

LURLEEN B. WALLCE COMMUNITY COLLEGE

JEFF BISHOP STUDENT CENTER UPGRADES

Andalusia, AL



BID SET
SEPTEMBER 30, 2026
SS&L Project No. 25122

Architectural	Mechanical/ Plumbing	Electrical	Structural
			

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**SECTION 00 0102
PROJECT INFORMATION**

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

- A. Project Name: LBW Jeff Bishop Student Center Renovation, located at Lurleen B. Wallace Community College - Andalusia, AL.
- B. Owner's Project Manager: Tim Jones.

1.02 PROJECT CONSULTANTS

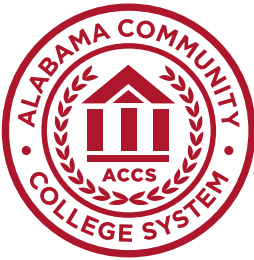
- A. The Architect, hereinafter referred to as Architect: Seay Seay & Litchfield, P.C.
 - 1. Address: 2431 W. Main Street - Suite 101
 - 2. City, State, Zip: Dothan, AL 36301
 - 3. Phone/Fax: 334-791-5248 / 334-263-5170Principal In Charge: Raleigh Price, AIA, NCARB, LEED AP
Project Architect: Raleigh Price, AIA, NCARB, LEED AP
Project Manager: Jose Solorzano, AIA Associate
- B. Architect's Consultants:
 - 1. Structural Engineering:
Harvest Engineering, LLC
Address: 1100 South College Street, Suite 201
City, State, Zip: Auburn, AL 36832
Phone/Fax: 334-737-0403
Engineer: Brad Harrison
 - 2. Plumbing, Mechanical & Fire Suppression Engineering:
Conway & Owen Engineers
Address: 216 South 8th Street, Suite 118
City, State, Zip: Opelika, AL 36801
Phone: 334-826-8858
Engineer: Joe Shaffer
 - 3. Electrical Engineering:
Conway & Owen Engineers
Address: 2515 E. Glenn Ave., Suite 304
City, State, Zip: Auburn, AL 36832
Phone: 334-826-8858
Engineer: Allen Sasser

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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FACILITIES DIVISION

ACCS FORM 5-AA

ADVERTISEMENT FOR PREQUALIFICATION & BIDS

COLLEGE:	Lurleen B. Wallace Community College ☐	ACCS PROJECT#:	2026 029 LBWCC
ADDRESS:	1000 Dannelly Blvd. Andalusia, AL 36420	ACCS PROJECT NAME:	LBW Jeff Bishop Student Center Renovations
SHORT DESCRIPTION OF THE SCOPE OF THE WORK:			
Renovate the existing Jeff Bishop Student Center building. The renovation will include new HVAC upgrades, electrical upgrades, interior finishes, dining room addition, and exterior improvements.			

Requirements for Pre-qualification: All interested General Contractors shall contact the Architect at jsolorzano@sslarch.com to receive the criteria and the pre-qualification application for this project.

Pre-qualification application forms should be emailed to: jsolorzano@sslarch.com
Forms will be received until 3:00 pm CST, 07/29/2026 .

A Mandatory Pre-Bid Conference for all pre-qualified contractors will be held at:
1000 Dannelly Blvd. Andalusia, AL 36420, Jeff Bishop Student Center on 08/06/2026 at 10:00 am CST.

~~Bid Documents may be obtained from the Architect (Engineer) upon deposit of \$_____ per set, which will be refunded in full on the first _____ sets issued to each general contract bidder submitting a bonafide bid, upon return of documents in good condition within ten days of bid date. Other sets for general contractors, and sets for subcontractors and dealers, may be obtained with the same deposit, which will be refunded as above, less cost of printing, reproduction, handling, and distribution.~~

~~Drawings and specifications may be examined at:~~ **will be distributed digitally to all prequalified contractors by the architect**

Only general contractors who have been approved to bid pursuant to prequalification procedures and criteria established by the Owner will be eligible to bid for the Project.

Sealed proposals will be received by the Alabama Community College System at:
1000 Dannelly Blvd. Andalusia, AL 36420, William McWhorter Learning Resource Building, Memorial Room
until 2:00 pm CST, 08/18/2026 at which time and place they will be publicly opened and read.

A cashier's check or bid bond payable to Alabama Community College System in an amount not less than five (5) percent of the amount of the bid, but in no event more than \$10,000, must accompany the bidder's proposal. Performance and Payment Bonds and evidence of insurance required in the bid documents will be required at the signing of the Contract.

Bids must be submitted on proposal forms furnished by the Architect (Engineer) or copies thereof. All bidders bidding in amounts exceeding that established by the State Licensing Board for General Contractors must be licensed under the provisions of Title 34, Chapter 8, Code of Alabama, 1975, and must show evidence of license before bidding or bid will not be received or considered by the Architect (Engineer); the bidder shall show such evidence by clearly displaying his or her current license number on the outside of the sealed envelope in which the proposal is delivered. The Owner reserves the right to reject any or all proposals and to waive technical errors if, in the Owner's judgement, the best interests of the Owner will thereby be promoted.

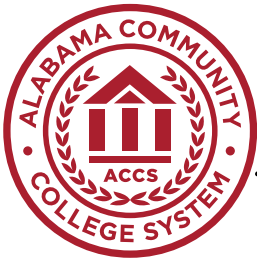
ALABAMA COMMUNITY COLLEGE SYSTEM

ARCHITECT/ENGINEER

NOTE: For projects exceeding \$100,000, this notice must be run once a week for three successive weeks in a newspaper of general circulation in the county or counties in which the project, or any part of the project, is to be performed. Proof of publication is required.

VER: 04232025

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INSTRUCTIONS *to* BIDDERS

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3. Qualifications of Bidders and Prequalification Procedures
4. Preference to Resident Contractors
5. Examination of Bid Documents and the Site of the Work
6. Explanations and Interpretations
7. Substitutions
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1 BID DOCUMENTS:

The Bid Documents consist of the Advertisement for Bids, these Instructions to Bidders, any supplements to these Instructions to Bidders, the Proposal Form and the Accounting of Sales Tax, and the proposed Contract Documents. The proposed Contract Documents consist of the Construction Contract, the Performance Bond and Payment Bond, the Conditions of the Contract (General, Supplemental, and other Conditions), Drawings, Specifications and all addenda issued prior to execution of the Construction Contract. Bid Documents may be obtained or examined as set forth in the Advertisement for Bids.

2 GENERAL CONTRACTOR'S STATE LICENSING REQUIREMENTS:

When the amount bid for a contract exceeds \$100,000, the bidder must be licensed by the State Licensing Board for General Contractors and must show the Architect evidence of license before bidding or the bid will not be received by the Architect or considered by the Awarding Authority. A bid exceeding the bid limit stipulated in the bidder's license, or which is for work outside of the type or types of work stipulated in the bidder's license, will not be considered. In case of a joint venture of two or more contractors, the amount of the bid shall be within the maximum bid limitation as set by the State Licensing Board for General Contractors of the combined limitations of the partners to the joint venture.

3 QUALIFICATIONS of BIDDERS and PREQUALIFICATION PROCEDURES:

(a) Any special qualifications required of general contractors, subcontractors, material suppliers, or fabricators are set forth in the Bid Documents.

(B) The Awarding Authority may have elected to prequalify bidders. Parties interested in bidding for this contract are directed to the Advertisement for Bids and Supplemental Instructions to Bidders to determine whether bidders must be prequalified and how they may obtain copies of the Awarding Authority's published prequalification procedures and criteria.

(C) Release of Bid Documents by the Architect to a prospective bidder will not constitute any determination by the Awarding Authority or Architect that the bidder has been found to be qualified, prequalified, or responsible.

4 PREFERENCE to RESIDENT CONTRACTORS:

(If this project is federally funded in whole or in part, this Article shall not apply.)

(A) In awarding the Contract, preference will be given to Alabama resident contractors and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the Contract only on the same basis as the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances.

(B) A nonresident bidder is a contractor which is neither organized and existing under the laws of the State of Alabama, nor maintains its principal place of business in the State of Alabama. A nonresident contractor which has maintained a permanent office within the State of Alabama for at least five continuous years shall not thereafter be deemed to be a non-resident contractor so long as the contractor continues to maintain a branch office within Alabama.

5 EXAMINATION of BID DOCUMENTS *and the SITE of the WORK:*

Before submitting a bid for the Work, the bidders shall carefully examine the Bid Documents, visit the site, and satisfy themselves as to the nature and location of the Work, and the general and local conditions, including weather, the general character of the site or building, the character and extent of existing work within or adjacent to the site and any other work being performed thereon at the time of submission of their bids. They shall obtain full knowledge as to transportation, disposal, handling, and storage of materials, availability of water, electric power, and all other facilities in the area which will have a bearing on the performance of the Work for which they submit their bids. The submission of a bid shall constitute a representation by the bidder that the bidder has made such examination and visit and has judged for and satisfied himself or herself as to conditions to be encountered regarding the character, difficulties, quality, and quantities of work to be performed and the material and equipment to be furnished, and as to the contract requirements involved.

6 EXPLANATIONS *and* INTERPRETATIONS:

(A) Should any bidder observe any ambiguity, discrepancy, omission, or error in the drawings and specifications, or in any other bid document, or be in doubt as to the intention and meaning of these documents, the bidder should immediately report such to the Architect and request clarification.

(B) Clarification will be made only by written Addenda sent to all prospective bidders. Neither the Architect nor the Awarding Authority will be responsible in any manner for verbal answers or instructions regarding intent or meaning of the Bid Documents.

(C) In the case of inconsistency between drawings and specifications or within either document, a bidder will be deemed to have included in its bid the better quality or greater quantity of the work involved unless the bidder asked for and obtained the Architect's written clarification of the requirements before submission of a bid.

7 SUBSTITUTIONS:

(A) The identification of any product, material, system, item of equipment, or service in the Bid Documents by reference to a trade name, manufacturer's name, model number, etc. (hereinafter referred to as "source"), is intended to establish a required standard of performance, design, and quality and is not intended to limit competition unless the provisions of paragraph "d" below apply.

(B) When the Bid Documents identify only one or two sources, or three or more sources followed by "or approved equal" or similar wording, the bidder's proposal may be based on a source not identified but considered by the bidder to be equal to the standard of performance, design and quality as specified; however, such substitutions must ultimately be approved by the Architect. If the bidder elects to bid on a substitution without "Pre-bid Approval" as described below, then it will be understood that proof of compliance with specified requirements is the exclusive responsibility of the bidder.

(C) When the Bid Documents identify three or more sources and the list of sources is not followed by "or approved equal" or similar wording, the bidder's proposal shall be based upon one of the identified sources, unless the bidder obtains "Pre-bid Approval" of another source as described below. Under these conditions it will be expressly understood that no product, material, system, item of equipment, or service that is not

identified in the Bid Documents or granted “Pre-Bid Approval” will be incorporated into the Work unless such substitution is authorized and agreed upon through a Contract Change Order.

(D) If the Bid Documents identify only one source and expressly provide that it is an approved sole source for the product, material, system, item of equipment, or service, the bidder’s proposal must be based upon the identified sole source.

(E) Procedures for “Pre-bid Approval”. If it is desired that a product, material, system, piece of equipment, or service from a source different from those sources identified in the Bid Documents be approved as an acceptable source, application for the approval of such source must reach the hands of the Architect at least ten days prior to the date set for the opening of bids. At the Architect’s discretion, this ten day provision may be waived. The application for approval of a proposed source must be accompanied by technical data which the applicant desires to submit in support of the application. The Architect will give consideration to reports from reputable independent testing laboratories, verified experience records showing the reputation of the proposed source with previous users, evidence of reputation of the source for prompt delivery, evidence of reputation of the source for efficiency in servicing its products, or any other pertinent written information. The application to the Architect for approval of a proposed source must be accompanied by a schedule setting forth in which respects the materials or equipment submitted for consideration differ from the materials or equipment designated in the Bid Documents. The burden of proof of the merit of the proposed substitution is upon the proposer. To be approved, a proposed source must also meet or exceed all express requirements of the Bid Documents. Approval, if granted, shall not be effective until published by the Architect in an addendum to the Bid Documents.

8 PREPARATION and DELIVERY of BIDS:

(A) ACCS Form 5-E: Proposal Form:

(1) Bids must be submitted on the Proposal Form as contained in the Bid Documents; only one copy is required to be submitted. A completed ACCS Form 5-H: Accounting of Sales Tax must be submitted with the Proposal Form.

(2) All information requested of the bidder on the Proposal Form must be filled in. The form must be completed by typewriter or hand-printed in ink.

(3) Identification of Bidder: On the first page of the Proposal Form the bidder must be fully identified by completing the spaces provided for:

- a.** the legal name of the bidder,
- b.** the state under which laws the bidder’s business is organized and existing,
- c.** the city (and state) in which the bidder has its principal offices,
- d.** the bidder’s business organization, i.e., corporation, partnership, or individual (to be indicated by marking the applicable box and writing in the type of organization if it is not one of those listed), and
- e.** the partners or officers of the bidder’s organization, if the bidder is other than an individual. If the space provided on the Proposal Form is not adequate for this listing, the bidder may insert “See Attachment” in this space and provide the listing on an attachment to the Proposal Form.

(4) Where indicated by the format of the Proposal Form, the bidder must specify lump sum prices in both words and figures. In case of discrepancy between the prices shown in words and in figures, the words will govern.

(5) All bid items requested in the Proposal Form, including alternate bid prices and unit prices for separate items of the Work, must be bid. If a gross sum of bid items is requested in the Proposal Form, the gross sum shall be provided by the bidder.

(6) In the space provided in the Proposal Form under “Bidder’s Alabama License”, the bidder must insert his or her current general contractor’s state license number, current bid limit, and type(s) of work for which bidder is licensed.

(7) The Proposal Form shall be properly signed by the bidder. If the bidder is:

a. an individual, that individual or his or her “authorized representative” must sign the Proposal Form;

b. a partnership, the Proposal Form must be signed by one of the partners or an “authorized representative” of the Partnership;

c. a corporation, the president, vice-president, secretary, or “authorized representative” of the corporation shall sign and affix the corporate seal to the Proposal Form.

As used in these Instructions to Bidders, “authorized representative” is defined as a person to whom the bidder has granted written authority to conduct business in the bidder’s behalf by signing and/or modifying the bid. Such written authority shall be signed by the bidder (the individual proprietor, or a member of the Partnership, or an officer of the Corporation) and shall be attached to the Proposal Form.

(8) Interlineation, alterations or erasures on the Proposal Form must be initialed by the bidder or its “authorized representative”.

(B) ACCS Form 5-H: Accounting of Sales Tax

A completed ACCS Form 5-H: Accounting of Sales Tax must be submitted with ACCS Form 5-E: Proposal Form. Submission of ACCS Form 5-H is required, it is not optional. A proposal shall be rendered non-responsive if an Accounting of Sales Tax is not provided.

(C) Bid Guaranty

(1) The Proposal Form must be accompanied by a cashier’s check, drawn on an Alabama bank, or a Bid Bond, executed by a surety company duly authorized and qualified to make such bonds in the State of Alabama, payable to the Awarding Authority.

(2) If a Bid Bond is provided in lieu of a cashier’s check, the bond shall be on the Bid Bond form as stipulated in the Bid Documents.

(3) The amount of the cashier’s check or Bid Bond shall not be less than five percent of the contractor’s bid, but is not required to be in an amount more than ten thousand dollars.

(D) Delivery of Bids:

(1) Bids will be received until the time set, and at the location designated, in the Advertisement for Bids unless notice is given of postponement. Any bid not received prior to the time set for opening bids will be rejected absent extenuating circumstances and such bids shall be rejected in all cases where received after other bids are opened.

(2) Each bid shall be placed, together with the bid guaranty, in a sealed envelope. On the outside of the envelope the bidder shall write in large letters "Proposal", below which the bidder shall identify the Project and the Work bid on, the name of the bidder, and the bidder's current general contractor's state license number.

(3) Bids may be delivered in person, or by mail if ample time is allowed for delivery. When sent by mail, the sealed envelope containing the bid, marked as indicated above, shall be enclosed in another envelope for mailing.

9 WITHDRAWAL or REVISION of BIDS:

(A) A bid may be withdrawn prior to the time set for opening of bids, provided a written request, executed by the bidder or the bidder's "authorized representative", is filed with the Architect prior to that time. The bid will then be returned to the bidder unopened.

(B) A bid which has been sealed in its delivery envelope may be revised by writing the change in price on the outside of the delivery envelope over the signature of the bidder or the bidder's "authorized representative". In revising the bid in this manner, the bidder must only write the amount of the change in price on the envelope **and must not reveal the bid price.**

(C) Written communications, signed by the bidder or its "authorized representative", to revise bids will be accepted if received by the Architect prior to the time set for opening bids. The Architect will record the instructed revision upon opening the bid. Such written communication may be by facsimile if so stipulated in Supplemental Instructions to Bidders. In revising the bid in this manner, the bidder must only write the amount of the change in price **and must not reveal the bid price.**

(D) Except as provided in Article 12 of these Instructions to Bidders, no bid shall be withdrawn, modified, or corrected after the time set for opening bids.

10 OPENING of BIDS:

(A) Bids will be opened and read publicly at the time and place indicated in the Advertisement for Bids. Bidders or their authorized representatives are invited to be present.

(B) A list of all proposed major subcontractors and suppliers will be submitted by Bidders to the Architect at a time subsequent to the receipt of bids as established by the Architect in the Bid Documents but in no event shall this time exceed twenty-four (24) hours after receipt of bids. If the list includes a fire alarm contractor and/or fire sprinkler contractor, Bidders will also submit a copy of the fire alarm contractor's and/or fire sprinkler contractor's permits from the State of Alabama Fire Marshal's Office.

11 INCOMPLETE and IRREGULAR BIDS:

A bid that is not accompanied by data required by the Bid Documents, or a bid which is in any way incomplete, may be rejected. Any bid which contains any uninitialed alterations or erasures, or any bid which contains any additions, alternate bids, or conditions not called for, or any other irregularities of any kind, will be subject to rejection.

12 BID ERRORS:

(A) Errors and Discrepancies in the Proposal Form. In case of error in the extension of prices in bids, the unit price will govern. In case of discrepancy between the prices shown in the figures and in words, the words will govern.

(B) Mistakes within the Bid. If the low bidder discovers a mistake in its bid, the low bidder may seek withdrawal of its bid without forfeiture of its bid guaranty under the following conditions:

(1) Timely Notice: The low bidder must notify the Awarding Authority and Architect in writing, within three working days after the opening of bids, that a mistake was made. This notice must be given within this time frame whether or not award has been made.

(2) Substantial Mistake: The mistake must be of such significance as to render the bid price substantially out of proportion to the other bid prices.

(3) Type of Mistake: The mistake must be due to calculation or clerical error, an inadvertent omission, or a typographical error which results in an erroneous sum. A mistake of law, judgment, or opinion shall not constitute a valid ground for withdrawal without forfeiture.

(4) Documentary Evidence: Clear and convincing documentary evidence of the mistake must be presented to the Awarding Authority and the Architect as soon as possible, but no later than three working days after the opening of bids.

The Awarding Authority's decision regarding a low bidder's request to withdraw its bid without penalty shall be made within 10 days after receipt of the bidder's evidence or by the next regular meeting of the Awarding Authority. Upon withdrawal of bid without penalty, the low bidder shall be prohibited from (1) doing work on the project as a subcontractor or in any other capacity and (2) bidding on the same project if it is re-bid.

13 DISQUALIFICATION of BIDDERS:

Any bidder(s) may be disqualified from consideration for contract award for the following reasons:

(A) Collusion. Any agreement or collusion among bidders or prospective bidders in restraint of freedom of competition to bid at a fixed price or to refrain from bidding or otherwise shall render the bids void and shall cause the bidders or prospective bidders participating in such agreement or collusion to be disqualified from submitting further bids to the Awarding Authority on future lettings. (See § 39-2-6, Code of Alabama 1975, for possible criminal sanctions.)

(B) Advance Disclosure. Any disclosure in advance of the terms of a bid submitted in response to an Advertisement for Bids shall render the proceedings void and require re-advertisement and rebid.

(C) Failure to Settle Other Contracts. The Awarding Authority may reject a bid from a bidder who has not paid, or satisfactorily settled, all bills due for labor and material on other contracts in force at the time of letting.

14 CONSIDERATION of BIDS:

(A) After the bids are opened and read publicly, the bid prices will be compared and the results of this comparison will be available to the public. Until the final award of the contract, however, the Awarding Authority shall have the right to reject any or all bids, and it shall have the right to waive technical errors and irregularities if, in its judgment, the bidder will not have obtained a competitive advantage and the best interests of the Awarding Authority will be promoted.

(B) If the Bid Documents request bids for projects or parts of projects in combination or separately, the Bid Documents must include supplements to, these Instructions to Bidders setting forth applicable bid procedures. Award or awards will be made to the lowest responsible and responsive bidder or bidders in accordance with such bid procedures.

