colors to be as indicated below.
 3. In existing facilities, use existing color scheme.
 4. In new facilities, use black and red for single phase circuits at 120/240 volts, use Phase A black, Phase B red and Phase C blue for circuits at 120/208 volts single or three phase, and use Phase A brown, Phase B orange and Phase C yellow for circuits at 277/480 volts single or three phase. Note: This includes fixture whips except for Listed whips mounted by the fixture manufacturer on the fixture and Listed as a System.
 5. Neutral Conductors: White for 120/208V and 120/240V systems, Gray for 277/480V systems. Where there are two or more neutrals in one conduit, each shall be individually identified with the proper circuit.
 6. Ground Conductors: Green for 6 AWG and smaller. For 4 AWG and larger, identify with green tape at both ends and at all access points, such as panelboards, motor starters, disconnects and junction boxes. When isolated grounds are required, contractor shall provide green with yellow tracer.

2.03 WIRING CONNECTORS – CONDUCTORS SIZED THROUGH #8 AWG

- A. Spring Wire Connectors: Pre-insulated
- B. Manufacturers:
 1. 3M “Scotchlok”
 2. Ideal
 3. Belden
 4. Thomas and Betts
 5. Substitutions: Under provisions of Section 01 60 00.

2.04 4WIRING CONNECTORS – CONDUCTORS SIZED #6 AND LARGER

- A. Split Bolt Connectors, Mechanical Pressure Connectors, Compression Connectors (crimp type)
- B. Manufacturers:
 1. Burndy Corporation
 2. Ideal Industries
 3. Thomas and Betts
 4. 3M
 5. Belden
 6. Substitutions: Under provisions of Section 01 60 00.

PART 3: EXECUTION

3.01 EXAMINATION

- A. Verify that interior of building has been protected from weather.
- B. Verify that mechanical work likely to damage wire and cable has been completed.

3.02 PREPARATION

- A. Completely and thoroughly swab raceway before installing wire.

3.03 INSTALLATION

- A. Install products in accordance with manufacturers' instructions.
- B. Conductors' #10 AWG and smaller may be solid or stranded with the following requirements or exceptions:
 - (1) Stranded conductors may only be terminated with UL or ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device or must be terminated in an approved method.
- C. Provide separate neutral conductor for each branch circuit. (No multi-wire branch circuits with common neutrals).
- D. Use conductor not smaller than 12 AWG for power and lighting circuits.
- E. Use conductor not smaller than 14 AWG for fixture wire, where allowed by codes.
- F. Use conductor not smaller than 16 AWG for control circuits.
- G. Use 10 AWG conductors for 20 ampere, 120 volt branch circuits longer than 75 feet.
- H. Use 10 AWG conductors for 20 ampere, 277 volt branch circuits longer than 200 feet.
- I. Pull all conductors into raceway at same time.
- J. Use suitable wire pulling lubricant for building wire 4 AWG and larger.
- K. Protect exposed cable from damage.
- L. Use stranded conductors for control circuits and light fixture whips.
- M. Use suitable cable fittings and connectors.
- N. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- O. Clean conductor surfaces before installing lugs and connectors.
- P. Make splices, taps and terminations to carry full ampacity of conductors with no perceptible temperature rise.

- Q.** Use split bolt connectors for copper conductor splices and taps, 6 AWG and larger. Tape uninsulated conductors and connector with electrical tape to 150 percent of insulation rating of conductor.
- R.** Use solderless pressure connectors with insulating covers for copper conductor splices and taps, 8 AWG and smaller.
- S.** Use insulated spring wire connectors with plastic caps for copper conductor splices and taps, 10 AWG and smaller.

3.04 INTERFACE WITH OTHER PRODUCTS

- A.** Identify wire and cable under provisions of Section 26 05 53.
- B.** Identify each conductor with its circuit number or other designation indicated on Drawings.

3.05 FIELD QUALITY CONTROL

- A.** Inspect wire and cable for physical damage and proper connection.
- B.** Verify continuity of each branch circuit conductor.

END OF SECTION

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Equipment grounding conductors.
- B. Bonding.

1.02 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2: PRODUCTS

2.01 WIRE

- A. Material: Stranded copper.
- B. Grounding Electrode Conductor: Size to meet NFPA 70 requirements.

PART 3: EXECUTION

3.01 EXAMINATION

- A. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.02 EQUIPMENT GROUNDING

- A. Equipment grounding shall comprise a permanent bonding together of all metallic, noncurrent - carrying parts of the Electrical System (raceways, boxes, panels, cabinets, equipment enclosures, housings, motor frames, lighting fixtures, etc.) to insure a continuous grounding circuit.
- B. Equipment Grounding Conductor: Provide separate, insulated grounding conductor in all branch circuit and feeder raceways. Terminate each end on suitable lug, bus, or bushing.

3.03 FLUSH MOUNTED WIRING DEVICES

- A. Grounding continuity between the grounding system box and the grounding circuit of the device shall be established by connecting device to equipment grounding conductor with branch circuit wiring.

3.04 MOTORS AND EQUIPMENT

- A.** Ground all motors and equipment.
- B.** Separate ground wire required for all raceways.

3.05 LIGHTING FIXTURES

- A.** Ground all lighting fixture housings.
- B.** Fixture finish shall be scraped to insure metal-to-metal contact with outlet boxes and/or conduit fittings.
- C.** Separate ground wire required for flexible conduit connection to lighting fixtures.

3.06 INTERFACE WITH OTHER PRODUCTS

- A.** Interface with building grounding system.

3.07 FIELD QUALITY CONTROL

- A.** Inspect grounding and bonding system conductors and connections for tightness and proper installation.

END OF SECTION

SECTION 26 05 29

HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Conduit and equipment supports.
- B. Anchors and fasteners.
- C. Roof support system.

1.02 REFERENCES

- A. NECA - National Electrical Contractors Association.
- B. ANSI/NFPA 70 - National Electrical Code.

1.03 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2: PRODUCTS

2.01 PRODUCT REQUIREMENTS

- A. Materials and Finishes: Provide adequate corrosion resistance.
- B. Provide materials, sizes, and types of anchors, fasteners and supports to carry the loads of equipment and conduit. Consider weight of wire in conduit when selecting products.
- C. Anchors and Fasteners:
 - 1. Concrete Structural Elements: Use expansion anchors.
 - 2. Steel Structural Elements: Use beam clamps, spring steel clips and welded fasteners.
 - 3. Concrete Surfaces: Use expansion anchors.
 - 4. Hollow Masonry, Plaster, and Gypsum Board Partitions: Use hollow wall fasteners.
 - 5. Solid Masonry Walls: Use expansion anchors.
 - 6. Sheet Metal: Use sheet metal screws.
 - 7. Wood Elements: Use wood screws.

2.02 STEEL CHANNEL

- A. 12 ga. steel, roll formed, 1-5/8 x 1-5/8" minimum size.
- B. 1.8 lb. per foot minimum weight.
- C. Complete with all end caps, fittings, closure strips for a complete installation.
- D. Finish: Enamel prime coat.

2.03 ROOF SUPPORT SYSTEM

- A.** Rubber base for conduit support.
- B.** Material base: 100% recycled rubber, UV resistant.
- C.** Strut and pipe clamps, galvanized steel.
- D.** Manufacturers:
 - 1. C-Port.
 - 2. HAYDON.

PART 3: EXECUTION

3.01 INSTALLATION

- A.** Install products in accordance with manufacturer's instructions.
- B.** Provide anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
- C.** Do not fasten supports to pipes, ducts, mechanical equipment, and conduit.
- D.** Obtain permission from Architect/Engineer before using powder-actuated anchors.
- E.** Obtain permission from Architect/Engineer before drilling or cutting structural members.
- F.** Fabricate supports from structural steel or steel channel. Rigidly weld members or use hexagon head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
- G.** Install surface-mounted cabinets and panelboards with minimum of four anchors.
- H.** In wet and damp locations use steel channel supports to stand cabinets and panelboards one inch off wall.
- I.** Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.

END OF SECTION

SECTION 26 05 34

CONDUIT

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Metal conduit.
- B. Flexible metal conduit.
- C. Liquid-tight flexible metal conduit.
- D. Electrical metallic tubing.
- E. Nonmetal conduit.
- F. Light Fixture whips
- G. Fittings and conduit bodies.

1.02 RELATED SECTIONS

- A. Section 07 84 00 - Fire Stopping.
- B. Section 26 05 37 - Boxes.
- C. Section 26 05 29 – Hangers and Supports for Electrical Systems
- D. Section 26 05 53 – Identification for Electrical Systems.
- E. Section 26 05 35 – Surface Raceways
- F. Section 26 05 26 – Grounding and Bonding of Electrical System

1.03 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- C. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- D. ANSI/NFPA 70 - National Electrical Code.
- E. NECA "Standard of Installation."
- F. NEMA TC 2 - Conduit EPC-40.
- G. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit.