15 BID ALTERNATES:

(A) Bid Alternates: Additive alternate bids are preferred, and may be used in order to obtain prices for the addition of items not included in the base bid. The alternate bids shall be listed in the Proposal Form.

(B) Deductive Bid Alternates: Deductive alternate bids shall only be used with the prior approval of the Chief Facilities Officer.

(C) ACCS reserves the right to select or reject some, any, or all alternates in making the final determination of the lowest responsible and responsive bidder to whom the Construction Contract is awarded.

16 UNIT PRICES:

(A) Work Bid on a Unit Price Basis. Where all, or part(s), of the planned Work is bid on a unit price basis, both the unit prices and the extensions of the unit prices constitute a basis of determining the lowest responsible and responsive bidder. In cases of error in the extension of prices of bids, the unit price will govern. A bid may be rejected if any of the unit prices are obviously unbalanced or non-competitive. Each unit price is to include overhead, profit, and all other related costs.

(B) Unit Prices for Application to Change Orders. As a means of predetermining unit costs for changes in certain elements of the Work, the Bid Documents may require that the bidders furnish unit prices for those items in the Proposal Form. Unit prices for application to changes in the work are not a basis for determining the lowest bidder. Non-competitive unit prices proposed by the successful bidder may be rejected and competitive prices negotiated by the Awarding Authority prior to contract award. Unit prices for application to changes in the work are not effective unless specifically included and agreed upon in the Construction Contract. Each unit price is to include overhead, profit, and all other related costs.

17 AWARD of CONTRACT:

(A) The contract shall be awarded to the lowest responsible and responsive bidder unless the Awarding Authority finds that all the bids are unreasonable or that it is not in the best interest of the Awarding Authority to accept any of the bids. A responsible bidder is one who, among other qualities determined necessary for performance, is competent, experienced, and financially able to perform the contract. A responsive bidder is one who submits a bid that complies with the terms and conditions of the Advertisement for Bids and the Bid Documents. Minor irregularities in the bid shall not defeat responsiveness.

(B) A bidder to whom award is made will be notified by telegram, confirmed facsimile, or letter to the address shown on the Proposal Form at the earliest possible date. Unless other time frames are stipulated in Supplemental Instructions to Bidders, the maximum time frames allowed for each step of the process between the opening of bids and the issuance of an order to proceed with the work shall be as follows:

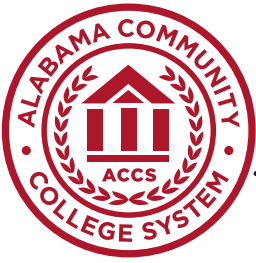
- (1)** Award of contract by Awarding Authority: 30 calendar days after the opening of bids
- (2)** Contractor's return of the fully executed contract, with bonds and evidence of insurance, to the Awarding Authority: 15 calendar days after the contract has been presented to the contractor for signature (from the Lead Design Professional)
- (3)** Awarding Authority's approval of the contractor's bonds and evidence of insurance and completion of contract execution: 20 calendar days after the contractor presents complete and acceptable documents to the Architect
- (4)** Notice To Proceed issued to the contractor along with distribution of the fully executed construction contract to all parties: 15 calendar days after final execution of contract by the Awarding Authority, by various State Agencies if required and by the Governor if his or her signature on the contract is required by law

The time frames stated above, or as otherwise specified in the Bid Documents, may be extended by written agreement between the parties. Failure by the Awarding Authority to comply with the time frames stated above or stipulated in Supplemental Instructions to Bidders, or agreed extensions thereof, shall be just cause for the withdrawal of the contractor's bid and contract without forfeiture of bid security.

Should the successful bidder or bidders to whom the contract is awarded fail to execute the Construction Contract and furnish acceptable Performance and Payment Bonds and satisfactory evidence of insurance within the specified period, the Awarding Authority shall retain from the bid guaranty, if it is a cashier's check, or recover from the principal or the sureties, if the guaranty is a bid bond, the difference between the amount of the contract as awarded and the amount of the bid of the next lowest responsible and responsive bidder, but not more than \$10,000. If no other bids are received, the full amount of the bid guaranty shall be so retained or recovered as liquidated damages for such default. Any sums so retained or recovered shall be the property of the Awarding Authority.

All bid guaranties, except those of the three lowest bona fide bidders, will be returned immediately after bids have been checked, tabulated, and the relation of the bids established. The bid guaranties of the three lowest bidders will be returned as soon as the contract bonds and the contract of the successful bidder have been properly executed and approved. When the award is deferred for a period of time longer than 15 days after the opening of the bids, all bid guaranties, except those of the potentially successful bidders, shall be returned. If no award is made within the specified period, as it may by agreement be extended, all bids will be rejected, and all guaranties returned. If any potentially successful bidder agrees in writing to a stipulated extension in time for consideration of its bid and its bid was guaranteed with a cashier's check, the Awarding Authority may permit the potentially successful bidder to substitute a satisfactory bid bond for the cashier's check.

END OF INSTRUCTIONS TO BIDDERS



FACILITIES DIVISION

ACCS FORM 5-E

PROPOSAL FORM

To: Alabama Community College System

Date: _____

In compliance with the Advertisement for Bids and subject to all the conditions thereof, the undersigned

<Legal Name of Bidder> _____

hereby proposes to furnish all labor and materials and perform all work required for the construction of
WORK:

in accordance with Drawings and Specifications, dated _____, prepared by:
_____, Architect/Engineer

The Bidder, which is organized and existing under the laws of the State of: _____,

having its principal offices in the City of: _____,

is: ☐ a Corporation ☐ a Partnership ☐ an Individual ☐ Other: _____

LISTING OF PARTNERS OR OFFICERS:

If Bidder is a Partnership, list all partners and their addresses; if Bidder is a Corporation, list the names, titles, and business addresses of its officers:

BIDDER'S REPRESENTATION: The Bidder declares that it has examined the site of the Work, having become fully informed regarding all pertinent conditions, and that it has examined the Drawings and Specifications (including all Addenda received) for the Work and the other Bid and Contract Documents relative thereto, and that it has satisfied itself relative to the Work to be performed.

ADDENDA: The Bidder acknowledges receipt of Addenda Nos. _____ through _____ inclusively.

BASE BID: For construction complete as shown and specified, the sum of:

_____ Dollars (\$))

ALTERNATES: If alternates as set forth in the Bid Documents are accepted, the following adjustments are to be made to the Base Bid:

For Alternate No. 1 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 2 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 3 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 4 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 5 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 6 (<Keyword for Amount>)	☐ add	☐ deduct \$

UNIT PRICES - (Attach to this Proposal Form the unit prices, if any, on a separate sheet.)

BID SECURITY: The undersigned agrees to enter into a Construction Contract and furnish the prescribed Performance and Payment Bonds and evidence of insurance within fifteen calendar days, or such other period stated in the Bid Documents, after the contract forms have been presented for signature, provided such presentation is made within 30 calendar days after the opening of bids, or such other period stated in the Bid Documents. As security for this condition, the undersigned further agrees that the funds represented by the Bid Bond (or cashier's check) attached hereto may be called and paid into the account of the Awarding Authority as liquidated damages for failure to so comply.

Attached hereto is a (Mark the appropriate box and provide the applicable information):

- ☐ Bid Bond, executed by _____ as Surety,
- ☐ A cashier's check on the _____ Bank: _____ ,
for the sum of: _____
Dollars (\$ _____) made payable to the Awarding Authority.

BIDDER'S ALABAMA LICENSE:

State License for General Contracting: _____ / _____ / _____
License Number Bid Limit Type(s) of Work

CERTIFICATIONS: The undersigned certifies that he or she is authorized to execute contracts on behalf of the Bidder as legally named, that this proposal is submitted in good faith without fraud or collusion with any other bidder, that the information indicated in this document is true and complete, and that the bid is made in full accord with State law. Notice of acceptance may be sent to the undersigned at the address set forth below.

The Bidder also declares that a list of all proposed major subcontractors and suppliers will be submitted at a time subsequent to the receipt of bids as established by the Architect in the Bid Documents but in no event shall this time exceed twenty-four (24) hours after receipt of bids.

Legal Name of Bidder: _____

Mailing Address: _____

***By (Legal Signature):** _____

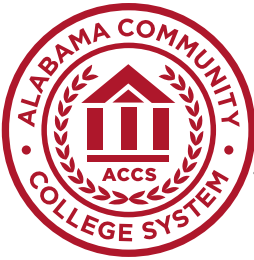
*Name & Title (Print):

Telephone Number:

(SEAL)

Email Address:

* If other than the individual proprietor, or an above named member of the Partnership, or the above named president, vice-president, or secretary of the Corporation, attach written authority to bind the Bidder. Any modification to a bid shall be over the initials of the person signing the bid, or of an authorized representative.



FACILITIES DIVISION

ACCS FORM 5-F

BID BOND

• Do not staple this form; use clips.

The **PRINCIPAL** (Bidder's Company Name and Address)

Name:

Address:

The **SURETY** (Company Name and Primary Place of Business)

Name:

Address:

The **OWNER**

Name: Alabama Community College System

Address: 135 S. Union Street, Montgomery, AL 36130

The **PROJECT** for which the Principal's Bid is submitted (Project name as it appears in the Bid Documents):

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Principal and Surety, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the **PENAL SUM of five percent (5%) of the amount of the Principal's bid, but in no event more than Ten-thousand Dollars (\$10,000.00).**

THE CONDITION OF THIS OBLIGATION is that the Principal has submitted to the Owner the attached bid, which is incorporated herein by reference, for the Project identified above.

NOW, THEREFORE, if, within the terms of the Bid Documents, the Owner accepts the Principal's bid and the Principal thereafter either:

(a) executes and delivers a Construction Contract with the required Performance and Payment Bonds (each in the form contained in the Bid Documents and properly completed in accordance with the bid) and delivers evidence of insurance as prescribed in the Bid Documents, or

(b) fails to execute and deliver such Construction Contract with such Bonds and evidence of insurance, but pays the Owner the difference, not to exceed the Penal Sum of this Bond, between the amount of the Principal's Bid and the larger amount for which the Owner may award a Construction Contract for the same Work to another bidder, **then**, this obligation shall be null and void, otherwise it shall remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that the obligation of the Surety under this Bond shall not in any manner be impaired or affected by any extension of the time within which the Owner may accept the Principal's bid, and the Surety does hereby waive notice of any such extension.

SIGNED AND SEALED this -Day- day of -Month- -Year-

PRINCIPAL: _____

ATTEST:

BY: _____

NAME AND TITLE

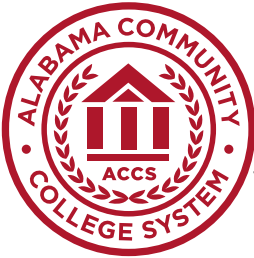
SURETY: _____

ATTEST:

BY: _____

NAME AND TITLE

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FACILITIES DIVISION

ACCS FORM 5-H

(Must be submitted with ACCS Form 5-E)

ACCOUNTING OF SALES TAX ATTACHMENT TO ACCS FORM 5-E: PROPOSAL FORM

TO:		DATE:	
NAME OF PROJECT:			

SALES TAX ACCOUNTING

Pursuant to Act 2013-205, Section 1(g) the Contractor accounts for the sales tax NOT included in the bid proposal form as follows:

ESTIMATED SALES TAX AMOUNT

BASE BID:

Dollars \$

For Alternate No. 1 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 2 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 3 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 4 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 5 (<Keyword for Amount>)	☐ add	☐ deduct \$
For Alternate No. 6 (<Keyword for Amount>)	☐ add	☐ deduct \$

Failure to provide an accounting of sales tax shall render the bid non-responsive. Other than determining responsiveness, sales tax accounting shall not affect the bid pricing nor be considered in the determination of the lowest responsible and responsive bidder.

Legal Name of Bidder:

Mailing Address:

***By (Legal Signature):** _____

*Name (Print):

(SEAL)

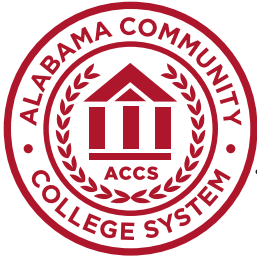
*Title (Print):

*Telephone Number:

Email Address:

Note: A completed ACCS Form 5-H: Accounting of Sales Tax must be submitted with ACCS Form 5-E: Proposal Form. A proposal shall be rendered non-responsive if an Accounting of Sales Tax is not provided.

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FACILITIES DIVISION

ACCS FORM 5-J

You may use your own form provided all requested information and signatures are on your form as well as the "I certify..." statement.
- DO NOT USE COLORED PRINT OR SHADED TABLES -

CERTIFIED TABULATION OF BIDS

PROJECT:			AS TABULATED BELOW, BIDS WERE RECEIVED: DATE: TIME: PLACE:		
ACCS PROJECT#:					
CONTRACTOR	SURETY	BASE BID	BID ALT.#1	BID ALT.#2	REMARKS

I certify that the above bids were advertised, were received sealed and were publicly opened and read aloud at the time and place indicated and that this is a true and correct tabulation of all bids received for this project.

ARCHITECTURAL/ENGINEERING FIRM NAME

NAME AND TITLE OF ARCHITECT/ENGINEER

Sworn and subscribed before me this 19th day of -Month-

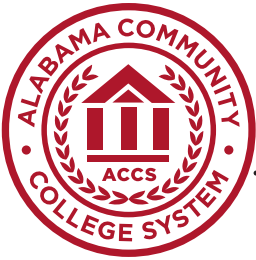
-Year-

BY REPUBLIC
(SEAL)

BY: _____
SIGNATURE

VER: 07152024

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FACILITIES DIVISION

ACCS FORM 2-A

CONSTRUCTION CONTRACT

•Do not staple this form and/or attachments; use clips. Print single-sided; do not submit double-side printed documents.

1	ACCS PROJECT#:			
2	This Construction Contract is entered into this 31st day of <month> in the year of <year>			
3	between the OWNER , the Alabama Community College System on behalf of: <Select Client>			
	Address:			
	Email:		Phone:	
4	and the CONTRACTOR ,			
	Company Name:			
	Address:			
	Email:		Phone:	
5	for the WORK of the Project identified as:			
6	The CONTRACT DOCUMENTS are dated _____ and have been amended by _____			
7	ADDENDA:			

8 The **ARCHITECT** is

Firm Name:

Address:

Email:

Phone:

9 The **CONTRACT SUM** is:

Dollars \$

and is the sum of the Contractor's Base Bid for the Work and the following

10 **BID ALTERNATE PRICES:****11** The **CONTRACT TIME** is () calendar days

THE OWNER AND THE CONTRACTOR AGREE AS FOLLOWS: The Contract Documents, as defined in the General Conditions of the Contract (ACCS Form 2-B), are incorporated herein by reference. The Contractor shall perform the Work in accordance with the Contract Documents. The Owner will pay and the Contractor will accept as full compensation for such performance of the Work, the Contract Sum subject to additions and deductions (including liquidated damages) as provided in the Contract Documents. The Work shall commence on a date to be specified in a Notice to Proceed issued by the Chief Facilities Officer, ACCS Facilities Division, and shall then be substantially completed within the Contract Time.

12 **LIQUIDATED DAMAGES** for which the Contractor and its Surety (if any) shall be liable and may be required to pay the Owner in accordance with the Contract Documents shall be equal to six percent interest per annum on the total Contract Sum unless a dollar amount is stipulated in the following space, in which case liquidated damages shall be determined at:

Dollars (\$) per calendar day

13 SPECIAL PROVISIONS: (Special Provisions may be inserted here, such as acceptance or rejection of unit prices. If Special Provisions are continued in an attachment, identify the attachment below).

14 STATE GENERAL CONTRACTOR'S LICENSE: The Contractor does hereby certify that Contractor is currently licensed by the Alabama State Licensing Board for General Contractors and that the certificate for such license bears the following:

License No.:		Expiration Date	
Bid Limit:		Classifications	

The Owner and Contractor have entered into this Construction Contract as of the date first written above and have executed this Construction Contract in sufficient counterparts to enable each contracting party to have an originally executed Construction Contract each of which shall, without proof or accounting for the other counterparts, be deemed an original thereof.

The Owner does hereby certify that this Construction Contract was let in accordance with the provisions of Title 39, Code of Alabama 1975, as amended, and all other applicable provisions of law, and that the terms and commitments of this Construction Contract do not constitute a debt of the State of Alabama in violation of Article 11, Section 213 of the Constitution of Alabama, 1901, as amended by Amendment No. 26.

15**APPROVALS****LOCAL COLLEGE OR TRADE SCHOOL**

BY: _____

AS PRESIDENT OF

<Select Client>

ALABAMA COMMUNITY COLLEGE SYSTEM (ACCS)

BY: _____ DATE: _____

CHIEF FACILITIES OFFICER

CONTRACTING PARTIES_____
CONTRACTOR COMPANY

BY: _____

SIGNATURE

NAME: _____

TITLE: _____

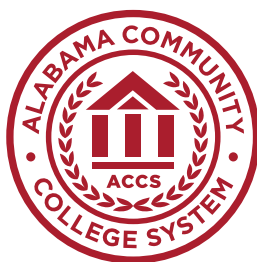
**ALABAMA COMMUNITY COLLEGE SYSTEM
(AS OWNER)**

BY: _____

CHANCELLOR

ATTACHMENTS:

- ☐ Copy of Alabama General Contractor's License
- ☐ Proposal Form (**ACCS Form 5-E**)
- ☐ List of all proposed major subcontractors and suppliers
- ☐ Accounting of Sales Tax (**ACCS Form 5-H**)
- ☐ Bid Tabulation
- ☐ Schedule of Values
- ☐ Certificate of Liability Insurance
- ☐ Performance Bond (**ACCS Form 2-C**)
- ☐ Payment Bond (**ACCS Form 2-D**)
- ☐ State of Alabama Disclosure Statement
- ☐ E-Verify Memorandum of Understanding
- ☐ **W-9** (Request for Taxpayer Identification Number and Certificate)



GENERAL CONDITIONS *of the* CONTRACT

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Article 1 DEFINITIONS

Whenever the following terms, or pronouns in place of them, are used in the Contract Documents, the intent and meaning shall be interpreted as follows:

- A ACCS FACILITIES DIVISION:** The ACCS Facilities Division, which is responsible for oversight and management of all ACCS construction projects, pursuant to the policies and procedures adopted by the ACCS Board of Trustees.
- B ARCHITECT:** The Architect is the person or entity lawfully licensed to practice architecture in the State of Alabama, who is under contract with the Owner as the primary design professional for the Project and identified as the Architect in the Construction Contract. The term “Architect” means the Architect or the Architect’s authorized representative. If the employment of the Architect is terminated, the Owner shall employ a new Architect whose status under the Contract Documents shall be that of the former Architect. If the primary design professional for the Project is a Professional Engineer, the term “Engineer” shall be substituted for the term “Architect” wherever it appears in this document.
- C CONTRACT:** The Contract is the embodiment of the Contract Documents. The Contract represents the entire and integrated agreement between the Owner and Contractor and supersedes any prior written or oral negotiations, representations or agreements that are not incorporated into the Contract Documents. The Contract may be amended only by a Contract Change Order or a Modification to the Construction Contract. The contractual relationship which the Contract creates between the Owner and the Contractor extends to no other persons or entities. The Contract consists of the following Contract Documents, including all additions, deletions, and modifications incorporated therein before the execution of the Construction Contract:
- (1) Construction Contract
 - (2) Performance and Payment Bonds
 - (3) Conditions of the Contract (General, Supplemental, and other Conditions)
 - (4) Specifications
 - (5) Drawings
 - (6) Contract Change Orders
 - (7) Modifications to the Construction Contract (applicable to PSCA Projects)
- D CONTRACT SUM:** The Contract Sum is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents. The term “Contract Sum” means the Contract Sum stated in the Construction Contract as may have been increased or decreased by Change Order(s) in accordance with the Contract Documents.
- E CONTRACT TIME:** The Contract Time is the period of time in which the Contractor must achieve Substantial Completion of the Work. The date on which the Contract Time begins is specified in the written Notice To Proceed issued to the Contractor by the Owner. The Date of Substantial Completion is the date established in accordance with Article 32. The term “Contract Time” means the Contract Time stated in the Construction Contract as may have been extended by Change Order(s) in accordance with the Contract Documents. The term “day” as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

- F CONTRACTOR:** The Contractor is the person or persons, firm, partnership, joint venture, association, corporation, cooperative, limited liability company, or other legal entity, identified as such in the Construction Contract. The term “Contractor” means the Contractor or the Contractor’s authorized representative.
- G DEFECTIVE WORK:** The term “Defective Work” shall apply to: **(1)** any product, material, system, equipment, or service, or its installation or performance, which does not conform to the requirements of the Contract Documents, **(2)** in-progress or completed Work the workmanship of which does not conform to the quality specified or, if not specified, to the quality produced by skilled workers performing work of a similar nature on similar projects in the state, **(3)** substitutions and deviations not properly submitted and approved or otherwise authorized, **(4)** temporary supports, structures, or construction which will not produce the results required by the Contract Documents, and **(5)** materials or equipment rendered unsuitable for incorporation into the Work due to improper storage or protection.
- H CHIEF FACILITIES OFFICER:** The Director of the ACCS Facilities Division.
- I DRAWINGS:** The Drawings are the portions of the Contract Documents showing graphically the design, location, layout, and dimensions of the Work, in the form of plans, elevations, sections, details, schedules, and diagrams.
- J NOTICE TO PROCEED:** A proceed order issued by the Owner, as applicable, fixing the date on which the Contractor shall begin the prosecution of the Work, which is also the date on which the Contract Time shall begin.
- K OWNER:** The Owner is the entity or entities identified as such in the Construction Contract and is referred to throughout the Contract Documents as if singular in number. The term “Owner” means the Owner or the Owner’s authorized representative. The term “Owner” as used herein shall be synonymous with the term “Awarding Authority” as defined and used in Title 39 - Public Works, Code of Alabama, 1975, as amended.
- L THE PROJECT:** The Project is the total construction of which the Work required by these Contract Documents may be the entirety or only a part with other portions to be constructed by the Owner or separate contractors.
- M PROJECT MANUAL:** The Project Manual is the volume usually assembled for the Work which may include the Advertisement for Bids, Instructions to Bidders, sample forms, General Conditions of the Contract, Supplementary Conditions, and Specifications of the Work.
- N SPECIFICATIONS:** The Specifications are that portion of the Contract Documents which set forth in writing the standards of quality and performance of products, equipment, materials, systems, and services and workmanship required for acceptable performance of the Work.
- O SUBCONTRACTOR:** A Subcontractor is a person or entity who is undertaking the performance of any part of the Work by virtue of a contract with the Contractor. The term “Subcontractor” means a Subcontractor or its authorized representatives.
- P THE WORK:** The Work is the construction and services required by the Contract Documents and includes all labor, materials, supplies, equipment, and other items and services as are necessary to produce the required construction and to fulfill the Contractor’s obligations under the Contract. The Work may constitute the entire Project or only a portion of it.