1.04 DESIGN REQUIREMENTS

- A.** Conduit Size: ANSI/NFPA 70.

1.05 REGULATORY REQUIREMENTS

- A.** Conform to requirements of ANSI/NFPA 70.
- B.** Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.06 PROJECT CONDITIONS

- A.** Verify that field measurements are as shown on Drawings.
- B.** Verify routing and termination locations of conduit prior to rough-in.
- C.** Conduit routing is shown on Drawings in approximate locations unless dimensioned. Route as required to complete wiring system.

1.07 CONDUIT REQUIREMENTS

- A.** Minimum Size: 1/2 inch (13 mm) unless otherwise specified.
- B.** Underground Installations:
 - 1. Use rigid steel conduit or nonmetallic rigid PVC conduit.
(Refer to 3.01 J, this section)
- C.** Outdoor Locations, Above Grade:
 - 1. Use rigid steel conduit.
- D.** Wet and Damp Locations:
 - 1. Use rigid steel conduit.
- E.** Dry Locations:
 - 1. Use electrical metallic tubing (EMT) and rigid steel conduit.
- F.** New Construction: (Refer to 1.07A,B,C,D and 1.07E above)
 - 1. Conceal conduits in finished spaces.
- G.** Existing Construction: (Refer to 1.07A,B,C,D and 1.07E above)
 - 1. If required fish flexible conduits concealed in walls.
 - 2. Provide surface raceways where conduits can not be fished in walls. Refer to Specifications Section 26 05 35.
- H.** Hazardous Locations:
 - 1. Use rigid steel conduit.
- I.** Equipment Connections: (Lights, motors, etc.)
 - 1. Dry locations: Flexible metal conduits, 6' maximum.
 - 2. Damp and Wet locations: Liquid-tight flexible metal conduit, 6' maximum.
 - 3. Kitchen equipment connections: Liquid-tight flexible metal conduit, 6' maximum.
 - 4. Light fixtures: Flexible metal conduit or Light fixture whips, 6' maximum.

PART 2: PRODUCTS

2.01 METAL CONDUIT

- A. Rigid Steel Conduit: ANSI C80.1.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; Steel, threaded type.

2.02 FLEXIBLE METAL CONDUIT

- A. Description: Interlocked steel construction.
- B. Fittings: ANSI/NEMA FB 1.

2.03 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Description: Interlocked steel construction with PVC jacket.
- B. Fittings: ANSI/NEMA FB 1.

2.04 ELECTRICAL METALLIC TUBING (EMT)

- A. Description: ANSI C80.3; galvanized tubing.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1; Steel, compression or set screw type.

2.05 NONMETALLIC CONDUIT

- A. Description: NEMA TC 2; Schedule 40, Rigid PVC.
- B. Fittings and Conduit Bodies: NEMA TC 3.

2.06 LIGHT FIXTURE WHIPS

- A. Description: Pre-Assembled AC/MC Light fixture whips.
- B. Fittings: ANSI/NEMA FB 1.

PART 3: EXECUTION

3.01 INSTALLATION

- A. All conduit sizes indicated on drawings are based on EMT conduit; unless specifically indicated. Contractor to appropriately resize conduits for PVC, Rigid Metal and other types of conduits to accommodate conductors to be installed.
- B. Install conduit in accordance with NECA "Standard of Installation."
- C. Arrange supports to prevent misalignment during wiring installation.
- D. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- E. Group related conduits; support using conduit rack. Construct rack using steel channel.

- F.** Fasten conduit supports to building structure and surfaces under provisions of Section 20 05 29.
- G.** Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports
- H.** Do not attach conduit to ceiling support wires or to grid of lay-in tile ceilings.
- I.** Arrange conduit to maintain headroom and present neat appearance.
- J.** Convert underground Non-metallic conduits to Rigid metal when routing conduits above grade. Use EMT when routing conduits above building concrete slab.
- K.** Route exposed conduits and conduits installed above accessible ceilings parallel and perpendicular to walls.
- L.** Route conduit in and under slab from point-to-point.
- M.** Do not cross conduits in slab.
- N.** Maintain adequate clearance between conduit and piping.
- O.** Maintain 12 inch (300 mm) clearance between conduit and surfaces with temperatures exceeding 104 degrees F (40 degrees C).
- P.** Cut conduit square using saw or pipe cutter; de-burr cut ends.
- Q.** Install nonmetallic conduit in accordance with manufacturer's instructions.
- R.** Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
- S.** Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- T.** Install no more than equivalent of three 90-degree bends between boxes, junction boxes, and pull boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use hydraulic one-shot bender to fabricate factory elbows for bends in metal conduit larger than 2 inch (50 mm) size.
- U.** Avoid moisture traps; provide junction box with drain fitting at low points in conduit system.
- V.** Provide suitable fittings to accommodate expansion and deflection where conduit crosses [seismic] [, control] [and] expansion joints.
- W.** Provide suitable pull string in each empty conduit except sleeves and nipples.
- X.** Use suitable caps to protect installed conduit against entrance of dirt and moisture.
- Y.** Ground and bond conduit under provisions of Section 26 05 26.
- Z.** Identify conduit under provisions of Section 26 05 53.

3.02 INTERFACE WITH OTHER PRODUCTS

- A.** Install conduit to preserve fire resistance rating of partitions and other elements, using materials and methods under the provisions of Division 7.
- B.** Route conduit through roof openings for piping and ductwork or through suitable roof jack with pitch pocket. Coordinate location with roofing installation specified under Section Division 7.

END OF SECTION

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SECTION 26 05 37

BOXES

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Wall and ceiling outlet boxes.
- B. Pull and junction boxes.
- C. Floor boxes.

1.02 RELATED SECTIONS

- A. Section 07 84 00 – Fire stopping.
- B. Section 26 05 38 – Auxiliary Raceway Systems
- C. Section 26 27 26 - Wiring Devices:
- D. Section 26 51 00 - Interior Lighting
- E. Section 26 56 01 - Exterior Lighting
- F. Division 27 – Communications
- G. Division 28 – Electronic Security and Safety

1.03 REFERENCES

- A. ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
- B. ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers, and Box Supports.
- C. ANSI/NFPA 70 - National Electrical Code.
- D. NEMA 250 - Enclosures for Electrical Equipment.

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.05 PROJECT CONDITIONS

- A. Verify field measurements are as shown on Drawings.
- B. Verify locations of floor boxes prior to rough-in.

- C. Electrical boxes are shown on Drawings in approximate locations unless dimensioned. Install at location required for box to serve intended purpose.

PART 2: PRODUCTS

2.01 OUTLET BOXES

- A. Sheet Metal Outlet Boxes: ANSI/NEMA OS 1, galvanized steel.
 - 1. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 1/2 inch (13 mm) male fixture studs where required.
- B. Cast Boxes: NEMA FB 1, Type FD cast ferrous alloy. Provide gasketed cover by box manufacturer. Provide threaded hubs.
- C. Fire Alarm Boxes: Surface boxes used for mounting of fire alarm devices to be a heavy duty type, supplied by the manufacturer of the device installed.

2.02 PULL AND JUNCTION BOXES

- A. Sheet Metal Boxes: NEMA OS 1, galvanized steel.

2.03 FLOOR BOXES

- A. Multi-service Type – Below Grade
 - 1. 4- compartment, Cast iron, concrete tight.
 - 2. Box shall have 90 cubic inch capacity.
 - 3. Full adjustable (both before and after) concrete pour.
 - 4. Box shall contain cover plates for a receptacle and computer wiring. (Refer to sheet T301 for technology requirements)
 - 5. Hinged floor plate
 - 6. Manufacturer: Wiremold #RFB4-CI with #FPBTC concealed service top.

PART 3: EXECUTION

3.01 INSTALLATION

- A. Install electrical boxes as shown on Drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
- B. Provide flush mounting boxes in finished areas. Provide flush mounting after construction boxes in existing drywall locations.
- C. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
- D. Inaccessible Ceiling Areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed luminaire.
- E. Install boxes to preserve fire resistance rating of partitions and other elements.
- F. Align adjacent wall-mounted outlet boxes for switches, thermostats, and similar devices with each other.

- G. Install electrical boxes to maintain headroom and to present neat mechanical appearance.
- H. Do not install flush mounting boxes back-to-back in walls; provide minimum 6 inch separation.
- I. Secure flush mounting box to interior wall and partition studs. Accurately position to allow for surface finish thickness.
- J. Use stamped steel bridges to fasten flush mounting outlet box between studs.
- K. Install flush mounting box without damaging wall insulation or reducing its effectiveness.
- L. Use adjustable steel channel fasteners for hung ceiling outlet box.
- M. Do not fasten boxes to ceiling support wires.
- N. Support boxes independently of conduit.
- O. Use gang box where more than one device is mounted together. Do not use sectional box.
- P. Use gang box with plaster ring for single device outlets.
- Q. Use cast outlet box in exterior locations exposed to the weather and wet locations.
- R. Use cast floor boxes for installations in slab on grade; formed steel boxes are acceptable for other installations.
- S. Set floor boxes level.
- T. Large Pull Boxes: Boxes larger than 100 cubic inches in volume or 12 inches in any dimension.
 1. Interior Dry Locations: Use hinged enclosure.
 2. Other Locations: Use surface-mounted cast metal box.

3.02 INTERFACE WITH OTHER PRODUCTS

- A. Locate flush mounting box in masonry wall to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
- B. Coordinate mounting heights and locations of outlets mounted above counters, benches and backsplashes.
- C. Position outlet boxes to locate luminaires as shown on reflected ceiling plan.

3.03 ADJUSTING

- A. Adjust floor box flush with finish flooring material.
- B. Adjust flush-mounting outlets to make front flush with finished wall material.
- C. Install knockout closure in unused box opening.

END OF SECTION

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SECTION 26 05 38

AUXILIARY RACEWAY SYSTEMS

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Computer/data raceways.
- B. Telephone raceways.
- C. Television distribution raceways.
- D. Security System raceways.

1.02 RELATED SECTIONS

- A. Section 26 05 34 - Conduit

PART 2: PRODUCTS – NOT USED

PART 3: EXECUTION

3.01 INSTALLATION

- A. Raceway system shall include raceways and boxes.
- B. Minimum conduit size for outlets shall be 1".
- C. Wall outlets shall comprise a 4" square box with a flush single gang raised cover and blank cover plate.
- D. Provide conduit from the outlet boxes to the suspended ceiling space. Provide conduit sleeves with bushings through walls to allow cable pulling from corridor.
- E. Install wall outlets at 18" unless noted otherwise.
- F. Support raceways under the provisions of Section 26 05 29.
- G. Install pull wire or polyethylene pulling string in each empty conduit.
- H. Install blank cover plates at each box.

END OF SECTION

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SECTION 26 05 53

INDENTIFICATION OF ELECTRICAL SYSTEMS

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Nameplates and labels.
- B. Panelboard Directories
- C. Wire and cable markers.

1.02 RELATED SECTIONS

- A. Division 9 - Painting.

1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Provide catalog data for nameplates, labels, and markers.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under regulatory requirements. Include instructions for storage, handling, protection, examination, preparation and installation of Product.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2: PRODUCTS

2.01 NAMEPLATES AND LABELS

- A. Nameplates:
 - 1. Engraved three-layer laminated plastic, black letters on white background.
 - 2. Emergency systems shall use white letters on red background
- B. Labels: Labels: Printed with 3/8 inch black letters on white pressure sensitive tape. Use only for identification of individual control device stations.

C. Locations and Sizes:

1. Nameplate: Panelboards, Switchboards and Motor Control Centers: 1/2 inch; identify equipment designation and voltage rating.
2. Nameplate: Equipment Enclosures: 1/2 inch; identify equipment designation.
3. Nameplate: Circuit Breakers, Switches, and Motor Starters in Distribution Panelboards, Switchboards or Motor Control Centers: 3/8 inch; identify load served.
4. Nameplate: Transformer: 1/2 inch; identify equipment designation; identify primary and secondary voltages.
5. Label: Individual Circuit Breakers, Disconnect Switches, Enclosed Switches, and Motor Starters: 3/8 inch; identify load served and voltage rating.
6. Label: Junction boxes: 3/8 inch; identify system sources and loads served. Junction boxes and be neatly identified using a permanent marker.

2.02 PANELBOARD DIRECTORIES

- A. Provide type written directory for all new panelboards. Provide clear plastic cover. Room names and numbers shall be Owner's designations, not as indicated on the plans.
- B. Provide updated type written directory for all existing panelboards in remodeled areas.

2.03 WIRE MARKERS

- A. Description: Cloth, tape, split sleeve, or tubing type wire markers.
- B. Locations: (1) Each conductor at panelboard gutters.
(2) Pull boxes or junctions boxes larger than 4 11/16".
- C. Legend:
 1. Power and Lighting Circuits: Verify label identification numbering system with the Owner's representative.
 2. Control Circuits: Control wire number indicated on schematic and interconnection diagrams on drawings.

PART 3: EXECUTION

3.01 BUILDING LABELING METHOD

- A. Wording of nameplates and embossed labels shall define the components actual use. Nomenclature used on the Drawings and in Specifications are for construction purposes only. Actual nomenclature shall be verified with the Owner. Identify voltage where other than 120 volts.

3.02 APPLICATION

- A. Install nameplate and label parallel to equipment lines.
- B. Secure nameplate to equipment front using screws or adhesive.
- C. Secure nameplate to inside surface of door on panelboard that is recessed in finished locations.
- D. Identify underground conduits using underground warning tape. Install one tape per trench at 6 inches below finished grade.

END OF SECTION

SECTION 26 27 17
EQUIPMENT WIRING

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Electrical connections to equipment specified under other sections.

1.02 RELATED SECTIONS

- A. Division 22 - Plumbing Equipment.
- B. Division 23 - HVAC Equipment.
- C. Section 26 05 34 - Conduit.
- D. Section 26 05 19 – Low-voltage power Conductors and Cables.
- E. Section 26 05 37 - Boxes.

1.03 REFERENCES

- A. NEMA WD 1 - General Purpose Wiring Devices.
- B. NEMA WD 6 - Wiring Device Configurations.
- C. ANSI/NFPA 70 - National Electrical Code.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Provide wiring device manufacturer's catalog information showing dimensions, configurations, and construction.
- C. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

1.06 COORDINATION

- A.** Determine connection locations and requirements of new equipment and existing equipment to be relocated. (Determine voltage, amperage and type of connections required)
- B.** Determine connection locations and requirements.
- C.** Sequence rough-in of electrical connections to coordinate with installation schedule for equipment.
- D.** Sequence electrical connections to coordinate with start- up schedule for equipment.

PART 2: PRODUCTS

2.01 CORDS AND CAPS

- A.** Attachment Plug Construction: Conform to NEMA WD 1.
- B.** Configuration: NEMA WD 6; match receptacle configuration at outlet provided for equipment.
- C.** Cord Construction: ANSI/NFPA 70, Type SO multi-conductor flexible cord with identified equipment grounding conductor, suitable for use in damp locations.
- D.** Size: Suitable for connected load of equipment, length of cord, and rating of branch circuit overcurrent protection.

PART 3: EXECUTION

3.01 ELECTRICAL CONNECTIONS

- A.** Make electrical connections in accordance with equipment manufacturer's instructions.
- B.** Make conduit connections to equipment using flexible conduit. Use liquid-tight flexible conduit with watertight connectors in damp or wet locations.
- C.** Make wiring connections using wire and cable with insulation suitable for temperatures encountered in heat producing equipment.
- D.** Provide receptacle outlet where connection with attachment plug is indicated. Provide cord and cap where field- supplied attachment plug is indicated.
- E.** Install disconnect switches, controllers, control stations, and control devices as indicated.
- F.** Provide interconnecting conduit and wiring between devices and equipment where indicated.

END OF SECTION

SECTION 26 27 26

WIRING DEVICES

PART 1: GENERAL

1.01 SECTION INCLUDES

- A.** Wall switches.
- B.** Receptacles.
- C.** Device plates.
- D.** Occupancy sensors.

1.02 RELATED SECTIONS

- A.** Section 26 05 37 - Boxes.
- B.** Section 26 05 26 – Grounding and Bonding

1.03 REFERENCES

- A.** NEMA WD 1 - General Purpose Wiring Devices.
- B.** NEMA WD 6 - Wiring Device Configurations.

1.04 SUBMITTALS

- A.** Submit under provisions of Section 01 30 00.
- B.** Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.
- C.** Manufacturer's Instructions:
 - 1. Indicate application conditions and limitations of use stipulated by product testing agency specified under regulatory requirements.
 - 2. Include instructions for storage, handling, protection, examination, preparation, operation and installation of product.

1.05 REGULATORY REQUIREMENTS

- A.** Conform to requirements of ANSI/NFPA 70.
- B.** Furnish products listed and classified by Underwriters Laboratories, Inc. as suitable for purpose specified and shown.

PART 2: PRODUCTS

2.01 WIRING DEVICE MANUFACTURERS

- A.** Arrow-Hart
- B.** Hubbell Automation
- C.** Leviton
- D.** Pass and Seymour
- E.** Eagle
- F.** Cooper Wiring Devices
- G.** Substitutions: Under provisions of Section 01 63 00.