Article 2**INTENT and INTERPRETATION of the CONTRACT DOCUMENTS****A INTENT**

It is the intent of the Contract Documents that the Contractor shall properly execute and complete the Work described by the Contract Documents, and unless otherwise provided in the Contract, the Contractor shall provide all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work, in full accordance with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

B COMPLEMENTARY DOCUMENTS

The Contract Documents are complementary. If Work is required by one Contract Document, the Contractor shall perform the Work as if it were required by all of the Contract Documents. However, the Contractor shall be required to perform Work only to the extent that is consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

C ORDER of PRECEDENCE

Should any discrepancy arise between the various elements of the Contract Documents, precedence shall be given to them in the following order unless to do so would contravene the apparent Intent of the Contract Documents stated in preceding Paragraph A:

- (1) The Construction Contract.
- (2) Addenda, with those of later date having precedence over those of earlier date.
- (3) Supplementary Conditions (or other Conditions which modify the General Conditions of the Contract).
- (4) General Conditions of the Contract.
- (5) The Specifications.
- (6) Details appearing on the Drawings; large scale details shall take precedence over smaller scale details.
- (7) The Drawings; large scale drawings shall take precedence over smaller scale drawings.

D ORGANIZATION

Except as may be specifically stated within the technical specifications, neither the organization of the Specifications into divisions, sections, or otherwise, nor any arrangement of the Drawings shall control how the Contractor subcontracts portions of the Work or assigns Work to any trade.

E INTERPRETATION

(1) The Contract Documents shall be interpreted collectively, each part complementing the others and consistent with the Intent of the Contract Documents stated in preceding Paragraph A. Unless an item shown or described in the Contract Documents is specifically identified to be furnished or installed by the Owner or others or is identified as "Not In Contract" ("N.I.C."), the Contractor's obligation relative to that item shall be interpreted to include furnishing, assembling, installing, finishing, and/or connecting the item at the Contractor's expense to produce a product or system that is complete, appropriately tested, and in operative condition ready for use or subsequent construction or operation of the Owner or separate contractors. The omission of words or phrases for brevity of the Contract Documents, the inadvertent omission of words or phrases, or obvious typographical or written errors shall not defeat such interpretation as long as it is reasonably inferable from the Contract Documents as a whole.

(2) Words or phrases used in the Contract Documents which have well-known technical or construction industry meanings are to be interpreted consistent with such recognized meanings unless otherwise indicated.

(3) Except as noted otherwise, references to standard specifications or publications of associations, bureaus, or organizations shall mean the latest edition of the referenced standard specification or publication as of the date of the Advertisement for Bids.

(4) In the case of inconsistency between Drawings and Specifications or within either document not clarified by addendum, the better quality or greater quantity of Work shall be provided in accordance with the Architect's interpretation.

(5) Any portions of the Contract Documents written in longhand must be initialed by all parties.

(6) Any doubt as to the meaning of the Contract Documents or any obscurity as to the wording of them, shall be promptly submitted in writing to the Architect for written interpretation, explanation, or clarification.

F SEVERABILITY

The partial or complete invalidity of any one or more provision of this Contract shall not affect the validity or continuing force and effect of any other provision.

Article 3

CONTRACTOR'S REPRESENTATION

By executing the Construction Contract the Contractor represents to the Owner:

- A** The Contractor has visited the site of the Work to become familiar with local conditions under which the Work is to be performed and to evaluate reasonably observable conditions as compared with requirements of the Contract Documents.
- B** The Contractor shall use its best skill and attention to perform the Work in an expeditious manner consistent with the Contract Documents.
- C** The Contractor is an independent contractor and in performance of the Contract remains and shall act as an independent contractor having no authority to represent or obligate the Owner in any manner unless authorized by the Owner in writing.

Article 4

DOCUMENTS FURNISHED *to* CONTRACTOR

Unless otherwise provided in the Contract Documents, one readable standard PDF set of Drawings and Project Manuals will be furnished to the Contractor by the Architect without charge. Other copies requested will be furnished at reproduction cost.

Article 5

OWNERSHIP *of* DRAWINGS

All original or duplicated Drawings, Specifications, and other documents prepared by the Architect, and furnished to the Contractor are the property of the Architect and are to be used solely for this Project and not to be used in any manner for other work. Upon completion of the Work, all copies of Drawings and Specifications, with the exception of the Contractor's record set, shall be returned or accounted for by the Contractor to the Architect, on request.

Article 6**SUPERVISION, SUPERINTENDENT, *and* EMPLOYEES****A SUPERVISION and CONSTRUCTION METHODS**

(1) The term “Construction Methods” means the construction means, methods, techniques, sequences, and procedures utilized by the Contractor in performing the Work. The Contractor is solely responsible for supervising and coordinating the performance of the Work, including the selection of Construction Methods, unless the Contract Documents give other specific instructions concerning these matters.

(2) The Contractor is solely and completely responsible for job site safety, including the protection of persons and property in accordance with Article 14.

(3) The Contractor shall be responsible to the Owner for acts and omissions of not only the Contractor and its agents and employees, but all persons and entities, and their agents and employees, who are performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors.

(4) The Contractor shall be responsible to inspect the in-progress and completed Work to verify its compliance with the Contract Documents and to insure that any element or portion of the Work upon which subsequent Work is to be applied or performed is in proper condition to receive the subsequent Work.

B SUPERINTENDENT

(1) The Contractor shall employ and maintain a competent level of supervision for the performance of the Work at the Project site, including a superintendent who shall:

- (a) have full authority to receive instructions from the Architect or Owner and to act on those instructions &
- (b) be present at the Project site at all times during which Work is being performed.

(2) Before beginning performance of the Work, the Contractor shall notify the Architect in writing of the name and qualifications of its proposed superintendent so that the Owner may review the individual's qualifications. If, for reasonable cause, the Owner refuses to approve the individual, or withdraws its approval after once giving it, the Contractor shall name a different superintendent for the Owner's review and approval. Any disapproved superintendent will not perform in that capacity thereafter at the Project site.

C EMPLOYEES

The Contractor shall permit only fit and skilled persons to perform the Work. The Contractor shall enforce safety procedures, strict discipline, and good order among persons performing the Work. The Contractor will remove from its employment on the Project any person who deliberately or persistently produces non-conforming Work or who fails or refuses to conform to reasonable rules of personal conduct contained in the Contract Documents or implemented by the Owner and delivered to the Contractor in writing during the course of the Work.

Article 7**REVIEW *of* CONTRACT DOCUMENTS *and* FIELD CONDITIONS *by* CONTRACTOR**

- A** In order to facilitate assembly and installation of the Work in accordance with the Contract Documents, before starting each portion of the Work, the Contractor shall examine and compare the relevant Contract Documents, and compare them to relevant field measurements made by the Contractor and any conditions at the site affecting that portion of the Work.

- B** If the Contractor discovers any errors, omissions, or inconsistencies in the Contract Documents, the Contractor shall promptly report them to the Architect as a written request for information that includes a detailed statement identifying the specific Drawings or Specifications that are in need of clarification and the error, omission, or inconsistency discovered in them.
- (1)** The Contractor shall not be expected to act as a licensed design professional and ascertain whether the Contract Documents comply with applicable laws, statutes, ordinances, building codes, and rules and regulations, but the Contractor shall be obligated to promptly notify the Architect of any such noncompliance discovered by or made known to the Contractor. If the Contractor performs Work without fulfilling this notification obligation, the Contractor shall pay the resulting costs and damages that would have been avoided by such notification.
- (2)** The Contractor shall not be liable to the Owner for errors, omissions, or inconsistencies that may exist in the Contract Documents, or between the Contract Documents and conditions at the site, unless the Contractor knowingly fails to report a discovered error, omission, or inconsistency to the Architect, in which case the Contractor shall pay the resulting costs and damages that would have been avoided by such notification.
- C** If the Contractor considers the Architect's response to a request for information to constitute a change to the Contract Documents involving additional costs and/or time, the Contractor shall follow the procedures of Article 20, Claims for Extra Cost or Extra Work.
- D** If, with undue frequency, the Contractor requests information that is obtainable through reasonable examination and comparison of the Contract Documents, site conditions, and previous correspondence, interpretations, or clarifications, the Contractor shall be liable to the Owner for reasonable charges from the Architect for the additional services required to review, research, and respond to such requests for information.

Article 8

SURVEYS *by* CONTRACTORS

- A** The Contractor shall provide competent engineering services to assure accurate execution of the Work in accordance with the Contract Documents. The Contractor shall verify the figures given for the contours, approaches and locations shown on the Drawings before starting any Work and be responsible for the accuracy of the finished Work. Without extra cost to the Owner, the Contractor shall engage a licensed surveyor if necessary to verify boundary lines, keep within property lines, and shall be responsible for encroachments on rights or property of public or surrounding property owners.
- B** The Contractor shall establish all base lines for the location of the principal components of the Work and make all detail surveys necessary for construction, including grade stakes, batter boards and other working points, lines and elevations. If the Work involves alteration of or addition to existing structures or improvements, the Contractor shall locate and measure elements of the existing conditions as is necessary to facilitate accurate fabrication, assembly, and installation of new Work in the relationship, alignment, and/or connection to the existing structure or improvement as is shown in the Contract Documents.

Article 9 SUBMITTALS

- A** Where required by the Contract Documents, the Contractor shall submit shop drawings, product data, samples and other information (hereinafter referred to as Submittals) to the Architect for the purpose of demonstrating the way by which the Contractor proposes to conform to the requirements of the Contract Documents. Submittals which are not required by the Contract Documents may be returned by the Architect without action.
- B** The Contractor shall be responsible to the Owner for the accuracy of its Submittals and the conformity of its submitted information to the requirements of the Contract Documents. Each Submittal shall bear the Contractor's approval, evidencing that the Contractor has reviewed and found the information to be in compliance with the requirements of the Contract Documents. Submittals which are not marked as reviewed and approved by the Contractor may be returned by the Architect without action.
- C** The Contractor shall prepare and deliver its submittals to the Architect sufficiently in advance of construction requirements and in a sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors. In coordinating the Submittal process with its construction schedule, the Contractor shall allow sufficient time to permit adequate review by the Architect. Within twenty-four (24) hours of the Bid Opening, the Contractor's Schedule of Values must be submitted to the Architect from the apparent low bidder
- D** By approving a Submittal the Contractor represents not only that the element of Work presented in the Submittal complies with the requirements of the Contract Documents, but also that the Contractor has:
 - (1)** found the layout and/or dimensions in the Submittal to be comparable with those in the Contract Documents and other relevant Submittals and has made field measurements as necessary to verify their accuracy, and
 - (2)** determined that products, materials, systems, equipment and/or procedures presented in the Submittal are compatible with those presented, or being presented, in other relevant Submittals and with the Contractor's intended Construction Methods.
- E** The Contractor shall not fabricate or perform any portion of the Work for which the Contract Documents require Submittals until the respective Submittals have been approved by the Architect.
- F** In the case of a resubmission, the Contractor shall direct specific attention to all revisions in a Submittal. The Architect's approval of a resubmission shall not apply to any revisions that were not brought to the Architect's attention.
- G** If the Contract Documents specify that a Submittal is to be prepared and sealed by a registered architect or licensed engineer retained by the Contractor, all drawings, calculations, specifications, and certifications of the Submittal shall bear the Alabama seal of registration and signature of the registered/licensed design professional who prepared them or under whose supervision they were prepared. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of such a Submittal, provided that all performance and design criteria that such Submittal must satisfy are sufficiently specified in the Contract Documents. The Architect will review, approve or take other appropriate action on such a

Submittal only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance or design criteria specified in the Contract Documents.

H DEVIATIONS

(1) The Architect is authorized by the Owner to approve “minor” deviations from the requirements of the Contract Documents through the use of an Architect’s Supplemental Instruction (ASI). These “minor” deviations, or ASIs, are defined as those which are in the interest of the Owner, do not materially alter the quality or performance of the finished Work, and do not affect the cost or time of performance of the Work. Deviations which are not “minor” may be authorized only by the Owner through the Change Order procedures of Article 19.

(2) Any deviation from the requirements of the Contract Documents contained in a Submittal shall be clearly identified as a “Deviation from Contract Requirements” (or by similar language) within the Submittal and, in a letter transmitting the Submittal to the Architect, the Contractor shall direct the Architect’s attention to, and request specific approval of, the deviation. Otherwise, the Architect’s approval of a Submittal does not constitute approval of deviations from the requirements of the Contract Documents contained in the Submittal.

(3) The Contractor shall bear all costs and expenses of any changes to the Work, changes to work performed by the Owner or separate contractors, or additional services by the Architect required to accommodate an approved deviation unless the Contractor has specifically informed the Architect in writing of the required changes and a Change Order has been issued authorizing the deviation and accounting for such resulting changes and costs.

I ARCHITECT’S REVIEW *and* APPROVAL

(1) The Architect will review the Contractor’s Submittals for conformance with requirements of, and the design concept expressed in, the Contract Documents and will approve or take other appropriate action upon them. This review is not intended to verify the accuracy and completeness of details such as dimensions and quantities nor to substantiate installation instructions or performance of equipment or systems, all of which remain the responsibility of the Contractor. However, the Architect shall advise the Contractor of any errors or omissions which the Architect may detect during this review. The Architect’s approval of a specific item shall not indicate approval of an assembly of which the item is a component.

(2) The Architect will review and respond to all Submittals with reasonable promptness to avoid delay in the Work or in the activities of the Owner, Contractor or separate contractors, while allowing sufficient time to permit adequate review.

(3) No corrections or changes to Submittals indicated by the Architect will be considered as authorizations to perform Extra Work. If the Contractor considers such correction or change of a Submittal to require Work which differs from the requirements of the Contract Documents, the Contractor shall promptly notify the Architect in writing in accordance with Article 20, Claims for Extra Cost or Extra Work.

J CONFORMANCE *with* SUBMITTALS

The Work shall be constructed in accordance with approved Submittals.

Article 10

DOCUMENTS *and* **SAMPLES** *at the* **SITE**

A “CONFORMANCE DOCUMENTS” SET

The Contractor will be provided a Conformance Documents issue set of Drawings and Project Manual that incorporates all addenda items and all accepted alternates. The Contractor shall maintain at the Project site, in good order, at least one set of the Conformance Documents Drawings and Project Manual.

The Contractor shall assure that all sets of the Drawings and Project Manuals being used by the Contractor, Subcontractors, and suppliers are “Conformance Documents” with the current information to insure that updated Contract Documents are used for performance of the Work.

B RECORD SET

One set of the Drawings and Project Manual described in Paragraph A shall be the Contractor’s record set in which the Contractor shall record all field changes, corrections, selections, final locations, and other information as will be duplicated on the “As-built” documents required under Article 11. The Contractor shall record such “as-built” information in its record set as it becomes available through progress of the Work. The Contractor’s performance of this requirement shall be subject to confirmation by the Architect at any time as a prerequisite to approval of Progress Payments.

- C** The documents and samples required by this Article to be maintained at the Project site shall be readily available to the Architect, Owner, AHJ or other reviewing entity, and their representatives.

Article 11

“AS-BUILT” DOCUMENTS

- A** Unless otherwise provided in the Contract Documents, the Contractor shall deliver two (2) sets or one reapeable standard PDF set of “As-built” documents, as described herein, to the Architect for submission to the Owner upon completion of the Work. Each set of “As-built” documents shall consist of a copy of the Drawings and Project Manual, in like-new condition, into which the Contractor has neatly incorporated all Addenda, Change Orders, supplemental drawings, clarifications, field changes, corrections, selections, actual locations of underground utilities, and other information as required herein or specified elsewhere in the Contract Documents.

- B** The Contractor shall use the following methods for incorporating information into the “As-built” documents:

(1) Drawings

(a) To the greatest extent practicable, information shall be carefully drawn and lettered, in ink, on the Drawings in the form of sketches, details, plans, notes, and dimensions as required to provide a fully dimensioned record of the Work. When required for clarity, sketches, details, or partial plans shall be drawn on supplemental sheets and bound into the Drawings and referenced on the drawing being revised.

(b) Where a revised drawing has been furnished by the Architect, the drawing of latest date shall be bound into the Drawings in the place of the superseded drawing.

(c) Where a supplemental drawing has been furnished by the Architect, the supplemental drawing shall be bound into the Drawings in an appropriate location and referred to by notes added to the drawing being supplemented.

(d) Where the Architect has furnished details, partial plans, or lengthy notes of which it would be impractical for the Contractor to redraw or letter on a drawing, such information may be affixed to the appropriate drawing with transparent tape if space is available on the drawing.

(e) Any entry of information made in the Drawings that is the result of an Addendum or Change Order, shall identify the Addendum or Change Order from which it originated.

(2) Project Manual

(a) A copy of all Addenda and Change Orders, excluding drawings thereof, shall be bound in the front of the Project Manual.

(b) Where a document, form, or entire specification section is revised, the latest issue shall be bound into the Project Manual in the place of the superseded issue.

(c) Where information within a specification section is revised, the deleted or revised information shall be drawn through in ink and an adjacent note added identifying the Addendum or Change Order containing the revised information.

- C** Within ten days after the Date of Substantial Completion of the Work, or the last completed portion of the Work, the Contractor shall submit the “As-built” documents to the Architect for approval. If the Architect requires that any corrections be made, the documents will be returned in a reasonable time for correction and resubmission.

Article 12

PROGRESS SCHEDULE

(Not applicable if the Contract Time is 60 days or less.)

- A** The Contractor shall within fifteen days after the date of commencement stated in the Notice to Proceed, or such other time as may be provided in the Contract Documents, prepare and submit to the Architect for review and approval a practicable construction schedule informing the Architect and Owner of the order in which the Contractor plans to carry on the Work within the Contract Time. The Architect’s review and approval of the Contractor’s construction schedule shall be only for compliance with the specified format, Contract Time, and suitability for monitoring progress of the Work and shall not be construed as a representation that the Architect has analyzed the schedule to form opinions of sequences or durations of time represented in the schedule.
- B** In conjunction with the construction schedule a progress schedule shall be prepared using ACCS Form 6-H “Progress Schedule and Report”, (contained in the Project Manual) or similar format of suitable scale and detail to indicate the percentage of Work scheduled to be completed at the end of each month. ACCS Form 6-H shall not be used as the construction schedule. At the end of each month the Contractor shall enter the actual percentage of completion on the construction schedule submit two copies to the Architect, and attach one copy to each copy of the monthly Application for Payment. The construction schedule shall be revised to reflect any agreed extensions of the Contract Time or as required by conditions of the Work.

- C** The Contractor's construction schedule shall be used by the Contractor, Architect, and Owner to determine the adequacy of the Contractor's progress. The Contractor shall be responsible for maintaining progress in accordance with the currently approved construction schedule and shall increase the number of shifts, and/or overtime operations, days of work, and/or the amount of construction plant and equipment as may be necessary to do so. If the Contractor's progress falls materially behind the currently approved construction schedule, it is expected that the Architect formally notify the Contractor to produce a recovery schedule to meet the construction deadlines. If the Contractor is not taking sufficient steps to regain schedule, the Architect may, with the Owner's concurrence, issue the Contractor a Notice to Cure pursuant to Article 27. In such a Notice to Cure the Architect may require the Contractor to submit such supplementary or revised construction schedules as may be deemed necessary to demonstrate the manner in which schedule will be regained.