2.02 WALL SWITCHES

- A.** Quiet, toggle type:
 - 1. Heavy-Duty Specification grade.
 - 2. 20 amp, 120-277 volt.
 - 3. A.C. only.
 - 4. Back and side wired.
 - 5. Color: White.
 - 6. Manufacturer: Pass and Seymour #20AC1W or equal
- B.** Pilot light type:
 - 1. Heavy-Duty Specification grade.
 - 2. 20 amp, 120-277 volt.
 - 3. A.C. only.
 - 4. Back and side wired.
 - 5. Red pilot handle
 - 6. Manufacturer: Pass and Seymour #20AC1RPL or equal

2.03 RECEPTACLES

- A.** Duplex Convenience Receptacles
 - 1. Heavy-Duty Specification Grade, Tamper Resistant, duplex, 2 pole, 3 wire grounding, straight blade, back and side wired.
 - 2. 20 amp, 125 volt.
 - 3. NEMA 5-20R.
 - 4. Color: White.
 - 5. Manufacturer: Pass & Seymour #TR5362, or equal
- A1.** Duplex Convenience Receptacles with USB charging
 - 1. Specification Grade, duplex, 2 pole, 3 wire grounding, straight blade, back and side wired.
 - 2. Tamper resistant.
 - 3. 20 amp, 125 volt.
 - 4. (2) 5VDC USB ports
 - 5. NEMA 5-20R.
 - 6. Color: White.
 - 7. Manufacturer: Pass & Seymour #TR5362USB, or equal

- B. GFI Receptacles**
 - 1. Specification Grade
 - 2. Tamper Resistant.
 - 3. Duplex, 3 wire grounding, straight blade, and side or screw pressure plate back wired.
 - 4. 20 amp, 125 volt.
 - 5. NEMA 5-20R.
 - 6. Built-in ground fault interrupting protection.
 - 7. "Test" and "Reset" buttons.
 - 8. Feed-thru feature.
 - 9. Color: White.
 - 10. Manufacturer: Pass & Seymour #2097TRW or equal

2.04 WALL PLATES

- A. Interior-Stainless Steel**
 - 1. 430 alloy.
 - 2. Finish: Satin.
 - 3. Manufacturer: Hubbell, Sierra Electric.
- B. Interior-Stamped Galvanized Steel, Aluminum, or Die-Cast Metal:**
 - 1. Raised cover with captive screws.
 - 2. Specifically designed for surface boxes in unfinished areas.

2.05 OCCUPANCY/VACANCY SENSORS

- A. Type 'A' Sensors.**
 - 1. Passive infrared Vacancy wall sensor.
 - 2. Construction: Solid state electronics, molded plastic body, fits into single gang box.
 - 3. Range and Coverage: Approximately 180° field of view up to 1000 square feet.
 - 4. Electrical Ratings: 120/277VAC: 0 to 1000 watts ballast rating.
 - 5. Designed for dual light switching from one circuit.
 - 6. Color: White.
 - 7. Manufacturer: Hubbell Automation LightHAWK2 *Dual Technology* #LHMTD2-WH with #UVPP Power packs, or equal by Watt Stopper and Leviton.
 - 8. Provide auxiliary contacts for HVAC equipment.
- B. Type 'B' Sensors.**
 - 1. Passive infrared Vacancy wall sensor.
 - 2. Construction: Solid state electronics, molded plastic body, fits into single gang box.
 - 3. Range and Coverage: Approximately 180° field of view up to 1000 square feet.
 - 4. Electrical Ratings: 120/277VAC: 0 to 1000 watts ballast rating.
 - 5. Designed for single light switching from one circuit.
 - 6. Color: White.
 - 7. Manufacturer: Hubbell Automation LightHAWK2 *Dual Technology* #LHMTS1-WH with #UVPP Power packs, or equal by Watt Stopper and Leviton.
 - 8. Provide auxiliary contacts for HVAC equipment.
- C. Type 'C' Sensors.**
 - 1. Ceiling mounted sensor utilizing ultrasonic technology.
 - 2. Total volumetric coverage with no blind spots.
 - 3. Controls for ultrasonic sensitivity and time adjustments.
 - 4. 32.7 kHz frequency.
 - 5. Manufacturer: Hubbell Automation #OMNI-US1000 with power switch pack or equal by Watt Stopper and Leviton.
 - 6. Provide auxiliary contacts for HVAC equipment.

- D. Type 'D' Sensors. (all sensors to be type 'D', unless indicated otherwise)
1. Ceiling mounted sensor utilizing ultrasonic and passive infrared technologies.
 2. Adaptive Technology: Self Adjusting and Self Calibrating.
 3. Controls for sensitivity and time adjustments.
 4. 32.7 kHz frequency.
 5. intelliDAPT Technology.
 6. Manufacturer: Hubbell Automation #OMNI-DT2000RP with power pack or equal by Watt Stopper and Leviton.
 7. Provide auxiliary contacts for HVAC equipment.

PART 3: EXECUTION

3.01 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean debris from outlet boxes.

3.02 INSTALLATION

- A. Install products in accordance with manufacturer's instructions.
- B. Install devices plumb and level.
- C. Install switches with OFF position down.
- D. Install all receptacles so that when the long dimension of the receptacle is:
 1. Vertical, the grounding slot is "up".
 2. Horizontal, the neutral slot is "up".
- E. Connect wiring device grounding terminal to outlet box with bonding jumper.
- F. Install stainless steel plates on switch, receptacle, and blank outlets in finished areas.
- G. Mounting dimensions indicated are to center of device.

3.03 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 26 05 37 to obtain mounting heights indicated on Drawings.
- B. Install wall switch 46 inches (center of device) above finished floor.
- C. Install convenience receptacle 18 inches (center of device) above finished floor unless noted otherwise.

3.04 FIELD QUALITY CONTROL

- A.** Inspect each wiring device for defects.
- B.** Operate each wall switch with circuit energized and verify proper operation.
- C.** Verify that each receptacle device is energized.
- D.** Test each receptacle device for proper polarity.
- E.** Test each GFI receptacle device for proper operation.

END OF SECTION

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SECTION 26 51 00
INTERIOR LIGHTING

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Luminaires and accessories.
- B. LED Lamps
- C. LED Drivers

1.02 RELATED SECTIONS

- A. Section 26 05 37 - Boxes.

1.03 REFERENCES

- A. ANSI/NFPA 70 - National Electrical Code.
- B. ANSI/NFPA 101 - Life Safety Code.
- C. NEMA WD 6 - Wiring Devices-Dimensional Requirements.
- D. IESNA-LM79 and IESNA-LM-80

1.04 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Shop Drawings: Indicate fixture type on each cut-sheet; components and finishes for each luminaire.
- C. Product Data: Provide dimensions, ratings, and performance data.
- D. Submit Lighting Driver information with Manufacturer and model numbers.
- E. Submit LED lamp information with Manufacturer and model numbers.
- F. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by product testing agency specified under Regulatory Requirements.
- G. Manufacturer's Instructions: Include instructions for storage, handling, protection, examination, preparation, and installation of product.

1.05 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc. As suitable for purpose specified and shown.

PART 2: PRODUCTS

2.01 LUMINAIRES

- A.** Furnish products as specified in schedule on Drawings.
- B.** Substitutions: Under provisions of Section 01 60 00.
- C.** Install ballasts and specified accessories at factory.
- D.** Provide lighting fixtures as shown on the Lighting Fixture Schedule.
- E.** Catalog numbers listed in the Lighting Fixture Schedule may be general in nature. Specific finishes, diffusers and/or accessories, if listed in the Lighting Fixture Schedule Remarks, shall take precedence and shall be furnished even though there may be a conflict in the catalog number given.
- F.** Furnish fixtures of type indicated and of specific design to fit particular ceiling construction. Check the Architectural Drawings and Specifications for ceiling construction and type, space above suspended ceilings and specific type of suspension system.
- G.** Furnish all accessories required to install fixtures in accordance with the manufacturer's recommendations including plaster frames, ends or caps, couplings, suspension assemblies, mounting brackets and other appurtenances required.
- H.** The fixture trims and frames, unless otherwise specifically noted, shall be of baked white enamel.

2.02 LIGHT EMITTING DIODE (LED) FIXTURES.

- 1. All LED lighting fixtures are to be tested, and documentation provided, in accordance to IESNA-LM79 and IESNA-LM-80. No Exceptions.
- 2. LED fixtures and drivers shall carry a minimum 5 year warranty from the manufacturer. Warranty shall cover replacement materials and labor for installation of devices failing within warranty period.
- 3. All LED fixtures, modules, or arrays, per type, shall be provided with the same date code of Manufacture to minimize color temperature variation due to different binning cycles. Provide written documentation from Manufacturer on Manufacturer's letterhead stating such with submittals.
- 4. All LED fixtures shall have an absolute maximum Correlated Color Temperature variance of +/- 200 degrees Kelvin maximum. Products installed in field with greater variance shall be Replaced at no cost to Owner.
- 5. All LED luminaires (LED modules/ arrays, drivers, thermal overloads) must be serviceable Without disruption of surrounding mounting materials.