Article 13

EQUIPMENT, MATERIALS, *and* SUBSTITUTIONS

- A** Every part of the Work shall be executed in a workmanlike manner in accordance with the Contract Documents and approved Submittals. All materials used in the Work shall be furnished in sufficient quantities to facilitate the proper and expeditious execution of the Work and shall be new except such materials as may be expressly provided or allowed in the Contract Documents to be otherwise.
- B** Whenever a product, material, system, item of equipment, or service is identified in the Contract Documents by reference to a trade name, manufacturer's name, model number, etc.(hereinafter referred to as "source"), and only one or two sources are listed, or three or more sources are listed and followed by "or approved equal" or similar wording, it is intended to establish a required standard of performance, design, and quality, and the Contractor may submit, for the Architect's approval, products, materials, systems, equipment, or services of other sources which the Contractor can prove to the Architect's satisfaction are equal to, or exceed, the standard of performance, design and quality specified, unless the provisions of Paragraph D below apply. Such proposed substitutions are not to be purchased or installed without the Architect's written approval of the substitution.
- C** If the Contract Documents identify three or more sources for a product, material, system, item of equipment or service to be used and the list of sources is not followed by "or approved equal" or similar wording, the Contractor may make substitution only after evaluation by the Architect and execution of an appropriate Contract Change Order.
- D** If the Contract Documents identify only one source and expressly provide that it is an approved sole source for the product, material, system, item of equipment, or service, the Contractor must furnish the identified sole source.

Article 14

SAFETY *and* PROTECTION *of* PERSONS *and* PROPERTY

- A** The Contractor shall be solely and completely responsible for conditions at the Project site, including safety of all persons (including employees) and property. The Contractor shall create, maintain, and supervise conditions and programs to facilitate and promote safe execution of the Work, and shall supervise the Work with the attention and skill required to assure its safe performance. Safety provisions shall conform to OSHA requirements and all other federal, state, county, and local laws, ordinances, codes, and regulations.

- B** Where any of these are in conflict, the more stringent requirement shall be followed. Nothing contained in this Contract shall be construed to mean that the Owner has employed the Architect nor has the Architect employed its consultants to administer, supervise, inspect, or take action regarding safety programs or conditions at the Project site.

The Contractor shall employ Construction Methods, safety precautions, and protective measures that will reasonably prevent damage, injury or loss to:

- (1)** workers and other persons on the Project site and in adjacent and other areas that may be affected by the Contractor's operations;
 - (2)** the Work and materials and equipment to be incorporated into the Work and stored by the Contractor on or off the Project site; and
 - (3)** other property on, or adjacent to, the Project site, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and other improvements not designated in the Contract Documents to be removed, relocated, or replaced.
- C** The Contractor shall be responsible for the prompt remedy of damage and loss to property, including the filing of appropriate insurance claims, caused in whole or in part by the fault or negligence of the Contractor, a Subcontractor, or anyone for whose acts they may be liable.
- D** The Contractor shall comply with and give notices required by applicable laws, ordinances, rules, regulations and lawful orders of public authorities bearing on safety and protection of persons or property, including without limitation notices to adjoining property owners of excavation or other construction activities that potentially could cause damage or injury to adjoining property or persons thereon.
- E** The Contractor shall erect and maintain barriers, danger signs, and any other reasonable safeguards and warnings against hazards as may be required for safety and protection during performance of the Contract and shall notify owners and users of adjacent sites and utilities of conditions that may exist or arise which may jeopardize their safety.
- F** If use or storage of explosives or other hazardous materials or equipment or unusual Construction Methods are necessary for execution of the Work, the Contractor shall exercise commensurate care and employ supervisors and workers properly qualified to perform such activity.
- G** The Contractor shall furnish a qualified safety representative at the Project site whose duties shall include the prevention of accidents. The safety representative shall be the Contractor's superintendent, unless the Contractor assigns this duty to another responsible member of its on-site staff and notifies the Owner and Architect in writing of such assignment.
- H** The Contractor shall not permit a load to be applied, or forces introduced, to any part of the construction or site that may cause damage to the construction or site or endanger safety of the construction, site, or persons on or near the site.
- I** The Contractor shall have the right to act as it deems appropriate in emergency situations jeopardizing life or property. The Contractor shall be entitled to equitable adjustment of the Contract Sum or Contract Time for its efforts expended for the sole benefit of the Owner in an emergency. Such adjustment shall be determined as provided in Articles 19 and 20.

- J** The duty of the Architect and the Architect's consultants to visit the Project site to conduct periodic inspections of the Work or for other purposes shall not give rise to a duty to review or approve the adequacy of the Contractor's safety program, safety supervisor, or any safety measure which Contractor takes or fails to take in, on, or near the Project site.

Article 15 **HAZARDOUS MATERIALS**

- A** A Hazardous Material is any substance or material identified as hazardous under any federal, state, or local law or regulation, or any other substance or material which may be considered hazardous or otherwise subject to statutory or regulatory requirements governing its handling, disposal, and/or clean-up. Existing Hazardous Materials are Hazardous Materials discovered at the Project site and not introduced to the Project site by the Contractor, a Subcontractor, or anyone for whose acts they may be liable.
- B** If, during the performance of the Work, the Contractor encounters a suspected Existing Hazardous Material, the Contractor shall immediately stop work in the affected area, take measures appropriate to the condition to keep people away from the suspected Existing Hazardous Material, and immediately notify the Architect and Owner of the condition in writing.
- C** The Owner shall obtain the services of an independent laboratory or professional consultant, appropriately licensed and qualified, to determine whether the suspected material is a Hazardous Material requiring abatement and, if so, to certify after its abatement that it has been rendered harmless. Any abatement of Existing Hazardous Materials will be the responsibility of the Owner. The Owner will advise the Contractor in writing of the persons or entities who will determine the nature of the suspected material and those who will, if necessary, perform the abatement. The Owner will not employ persons or entities to perform these services to whom the Contractor or Architect has reasonable objection.
- D** After certification by the Owner's independent laboratory or professional consultant that the material is harmless or has been rendered harmless, work in the affected area shall resume upon written agreement between the Owner and Contractor. If the material is found to be an Existing Hazardous Material and the Contractor incurs additional cost or delay due to the presence and abatement of the material, the Contract Sum and/or Contract Time shall be appropriately adjusted by a Contract Change Order pursuant to Article 19.
- E** The Owner shall not be responsible for Hazardous Materials introduced to the Project site by the Contractor, a Subcontractor, or anyone for whose acts they may be liable unless such Hazardous Materials were required by the Contract Documents.

Article 16 **INSPECTION *of the* WORK**

- A GENERAL**
- (1)** The Contractor is solely responsible for the Work's compliance with the Contract Documents; therefore, the Contractor shall be responsible to inspect in-progress and completed Work, and shall verify its compliance with the Contract Documents and that any element or portion of the Work upon which subsequent Work is to be applied or performed is in proper condition to receive the subsequent Work. Neither the presence nor absence of inspections by the Architect, Owner, AHJ, any public authority having

jurisdiction, or their representatives shall relieve the Contractor of responsibility to inspect the Work, for responsibility for Construction Methods and safety precautions and programs in connection with the Work, or from any other requirement of the Contract Documents.

(2) The Architect, Owner, AHJ, any public authority having jurisdiction, and their representatives shall have access at all times to the Work for inspection whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection. All materials, workmanship, processes of manufacture, and methods of construction, if not otherwise stipulated in the Contract Documents, shall be subject to inspection, examination, and test at any and all places where such manufacture and/or construction are being carried on. Such inspections will not unreasonably interfere with the Contractor's operations.

(3) The Architect will inspect the Work as a representative of the Owner. The Architect's inspections may be supplemented by inspections by an AHJ or other reviewing entity.

(4) The Contractor may be charged by the Owner for any extra cost of inspection incurred by the Owner or Architect on account of material and workmanship not being ready at the time of inspection set by the Contractor.

(5) It is the Contractor's responsibility to communicate to the Design Team the date and time of requested inspection(s). It is the Design Team's responsibility to coordinate the date and time of the requested inspection with the Contractor, AHJ or ICC, Owner (ACCS) and College (college designated representative).

(6) The following are the minimum participation requirements for inspections:

- (a) Required inspection without an AHJ or ICC - both the Contractor and Design Professional of record.
- (b) Required inspection with an AHJ or ICC - both the Contractor and Design Professional of record.

B TYPES of INSPECTIONS

(1) **SCHEDULED INSPECTIONS and CONFERENCES.** Scheduled Inspections and Conferences are conducted by the Architect, scheduled by the Architect in coordination with the Contractor and AHJ where applicable, and are attended by the Contractor and applicable Subcontractors, suppliers and manufacturers. Scheduled Inspections and Conferences of this Contract include:

- (a) Pre-construction Conference.
- (b) Pre-roofing Conference (not applicable if the Contract involves no roofing work)
- (c) Pre-Asphalt Paving Installation and Expectations Conference
- (d) Pre-Landscape Sod Installation and Expectations Conference
- (e) Pre-Flooring Installation and Expectations Conference
- (f) Below Slab/Underground Utility Inspection
- (g) Footings and Foundation Inspection
- (h) Concrete Slab Inspection
- (i) Waterproofing and Building Envelope Inspection
- (j) In-Wall Inspection
- (k) Gypsum Board Inspection
- (l) Roofing Inspection
- (m) Storm Shelter Inspection (if applicable)

(n) Above Ceiling Inspection(s): An above ceiling inspection of all spaces in the building is required before the ceiling material is installed. Above ceiling inspections are to be conducted at a time when all above ceiling systems are complete and tested to the greatest extent reasonable pending installation of the ceiling material. System identifications and markings are to be complete. All fire-rated construction including fire-stopping of penetrations and specified identification above the ceiling shall be complete. Ceiling framing and suspension systems shall be complete with lights, grilles and diffusers, access panels, fire protection drops for sprinkler heads, etc., installed in their final locations to the greatest extent reasonable. Above ceiling framing to support ceiling mounted equipment shall be complete. The above ceiling construction shall be complete to the extent that after the inspection the ceiling material can be installed without disturbance.

(o) Elevator Inspection

(p) Fire Suppression Systems Inspection

(q) Fire Alarm System Inspection

(r) Emergency Lights and Exit Signs Inspection

(s) ADA Inspection

(t) Substantial Completion

(u) Final Inspection(s): A Final Inspection shall establish that the Work, or a designated portion of the Work, is Substantially Complete in accordance with Article 32 and is accepted by the Architect, Owner, and AHJ or other reviewing entity as being ready for the Owner's occupancy or use. At the conclusion of this inspection, items requiring correction or completion ("punch list" items) shall be minimal. Punch list items shall contain only items that can be reasonably completed and inspected within 30 days so that the Owner can occupy without disruption or interference by the Contractor and to establish Final Acceptance of the Work. If punch list items and closeout documents are not completed within 45 days of issuance of Certificate of Substantial Completion, a Notice to Cure may be issued. If the Work, or designated portion of the Work, includes the installation, or modification, of a fire alarm system or other life safety systems essential to occupancy, such systems shall have been tested and appropriately certified before the Final Inspection.

(v) Year-End Inspection(s): An inspection of the Work, or each separately completed portion thereof, is required near the end of the Contractor's one year warranty period(s). The subsequent delivery of the Architect's report of this inspection will serve as confirmation that the Contractor was notified of Defective Work found within the warranty period in accordance with Article 35.

(2) PERIODIC INSPECTIONS. Periodic Inspections are conducted throughout the course of the Work by the Architect, the Architect's consultants, their representatives, or other reviewing entity at the direction of the Owner, jointly or independently, with or without advance notice to the Contractor.

(3) SPECIFIED INSPECTIONS and TESTS. Specified Inspections and Tests include inspections, tests, demonstrations, and approvals that are either specified in the Contract Documents or required by laws, ordinances, rules, regulations, or orders of public authorities having jurisdiction, to be performed by the Contractor, one of its Subcontractors, or an independent testing laboratory or firm (whether paid for by the Contractor or Owner).

C INSPECTIONS *by the* ARCHITECT

- (1) The Architect is not authorized to revoke, alter, relax, or waive any requirements of the Contract Documents (other than “minor” deviations as defined in Article 9 and “minor” changes as defined in Article 19), to finally approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents without concurrence of the Owner.
- (2) The Architect will visit the site at intervals appropriate to the stage of the Contractor’s operations and as otherwise necessary to:
- (a) become generally familiar with the in-progress and completed Work and the quality of the Work,
 - (b) determine whether the Work is progressing in general accordance with the Contractor’s schedule and is likely to be completed within the Contract Time,
 - (c) visually compare readily accessible elements of the Work to the requirements of the Contract Documents to determine, in general, if the Contractor’s performance of the Work indicates that the Work will conform to the requirements of the Contract Documents when completed,
 - (d) endeavor to guard the Owner against Defective Work,
 - (e) review and address with the Contractor any problems in implementing the requirements of the Contract Documents that the Contractor may have encountered, and
 - (f) keep the Owner fully informed about the Project.
- (3) The Architect shall have the authority to reject Defective Work or require its correction, but shall not be required to make exhaustive investigations or examinations of the in-progress or completed portions of the Work to expose the presence of Defective Work. However, it shall be an obligation of the Architect to report in writing, to the Owner, Contractor, and ACCS Facilities Division, any Defective Work recognized by the Architect.
- (4) The Architect shall have the authority to require the Contractor to stop work only when, in the Architect’s reasonable opinion, such stoppage is necessary to avoid Defective Work. The Architect shall not be liable to the Contractor or Owner for the consequences of any decisions made by the Architect in good faith either to exercise or not to exercise this authority.
- (5) “Inspections by the Architect” includes appropriate inspections by the Architect’s consultants as dictated by their respective disciplines of design and the stage of the Contractor’s operations.

D INSPECTIONS BY THE LOCAL AHJ OR INDEPENDENT CODE CONSULTANTS

- (1) The Local AHJ or Independent Code Consultant will:
- (a) participate in scheduled inspections and conferences as practicable,
 - (b) perform periodic inspections of in-progress and completed Work to ensure code compliance of the Project and general conformance of the Work with the Contract Documents, and
 - (c) monitor the Contractor’s progress and performance of the Work.

(2) The Local AHJ or Independent Code Consultant shall have the authority to:

(a) reject Work that is not in compliance with the State Building Code, unless the Work is in accordance with the Contract Documents in which case the Architect shall initiate appropriate corrective action, and

(b) notify the Architect, Owner, and Contractor of Defective Work recognized by the Local AHJ or Independent Code Consultant.

(3) The Local AHJ or Independent Code Consultant's periodic inspections will usually be scheduled around key stages of construction based upon information reported by the Architect. As the Architect or Owner deems appropriate, the Local AHJ or Independent Code Consultants can be requested to schedule special inspections or meetings to address specific matters. The written findings of the Local AHJ or Independent Code Consultants will be transmitted to the Owner, Contractor, and Architect.

(4) The Local AHJ or Independent Code Consultant is not authorized to revoke, alter, relax, or waive any requirements of the Contract Documents, to finally approve or accept any portion of the Work or to issue instructions contrary to the Contract Documents without concurrence of the Owner. The Contractor shall not proceed with Work as a result of instructions or findings of the Local AHJ or Independent Code Consultant which the Contractor considers to be a change to the requirements of the Contract Documents without written authorization of the Owner through the Architect.

E UNCOVERING WORK

(1) If the Contractor covers a portion of the Work before it is examined by the Architect and this is contrary to the Architect's request or specific requirements in the Contract Documents, then, upon written request of the Architect, the Work must be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

(2) Without a prior request or specific requirement that Work be examined by the Architect before it is covered, the Architect may request that Work be uncovered for examination and the Contractor shall uncover it. If the Work is in accordance with the Contract Documents, the Contract Sum shall be equitably adjusted under Article 19 to compensate the Contractor for the costs of uncovering and replacement. If the Work is not in accordance with the Contract Documents, uncovering, correction, and replacement shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

F SPECIFIED INSPECTIONS *and* TESTS

(1) The Contractor shall schedule and coordinate Specified Inspections and Tests to be made at appropriate times so as not to delay the progress of the Work or the work of the Owner or separate contractors. If the Contract Documents require that a Specified Inspection or Test be witnessed or attended by the Architect or Architect's consultant, the Contractor shall give the Architect timely notice of the time and place of the Specified Inspection or Test. If a Specified Inspection or Test reveals that Work is not in compliance with requirements of the Contract Documents, the Contractor shall bear the costs of correction, repeating the Specified Inspection or Test, and any related costs incurred by the Owner, including reasonable charges, if any, by the Architect for additional services. Through appropriate Contract Change Order the Owner shall bear costs of tests, inspections or approvals which become Contract requirements subsequent to the receipt of bids.

(2) If the Architect, Owner, or public authority having jurisdiction determines that inspections, tests, demonstrations, or approvals in addition to Specified Inspections and Tests are required, the Contractor

shall, upon written instruction from the Architect, arrange for their performance by an entity acceptable to the Owner, giving timely notice to the architect of the time and place of their performance. Related costs shall be borne by the Owner unless the procedures reveal that Work is not in compliance with requirements of the Contract Documents, in which case the Contractor shall bear the costs of correction, repeating the procedures, and any related costs incurred by the Owner, including reasonable charges, if any, by the Architect for additional services.

(3) Unless otherwise required by the Contract Documents, required certificates of Specified Inspections and Tests shall be secured by the Contractor and promptly delivered to the Architect.

(4) Failure of any materials to pass Specified Inspections and Tests will be sufficient cause for refusal to consider any further samples of the same brand or make of that material for use in the Work.

Article 17

CORRECTION *of* DEFECTIVE WORK

- A** The Contractor shall, at the Contractor's expense, promptly correct Defective Work rejected by the Architect or which otherwise becomes known to the Contractor, removing the rejected or nonconforming materials and construction from the project site.
- B** Correction of Defective Work shall be performed in such a timely manner as will avoid delay of completion, use, or occupancy of the Work and the work of the Owner and separate contractors.
- C** The Contractor shall bear all expenses related to the correction of Defective Work, including but not limited to:
 - (1) additional testing and inspections, including repeating Specified Inspections and Tests,
 - (2) reasonable services and expenses of the Architect, and (3) the expense of making good all work of the Contractor, Owner, or separate contractors destroyed or damaged by the correction of Defective Work.
- D** All Defective Work, or Deficiencies, shall be tracked on a Project Deficiency Log that is reviewed and updated at least monthly at OAC meetings.

Article 18

DEDUCTIONS *for* UNCORRECTED WORK

If the Owner deems it advisable and in the Owner's interest to accept Defective Work, the Owner may allow part or all of such Work to remain in place, provided an equitable deduction from the Contract Sum, acceptable to the Owner, is offered by the Contractor.

Article 19

CHANGES *in* WORK

A GENERAL

(1) The Owner may at any time direct the Contractor to make changes in the Work which are within the general scope of the Contract, including changes in the Drawings, Specifications, or other portions of the Contract Documents to add, delete, or otherwise revise portions of the Work. The Architect is authorized by the Owner to direct "minor" changes in the Work by written order to the Contractor through the use of an

Architect's Supplemental Instruction (ASI). These "minor" changes, or ASIs, in the Work are defined as those which are in the interest of the Owner, do not materially alter the quality or performance of the finished Work, and do not affect the cost or time of performance of the Work. Changes in the Work which are not "minor" may be authorized only by the Owner.

(2) If the Owner directs a change in the Work, the change shall be incorporated into the Contract by a Contract Change Order prepared by the Architect and signed by the Contractor, Owner, and other signatories to the Construction Contract, stating their agreement upon the change or changes in the Work and the adjustments, if any, in the Contract Sum and the Contract Time.

(3) Subject to compliance with Alabama's Public Works Law, the Owner may, upon agreement by the Contractor, incorporate previously unawarded bid alternates into the Contract.

(4) In the event of a claim or dispute as to the appropriate adjustment to the Contract Sum or Contract Time due to a directive to make changes in the Work, the Work shall proceed as provided in this article subject to subsequent agreement of the parties or final resolution of the dispute pursuant to Article 24.

(5) Consent of surety will be obtained for all Contract Change Orders involving an increase in the Contract Sum.

(6) Changes in the Work shall be performed under applicable provisions of the Contract Documents and the Contractor shall proceed promptly to perform changes in the Work, unless otherwise directed by the Owner through the Architect.

(7) Liquidated damages are routed as Change Orders for work that the Contractor has failed to substantially complete within the Contract Time. Before the process of applying liquidated damages begins, communication and approval is required from the ACCS Chief Facilities Officer.

(8) All change orders require completion of ACCS Form 2-F Contract Change Order and ACCS Form 2-G Contract Change Order Justification forms. Only Change Orders 10% or greater of the current contract amount require the Owner's legal advisor's signature on the Change Order Justification form.