2.03 LED DRIVERS

- 1. Provide driver type (non-dimmed, step-dimmed, continuous-dimming, etc.) as indicated on the luminaire schedule on the drawings.
- 2. Minimum Warranty of 5 years (not pro-rated) to include LED driver and all LED components.
- 3. Driver shall have a rated life of 50,000 hours, minimum.
- 4. Driver and LEDs shall be furnished from a single manufacturer to ensure compatibility.
- 5. Driver shall have a minimum power factor (pf) of 0.9 and a maximum crest factor (cf) of 1.5 at full input power and across specified voltage range.
- 6. Driver shall operate normally for input voltage fluctuations of plus or minus 10 percent.
- 7. Driver shall have a maximum Total Harmonic Distortion (THD) of 20% at full input power and across specified voltage range.

2.04 DIMMING DRIVERS:

1. LED driver shall be compatible with dimming controls where dimming is indicated on the plans. Dimmable drivers shall use Dimming Constant Current (DCC) or Pulse Width Modulation (PWM) operation.
2. Step-Dimming Drivers: Easily switched from 0% to 50% to 100% output power. Both switch-leg inputs shall control 50% of the luminaire's light output equally.
3. Continuous Dimming Drivers: LED luminaires shall dim to (20%, 15%, 10%, 5%, or 0.1%) as specified in the Luminaire Schedule on the plans without visible flicker or "popcorn effect". "Popcorn effect" is defined as the luminaire being on a pre-set dimmed level (less than 100%), and going to 100% prior to returning to the pre-set level when power is returned to the luminaire. Continuous Dimming Drivers shall use 0-10V control.

2.05 EXTRA MATERIALS

1. Provide one (1) of each type of LED module, light bar, or array (if applicable). If the LED's are integrated into the luminaire and are not separate components, provide one (1) of each of these types of luminaires.
Provide one (1) LED driver of each type.

PART 3: EXECUTION

3.01 EXAMINATION

- A. Examine substrate and supporting grids for luminaires.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. The type of fixture to be provided for each outlet is indicated by a letter symbol on the Working Drawings.
- C. If any fixture symbol on the Drawing is lacking a fixture type, provide a fixture same as other fixtures in like areas.
- D. Install all incidental materials, fittings, hangers, supports, etc. to make the lighting fixture installation complete.
- E. Exit lights shall be located so that no other fixtures will interfere with the line of sight.
- F. All reflectors, shades, fixture bodies, etc., shall be free of dents and scratches. All glassware/plastic shall be free of cracks, chips, etc., and any plastic which is warped shall be replaced or provided with additional mounting clips to prevent reoccurrence. Remove all exposed tags and labels.
- G. Install surface mounted luminaires and exit signs plumb and adjust to align with building lines and with each other. Secure to prohibit movement.
- H. Install accessories furnished with each luminaire.
- I. Make wiring connections to branch circuit using building wire with insulation suitable for temperature conditions within luminaire.
- J. Bond products and metal accessories to branch circuit equipment grounding conductor.
- K. Install specified luminaires and give spare materials to owner.

3.03 ADJUSTING

- A.** Adjust exit sign directional arrows as indicated.
- B.** Re-lamp luminaires that have failed lamps at Substantial Completion.

3.04 CLEANING

- A.** Clean Work under provisions of Section 01 70 00.
- B.** Clean electrical parts to remove conductive and deleterious materials.
- C.** Remove dirt and debris from enclosure.
- D.** Clean photometric control surfaces as recommended by manufacturer.
- E.** Clean finishes and touch up damage.

END OF SECTION

SECTION 27 10 05

STRUCTURED CABLING FOR VOICE AND DATA

PART 1: GENERAL

1.01 SCOPE

- A. The applicable provisions of Division 1 shall govern work specified in this section.

1.02 WORK INCLUDED

- A. Furnish and install a Horizontal data and Voice cables, in cable tray and/or free-air in as identified on the Drawings.
- B. horizontal data and Voice cables shall be mounted on freestanding equipment racks.
- C. Provide various equipment for pulling, racking, terminating, testing documentation and labeling. Also provide other equipment as specified below.
- D. All cables and splice equipment shall be furnished, installed, tested, and wired including proper grounding/bonding by the Contractor.

1.03 WORK SEQUENCE

- A. During the construction period coordinate telecommunications schedule and operations with the Owner
- B. For additional information pertaining to the sequencing of the work refer to Division 1.

1.04 UTILITY ALLOWANCE

- A. No allowance shall be included in the Bid.

1.05 SUBMITTALS

- A. Submit six (6) sets, of which two (2) will be returned to the contractor, of Shop Drawings for all materials proposed, in accordance with provisions of Division 1.
- B. Submit product data indicating cable and accessory construction, materials, ratings and all other parameters identified in Part 2 - Products below.
- C. A complete description of the material which the contractor proposes to substitute and reason for substitution.
- D. Submit manufacturer's installation instructions.
- E. Work shall not proceed without the approved submittals.

1.06 SYSTEM DESCRIPTION

- A. The system shall include the provision of horizontal data/ voice cable and video cabling installed as indicated on the drawings and routed to each telecommunications station or TV outlet box. **There shall be a minimum of one voice and one data cable run to each voice/data outlet, one data cable run to each data outlet, and one voice cable run to each voice outlet unless indicated otherwise on the floor plans.**

1.07 PROJECT RECORD DOCUMENTS

- A. Submit record documents under provisions.
- B. Accurately record exact sizes, locations and quantities of cables.

1.08 QUALITY ASSURANCE

- A. The manufacturer shall be a company specializing in communication cable and/or accessories with a minimum of five years documented experience in producing cable and/or accessories similar to those specified below.

1.09 CODE REQUIREMENTS

- A. ANSI/IEEE C2 - National Electrical Safety Code
- B. NFPA 70-1999 - National Electrical Code.
- C. Wisconsin Department of Commerce Chapter Comm 16 - Wisconsin Electrical Code
- D. EIA/TIA Standards

1.10 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to and receive products at the site under provisions of Division 1.
- B. Cable shall be stored according to manufacturer's recommendations as minimum. In addition, cable must be stored in a location protected from vandalism and weather. If cable is stored outside, it must be covered with opaque plastic or canvas with provision for ventilation to prevent condensation and for protection from weather. If air temperature at cable storage location will be below 40 degrees F., the cable shall be moved to a heated (50 degrees F. minimum) location. If necessary, cable shall be stored off site at the contractors' expense.

PART 2: PRODUCTS

2.01 HORIZONTAL COPPER VOICE AND DATA WIRE

- A. All cables and equipment shall be furnished, tested, installed and wired by the Contractor. The following should be used for the horizontal cabling:
 - (1) Plenum Rated:
 - (2) Color: Blue for Data and White for Voice Cabling.

- B.** Transmission characteristics of the cable shall meet full Category 6 performance as specified by the EIA/TIA. Bidders must specify the methods by which the cables are tested to verify conformance to the specifications, the identity of the testing body and the quality control mechanisms employed by the manufacturer to insure product compliance.
- C.** Transmission characteristics of the Cables shall meet full Category 6 performance criteria as defined by the referenced TIA/EIA documents. Refer to the Execution Section which details the required performance criteria of the completed Link of which the Cable is a part.

IMPORTANT: Cable and Termination Components (Jack, Patch Panel, and Wiring Blocks) are specified to function as a System. The compatibility of the Cable to be installed with the proposed termination components shall be recognized and documented by the Termination Component Manufacturer.

- D.** The cable shall be restricted to four-pair size to support a broad range of applications. The pair twists of any pair shall not be exactly the same as any other pair. The pair twist lengths shall be selected by the manufacturer to ensure compliance with the near-end crosstalk requirements of EIA/TIA 568 and NEMA.
- E.** Cable shall meet specifications of NEMA (low loss), EIA/TIA 568, UL 444, and ICEA.