B DETERMINATION of ADJUSTMENT of the CONTRACT SUM

The adjustment of the Contract Sum resulting from a change in the Work shall be determined by one of the following methods, or a combination thereof, as selected by the Owner:

(1) Lump Sum. By mutual agreement to a lump sum based on or negotiated from an itemized cost proposal from the Contractor. This amount shall be all-inclusive, covering direct costs, as well as any fees. Contractor shall furnish to the Owner an itemized breakdown of the quantities and prices to be used in estimating the value of any changes that might be ordered. For the purposes of this method, Contractor and Subcontractors, shall furnish, at a minimum, the following on their own letterhead; all material or vendor quotes (with quantities and unit cost), labor hours, labor rates, labor burdens, equipment, and any other relevant information necessary to analyze the quote. Changes which involve a net credit to the Owner shall include fair and reasonable credits for overhead and profit on the deducted work, in no case less than 5%. For the purposes of this method of determining an adjustment of the Contract Sum, "overhead" shall cover the Contractor's indirect costs of the change, such as the cost of bonds, superintendent and other job office

personnel, watchman, job office, job office supplies and expenses, temporary facilities and utilities, and home office expenses.

- (a) For the Party performing the work, the cost of the work, less any credits, shall have a maximum markup for Overhead and Profit of 10%.
- (b) The prime contractor or upper-tier subcontractor's markup on work performed by lower-tier subcontractors shall not exceed 10%. No more than 10% shall be added by each successive lower-tier subcontractor, if applicable, for a maximum of 20%.
- (c) Article 19.B.1.a and 19.B.1.b shall also apply to Force Account changes.

(2) Unit Price. By application of Unit Prices included in the Contract or subsequently agreed to by the parties. However, if the character or quantity originally contemplated is materially changed so that application of such unit price to quantities of Work proposed will cause substantial inequity to either party, the applicable unit price shall be equitably adjusted. Each unit price is to include overhead, profit, and all other related costs.

(3) Force Account. By directing the Contractor to proceed with the change in the Work on a "force account" basis under which the Contractor shall be reimbursed for reasonable expenditures incurred by the Contractor and its Subcontractors in performing added Work and the Owner shall receive reasonable credit for any deleted Work. The Contractor shall keep and present, in such form as the Owner may prescribe, an itemized accounting of the cost of the change together with sufficient supporting data. Unless otherwise stated in the directive, the adjustment of the Contract Sum shall be limited to the following:

- (a) costs of labor and supervision, including employee benefits, social security, retirement, unemployment and workers' compensation insurance required by law, agreement, or under Contractor's or Subcontractor's standard personnel policy;
- (b) cost of materials, supplies and equipment, including cost of delivery, whether incorporated or consumed;
- (c) rental cost of machinery and equipment, not to exceed prevailing local rates if contractor-owned;
- (d) costs of premiums for insurance required by the Contract Documents, permit fees, and sales, use or similar taxes related to the change in the Work;
- (e) reasonable credits to the Owner for the value of deleted Work, without Contractor or Subcontractor mark-ups; and

C **ADJUSTMENT** *of the* **CONTRACT TIME** *due to* **CHANGES**

(1) Unless otherwise provided in the Contract Documents, the Contract Time shall be equitably adjusted for the performance of a change provided that the Contractor notifies the Architect in writing that the change will increase the time required to complete the Work. Such notice shall be provided no later than:

- (a) with the Contractor's cost proposal stating the number of days of extension requested, or
- (b) within ten days after the Contractor receives a directive to proceed with a change in advance of submitting a cost proposal, in which case the notice should provide an estimated number of days of extension to be requested, which may be subject to adjustment in the cost proposal.

(2) The Contract Time shall be extended only to the extent that the change affects the time required to complete the entire Work of the Contract, taking into account the concurrent performance of the changed and unchanged Work. All Contract Time extension requests will be considered in relation to the Critical Path of the Construction Schedule. For purposes of this section, the Critical Path of the Construction Schedule determines the sequence of dependent tasks for project completion and identifies the shortest possible duration for completing the project.

D CHANGE ORDER PROCEDURES

(1) If the Owner proposes to make a change in the Work, the Architect will request that the Contractor provide a cost proposal for making the change to the Work. The request shall be in writing and shall adequately describe the proposed change using drawings, specifications, narrative, or a combination thereof. Within 14 days after receiving such a request, or such other time as may be stated in the request, the Contractor shall prepare and submit a written proposal along with the Change Proposal Recap Sheet to the Architect, properly itemized and supported by sufficient substantiating data to facilitate evaluation. The stated time within which the Contractor must submit a proposal may be extended if, within that time, the Contractor makes a written request with reasonable justification thereof.

(2) The Contractor may voluntarily offer a change proposal which, in the Contractor's opinion, will reduce the cost of construction, maintenance, or operation or will improve the cost-effective performance of an element of the Project, in which case the Owner, through the Architect, will accept, reject, or respond otherwise within 21 days after receipt of the proposal, or such other reasonable time as the Contractor may state in the proposal.

(3) If the Contractor's proposal is acceptable to the Owner, or is negotiated to the mutual agreement of the Contractor and Owner, the Architect will prepare an appropriate Contract Change Order for execution. Upon receipt of the fully executed Contract Change Order, the Contractor shall proceed with the change.

(4) In advance of delivery of a fully executed Contract Change Order, the Architect may furnish to the Contractor a written authorization to proceed with an agreed change utilizing the Change Order Justification (ACCS Form 2-G). However, such an authorization shall be effective only if it:

- (a) identifies the Contractor's accepted or negotiated proposal for the change,
- (b) states the agreed adjustments, if any, in Contract Sum and Contract Time,
- (c) states that funds are available to pay for the change, and
- (d) is signed by the Owner.

(5) If the Contractor and Owner cannot agree on the amount of the adjustment in the Contract Sum for a change, the Owner, through the Architect, may order the Contractor to proceed with the change on a Force Account basis, but the net cost to the Owner shall not exceed the amount quoted in the Contractor's proposal. Such order shall state that funds are available to pay for the change.

(6) If the Contractor does not promptly respond to a request for a proposal, or the Owner determines that the change is essential to the final product of the Work and that the change must be effected immediately to avoid delay of the Project, the Owner may:

- (a) determine with the Contractor a sufficient maximum amount to be authorized for the change and

(b) direct the Contractor to proceed with the change on a Force Account basis pending delivery of the Contractor's proposal, stating the maximum increase in the Contract Sum that is authorized for the change.

(7) Pending agreement of the parties or final resolution of any dispute of the total amount due the Contractor for a change in the Work, amounts not in dispute for such changes in the Work may be included in Applications for Payment accompanied by an interim Change Order indicating the parties' agreement with part of all of such costs or time extension. Once a dispute is resolved, it shall be implemented by preparation and execution of an appropriate Change Order.

Article 20

CLAIMS *for* EXTRA COST *or* EXTRA WORK

- A** If the Contractor considers any instructions by the Architect, Owner, or public authority having jurisdiction or Independent Code Consultant, to be contrary to the requirements of the Contract Documents and will involve extra work and/or cost under the Contract, the Contractor shall give the Architect written notice thereof within ten days after receipt of such instructions, and in any event before proceeding to execute such work. As used in this Article, "instructions" shall include written or oral clarifications, directions, instructions, interpretations, or determinations.
- B** The Contractor's notification pursuant to Paragraph 20.A shall state: **(1)** the date, circumstances, and source of the instructions, **(2)** that the Contractor considers the instructions to constitute a change to the Contract Documents and why, and **(3)** an estimate of extra cost and time that may be involved to the extent an estimate may be reasonably made at that time.
- C** Except for claims relating to an emergency endangering life or property, no claim for extra cost or extra work shall be considered in the absence of prior notice required under Paragraph 20.A.
- D** Within ten days of receipt of a notice pursuant to Paragraph 20.A, the Architect will respond in writing to the Contractor, stating one of the following:
 - (1)** The cited instruction is rescinded.
 - (2)** The cited instruction is a change in the Work and in which manner the Contractor is to proceed with procedures of Article 19, Changes in the Work.
 - (3)** The cited instruction is reconfirmed, is not considered by the Architect to be a change in the Contract Documents, and the Contractor is to proceed with Work as instructed.
- E** If the Architect's response to the Contractor is as in Paragraph 20.D(3), the Contractor shall proceed with the Work as instructed. If the Contractor continues to consider the instructions to constitute a change in the Contract Documents, the Contractor shall, within ten days after receiving the Architect's response, notify the Architect in writing that the Contractor intends to submit a claim pursuant to Article 24, Resolution of Claims and Disputes.

Article 21**DIFFERING SITE CONDITIONS****A DEFINITION**

"Differing Site Conditions" are:

- (1) subsurface or otherwise concealed physical conditions at the Project site which differ materially from those indicated in the Contract Documents, or
- (2) unknown physical conditions at the Project site which are of an unusual nature, differing materially from conditions ordinarily encountered and generally recognized as inherent in construction activities of the character required by the Contract Documents.

B PROCEDURES

If Differing Site Conditions are encountered, then the party discovering the condition shall promptly notify the other party before the condition is disturbed and in no event later than ten days after discovering the condition. Upon such notice and verification that a Differing Site Condition exists, the Architect will, with reasonable promptness and with the Owner's concurrence, make changes in the Drawings and/or Specifications as are deemed necessary to conform to the Differing Site Condition. Any increase or decrease in the Contract Sum or Contract Time that is warranted by the changes will be made as provided under Article 19, Changes in the Work. If the Architect determines a Differing Site Condition has not been encountered, the Architect shall notify the Owner and Contractor in writing, stating the reason for that determination.

Article 22**CLAIMS *for* DAMAGES**

If either party to the Contract 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, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time after the discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

Article 23**DELAYS**

A A delay beyond the Contractor's control at any time in the commencement or progress of Work by an act or omission of the Owner, Architect, or any separate contractor or by labor disputes, unusual delay in deliveries, unavoidable casualties, fires, abnormal floods, tornadoes, or other cataclysmic events of nature, may entitle the Contractor to an extension of the Contract Time provided, however, that the Contractor shall, within ten days after the delay first occurs, give written notice to the Architect of the cause of the delay and its probable effect on progress of the entire Work.

B Adverse weather conditions that are more severe than anticipated for the locality of the Work during any given month may entitle the Contractor to an extension of Contract Time provided, however;

- (1) the weather conditions had an adverse effect on construction scheduled to be performed during the period in which the adverse weather occurred, which in reasonable sequence would have an effect on completion of the entire Work,

(2) the Contractor shall, within twenty-one days after the end of the month in which the delay occurs, give the Architect written notice of the delay that occurred during that month and its probable effect on progress of the Work, and

(3) within a reasonable time after giving notice of the delay, the Contractor provides the Architect with sufficient data to document that the weather conditions experienced were unusually severe for the locality of the Work during the month in question. Unless otherwise provided in the Contract Documents, data documenting unusually severe weather conditions shall compare actual weather conditions to the average weather conditions for the month in question during the previous five years as recorded by the National Oceanic and Atmospheric Administration (NOAA) or similar record-keeping entities.

C Adjustments, if any, of the Contract Time pursuant to this Article shall be incorporated into the Contract by a Contract Change Order prepared by the Architect and signed by the Contractor, Owner, and other signatories to the Construction Contract or, at closeout of the Contract, by mutual written agreement between the Contractor and Owner. The adjustment of the Contract Time shall not exceed the extent to which the delay extends the time required to complete the entire Work of the Contract.

D The Contractor shall not be entitled to any adjustment of the Contract Sum for damage due to delays claimed pursuant to this Article unless the delay was caused by the Owner or Architect and was either:

(1) the result of bad faith or active interference or

(2) beyond the contemplation of the parties and not remedied within a reasonable time after notification by the Contractor of its presence.

Article 24

RESOLUTION *of* CLAIMS *and* DISPUTES

A APPLICABILITY *of* ARTICLE

(1) As used in this Article, "Claims and Disputes" include claims or disputes asserted by the Contractor, its Surety, or Owner arising out of or related to the Contract, or its breach, including without limitation claims seeking, under the provisions of the Contract, equitable adjustment of the Contract Sum or Contract Time and claims and disputes arising between the Contractor (or its Surety) and Owner regarding interpretation of the Contract Documents, performance of the Work, or breach of or compliance with the terms of the Contract.

(2) "Resolution" addressed in this Article applies only to Claims and Disputes arising between the Contractor (or its Surety) and Owner and asserted after execution of the Construction Contract and prior to the date upon which final payment is made. Upon making application for final payment the Contractor may reserve the right to subsequent Resolution of existing Claims by including a list of all Claims, in stated amounts, which remain to be resolved and specifically excluding them from any release of claims executed by the Contractor, and in that event Resolution may occur after final payment is made.

B CONTINUANCE *of* PERFORMANCE

An unresolved Claim or Dispute shall not be just cause for the Contractor to fail or refuse to proceed diligently with performance of the Contract or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.

C GOOD FAITH EFFORT *to* SETTLE

The Contractor and Owner agree that, upon the assertion of a Claim by the other, they will make a good faith effort, with the Architect's assistance and advice, to achieve mutual resolution of the Claim. If mutually agreed, the Contractor and Owner may endeavor to resolve a Claim through mediation. If efforts to settle are not successful, the Claim shall be resolved in accordance with paragraph D or E below, whichever applies.

D FINAL RESOLUTION *for* STATE-FUNDED CONTRACTS

(1) If the Contract is funded in whole or in part with state funds, the final Resolution of Claims and Disputes which cannot be resolved by the Contractor (or its Surety) and Owner shall be by the Chancellor, whose decision shall be final, binding, and conclusive upon the Contractor, its Surety, and the Owner.

(2) When it becomes apparent to the party asserting a Claim (the Claimant) that an impasse to mutual resolution has been reached, the Claimant may request in writing to the Chancellor that the Claim be resolved by decision of a Professional, with Alabama licensing if the profession requires it, appointed by the Chancellor to review and determine the Claim. Such request by the Contractor (or its Surety) shall be submitted through the Owner. Should the Owner fail or refuse to submit the Contractor's request within ten days of receipt of same, the Contractor may forward such request directly to the Chief Facilities Officer. Upon receipt of a request to resolve a Claim, the Chief Facilities Officer will instruct the parties as to procedures to be initiated and followed.

(3) If the respondent to a Claim fails or refuses to participate or cooperate in the Resolution procedures to the extent that the Claimant is compelled to initiate legal proceedings to induce the Respondent to participate or cooperate, the Claimant will be entitled to recover, and may amend its Claim to include, the expense of reasonable attorney's fees so incurred.

Article 25

OWNER'S RIGHT *to* CORRECT DEFECTIVE WORK

If the Contractor fails or refuses to correct Defective Work in a timely manner that will avoid delay of completion, use, or occupancy of the Work or work by the Owner or separate contractors, the Architect may give the Contractor written Notice to Cure the Defective Work within a reasonable, stated time. If within ten days after receipt of the Notice to Cure the Contractor has not proceeded and satisfactorily continued to cure the Defective Work or provided the Architect with written verification that satisfactory positive action is in process to cure the Defective Work, the Owner may, without prejudice to any other remedy available to the Owner, correct the Defective Work and deduct the actual cost of the correction from payment then or thereafter due to the Contractor.

Article 26

OWNER'S RIGHT *to* STOP *and* SUSPEND *the* WORK

A STOPPING *the* WORK *for* CAUSE

If the Contractor fails to correct Defective Work or persistently fails to carry out Work in accordance with the Contract Documents, the Owner may direct the Contractor in writing to stop the Work, or any part of the

Work, until the cause for the Owner's directive has been eliminated; however, the Owner's right to stop the Work shall not be construed as a duty of the Owner to be exercised for the benefit of the Contractor or any other person or entity.

B SUSPENSION *by the OWNER for CONVENIENCE*

(1) The Owner may, at any time and without cause, direct the Contractor in writing to suspend, delay or interrupt the Work, or any part of the Work, for a period of time as the Owner may determine.

(2) The Contract Sum and Contract Time shall be adjusted, pursuant to Article 19, for reasonable increases in the cost and time caused by an Owner-directed suspension, delay or interruption of Work for the Owner's convenience. However, no adjustment to the Contract Sum shall be made to the extent that the same or concurrent Work is, was or would have been likewise suspended, delayed or interrupted for other reasons not caused by the Owner.

Article 27

OWNER'S RIGHT to TERMINATE CONTRACT

A TERMINATION *by the OWNER for CAUSE*

(1) Causes: The Owner may terminate the Contractor's right to complete the Work, or any designated portion of the Work, if the Contractor:

- (a) should be adjudged bankrupt, or should make a general assignment for the benefit of the Contractor's creditors, or if a receiver should be appointed on account of the Contractor's insolvency to the extent termination for these reasons is permissible under applicable law;
- (b) refuses or fails to prosecute the Work, or any part of the Work, with the diligence that will insure its completion within the Contract Time, including any extensions, or fails to complete the Work within the Contract Time;
- (c) refuses or fails to perform the Work, including prompt correction of Defective Work, in a manner that will insure that the Work, when fully completed, will be in accordance with the Contract Documents;
- (d) fails to pay for labor or materials supplied for the Work or to pay Subcontractors in accordance with the respective Subcontract;
- (e) persistently disregards laws, ordinances, or rules, regulations or orders of a public authority having jurisdiction, or the instructions of the Architect or Owner; or
- (f) is otherwise guilty of a substantial breach of the Contract.

(2) Procedure for Unbonded Construction Contracts (Generally, contracts less than \$100,000):

- (a) Notice to Cure: In the presence of any of the above conditions the Architect may give the Contractor written notice to cure the condition within a reasonable, stated time, but not less than ten days after the Contractor receives the notice.

(b) Notice of Termination: If, at the expiration of the time stated in the Notice to Cure, the Contractor has not proceeded and satisfactorily continued to cure the condition or provided the Architect with written verification that satisfactory positive action is in process to cure the condition, the Owner may, without prejudice to any other rights or remedies of the Owner, give the Contractor written notice that the Contractor's right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor's receipt of the written Notice of Termination.

(c) If the Contractor satisfies a Notice to Cure, but the condition for which the notice was first given reoccurs, the Owner may give the Contractor a seven day Notice of Termination without giving the Contractor another Notice to Cure.

(d) At the expiration of the seven days of the termination notice, the Owner may:

- .1 take possession of the site, of all materials and equipment stored on and off site, and of all Contractor-owned tools, construction equipment and machinery, and facilities located at the site, and
- .2 finish the Work by whatever reasonable method the Owner may deem expedient.

(e) The Contractor shall not be entitled to receive further payment under the Contract until the Work is completed.

(f) If the Owner's cost of completing the Work, including correction of Defective Work, compensation for additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees due to the default and termination, is less than the unpaid balance of the Contract Sum, the excess balance less liquidated damages for delay shall be paid to the Contractor. If such cost to the Owner including attorney's fees, plus liquidated damages, exceeds the unpaid balance of the Contract Sum, the Contractor shall pay the difference to the Owner. Final Resolution of any claim or Dispute involving the termination or any amount due any party as a result of the termination shall be pursuant to Article 24.

(g) Upon the Contractor's request, the Owner shall furnish to the Contractor a detailed accounting of the Owner's cost of completing the Work.

(3) Procedure for Bonded Construction Contracts (Generally, contracts over \$100,000):

(a) Notice to Cure: In the presence of any of the above conditions the Architect may give the Contractor and its Surety written Notice to Cure the condition within a reasonable, stated time, but not less than ten days after the Contractor receives the notice.

(b) Notice of Termination: If, at the expiration of the time stated in the Notice to Cure, the Contractor has not proceeded and satisfactorily continued to cure the condition or provided the Architect with written verification that satisfactory positive action is in process to cure the condition, the Owner may, without prejudice to any other rights or remedies of the Owner, give the Contractor and its Surety written notice declaring the Contractor to be in default under the Contract and stating that the Contractor's right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor's receipt of the written Notice of Termination.

(c) If the Contractor satisfies a Notice to Cure, but the condition for which the notice was first given reoccurs, the Owner may give the Contractor a Notice of Termination without giving the Contractor another Notice to Cure.

(d) Demand on the Performance Bond: With the Notice of Termination the Owner shall give the Surety a written demand that, upon the effective date of the Notice of Termination, the Surety promptly fulfill its obligation to take charge of and complete the Work in accordance with the terms of the Performance Bond.

(e) Surety Claims: Upon receiving the Owner's demand on the Performance Bond, the Surety shall assume all rights and obligations of the Contractor under the Contract. However, the Surety shall also have the right to assert "Surety Claims" to the Owner, which are defined as claims relating to acts or omissions of the Owner or Architect prior to termination of the Contractor which may have prejudiced its rights as Surety or its interest in the unpaid balance of the Contract Sum. If the Surety wishes to assert a Surety Claim, it shall give the Owner, through the Architect, written notice within twenty-one days after first recognizing the condition giving rise to the Surety Claim. The Surety Claim shall then be submitted to the Owner, through the Architect, no later than sixty days after giving notice thereof, but no such Surety Claims shall be considered if submitted after the date upon which final payment becomes due. Final resolution of Surety Claims shall be pursuant to Article 24, Resolution of Claims and Disputes. The presence or possibility of a Surety Claim shall not be just cause for the Surety to fail or refuse to take charge of and complete the Work or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.