2.02 MODULAR JACKS AND FACE PLATES

- A.** Station cables shall each be terminated at their designated Workstation area and Data Rooms. The color of the USOC RJ-45 8 pin non-keyed voice jack is to be white. The Category 6, 568B keyed data jacks are to be blue in color.
- B.** Data termination hardware shall meet full Category 6 performance specifications for connecting hardware. All pair combinations must be considered with the worst case measurement being the basis for compliance. Bidders must specify the methods by which the Jacks are tested to verify conformance to the specification, the identity of the testing body and the quality control mechanisms employed by the manufacturer to insure product compliance.
- C.** Face plates shall be furnished by the Contractor. Color of the face plates shall be white. Face plates shall consist of a mounting frame designed for use with modular jacks as identified on the floor plan. All modular jacks and outlet face plates will be made of high impact resistant nylon.
- D.** It is the contractor's responsibility to insure that the manufacturers face plates align flush with the metal surface mounted outlet box selected to prevent the face plates from "over-hanging" the outlet, where it could be pulled off or damaged.
- E.** Each face plate shall be secured to the metal outlet box utilizing center pin reject security screws. The contractor shall provide a minimum of two (2) center pin reject tools per building.
- F.** Where a modular jack is not used in the faceplate a dust cover or blank shall be inserted into the jack opening.
- G.** This contractor where necessary, shall provide a modular mounting frame so that all face plates can be adjusted to level.

PART 3: EXECUTION

3.01 GENERAL WIRE AND INSTALLATION REQUIREMENTS

- A.** Furnish and install all conduit, cables, connectors and equipment as shown on drawings and as specified above.
- B.** All cable terminations shall be completed by qualified personnel utilizing state-of-the-art equipment and techniques.
- C.** Four cable pairs are to be terminated on each modular jack at each station.
- D.** Data pairs shall terminate on the Data Patch Panels and mounted in an equipment rack located in the building MDF. All cabling for this project shall be terminated in the following manner, unless otherwise identified:
- E.** Data: All Category 6 rated horizontal cable shall be terminated on Category 6 rack mounted patch panels. All termination equipment shall meet full Category 5e performance criteria, as specified by the EIA / TIA Technical System Bulletin (TSB) #40. Bidders must specify the methods by which the cables are tested to verify conformance to the specifications, the identity of the testing body and the quality control mechanisms employed by the manufacturer to insure product compliance. Data wiring shall be sequenced by using the TIA-568B wiring standard.
- F.** Voice pairs shall terminate on data racks. Voice wiring shall be sequenced by using the USOC wiring standard. Installation, testing and conversion shall be coordinated with the owner.
- G.** All distribution cable shall be concealed, in conduit or a secured metal raceway system (wire way or equivalent) in all public areas, or as designated on the floor plans. All other routing, such as that found with typical MDF/IDF closets and wall fields, shall be kept clear of other trades work and supported according to code utilizing "D-type" mounting ring, cable trays and louver-head adder racks.
- H.** The contractor shall provide to the Engineer, prior to installation, drawings showing the proposed installation for his approval.
- I.** All cables shall be installed splice-free unless otherwise specified.

3.02 WORK BY OWNER

- A.** All network electronic equipment and patch cables not specified herein.

3.03 TESTING

- A.** System testing, procedures and Contractor Responsibilities are as follows:
 - 1. Test Equipment - Contractor is responsible for supplying all test equipment and personnel to conduct acceptance test.
 - 2. Contractor Responsibility - Contractor shall conduct acceptance testing according to a schedule coordinated with the Owner. Representatives of the Owner may be in attendance to witness the test procedures. The contractor shall offer adequate advance notice to the Owner as to allow for such participation.

3. Procedures - Contractor shall describe how they will conduct the tests and provide copies of all test results to the Architect/Engineer.

B. Tests to be conducted:

1. Category 6 tests (all cables, voice or data): Each installed station cable shall be tested to 250-MHZ for compliance with the specified Attenuation and NEXT performance characteristics as defined by TIA TSB-36 and -40. Measurements, which shall consider installed cable length, shall include cabling, patch panel and RJ45 faceplate. All pair combinations shall be tested with compliance being based upon the worst case pair combination.

C. The Contractor shall make the following tests during the course of construction and at completion of the work. The necessary instruments, meters, etc., for making these tests shall be supplied by the Contractor, this shall include a competent person for making these tests.

D. Each pair of each horizontal cable shall test free of shorts within the pairs, open or mis-wired pairs, shorts between pairs and transposed pairs when tested with an appropriate measuring instrument based on NEC requirements of insulation value of the particular wire. This same test shall be performed for all cross connects from the voice jacks to the Main Distribution Frame (MDF) in the case of Voice circuit paths and from the data jacks to the intermediate Distribution Frame (IDF) in the case of Data circuit paths.

E. In addition to the above tests, all data cable from the data jack to the MDF shall be tested using a Microtest Pentascanner or equivalent to provide verification of the horizontal telecommunications link. The test for this link shall include (1) the jack at the work area, (2) the horizontal "station" cable, and (3) the jack at the DF on which station cabling is terminated. Note that the maximum length of station cable shall not exceed 90 meters which allows 10 meters for equipment and patch cables. Worst case performance, based on a maximum length of 100 meters, shall be as follows:

<u>Frequency (MHz)</u>	<u>PS-NEXT Loss (dB; Worst Case)</u>	<u>Attenuation (maximum dB)</u>
1.0	62.0	1.9
4.0	61.8	3.5
8.0	57.0	5.0
10.0	55.5	5.5
16.0	52.2	7.0
20.0	50.7	7.9
25.0	49.1	8.9
31.3	47.5	10.0
62.5	42.7	14.4
100.0	39.3	18.6
200.0	34.3	27.4
250.0	32.7	31.1

F. The tests that shall be made and documentation provided shall consist of wire map, near-end crosstalk, attenuation, cable length, resistance and noise using TDR technology and be provided in hard copy.

- G.** Alternately the contractor may furnish the above information on a 3.5" disc. This disc shall contain the electronic equivalent of the bid specification requirements along with the software required to view such data. If this information can be provided in a standard format such as TIFF, PCX, etc. or a standard format readable from general purpose office automation type of software package, identification of such format is all that is required. The contractor shall furnish two disks to the Owner for distribution prior to final payment.
- H.** The results of the above tests shall be placed in a binder with three sets provided to the A/E.
- I.** In the event results of the tests are not satisfactory, the Contractor shall make such adjustments, replacement and changes as are necessary and shall then repeat the test or tests which disclosed faulty or defective material, equipment or installation method, and shall make additional tests as the Engineer deems necessary at no additional expense to the project or owner.
- J.** Tests related to connected equipment of others shall only be done with permission and presence of Contractor involved. The Contractor shall ascertain that testing only as required to prove the wiring connections are correct.
- K.** Three (3) record copies of all test readings shall be submitted to the Engineer for approval. The Contractor shall notify the Engineer at least one week in advance of the test date so that the Engineer may choose to be present.

3.04 CABLE PULLING

- A.** Beginning installation means contractor accepts existing conditions.
- B.** Where unacceptable conditions are found, the Contractor shall bring this to the attention of the construction supervisor immediately. A written resolution will follow to determine the appropriate action to be taken.
- C.** Contractor shall furnish all required installation tools to facilitate cable pulling without damage to the cable jacket. Such equipment is to include, but not limited to, sheaves, winches, cable reels, cable reel jacks, duct entrance tunnels, pulling tension gauge and similar devices. All equipment shall be of substantial construction to allow steady progress once pulling has begun. Makeshift devices which may move or wear in a manner to pose a hazard to the cable shall not be used.
- D.** Cable pulling shall be done in accordance with cable manufacturer's recommendations and ANSVIEEE C2 standards. Manufacturer's recommendations shall be a part of the cable submittal. Recommended pulling tensions and pulling bending radius shall not be exceeded. Any cable bent or kinked to radius less than recommended dimension shall not be installed.
- E.** During pulling operation an adequate number of workers shall be present to allow cable observation at all points of duct entry and exit as well as the feed cable and operate pulling machinery.
- F.** Avoid abrasion and other damage to cables during installation.

3.05 CABLE ROUTING

- A.** All wiring shall be run in conduit, a secured metal raceway, or as designated on the floorplan, and mounted from the building structure. All cable shall be free of tension at both ends.
- B.** To reduce or eliminate EMI, the following minimum distances shall be adhered to: Five (5) inches from power lines of 2kVa. Eighteen (18) inches from high voltage lighting (including fluorescent). Thirty-nine (39) inches from power lines of 5kVa or greater. Thirty-nine (39) inches from transformers and motors.

3.06 FILL RATIOS

- A.** Contractor is responsible for maintaining a maximum fill ratio of 40% for horizontal conduit and raceway systems, and a 60% fill ratio for vertical pathways.

3.07 LABEL IDENTIFICATION

- A.** Each "Faceplate" and each cable entering the outlet shall be labeled with the unique identifying code to be submitted at a later date. Cable shall be labeled with a tag which is wrapped around the cable sheath (not a "flag"). Faceplate labels shall be placed on the outside of the cover and on the base. All Labeling shall be by mechanical means in black ink on non-removable tags. Hand lettered designations are not acceptable. (See Label Identification).