(f) Payments to Surety: The Surety shall be paid for completing the Work in accordance with the Contract Documents as if the Surety were the Contractor. The Owner shall have the right to deduct from payments to the Surety any reasonable costs incurred by the Owner, including compensation for additional architectural, engineering, managerial, and administrative services, and attorneys' fees as necessitated by termination of the Contractor and completion of the Work by the Surety. No further payments shall be made to the Contractor by the Owner. The Surety shall be solely responsible for any accounting to the Contractor for the portion of the Contract Sum paid to Surety by Owner or for the costs and expenses of completing the Work.

(4) Wrongful Termination: If any notice of termination by the Owner for cause, made in good faith, is determined to have been wrongly given, such termination shall be effective and compensation therefore determined as if it had been a termination for convenience pursuant to Paragraph B below.

B **TERMINATION** *by the* **OWNER for CONVENIENCE**

(1) The Owner may, without cause and at any time, terminate the performance of Work under the Contract in whole, or in part, upon determination by the Owner that such termination is in the Owner's best interest. Such termination is referred to herein as Termination for Convenience.

(2) Upon receipt of a written notice of Termination for Convenience from the Owner, the Contractor shall:

(a) stop Work as specified in the notice;

(b) enter into no further subcontracts or purchase orders for materials, services, or facilities, except as may be necessary for Work directed to be performed prior to the effective date of the termination or to complete Work that is not terminated;

- (c) terminate all existing subcontracts and purchase orders to the extent they relate to the terminated Work;
- (d) take such actions as are necessary, or directed by the Architect or Owner, to protect, preserve, and make safe the terminated Work; and
- (e) complete performance of the Work that is not terminated.

(3) In the event of Termination for Convenience, the Contractor shall be entitled to receive payment for the Work performed prior to its termination, including materials and equipment purchased and delivered for incorporation into the terminated Work, and any reasonable costs incurred because of the termination. Such payment shall include reasonable mark-up of costs for overhead and profit, not to exceed the limits stated in Article 19, Changes in the Work. The Contractor shall be entitled to receive payment for reasonable anticipated overhead (“home office”) and shall not be entitled to receive payment for any profits anticipated to have been gained from the terminated Work. A proposal for decreasing the Contract Sum shall be submitted to the Architect by the Contractor in such time and detail, and with such supporting documentation, as is reasonably directed by the Owner. Final modification of the Contract shall be by Contract Change Order pursuant to Article 19. Any Claim or Dispute involving the termination or any amount due a party as a result shall be resolved pursuant to Article 24.

Article 28

CONTRACTOR’S RIGHT *to* SUSPEND *or* TERMINATE *the* CONTRACT

A SUSPENSION *by the* OWNER

If all of the Work is suspended or delayed for the Owner’s convenience or under an order of any court, or other public authority, for a period of sixty days, through no act or fault of the Contractor or a Subcontractor, or anyone for whose acts they may be liable, then the Contractor may give the Owner a written Notice of Termination which allows the Owner fourteen days after receiving the Notice in which to give the Contractor appropriate written authorization to resume the Work. Absent the Contractor’s receipt of such authorization to resume the Work, the Contract shall terminate upon expiration of this fourteen day period and the Contractor will be compensated by the Owner as if the termination had been for the Owner’s convenience pursuant to Article 27.B.

B NONPAYMENT

The Owner’s failure to pay the undisputed amount of an Application for Payment within sixty days after receiving it from the Architect (Certified pursuant to Article 30) shall be just cause for the Contractor to give the Owner fourteen days’ written notice that the Work will be suspended pending receipt of payment but that the Contract shall terminate if payment is not received within fourteen days (or a longer period stated by the Contractor) of the expiration of the fourteen day notice period.

(1) If the Work is then suspended for nonpayment, but resumed upon receipt of payment, the Contractor will be entitled to compensation as if the suspension had been by the Owner pursuant to Article 26, Paragraph B.

(2) If the Contract is then terminated for nonpayment, the Contractor will be entitled to compensation as if the termination had been by the Owner pursuant to Article 27, Paragraph B.

Article 29
PROGRESS PAYMENTS
A FREQUENCY of PROGRESS PAYMENTS

Unless otherwise provided in the Contract Documents, the Owner will make payments to the Contractor as the Work progresses based on monthly estimates prepared and certified by the Contractor, approved and certified by the Architect, and approved by the Owner and other authorities whose approval is required.

B SCHEDULE of VALUES

Within twenty-four (24) hours after the Bid Opening, the Contractor shall submit to the Architect ACCS Form 6-E, Schedule of Values, which is a breakdown of the Contract Sum showing the value of the various parts of the Work for billing purposes. The Schedule of Values shall divide the Contract Sum into as many parts ("line items") as the Architect and Owner determine necessary to permit evaluation and to show amounts attributable to Subcontractors. The Contractor's overhead and profit are to be proportionately distributed throughout the line items of the Schedule of Values. Upon approval, the Schedule of Values shall be used as a basis for monthly Applications for Payment, unless it is later found to be in error. Approved change order amounts shall be added to or incorporated into the Schedule of Values as mutually agreed by the Contractor and Architect.

C APPLICATIONS for PAYMENTS

(1) Based on the approved Schedule of Values, each Application and Certificate for Payment shall show the Contractor's estimate of the value of Work performed in each line item as of the end of the billing period. The Contractor's cost of materials and equipment not yet incorporated into the Work, but delivered and suitably stored on the site, may be considered in monthly Applications for Payment. One payment application per month may be submitted. Each Application and Certificate for Payment shall match to the penny and be accompanied by an attached Schedule of Values.

(2) The Contractor's estimate of the value of Work performed and stored materials must represent such reasonableness as to warrant certification by the Architect to the Owner in accordance with Article 30. Each monthly Application for Payment shall be supported by such data as will substantiate the Contractor's right to payment, including without limitation copies of requisitions from subcontractors and material suppliers.

(3) If no other date is stated in the Contract Documents or agreed upon by the parties, each Application for Payment shall be submitted to the Architect on or about the first day of each month and payment shall be issued to the Contractor within thirty days after an Application for Payment is Certified pursuant to Article 30 and delivered to the Owner.

(4) Application and Certificate for Payment shall be electronically submitted to ACCS Facilities Division for review following the Contractor's, Notary's, Architect's and Owner's signatures.

D MATERIALS STORED OFF SITE

Unless otherwise provided in the Contract Documents, the Contractor's cost of materials and equipment to be incorporated into the Work, which are stored off the site, may also be considered in monthly Applications for Payment under the following conditions:

(1) the contractor has received written approval from the Architect and Owner to store the materials or equipment off site in advance of delivering the materials to the off site location;

(2) a Certificate of Insurance is furnished to the Architect evidencing that a special insurance policy, or rider to an existing policy, has been obtained by the Contractor providing all-risk property insurance coverage, specifically naming the materials or equipment stored, and naming the Owner as an additionally insured party;

(3) the Architect is provided with a detailed inventory of the stored materials or equipment and the materials or equipment are clearly marked in correlation to the inventory to facilitate inspection and verification of the presence of the materials or equipment by the Architect or Owner;

(4) the materials or equipment are properly and safely stored in a bonded warehouse, or a facility otherwise approved in advance by the Architect and Owner; and

(5) 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.

E RETAINAGE

(1) Retainage for ACCS Projects shall be governed by Title 39 of the Alabama Code.

(2) "Retainage" is defined as that money belonging to the contractor which has been retained by ACCS conditioned on final completion and acceptance of all work in connection with a project or projects by the contractor. Retainage will not be reduced. Full retainage will only be released with the final payment after completion of all punch list items, receipt of Certificate of Occupancy from AHJ, submittal of all warranties, releases of claims are received, surety consent to final payment received, submittal of record documents and all other closeout documents required by contract. Retainage shall not be relied upon by Contractor (or Surety) to cover or off-set unearned monies attributable to uncompleted or uncorrected Work.

(3) In making progress payments the Owner shall retain five percent of the estimated amount of work done and the value of materials stored on the site or suitably stored and insured off-site, and after 50 percent completion has been accomplished, no further retainage shall be withheld. The retainage as set out above shall be held until final completion and acceptance of all work covered by the contract.

F CONTRACTOR'S CERTIFICATION

(1) Each Application for Payment shall bear the Contractor's notarized certification that, to the best of the Contractor's knowledge, information, and belief, the Work covered by the Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payments were issued and payments received from the Owner and that the current payment shown in the Application for Payment has not yet been received.

(2) By making this certification the Contractor represents to the Architect and Owner that, upon receipt of previous progress payments from the Owner, the Contractor has promptly paid each Subcontractor, in accordance with the terms of its agreement with the Subcontractor, the amount due the Subcontractor from the amount included in the progress payment on account of the Subcontractor's Work and stored materials. The Architect and Owner may advise Subcontractors and suppliers regarding percentages of completion or amounts requested and/or approved in an Application for Payment on account of the Subcontractor's Work and stored materials.

G PAYMENT ESTABLISHES OWNERSHIP

All material and Work covered by progress payments shall become the sole property of the Owner, but the Contractor shall not be relieved from the sole responsibility for the care and protection of material and Work upon which payments have been made and for the restoration of any damaged material and Work.

Article 30**CERTIFICATION *and* APPROVALS *for* PAYMENT**

- A** The Architect's review, approval, and certification of Applications for Payment shall be based on the Architect's general knowledge of the Work obtained through site visits and the information provided by the Contractor with the Application. The Architect shall not be required to perform exhaustive examinations, evaluations, or estimates of the cost of completed or uncompleted Work or stored materials to verify the accuracy of amounts requested by the Contractor, but the Architect shall have the authority to adjust the Contractor's estimate when, in the Architect's reasonable opinion, such estimates are overstated or understated.

Within seven days after receiving the Contractor's monthly Application for Payment, or such other time as may be stated in the Contract Documents, the Architect will take one of the following actions:

- (1)** The Architect will approve and certify the Application as submitted and forward it to the Owner as a Certification for Payment for approval by the Owner (and other approving authorities, if any) and payment.
- (2)** If the Architect takes exception to any amounts claimed by the Contractor and the Contractor and Architect cannot agree on revised amounts, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to certify to the Owner, transmitting a copy of same to the Contractor.
- (3)** To the extent the Architect determines may be necessary to protect the Owner from loss on account of any of the causes stated in Article 31, the Architect may subtract from the Contractor's estimates and will issue a Certificate for Payment to the Owner, with a copy to the Contractor, for such amount as the Architect determines is properly due and notify the Contractor and Owner in writing of the Architect's reasons for withholding payment in whole or in part.

- B** Neither the Architect's issuance of a Certificate for Payment nor the Owner's resulting progress payment shall be a representation to the Contractor that the Work in progress or completed at that time is accepted or deemed to be in conformance with the Contract Documents.
- C** The Architect shall not be required to determine that the Contractor has promptly or fully paid Subcontractors and suppliers or how or for what purpose the Contractor has used monies paid under the Construction Contract. However, the Architect may, upon request and if practical, inform any Subcontractor or supplier of the amount, or percentage of completion, approved or paid to the Contractor on account of the materials supplied or the Work performed by the Subcontractor.

Article 31**PAYMENTS WITHHELD**

- A** The Architect may nullify or revise a previously issued Certificate for Payment prior to Owner's payment thereunder to the extent as may be necessary in the Architect's opinion to protect the Owner from loss on

account of any of the following causes not discovered or fully accounted for at the time of the certification or approval of the Application for Payment:

- (1) Defective Work;
- (2) filed, or reasonable evidence indicating probable filing of, claims arising out of the Contract by other parties against the Contractor;
- (3) the Contractor's failure to pay for labor, materials or equipment or to pay Subcontractors;
- (4) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- (5) damage suffered by the Owner or another contractor caused by the Contractor, a Subcontractor, or anyone for whose acts they may be liable;
- (6) reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance is insufficient to cover applicable liquidated damages; or
- (7) the Contractor's persistent failure to conform to the requirements of the Contract Documents.

B If the Owner deems it necessary to withhold payment pursuant to preceding Paragraph A, the Owner will notify the Contractor and Architect in writing of the amount to be withheld and the reason for same.

C The Architect shall not be required to withhold payment for completed or partially completed Work for which compliance with the Contract Documents remains to be determined by Specified Inspections or Final Inspections to be performed in their proper sequence. However, if Work for which payment has been approved, certified, or made under an Application for Payment is subsequently determined to be Defective Work, the Architect shall determine an appropriate amount that will protect the Owner's interest against the Defective Work.

(1) If payment has not been made against the Application for Payment first including the Defective Work, the Architect will notify the Owner and Contractor of the amount to be withheld from the payment until the Defective Work is brought into compliance with the Contract Documents.

(2) If payment has been made against the Application for Payment first including the Defective Work, the Architect will withhold the appropriate amount from the next Application for Payment submitted after the determination of noncompliance, such amount to then be withheld until the Defective Work is brought into compliance with the Contract Documents.

D The amount withheld will be paid with the next Application for Payment certified and approved after the condition for which the Owner has withheld payment is removed or otherwise resolved to the Owner's satisfaction.

E The Owner shall have the right to withhold from payments due the Contractor under this Contract an amount equal to any amount which the Contractor owes the Owner under another contract.

Article 32**SUBSTANTIAL COMPLETION**

- A** Substantial Completion is the stage in the progress of the Work when the Work or designated portion of the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use without disruption or interference by the Contractor in completing or correcting any remaining unfinished Work (“punch list” items). Substantial Completion of the Work, or a designated portion of the Work, is not achieved until so agreed in a Certificate of Substantial Completion signed by the Contractor, Architect, Owner, and AHJ, where applicable.
- B** The Contractor shall notify the Architect in writing when it considers the Work, or a portion of the Work which the Owner has agreed to accept separately, to be substantially complete and ready for a Final Inspection pursuant to Article 16. In this notification the Contractor shall identify any items remaining to be completed or corrected for Final Acceptance prior to final payment.
- C** Substantial Completion is achieved and a Final Inspection, as specified in Article 16, is appropriate only when a minimal number of punch list items exists and only a short period of time will be required to correct or complete them. For the Certificate of Substantial Completion to be issued, the punch list of incomplete items must contain only items that the contractor can complete and reinspect within 30 days and will allow the Owner to occupy or utilize the Work for its intended use without disruption or interference by the Contractor completing or correcting the work. The contractor must submit a schedule that shows all punch list items completed in 30 days as an attachment to the Certificate of Substantial Completion. If punch list items are not completed within 45 days of issuance of Certificate of Substantial Completion, a Notice to Cure may be issued. Upon receipt of the Contractor’s notice for a Final Inspection, the Architect will advise the Contractor in writing of any conditions of the Work which the Architect or Owner is aware do not constitute Substantial Completion, otherwise, a Final Inspection will proceed within a reasonable time after the Contractor’s notice is given. However, the Architect will not be required to prepare lengthy listings of punch list items; therefore, if the Final Inspection discloses that Substantial Completion has not been achieved, the Architect may discontinue or suspend the inspection until the Contractor does achieve Substantial Completion.
- D CERTIFICATE of SUBSTANTIAL COMPLETION**
- (1)** When the Work or a designated portion of the Work is substantially complete, the Architect will prepare and sign a Certificate of Substantial Completion to be signed in order by the Contractor and Owner.
- (2)** When signed by all parties, the Certificate of Substantial Completion shall establish the Date of Substantial Completion which is the date upon which:
- (a)** the Work, or designated portion of the Work, is accepted by the Architect and Owner,
 - (b)** the Contractor’s one-year and special warranties for the Work covered by the Certificate commence, unless stated otherwise in the Certificate (the one-year warranty for punch list items completed or corrected after the period allowed in the Certificate shall commence on the date of their Final Acceptance), and
 - (c)** Owner becomes responsible for building security, maintenance, utility services, and insurance, unless stated otherwise in the Certificate.

(3) The Certificate of Substantial Completion shall set the time within which the Contractor shall finish all items on the “punch list” accompanying the Certificate. The completion of punch list items shall be a condition precedent to Final Payment.

(4) If the Work or designated portion covered by a ACCS Form 6-K, Certificate of Substantial Completion, includes roofing work, the General Contractor’s (5-year) Roofing Guarantee form must be executed by the Contractor and attached to the Certificate of Substantial Completion. If the Contract Documents specify any other roofing warranties to be provided by the roofing manufacturer, Subcontractor, or Contractor, they must also be attached to the Certificate of Substantial Completion. Failure to do so voids any Certificate of Substantial Completion. This requirement cannot be waived.

(5) Other attachments to the Certificate of Substantial Completion shall include the Punch List, the schedule of when Punch List items will be complete, an executed Pre Close Out Meeting Checklist, and a Change Order log showing that there are no outstanding change orders.

- E** The Date of Substantial Completion of the Work, as set in the Certificate of Substantial Completion of the Work or of the last completed portion of the Work, establishes the extent to which the Contractor is liable for Liquidated Damages, if any; however, should the Contractor fail to complete all punch list items within thirty days, or such other time as may be stated in the respective Certificate of Substantial Completion, the Contractor shall bear any expenses, including additional Architectural services and expenses, incurred by the Owner as a result of such failure to complete punch list items in a timely manner.
- F** The Contractor shall complete or correct all items of any remaining Work (“punch list” items) , ready for re-inspection for Final Acceptance, within 30 days after the Date of Substantial Completion unless another date is specified in the Certificate of Substantial Completion. If completed or corrected within this period, warranties of these items commence on the Date of Substantial Completion, otherwise such warranties commence on the date of Final Acceptance of each item. Failure to complete or correct any items of remaining Work (“punch list” items) within 45 days will result in all warranties commencing on the Date of Final Acceptance.
- G** Nothing herein, including paragraph E above, shall limit or waive the Owner’s rights under Article 27, including but not limited to issuance of Notices to Cure or Notice of Termination issued to Contractors and Sureties, to obtain completion, correction, or repair of any remaining unfinished Work (“punch list” items).

Article 33

OCCUPANCY *or* USE PRIOR *to* COMPLETION

A UPON SUBSTANTIAL COMPLETION

Prior to completion of the entire Work, the Owner may occupy or begin utilizing any designated portion of the Work on the agreed Date of Substantial Completion of that portion of the Work.

B BEFORE SUBSTANTIAL COMPLETION

(1) The Owner shall not occupy or utilize any portion of the Work before Substantial Completion of that portion has been achieved.

(2) The Owner may deliver furniture and equipment and store, or install it in place ready for occupancy and use, in any designated portion of the Work before it is substantially completed under the following conditions:

- (a) The Owner's storage or installation of furniture and equipment will not unreasonably disrupt or interfere with the Contractor's completion of the designated portion of the Work.
- (b) The Contractor consents to the Owner's planned action (such consent shall not be unreasonably withheld).
- (c) The Owner shall be responsible for insurance coverage of the Owner's furniture and equipment, and the Contractor's liability shall not be increased.
- (d) The Contractor, Architect, and Owner will jointly inspect and record the condition of the Work in the area before the Owner delivers and stores or installs furniture and equipment; the Owner will equitably compensate the Contractor for making any repairs to the Work that may subsequently be required due to the Owner's delivery and storage or installation of furniture and equipment.
- (e) The Owner's delivery and storage or installation of furniture and equipment shall not be deemed an acceptance of any Work not completed in accordance with the requirements of the Contract Documents.

Article 34

FINAL PAYMENT *and* PROJECT CLOSEOUT

A PREREQUISITES to FINAL PAYMENT

The following requirements must be accomplished before Owner issues Final Payment:

- (1) Full execution of a Certificate of Substantial Completion for the Work, or each designated portion of the Work.
- (2) Final Acceptance of the Work.
- (3) Final building cleaning completed and accepted by Architect and Owner.
- (4) Final punch list completed, reinspected and accepted by Architect and Owner.
- (5) The Contractor's completion, to the satisfaction of the Architect and Owner, of all documentary requirements of the Contract Documents; such as delivery of "as-built" documents, operating and maintenance manuals, owner training videos, warranties (Contractor's One-Year, General Contractor's Five-Year Roofing, etc.), schedule of attic stock including quantity, label, and storage location, etc.
- (6) Delivery to the Owner of a final Application for Payment, prepared by the Contractor and approved and certified by the Architect. The Architect will prepare the Final Payment Checklist and forward it to the Owner along with the final Application for Payment.
- (7) Completion of an Advertisement for Completion pursuant to Paragraph C below.
- (8) Delivery by the Contractor to the Owner through the Architect of a Release of Claims and such other documents as may be required by Owner, satisfactory in form to the Owner pursuant to Paragraph D below
- (9) Consent of Surety to Final Payment, if any, to Contractor. This Consent of Surety is required for projects which have Payment and Performance Bonds.

(10) Delivery by the Contractor to the Architect and Owner of other documents, if any, required by the Contract Documents as prerequisites to Final Payment.

B FINAL ACCEPTANCE *of the* WORK

“Final Acceptance of the Work” shall be achieved when all “punch list” items recorded with the Certificate(s) of Substantial Completion are accounted for by either: (1) their completion or correction by the Contractor and acceptance by the Architect, Owner, and AHJ if applicable, or (2) their resolution under Article 18, Deductions for Uncorrected Work.