3.08 WARRANTY

- A.** Contractor shall provide a manufacturer's warranty of at least two years for all cable, connectors, termination equipment and labor.

END OF SECTION

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SECTION 27 51 17
PUBLIC ADDRESS SYSTEM

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Zone paging modules.
- B. Amplifiers.
- C. Speakers.
- D. Communications cable.
- E. Volume control attenuators.
- F. Tone generator

1.02 SYSTEM DESCRIPTION

- A. The system shall have the capability to selectively page zones indicated on the drawings, or all-call the entire system. Paging shall be accomplished through the telephone system.
- B. System shall be capable of selective distribution of background music.
- C. Provide wall mounting paging amplifier.

1.03 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Indicate layout of equipment mounted in racks and cabinets, component interconnecting wiring, and wiring diagrams of field wiring to speakers and remote input devices.

1.04 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Furnish products listed and classified by Underwriters Laboratories, Inc.
- C. Conform to requirements of Federal Communications Commission.

PART 2: PRODUCTS

2.01 ZONE PAGING MODULES

- A.** Zone Paging Module. One module shall be provided for each three (3) paging zones in the system. The module shall provide built-in DIP switches to set talk-back on/off for each zone. It shall include a power-on LED, low-power background music volume control, and background music out/in jumper field, local BGM selection jumpers, and high I power/low-power operation selector switch. A connector block, using screw terminal connections, shall be included to connect local background music, zone wiring, and relay driver outputs.
- B.** Manufacturer: Bogen:
 - 1. Model # PCMZPM, zone paging module.
 - 2. Model # PCMCPU, central processing modules
 - 3. Model # PCMTIM, telephone interface module

2.02 AMPLIFIERS

- A.** The telephone paging amplifier shall be a, with a full power rating of 100 watts. The amplifier shall provide a frequency response of ± 1 dB from 70Hz to 15 kHz, and shall deliver rated power at less than 1% distortion.
- B.** The amplifier shall permit paging from telephone and/or microphone. The signal-activated paging channel shall automatically mute background music during a telephone page, eliminating the need for manual activation of switches and the use of external relays. Provision shall be included to set to mute the level of background music during a page. Music level shall be returned to its normal level after a page. The telephone paging channel shall have a VOX sensitivity adjustment to eliminate transmission of background noise, and automatic output leveling (ALC) to compensate for varying voice levels and paging techniques of persons using the system. An Aphex® Aural Exciter circuit shall be included to regenerate the harmonics lost during the amplification process. A control shall be provided to set the level of the Aphex effect.
- C.** Input terminals shall be furnished for a telephone line and LO-Z balanced microphone. A choice of RCA jack or screw terminals shall be provided for the music source. Terminals shall also be provided to control music muting during a mic page, and for contact closure. Balanced or unbalanced outputs shall be provided for 16- ohm, 25V, 25VCT, and 70V speaker lines. Provision shall be included to feed a 600-ohm telephone line, LO-Z input or balanced microphone input of another amplifier, using an accessory line-matching transformer (Model WMT1A). Individual controls shall be provided to set the telephone and mic page volume, music volume, and music mute level. Bass and treble controls shall permit tonal adjustments. An automatic level control (ALC) and VOX sensitivity controls shall be included. A peak level indicator shall illuminate when the amplifier is driven into clipping. A power indicator shall also be provided.
- D.** The amplifier shall operate from a 120V AC, 60Hz source, and shall be equipped with a resettable circuit breaker and thermal and electronic overload protection. Installation shall be facilitated by flanges with keyhole slots for mounting on a suitable backboard.
- E.** Provide Paging Muting relays to interface with building fire alarm system; and relays to mute paging for auditorium, fitness room and Wrestling gym system sound systems. Provide all required interconnecting wiring.
- F.** Mount amplifiers in wall mounted rack.
- G.** Manufacturer: Bogen Model #TPU100B

2.03 SPEAKERS – Type A

- A.** 2' x 2' Systems are supported by the T-Bar grid and include an integral T-Bar fast installation when replacing of a 2' x 2' tile. Ready-to-install systems include a wide selection of factory wired speaker/transformer assemblies mounted to a 1' x 2' sub-plate with a fine-perforated grille, integral T-Bar, and with acoustic lining, or protective backbox.
- B.** For installation convenience, assemblies with mounted back-box have speaker leads exiting through a metal clamp. Provide flush masonry backboxes where speakers are indicated to be wall mounted flush on drawings.
- C.** 8" diameter speaker, 12W power rating, Dual cone type with 5 oz. Ceramic magnet. Frequency response, 55Hz - 12.5 kHz, 120° dispersion, 8 Ohms voice coil impedance.
- D.** Transformer: Dual voltage 25V/70V transformer with taps at .25, .5, 1, 2, 5W.
- E.** Manufacturer: Lowell #LT810-72BB.

2.04 SPEAKERS- Type B

- A.** In ceiling speaker. Ready-to-install systems include factory wired speaker/transformer assemblies with tile-bridge. Contractor to cut ceiling tile for speaker installation.
- B.** 8" diameter speaker, 12W power rating, Dual cone type with 5 oz. Ceramic magnet. Frequency response, 55Hz - 12.5 kHz, 120° dispersion, 8 Ohms voice coil impedance.
- C.** Transformer: Dual voltage 25V/70V transformer with taps at .25, .5, 1, 2, 5W.
- D.** Manufacturer: Lowell #RPAK-810-72

2.05 SPEAKERS – Type C

- A.** Surface ceiling speaker. Ready-to-install systems include factory wired speaker/transformer assemblies.
- B.** 8" diameter speaker, 12W power rating, Dual cone type with 5 oz. Ceramic magnet. Frequency response, 55Hz - 12.5 kHz, 120° dispersion, 8 Ohms voice coil impedance.
- C.** Transformer: Dual voltage 25V/70V transformer with taps at .25, .5, 1, 2, 5W.
- D.** Manufacturer: Lowell #DSQ-805-72

2.06 SPEAKER HORNS – Type D

- A.** Flange-mounted reentrant horn loudspeaker, highly intelligibility. Sturdy, weatherproof, vandal-resistant, all metal-construction. Built in rotary impedance selector switch for matching the speaker power requirements to a 70V or 25V constant-voltage line. 15W power rating.
- B.** Power levels are: 15, 7.5, 3.6, 1.8, or 0.9 watts for 70V systems and 15, 7.0, 1.8, 0.9, 0.5, 0.25, or 0.125 watts for 25V systems

- C. Screw terminals for fast easy installation. Self-aligning, field replaceable diaphragm for easy field maintenance.
- D. Flush mount enclosure for installation.
- E. Heavy-duty cast aluminum grille and adapter ring for installation.
- F. Manufacturer: Bogen
 - 1. Model # FMH15T, horn loudspeaker.
 - 2. Model # BBFM6, flush-mount enclosure.
 - 3. Model # BBSM6, Surface-mount enclosure.
 - 4. Model # SGHD8, grille.
 - 5. Model # FMHAR8, adapter ring.

2.07 COMMUNICATION CABLE

- A. 18 GA., Two conductor shielded.
- B. Cables shall be plenum rated.
- C. Manufacturer: Belden or West Penn.

2.08 VOLUME CONTROL ATTENUATORS

- A. Volume Control Attenuators. Compact controls that provide precise level adjustment of single or multiple speaker lines. Required that emergency and paging signals to bypass/override the attenuator.
- B. Manufacturer: Lowell.
 - 1. Volume control attenuator #100LVC-PA includes priority relay (24VDC @ 5mA). Rotary switch type.
 - (a). Power rating: 100W
 - (b). Attenuation per step: 3dB
 - (c). Plate style: Standard one-piece stainless steel
 - (d). Color: White

2.09 TONE GENERATOR

- A. 4 types of tones, steady, pulsed alarm, slow whoop and chime.
- B. Tones generated by external contact closure.
- C. Adjustable tone and pitch.
- D. Operates on 12-48 V DC, positive or negative ground.
- E. 600 Ohm output.
- F. Line-matching transformer for standard 600 ohm telephone line connections.
- G. Screw terminal connection.
- H. Manufacturer: Bogen Model TG4C with WMT1A.

PART 3: EXECUTION

3.01 INSTALLATION

- A.** Install equipment in accordance with manufacturer's instructions.
- B.** Splice cable only in accessible junction boxes or at terminal block units.
- C.** Make cable shields continuous at splices and connect speaker circuit shield to equipment ground only at amplifier.
- D.** Leave 12 inches excess cable at each termination at microphone, speaker, and other system outlet.
- E.** Support cables above accessible ceilings to keep them from resting on ceiling tiles. Use spring metal clips or plastic cable ties to support cables from structure or cable tray. Include bridle rings or drive rings.
- F.** Use suitable cable fittings and connectors.
- G.** Install system cabinets in locations shown.