C ADVERTISEMENT *for* COMPLETION

(1) If the Contract Sum is \$100,000 or less, there is no requirement for Advertisement for Completion.

(2) If the Contract Sum is more than \$100,000: The Contractor, immediately after being notified by the Architect that all other requirements of the Contract have been completed, shall give public notice of completion of the Contract by having an Advertisement for Completion, similar to the sample contained in the Project Manual, published for a period of three successive weeks in some newspaper of general circulation published within the city or county where the Work was performed. Proof of publication of the Advertisement for Completion shall be made by the Contractor to the Architect by affidavit of the publisher, in duplicate, and a printed copy of the Advertisement for Completion published, in duplicate. If no newspaper is published in the county where the work was done, the notice may be given by posting at the Court House for thirty days and proof of same made by Probate Judge or Sheriff and the Contractor. Final payment shall not be due until thirty days after this public notice is completed.

D RELEASE *of* CLAIMS

The Release of Claims and other documents referenced in Paragraph A(6) above are as follows:

(1) A release executed by Contractor of all claims and claims of lien against the Owner arising under and by virtue of the Contract, other than such claims of the Contractor, if any, as may have been previously made in writing and as may be specifically excepted by the Contractor from the operation of the release in stated amounts to be set forth therein.

(2) An affidavit under oath, if required, stating that so far as the Contractor has knowledge or information, there are no claims or claims of lien which have been or will be filed by any Subcontractor, Supplier or other party for labor or material for which a claim or claim of lien could be filed.

(3) A release, if required, of all claims and claims of lien made by any Subcontractor, Supplier or other party against the Owner or unpaid Contract funds held by the Owner arising under or related to the Work on the Project; provided, however, that if any Subcontractor, Supplier or others refuse to furnish a release of such claims or claims of lien, the Contractor may furnish a bond executed by Contractor and its Surety to the Owner to provide an unconditional obligation to defend, indemnify and hold harmless the Owner against any loss, cost or expense, including attorney’s fees, arising out of or as a result of such claims, or claims of lien, in which event Owner may make Final Payment notwithstanding such claims or claims of lien. If Contractor and Surety fail to fulfill their obligations to Owner under the bond, the Owner shall be entitled to recover damages as a result of such failure, including all costs and reasonable attorney’s fees incurred to recover such damages.

E EFFECT *of* FINAL PAYMENT

(1) The making of Final Payment shall constitute a waiver of Claims by the Owner except those arising from:

- (a) liens, claims, security interests or encumbrances arising out of the Contract and unsettled;
- (b) failure of the Work to comply with the requirements of the Contract Documents;
- (c) terms of warranties or indemnities required by the Contract Documents, or
- (d) latent defects.

(2) Acceptance of Final Payment by the Contractor shall constitute a waiver of claims by Contractor except those previously made in writing, identified by Contractor as unsettled at the time of final Application for Payment, and specifically excepted from the release provided for in Paragraph D(1), above.

Article 35

CONTRACTOR'S WARRANTY

A GENERAL WARRANTY

The Contractor warrants to the Owner and Architect that all materials and equipment furnished under the Contract will be of good quality and new, except such materials as may be expressly provided or allowed in the Contract Documents to be otherwise, and that none of the Work will be Defective Work as defined in Article 1.

B ONE-YEAR WARRANTY

(1) If, within one year after the date of Substantial Completion of the Work or each designated portion of the Work (or otherwise as agreed upon in a mutually-executed Certificate of Substantial Completion), any of the Work is found to be Defective Work, the Contractor shall promptly upon receipt of written notice from the Owner or Architect, and without expense to either, replace or correct the Defective Work to conform to the requirements of the Contract Documents, and repair all damage to the site, the building and its contents which is the result of Defective Work or its replacement or correction.

(2) The one-year warranty for punch list items shall begin on the Date of Substantial Completion if they are completed or corrected within the time period allowed in the Certificate of Substantial Completion in which they are recorded. The one-year warranty for punch list items that are not completed or corrected within the time period allowed in the Certificate of Substantial Completion, and other Work performed after Substantial Completion, shall begin on the date of Final Acceptance of the Work. The Contractor's correction of Work pursuant to this warranty does not extend the period of the warranty. The Contractor's one-year warranty does not apply to defects or damages due to improper or insufficient maintenance, improper operation, or wear and tear during normal usage.

(3) Upon recognizing a condition of Defective Work, the Owner shall promptly notify the Contractor of the condition. If the condition is causing damage to the building, its contents, equipment, or site, the Owner shall take reasonable actions to mitigate the damage or its continuation, if practical. If the Contractor fails to proceed promptly to comply with the terms of the warranty, or to provide the Owner with satisfactory written verification that positive action is in process, the Owner may have the Defective Work replaced or corrected and the Contractor and the Contractor's Surety shall be liable for all expense incurred.

(4) Year-end Inspection(s): An inspection of the Work, or each separately completed portion thereof, is required near the end of the Contractor's one-year warranty period(s). The inspection must be scheduled

with the Owner, Architect, and AHJ or an Independent Code Consultant, where applicable. The subsequent delivery of the Architect's report of a Year-end Inspection will serve as confirmation that the Contractor was notified of Defective Work found within the warranty period.

(5) The Contractor's warranty of one year is in addition to, and not a limitation of, any other remedy stated herein or available to the Owner under applicable law.

C GENERAL CONTRACTOR'S ROOFING GUARANTEE

(1) In addition to any other roof related warranties or guarantees that may be specified in the Contract Documents, the roof and associated work shall be guaranteed by the General Contractor against leaks and defects of materials and workmanship for a period of five (5) years, starting on the Date of Substantial Completion of the Project as stated in the Certificate of Substantial Completion. This guarantee for punch list items shall begin on the Date of Substantial Completion if they are completed or corrected within the time period allowed in the Certificate of Substantial Completion in which they are recorded. The guarantee for punch list items that are not completed or corrected within the time period allowed in the Certificate of Substantial Completion shall begin on the date of Final Acceptance of the Work.

(2) The "General Contractor's Roofing Guarantee", ACCS Form 6-L included in the Project Manual, shall be executed in triplicate, signed by the appropriate party and submitted to the Architect for submission with the Certificate of Substantial Completion to the Owner.

(3) This guarantee does not include costs which might be incurred by the General Contractor in making visits to the site requested by the Owner regarding roof problems that are due to lack of proper maintenance (keeping roof drains and/or gutters clear of debris that cause a stoppage of drainage which results in water ponding, overflowing of flashing, etc.), or damages caused by vandalism or misuse of roof areas. Should the contractor be required to return to the job to correct problems of this nature that are determined not to be related to faulty workmanship and materials in the installation of the roof, payment for actions taken by the Contractor in response to such request will be the responsibility of the Owner. A detailed written report shall be made by the General Contractor on each of these 'Service Calls' with copies to the Architect and Owner.

D SPECIAL WARRANTIES

(1) The Contractor shall deliver to the Owner through the Architect all special or extended warranties required by the Contract Documents from the Contractor, Subcontractors, and suppliers.

(2) The Contractor and the Contractor's Surety shall be liable to the Owner for such special warranties during the Contractor's one-year warranty; thereafter, the Contractor's obligations relative to such special warranties shall be to provide reasonable assistance to the Owner in their enforcement.

E ASSUMPTION of GUARANTEES of OTHERS

If the Contractor disturbs, alters, or damages any work guaranteed under a separate contract, thereby voiding the guarantee of that work, the Contractor shall restore the work to a condition satisfactory to the Owner and shall also guarantee it to the same extent that it was guaranteed under the separate contract.

Article 36 INDEMNIFICATION AGREEMENT

To the fullest extent permitted by law, the Contractor shall defend, indemnify, and hold harmless the Owner, Architect, Architect's consultants, ACCS Facilities Division, and their agents, employees, and consultants

(hereinafter collectively referred to as the “Indemnitees”) from and against all claims, damages, losses and expenses, including but not limited to attorneys’ fees, arising out of, related to, 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, including loss of use resulting therefrom, and is caused in whole or in part by 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 such claim, damage, loss or expense is caused in part, or is alleged but not legally established to have been caused in whole or in part by the negligence or other fault of a party indemnified hereunder.

(1) This indemnification shall extend to all claims, damages, losses and expenses for injury or damage to adjacent or neighboring property, or persons injured thereon, that arise out of, relate to, or result from performance of the Work.

(2) This indemnification does not extend to the liability of the Architect, or the Architect’s Consultants, agents, or employees, arising out of (1) the preparation or approval of maps, shop drawings, opinions, reports, surveys, field orders, Change Orders, drawings or specifications, or (2) the giving of or the failure to give directions or instructions, provided such giving or failure to give instructions is the primary cause of the injury or damage.

(3) This indemnification does not apply to the extent of the sole negligence of the Indemnitees.

Article 37

CONTRACTOR’S *and* SUBCONTRACTORS’ INSURANCE

(Provide entire Article 37 to Contractor’s insurance representative.)

A GENERAL

(1) RESPONSIBILITY. The Contractor shall be responsible to the Owner from the time of the signing of the Construction Contract or from the beginning of the first work, whichever shall be earlier, for all injury or damage of any kind resulting from any negligent act or omission or breach, failure or other default regarding the work by the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of who may be the owner of the property.

(2) PROOF OF INSURANCE. The Contractor shall be responsible for providing proof of the insurance coverage required in this Article. Failure to provide proof of the insurance required in this Article will prevent a construction contract from being executed and may result in the Contractor’s bid being deemed non-responsive. After execution of a Construction Contract, failure to provide proof of insurance required in this Article will prevent payment of all pending pay applications, will immediately result in a Project wide stop work order, and will result in termination of the Construction Contract if proof is not timely provided. If ACCS cannot determine whether insurance requirements have been met through the Contractor’s Certificate of Insurance submission, it shall be the Contractor’s responsibility to provide additional documentation that shows these insurance requirements are satisfied.

(3) INSURANCE PROVIDERS. Each of the insurance coverages required below shall be issued by an insurer licensed by the Insurance Commissioner to transact the business of insurance in the State of Alabama for the applicable line of insurance, and such insurer (or, for qualified self-insureds or group self-insureds, a specific excess insurer providing statutory limits) must have a Best Policyholders Rating of “A-” or better and a financial size rating of Class V or larger.

(4) NOTIFICATION ENDORSEMENT. Each policy shall be endorsed to provide that the insurance company agrees that the policy shall not be canceled, changed, allowed to lapse or allowed to expire for any reason until thirty days after the Owner has received written notice by certified mail as evidenced by return receipt or until such time as other insurance coverage providing protection equal to protection called for in the Contract Documents shall have been received, accepted and acknowledged by the Owner. Such notice shall be valid only as to the Project as shall have been designated by Project Name and Number in said notice.

(a.) If the Contractor's insurance carrier will not provide a 30 day cancellation notice for non-payment of premium, Contractor agrees that the following must be added to the Construction Contract:

- .1** Contractor or its insurance broker or other insurance representative will provide ACCS 30 day written notice by certified mail as evidenced by return receipt of any reasonably expected or known failure to make any premium payment(s) that could result in cancellation of any policy for non-payment of premium.
- .2** Contractor will provide proof of premium payment(s) with each Pay app submitted.
- .3** Contractor will provide proof of premium payment(s) if ever requested by ACCS. Contractor also understands that failure to provide proof of premium payment will prevent payment of all pending pay apps, will immediately result in a Project wide stop work order, and will result in termination of the Construction contract if proof is not timely provided.

(5) INSURANCE CERTIFICATES. The Contractor shall procure the insurance coverages identified below, or as otherwise required in the Contract Documents, at the Contractor's own expense, and to evidence that such insurance coverages are in effect, the Contractor shall furnish the Owner an insurance certificate(s) acceptable to the Owner and listing the Owner as the certificate holder. The insurance certificate(s) must be delivered to the Owner with the Construction Contract and Bonds for final approval and execution of the Construction Contract.

A replacement certificate must be provided to ACCS Facilities Division and the College accounting office at least 10 calendar days prior to the expiration of any policy. All renewed or replaced policies must meet the insurance requirements of ACCS.

The insurance certificate must provide the following:

- (a)** Name and address of authorized agent of the insurance company
- (b)** Name and address of insured
- (c)** Name of insurance company or companies
- (d)** Description of policies
- (e)** Policy Number(s)
- (f)** Policy Period(s)
- (g)** Limits of liability
- (h)** Name and address of Owner as certificate holder
- (i)** Project Name and Number, if any
- (j)** Signature of authorized agent of the insurance company
- (k)** Telephone number of authorized agent of the insurance company
- (l)** Mandatory thirty day notice of cancellation / non-renewal / change

(6) MAXIMUM DEDUCTIBLE. Self-insured retention, except for qualified self-insurers or group self-insurers, in any policy shall not exceed \$25,000.00.

B INSURANCE COVERAGES

Unless otherwise provided in the Contract Documents, the Contractor shall purchase the types of insurance coverages with liability limits not less than as follows:

(1) WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE

- (a)** Workers' Compensation coverage shall be provided in accordance with the statutory coverage required in Alabama. A group insurer must submit a certificate of authority from the Alabama Department of Industrial Relations approving the group insurance plan. A self-insurer must submit a certificate from the Alabama Department of Industrial Relations stating the Contractor qualifies to pay its own workers' compensation claims.
- (b)** Employer's Liability Insurance limits shall be at least:
 - .1 Bodily Injury by Accident - \$1,000,000 each accident
 - .2 Bodily Injury by Disease - \$1,000,000 each employee

(2) COMMERCIAL GENERAL LIABILITY INSURANCE

- (a)** Commercial General Liability Insurance, written on an ISO Occurrence Form (current edition as of the date of Advertisement for Bids) or equivalent, shall include, but need not be limited to, coverage for bodily injury and property damage arising from premises and operations liability, products and completed operations liability, blasting and explosion, collapse of structures, underground damage, personal injury liability and contractual liability. The Commercial General Liability Insurance shall provide at minimum the following limits:

Coverage Limit

- .1 General Aggregate \$2,000,000.00 per Project
 - .2 Products, Completed Operations Aggregate \$2,000,000.00 per Project
 - .3 Personal and Advertising Injury \$1,000,000.00 per Occurrence
 - .4 Each Occurrence \$1,000,000.00
- (b)** Additional Requirements for Commercial General Liability Insurance:
 - .1 The policy shall name the Owner, Architect, ACCS, and their agents, consultants and employees as additional insureds, state that this coverage shall be primary insurance for the additional insureds; and contain no exclusions of the additional insureds relative to job accidents.
 - .2 The policy must include separate per project aggregate limits.

(3) COMMERCIAL BUSINESS AUTOMOBILE LIABILITY INSURANCE

- (a)** Commercial Business Automobile Liability Insurance which shall include coverage for bodily injury and property damage arising from the operation of any owned, non-owned or hired automobile. The Commercial Business Automobile Liability Insurance Policy shall provide not less than \$1,000,000 Combined Single Limits for each occurrence.
- (b)** The policy shall name the Owner, Architect, ACCS, and their agents, consultants, and employees as additional insureds.

(4) COMMERCIAL UMBRELLA LIABILITY INSURANCE

(a) Commercial Umbrella Liability Insurance to provide excess coverage above the Commercial General Liability, Commercial Business Automobile Liability and the Workers' Compensation and Employer's Liability to satisfy the minimum limits set forth herein.

(b) Minimum Commercial/Excess Umbrella Limits of:

- .1 \$5,000,000 per Occurrence
- .2 \$5,000,000 Aggregate

(c) Additional Requirements for Commercial Umbrella Liability Insurance:

- .1 The policy shall name the Owner, Architect, ACCS, and their agents, consultants, and employees as additional insureds.
- .2 The policy must be on an "occurrence" basis.

(5) BUILDER'S RISK INSURANCE

(a) The general contractor is required to purchase builder's risk coverage. Coverage should be "all-risk" including, but not limited to, the following perils: fire, windstorm, hail, water damage, flood, mold, earth movement (also known as "earthquake"), vehicle or equipment collision, paint overspray, collapse, vandalism and lightning. Coverage must be on a replacement cost basis. The carrier must be A- rated or better by AM Best and admitted in the State of Alabama. The coverage period must start on the first day of construction and must extend a minimum of 30 days after receipt of the Certificate of Substantial Completion. Property must be insured while in transit, while stored at an off-site location, while on the construction site but not yet attached to the building and after being attached to the building. The general contractor is responsible for absorbing the deductible in the event of a loss, and the deductible cannot exceed \$10,000. ACCS must be included on the policy as both an additional named insured and a loss payee. An Evidence of Property Insurance certificate must be provided showing both additional named insured and loss payee status, coverages and limits prior to the start of construction. Coverage limits must be as follows:

- .1 Hard Costs: insured to full value
- .2 Soft Costs: insured to full value
- .3 Furniture and Fixtures: insured to the full value of items being purchased and/or installed by the contractor under the construction contract.
- .4 Business Interruption: \$100,000

(b) On information technology projects or any other project approved in writing by the ACCS Chief of Facilities, an Installation Floater policy may be approved in place of a Builder's Risk policy described above. Coverage should be "all-risk." The Installation Floater policy must have a minimum policy limit to cover all material, equipment, or other property for which the Contractor is legally liable. The presumed minimum policy limit shall be \$2 Million unless a higher or lower limit is approved in writing prior to the opening of bids by the ACCS Facilities Division. With its COI, Contractor shall submit documentation from its insurance broker or agent confirming that ACCS's Installation Floater insurance requirements are met by Contractor's policy.

C SUBCONTRACTORS' INSURANCE

(1) WORKERS' COMPENSATION and EMPLOYER'S LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain Workers' Compensation and Employer's Liability Insurance coverages as described in preceding Paragraph B, or to be covered by the Contractor's Workers' Compensation and Employer's Liability Insurance while performing Work under the Contract.

(2) LIABILITY INSURANCE. The Contractor shall require each Subcontractor to obtain and maintain adequate General Liability, Automobile Liability, and Umbrella Liability Insurance coverages similar to those described in preceding Paragraph B. Such coverage shall be in effect at all times that a Subcontractor is performing Work under the Contract.

(3) ENFORCEMENT RESPONSIBILITY. The Contractor shall have responsibility to enforce its Subcontractors' compliance with these or similar insurance requirements; however, the Contractor shall, upon request, provide the Architect or Owner acceptable evidence of insurance for any Subcontractor.

D TERMINATION of OBLIGATION to INSURE

Unless otherwise expressly provided in the Contract Documents, the obligation to insure as provided herein shall continue as follows:

(1) BUILDER'S RISK INSURANCE. The obligation to insure under Subparagraph B(5) shall remain in effect until the Date of Substantial Completion as shall be established in the Certificate of Substantial Completion. In the event that multiple Certificates of Substantial Completion covering designated portions of the Work are issued, Builder's Risk coverage shall remain in effect until the Date of Substantial Completion as shall be established in the last issued Certificate of Substantial Completion. However, in the case that the Work involves separate buildings, Builder's Risk coverage of each separate building may terminate on the Date of Substantial Completion as established in the Certificate of Substantial Completion issued for each building.

(2) PRODUCTS and COMPLETED OPERATIONS. The obligation to carry Products and Completed Operations coverage specified under Subparagraph B(2) shall remain in effect for two years after the Date(s) of Substantial Completion.

(3) ALL OTHER INSURANCE. The obligation to carry other insurance coverages specified under Subparagraphs B(1) through B(4) and Paragraph C shall remain in effect after the Date(s) of Substantial Completion until such time as all Work required by the Contract Documents is completed. Equal or similar insurance coverages shall remain in effect if, after completion of the Work, the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, returns to the Project to perform warranty or maintenance work pursuant to the terms of the Contract Documents.

E WAIVERS of SUBROGATION

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, and (2) the Architect, Architect's consultants, separate contractors performing construction or operations related to the Project, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss. But said waiver shall apply only to the extent the loss or damage is covered by builder's risk insurance applicable to the Work or to other property located within or adjacent to the Project, except such rights as

they may have to proceeds of such insurance held by the Owner or Contractor as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors, if any, and the subcontractor, sub-subcontractors, suppliers, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The Policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to the person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged. The waivers provided for in this paragraph shall not be applicable to loss or damage that occurs after final acceptance of the Work.

Article 38

PERFORMANCE *and* PAYMENT BONDS

A GENERAL

Upon signing and returning the Construction Contract to the Owner for final approval and execution, the Contractor shall, at the Contractor's expense, furnish to the Owner a Performance Bond and a Payment Bond (P&P Bonds), ACCS Form 2-C and 2-D, as contained in the Project Manual, each in a penal sum equal to 100% of the Contract Sum. Each bond shall be on the form contained in the Project Manual, shall be executed by a surety company (Surety) acceptable to the Owner and duly authorized and qualified to make such bonds in the State of Alabama in the required amount. There shall be six original P&P Bonds submitted with original signatures for each of the six contracts required. The P&P bonds must be signed either on the same day or after the construction contract date. Each P&P Bond shall have attached thereto an original power of attorney (POA) of the signing official. The POA signature date must be the same day as the P&P Bond's signature date. All signatures must be present.