3.02 ADJUSTING

- A.** Adjust transformer taps for appropriate sound level.

END OF SECTION

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SECTION 28 13 00

ACCESS CONTROL

PART 1: GENERAL

1.01 SECTION INCLUDES

- A.** Expansion of existing Door Access System as described herein and as shown on Drawings; to be wired, connected, and left in first class operating condition. Electrical contractor shall provide and pull all necessary wire from nearest access panels to new access doors. Electrical contractor shall supply and install any needed conduit.
- B.** All panels and peripheral devices shall be the standard product of a single manufacturer and shall display the manufacturer's name on each component.
- C.** The complete installation shall conform to the applicable sections of NFPA-72, NFPA-70, and National Electrical Code with particular attention to Article 760.
- D.** The work covered by this section of the specifications shall be coordinated with the related work as specified elsewhere under the project specifications.

1.02 RELATED SECTIONS

- A.** Section 26 05 19 – Low Voltage Electrical Power Conductors and Cables
- B.** Section 26 05 34 – Conduits.
- C.** Section 26 05 37 – Boxes
- D.** Section 27 10 05 - Cabling for Voice and Data

1.03 REFERENCES

- A.** NFPA 70 - National Electrical Code.
- B.** NFPA 72 - National Fire Alarm Code.
- C.** NFPA 101 - Life Safety Code.

1.04 REGULATORY REQUIREMENTS

- A.** System: UL listed.
- B.** Conform to requirements of NFPA 101.

1.05 QUALIFICATIONS

- A.** Manufacturer: Company specializing in wiring access systems with five years documented experience.
- B.** Installer: certified by manufacturer as contractor.

1.06 SUBMITTALS

- A.** Submit shop drawings and product data under provisions of Section 01 30 00.
- B.** Provide all information and materials required for system: system description, sequence of operation, wiring diagrams, voltage drop calculations, battery calculations, data sheets, equipment ratings, layout, dimensions, and finishes.

1.07 PROJECT RECORD DRAWINGS

- A.** Submit documents under the provisions of Section 01 70 00.

1.08 OPERATION AND MAINTENANCE DATA

- A.** Submit data under provisions of Section 01 70 00.
- B.** Include operating instructions, and maintenance and repair procedures.

PART 2: PRODUCTS

2.01 MANUFACTURER/INSTALLER

- A.** Electrical contractor shall provide cost of all wire, conduit, labor, accessories, including installation, as provided by the SWTC's Access Control Vendor

PART 3: EXECUTION

3.01 INSTALLATION

- A.** Install system in accordance with manufacturer's instructions.
- B.** Electrical contractor shall provide and pull all necessary wire from nearest access panels to new access doors. Electrical contractor must supply and install any needed conduit. Electrical contractor shall provide power at panel locations for access control head end equipment.

3.02 FIELD QUALITY CONTROL

- A.** Test in accordance with Manufacturers requirements.

3.03 MANUFACTURER'S FIELD SERVICES

- A.** Provide manufacturer's field services.
- B.** Certified technician install devices as listed, make adjustments, do final connections, program and test system.

END OF SECTION

SECTION 28 31 00

FIRE DETECTION AND ALARM

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Expansion of existing Fire Alarm System as described herein and as shown on the Drawings; to be wired, connected, and left in first class operating condition. Include but not limited to sufficient control panels, automatic smoke detectors, duct smoke detectors, heat detectors, manual stations, alarm indicating appliances, and all other necessary material for complete operating systems.
- B. The fire alarm system shall allow for loading and editing special instructions and operating sequences such as cross zoning, as required. The systems shall be capable of on site programming to accommodate system expansion and facilitate changes in operation. All software operations shall be stored in a non-volatile programmable memory within the fire alarm control panel. Loss of primary and secondary power shall not erase the instructions stored in memory.
- C. All panels and peripheral devices shall be the standard product of a single manufacturer and shall display the manufacturer's name on each component.
- D. The complete installation shall conform to the applicable sections of NFPA-72, NFPA-70, and National Electrical Code with particular attention to Article 760.
- E. The work covered by this section of the specifications shall be coordinated with the related work as specified elsewhere under the project specifications.

1.02 RELATED SECTIONS

- A. Section 26 05 19 – Low Voltage Electrical Power Conductors and Cables
- B. Section 26 05 34 – Conduits.
- C. Section 26 05 37 - Boxes

1.03 REFERENCES

- A. NFPA 70 - National Electrical Code.
- B. NFPA 72 - National Fire Alarm Code.
- C. NFPA 101 - Life Safety Code.

1.04 REGULATORY REQUIREMENTS

- A. System: UL listed.
- B. Conform to requirements of NFPA 101.

1.05 QUALIFICATIONS

- A.** Manufacturer: Company specializing in smoke detection and fire alarm systems with five years documented experience.
- B.** Installer: Company specializing in smoke detection and fire alarm systems certified by manufacturer as fire alarm installing contractor.

1.06 SUBMITTALS

- A.** Submit shop drawings and product data under provisions of Section 01 30 00.
- B.** Provide all information and materials required for state review of fire alarm system: system description, sequence of operation, wiring diagrams, voltage drop calculations, battery calculations, data sheets, equipment ratings, layout, dimensions, and finishes.
- C.** Submit documents for state review; and pay all fees required. Include all forms, drawings and documents required as per IBC section 907: Paragraph 907.1.2 Fire alarm Shop Drawings.
- D.** Submit manufacturer's installation instructions under provisions of Section 01 30 00.

1.07 PROJECT RECORD DRAWINGS

- A.** Submit documents under the provisions of Section 01 70 00.

1.08 OPERATION AND MAINTENANCE DATA

- A.** Submit data under provisions of Section 01 70 00.
- B.** Include operating instructions, and maintenance and repair procedures.

PART 2: PRODUCTS

2.01 MANUFACTURER

- A.** Siemens
- B.** Edwards EST
- C.** Johnson Controls.
- D.** Simplex

2.02 INITIATING DEVICES

- A.** Manual Station:
 - 1) Semi-flush mounted, single action addressable manual station with break-glass rod.
 - 2) Gymnasiums: Semi-flush mounted, double action addressable manual station.
- B.** Smoke Detector: Intelligent/addressable photoelectric type with plug-in base. Detector has internal self-adjustment and self diagnostic capabilities. Two-wire detector with common power supply and signal circuit.

- C. Duct Mounted Smoke Detector: Intelligent/addressable photoelectric type with plug-in base, auxiliary SPDT relay contact, remote key-operated NORMAL-RESET-TEST switch, duct sampling tubes extending width of duct, and visual indication of detector actuation, in duct-mounted housing. Detector has internal self-adjustment and self diagnostic capabilities. Two-wire detector with common power supply and signal circuit.
- D. Heat Detector: addressable fixed temperature type with plug-in base. Refer to Drawings for fixed temperature setting.
- E. Input Modules: Addressable type as indicated on drawings.

2.03 SIGNALING DEVICES

- A. Alarm Lights: ADA complying strobe lamp and flasher.
- B. Alarm Horn: Flush type fire alarm horn. Sound Rating: 87 dB at 10 feet (3 m). Provide ADA complying integral strobe lamp and flasher. Provide 90dB horns for all mechanical rooms.
- C. Provide synchronization modules.

2.04 FIRE ALARM WIRE AND CABLE

- A. Fire Alarm Power Branch Circuits: Building wire as specified in Section 25 05 19.
- B. Initiating and Signal Circuits: Building wire as specified in Section 25 05 19.

PART 3: EXECUTION

3.01 INSTALLATION

- A. Install system in accordance with manufacturer's instructions.
- B. Install manual pull stations at 46 inches above the floor. Provide box and raceway extensions at existing locations, if required.
- C. Install audible and visual signal devices at ceiling, unless noted otherwise.
- D. Install all wiring in a metal raceway.
- E. Fire alarm visual (strobe) signals shall be synchronized.
- F. Provide a smoke detector within 5 feet (horizontal distance) of the fire alarm control panel, remote annunciator and power supplies for visual notification. (Alarm lights/strobes)
- G. Provide adequate 120 volt branch circuit wiring to each power supply for visual notification devices. Verify locations and quantities of power supplies with fire alarm supplier.
- H. Fire/Smoke Dampers provided and installed by Division 23. Wiring provided under this section.
- I. Provide all required wiring and control relays to shut down air handling units; upon initiation of building fire alarm system. Coordinate installation with division 23.

3.02 FIELD QUALITY CONTROL

- A. Test in accordance with NFPA 72 and local fire department requirements.

3.03 MANUFACTURER'S FIELD SERVICES

- A. Provide manufacturer's field services.
- B. Include services of certified technician to supervise installation, adjustments, final connections, and system testing.

END OF SECTION