The provisions of this Article are not applicable to this Contract if the Contract Sum is less than \$100,000, unless bonds are required for this Contract in the Supplemental General Conditions.

B PERFORMANCE BOND

Through the Performance Bond, the Surety's obligation to the Owner shall be to assure the prompt and faithful performance of the Contract and Contract Change Orders. The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. In case of default on the part of the Contractor, the Surety shall take charge of and complete the Work in accordance with the terms of the Performance Bond. Any reasonable expenses incurred by the Owner as a result of default on the part of the Contractor, including architectural, engineering, administrative, and legal services, shall be recoverable under the Performance Bond.

C PAYMENT BOND

Through the Payment Bond the Surety's obligation to the Owner shall be to guarantee that the Contractor and its Subcontractors shall promptly make payment to all persons supplying labor, materials, or supplies for, or in, the prosecution of the Work, including the payment of reasonable attorneys fees incurred by successful claimants or plaintiffs in civil actions on the Bond. Any person or entity indicating that they have a claim of nonpayment under the Bond shall, upon written request, be promptly furnished a certified copy of the Bond and Construction Contract by the Contractor, Architect, Owner, or ACCS, whomever is recipient of the request.

D CHANGE ORDERS

The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.

E EXPIRATION

The obligations of the Contractor's performance bond surety shall be coextensive with the contractor's performance obligations under the Contract Documents; provided, however, that the surety's obligation shall expire at the end of the one-year warranty period(s) of Article 35.

**Article 39
ASSIGNMENT**

The Contractor shall not assign the Contract or sublet it as a whole nor assign any moneys due or to become due to the Contractor thereunder without the previous written consent of the Owner (and of the Surety, in the case of a bonded Construction Contract). As prescribed by the Public Works Law, the Contract shall in no event be assigned to an unsuccessful bidder for the Contract whose bid was rejected because the bidder was not a responsible or responsive bidder.

**Article 40
CONTRACTION *by* OWNER *or* SEPARATE CONTRACTORS**

A OWNER'S RESERVATION *of* RIGHT

(1) The Owner reserves the right to self-perform, or to award separate contracts for, other portions of the Project and other Project related construction and operations on the site. The contractual conditions of such separate contracts shall be substantially similar to those of this Contract, including insurance requirements and the provisions of this Article. If the Contractor considers such actions to involve delay or additional cost under this Contract, notifications and assertion of claims shall be as provided in Article 20 and Article 23.

(2) When separate contracts are awarded, the term "Contractor" in the separate Contract Documents shall mean the Contractor who executes the respective Construction Contract.

B COORDINATION

Unless otherwise provided in the Contract Documents, the Owner shall be responsible for coordinating the activities of the Owner's forces and separate contractors with the Work of the Contractor. The Contractor shall cooperate with the Owner and separate contractors, shall participate in reviewing and comparing their construction schedules relative to that of the Contractor when directed to do so, and shall make and adhere to any revisions to the construction schedule resulting from a joint review and mutual agreement.

C CONDITIONS APPLICABLE *to* WORK PERFORMED *by* OWNER

Unless otherwise provided in the Contract Documents, when the Owner self-performs construction or operations related to the Project, the Owner shall be subject to the same obligations to Contractor as Contractor would have to a separate contractor under the provision of this Article 40.

D MUTUAL RESPONSIBILITY

- (1) The Contractor shall reasonably accommodate the required introduction and storage of materials and equipment and performance of activities by the Owner and separate contractors and shall connect and coordinate the Contractor's Work with theirs as required by the Contract Documents.
- (2) By proceeding with an element or portion of the Work that is applied to or performed on construction by the Owner or a separate contractor, or which relies upon their operations, the Contractor accepts the condition of such construction or operations as being suitable for the Contractor's Work, except for conditions that are not reasonably discoverable by the Contractor. If the Contractor discovers any condition in such construction or operations that is not suitable for the proper performance of the Work, the Contractor shall not proceed, but shall instead promptly notify the Architect in writing of the condition discovered.
- (3) The Contractor shall reimburse the Owner for any costs incurred by a separate contractor and payable by the Owner because of acts or omissions of the Contractor. Likewise, the Owner shall be responsible to the Contractor for any costs incurred by the Contractor because of the acts or omissions of a separate contractor.
- (4) The Contractor shall not cut or otherwise alter construction by the Owner or a separate contractor without the written consent of the Owner and separate contractor; such consent shall not be unreasonably withheld. Likewise, the Contractor shall not unreasonably withhold its consent allowing the Owner or a separate contractor to cut or otherwise alter the Work.
- (5) The Contractor shall promptly remedy any damage caused by the Contractor to the construction or property of the Owner or separate contractors.

Article 41 SUBCONTRACTS

A AWARD of SUBCONTRACTS and OTHER CONTRACTS for PORTIONS of the WORK

- (1) Unless otherwise provided in the Contract Documents, when delivering the executed Construction Contract, bonds, and evidence of insurance to the Architect, the Contractor shall also submit a listing of Subcontractors proposed for each principal portion of the Work and fabricators or suppliers proposed for furnishing materials or equipment fabricated to the design of the Contract Documents. This listing shall be in addition to any naming of Subcontractors, fabricators, or suppliers that may have been required in the bid process. The Architect will promptly reply to the Contractor in writing stating whether or not the Owner, after due investigation, has reasonable objection to any Subcontractor, fabricator, or supplier proposed by the Contractor. The issuance of the Notice to Proceed in the absence of such objection by the Owner shall constitute notice that no reasonable objection to them is made.
- (2) The Contractor shall not contract with a proposed Subcontractor, fabricator, or supplier to whom the Owner has made reasonable and timely objection. Except in accordance with prequalification procedures as may be contained in the Contract Documents, through specified qualifications, or on the grounds of reasonable objection, the Owner may not restrict the Contractor's selection of Subcontractors, fabricators, or suppliers.
- (3) Upon the Owner's reasonable objection to a proposed Subcontractor, fabricator, or supplier, the Contractor shall promptly propose another to whom the Owner has no reasonable objection. If the proposed Subcontractor, fabricator, or supplier to whom the Owner made reasonable objection was reasonably capable

of performing the Work, the Contract Sum and Contract Time shall be equitably adjusted by Contract Change Order for any resulting difference if the Contractor has acted promptly and responsively in this procedure.

(4) The Contractor shall not change previously selected Subcontractors, fabricators, or suppliers without notifying the Architect and Owner in writing of proposed substitute Subcontractors, fabricators, or suppliers. If the Owner does not make a reasonable objection to a proposed substitute within three working days, the substitute shall be deemed approved.

B SUBCONTRACTUAL RELATIONS

(1) The Contractor agrees to bind every Subcontractor and material supplier (and require every Subcontractor to so bind its subcontractors and material suppliers) to all the provisions of the Contract Documents as they apply to the Subcontractor's and material supplier's portion of the Work.

(2) Nothing contained in the Contract Documents shall be construed as creating any contractual relationship between any Subcontractor and the Owner, nor to create a duty of the Architect, Owner, or Director to resolve disputes between or among the Contractor or its Subcontractors and suppliers or any other duty to such Subcontractors or suppliers.

Article 42 ARCHITECT'S STATUS

A The Architect is an independent contractor performing, with respect to this Contract, pursuant to an agreement executed between the Owner and the Architect. The Architect has prepared the Drawings and Specifications and assembled the Contract Document and is, therefore, charged with their interpretation and clarification as described in the Contract Documents. As a representative of the Owner, the Architect will endeavor to guard the Owner against variances from the requirements of the Contract Documents by the Contractor. On behalf of the Owner, the Architect will administer the Contract as described in the Contract Documents during construction and the Contractor's one-year warranty.

So as to maintain continuity in administration of the Contract and performance of the Work, and to facilitate complete documentation of the project record, all communications between the Contractor and Owner regarding matters of or related to the Contract shall be directed through the Architect, unless direct communication is otherwise required to provide a legal notification. Unless otherwise authorized by the Architect, communications by and with the Architect's consultants shall be through the Architect. Unless otherwise authorized by the Contractor, communications by and with Subcontractors and material suppliers shall be through the Contractor.

B ARCHITECT'S AUTHORITY

Subject to other provisions of the Contract Documents, the following summarizes some of the authority vested in the Architect by the Owner with respect to the Construction Contract and as further described or conditioned in other Articles of these General Conditions of the Contract.

(1) The Architect is authorized to:

- (a) approve "minor" deviations through the use of Architect's Supplemental Instruction (ASI), as defined in Article 9, Submittals,
- (b) make "minor" changes, through the use of Architect's Supplemental Instruction (ASI), in the Work as defined in Article 19, Changes in the Work,

- (c) reject or require the correction of Defective Work,
- (d) require the Contractor to stop the performance of Defective Work,
- (e) adjust an Application for Payment by the Contractor pursuant to Article 30, Certification and Approval of payments, and
- (f) issue Notices to Cure pursuant to Article 27.

(2) The Architect is not authorized to:

- (a) revoke, alter, relax, or waive any requirements of the Contract Documents (other than “minor” deviations and changes) without concurrence of the Owner,
- (b) finally approve or accept any portion of the Work without concurrence of the Owner,
- (c) issue instructions contrary to the Contract Documents,
- (d) issue Notice of Termination or otherwise terminate the Contract, or
- (e) require the Contractor to stop the Work except only to avoid the performance of Defective Work.

C LIMITATIONS of RESPONSIBILITIES

(1) The Architect shall not be responsible to Contractors or to others for supervising or coordinating the performance of the Work or for the Construction Methods or safety of the Work, unless the Contract Documents give other specific instructions concerning these matters.

(2) The Architect will not be responsible to the Contractor (nor the Owner) for the Contractor’s failure to perform the Work in accordance with the requirements of the Contract Documents or for acts or omissions of the Contractor, a Subcontractor, or anyone for whose acts they may be liable. However, the Architect will report to the Owner and Contractor any Defective Work recognized by the Architect.

(3) The Architect will endeavor to secure faithful performance by Owner and Contractor, and the Architect will not show partiality to either or be liable to either for results of interpretations or decisions rendered in good faith.

(4) The Contractor’s remedies for additional time or expense arising out of or related to this Contract, or the breach thereof, shall be solely as provided for in the Contract Documents. The Contractor shall have no claim or cause of action against the Owner, Architect, or its consultants for any actions or failures to act, whether such claim may be in contract, tort, strict liability, or otherwise, it being the agreement of the parties that the Contractor shall make no claim against the Owner or any agents of the Owner, including the Architect or its consultants, except as may be provided for claims or disputes submitted in accordance with Article 24. The Architect and Architect’s consultants shall be considered third party beneficiaries of this provision of the Contract and entitled to enforce same.

D ARCHITECT’S DECISIONS

Decisions by the Architect shall be in writing. The Architect’s decisions on matters relating to aesthetic effect will be final and binding if consistent with the intent expressed in the Contract Documents. The Architect’s decisions regarding disputes arising between the Contractor and Owner shall be advisory.

Article 43
CASH ALLOWANCES

- A** All allowances stated in the Contract Documents shall be included in the Contract Sum. Items covered by allowances shall be supplied by the Contractor as directed by the Architect or Owner and the Contractor shall afford the Owner the economy of obtaining competitive pricing from responsible bidders for allowance items unless other purchasing procedures are specified in the Contract Documents.
- B** Unless otherwise provided in the Supplementary Conditions of the Contract Documents:
- (1)** allowances shall cover the cost to the Contractor of materials and equipment delivered to the Project site and all applicable taxes, less applicable trade discounts;
 - (2)** the Contractor's costs for unloading, storing, protecting, and handling at the site, labor, installation, overhead, profit and other expenses related to materials or equipment covered by an allowance shall be included in the Contract Sum but not in the allowances;
 - (3)** if required, the Contract Sum shall be adjusted by Change Order to reflect the actual costs of an allowance.
- C** Any selections of materials or equipment required of the Architect or Owner under an allowance shall be made in sufficient time to avoid delay of the Work.

Article 44
PERMITS, LAWS, *and* REGULATIONS

- A PERMITS, FEES AND NOTICES**
- (1)** Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and other permits and governmental fees, licenses, and inspections (including all AHJ fees) necessary for proper execution and completion of the Work which are customarily secured after award of the Construction Contract and which are in effect on the date of receipt of bids.
 - (2)** The Contractor shall comply with and give notices required by all laws, ordinances, rules, regulations, and lawful orders of public authorities applicable to performance of the Work.
- B TAXES**
- Unless stated otherwise in the Contract Documents, materials incorporated into the Work are exempt from sales and use tax pursuant to Section 40-9-33, Code of Alabama, 1975 as amended. The Owner, Contractor and its subcontractors shall be responsible for complying with rules and regulations of the Sales, Use, & Business Tax Division of the Alabama Department of Revenue regarding certificates and other qualifications necessary to claim such exemption when making qualifying purchases from vendors. The Contractor shall pay all applicable taxes that are not covered by the exemption of Section 40-9-33 and which are imposed as of the date of receipt of bids, including those imposed as of the date of receipt of bids but scheduled to go into effect after that date.
- C COMPENSATION *for* INCREASES**
- The Contractor shall be compensated for additional costs incurred because of increases in tax rates imposed after the date of receipt of bids.

D ALABAMA IMMIGRATION LAW

Per ACT 2011-535 as codified in Title 31, Chapter 13 of the Code of Alabama, 1975, as amended:

The contracting parties affirm, for the duration of the agreement, that they will not violate federal immigration law or knowingly employ, hire for employment, or continue to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damages resulting therefrom.

E ALABAMA BOYCOTT LAW

Per Act 2016-312as codified in Title 41, Chapter 16, Article 1, of the Code of Alabama, 1975, as amended:

The contracting parties affirm, for the duration of the agreement, that they are not currently engaged in, and will not engage in, the boycott of a person or an entity based in or doing business with a jurisdiction with which this state can enjoy open trade.

F ACCOUNTING *of* SALES TAX EXEMPT PROJECTS

Per Act 2013-205 as codified in Title 40, Chapter 9, Article 1, of the Code of Alabama, 1975, as amended:

In bidding the work on a tax exempt project, the bid form shall provide an accounting for the tax savings.

Article 45
ROYALTIES, PATENTS, *and* COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend, indemnify and hold harmless the Owner, Architect, Architect's consultants, and their agents, employees, and consultants from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of, related to, or resulting from all suits or claims for infringement of any patent rights or copyrights arising out of the inclusion of any patented or copyrighted materials, methods, or systems selected by the Contractor and used during the execution of or incorporated into the Work. This indemnification does not apply to any suits or claims of infringement of any patent rights or copyrights arising out of any patented or copyrighted materials, methods, or systems specified in the Contract Documents. However, if the Contractor has information that a specified material, method, or system is or may constitute an infringement of a patent or copyright, the Contractor shall be responsible for any resulting loss unless such information is promptly furnished to the Architect.

Article 46
USE *of the* SITE

A The Contractor shall confine its operations at the Project site to areas permitted by the Owner and by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials, equipment, employees' vehicles, or debris. The Contractor's operations at the site shall be restricted to the sole purpose of constructing the Work, use of the site as a staging, assembly, or storage area for other business which the Contractor may undertake shall not be permitted.

B Unless otherwise provided in the Contract Documents, temporary facilities, such as storage sheds, shops, and offices may be erected on the Project site with the approval of the Architect and Owner. Such temporary buildings and/or utilities shall remain the property of the Contractor, and be removed at the Contractor's expense upon completion of the Work, unless the Owner authorizes their abandonment without removal.

Article 47
CUTTING *and* PATCHING

- A** The Contractor shall be responsible for all cutting, fitting, or patching that may be required to execute the Work to the results indicated in the Contract Documents or to make its parts fit together properly.
- B** Any cutting, patching, or excavation by the Contractor shall be supervised and performed in a manner that will not endanger persons nor damage or endanger the Work or any fully or partially completed construction of the Owner or separate contractors.

Article 48
IN-PROGRESS *and* FINAL CLEANUP
A IN-PROGRESS CLEAN-UP

(1) The Contractor shall at all times during the progress of the Work keep the premises and surrounding area free from rubbish, scrap materials and debris resulting from the Work. Trash and combustible materials shall not be allowed to accumulate inside buildings or elsewhere on the premises. At no time shall any rubbish be thrown from window openings. Burning of trash and debris on site is not permitted.

(2) The Contractor shall make provisions to minimize and confine dust and debris resulting from construction activities.

B FINAL CLEAN-UP

(1) Before Substantial Completion or Final Acceptance is achieved, the Contractor shall have removed from the Owner's property all construction equipment, tools, and machinery; temporary structures and/or utilities including the foundations thereof (except such as the Owner permits in writing to remain); rubbish, debris, and waste materials; and all surplus materials, leaving the site clean and true to line and grade, and the Work in a safe and clean condition, ready for use and operation.

(2) In addition to the above, and unless otherwise provided in the Contract Documents, the Contractor shall be responsible for the following special cleaning for all trades as the Work is completed:

- (a)** Cleaning of all painted, enameled, stained, or baked enamel work: Removal of all marks, stains, finger prints and splatters from such surfaces.
- (b)** Cleaning of all glass: Cleaning and removing of all stickers, labels, stains, and paint from all glass, and the washing and polishing of same on interior and exterior.
- (c)** Cleaning or polishing of all hardware: Cleaning and polishing of all hardware.
- (d)** Cleaning all tile, floor finish of all kinds: Removal of all splatters, stains, paint, dirt, and dust, the washing and polishing of all floors as recommended by the manufacturer or required by the Architect.
- (e)** Cleaning of all manufactured articles, materials, fixtures, appliances, and equipment: Removal of all stickers, rust stains, labels, and temporary covers, and cleaning and conditioning of all manufactured articles, material, fixtures, appliances, and electrical, heating, and air conditioning equipment as recommended or directed by the manufacturers, unless otherwise required by the Architect; blowing out or flushing out of all foreign matter from all equipment, piping, tanks, pumps, fans, motors, devices, switches, panels, fixtures, boilers, sanitizing potable water systems; and freeing identification plates on all equipment of excess paint and the polishing thereof.

C OWNER'S RIGHT to CLEAN-UP

If the Contractor fails to comply with these clean-up requirements and then fails to comply with a written directive by the Architect to clean-up the premises within a specified time, the Architect or Owner may implement appropriate clean-up measures and the cost thereof shall be deducted from any amounts due or to become due the Contractor.

Article 49

LIQUIDATED DAMAGES

- A** Time is the essence of the Contract. Any delay in the completion of the Work required by the Contract Documents may cause inconvenience to the public and loss and damage to the Owner including but not limited to interest and additional administrative, architectural, inspection and supervision charges. By executing the Construction Contract, the Contractor agrees that the Contract Time is sufficient for the achievement of Substantial Completion.
- B** The Contract Documents may provide in the Construction Contract or elsewhere for a certain dollar amount for which the Contractor and its Surety (if any) will be liable to the Owner as liquidated damages for each calendar day after expiration of the Contract Time that the Contractor fails to achieve Substantial Completion of the Work. If such daily liquidated damages are provided for, Owner and Contractor, and its Surety, agree that such amount is reasonable and agree to be bound thereby.
- C** If a daily liquidated damage amount is not otherwise provided for in the Contract Documents, a time charge equal to six percent interest per annum on the total Contract Sum may be made against the Contractor for the entire period after expiration of the Contract Time that the Contractor fails to achieve Substantial Completion of the Work.
- D** The amount of liquidated damages due under either paragraph B or C, above, may be deducted by the Owner from the moneys otherwise due the Contractor in the Final Payment, not as a penalty, but as liquidated damages sustained, or the amount may be recovered from Contractor or its Surety. If part of the Work is substantially completed within the Contract Time and part is not, the stated charge for liquidated damages shall be equitably prorated to that portion of the Work that the Contractor fails to substantially complete within the Contract Time. It is mutually understood and agreed between the parties hereto that such amount is reasonable as liquidated damages.
- E** Liquidated Damages use ACCS Form 2-F and are routed as Change Orders for work that the contractor has failed to substantially complete within the Contract Time. Before the process of applying liquidated damages begins, communication and approval is required from the ACCS Chief Facilities Officer. The Contractor's signature is not required for Liquidated Damages using ACCS Form 2-F.

Article 50

USE of FOREIGN MATERIALS

- A** In the performance of the Work the Contractor agrees to use materials, supplies, and products manufactured, mined, processed or otherwise produced in the United States or its territories, if same are available at

reasonable and competitive prices and are not contrary to any sole source specification implemented under the Public Works Law.

- B** In the performance of the Work the Contractor agrees to use steel produced in the United States if the Contract Documents require the use of steel and do not limit its supply to a sole source pursuant to the Public Works Law. If the Owner decides that the procurement of domestic steel products becomes impractical as a result of national emergency, national strike, or other cause, the Owner shall waive this restriction.
- C** If domestic steel or other domestic materials, supplies, and products are not used in accordance with preceding Paragraphs A and B, the Contract Sum shall be reduced by an amount equal to any savings or benefits realized by the Contractor.
- D** This Article applies only to Public Works projects financed entirely by the State of Alabama or any political subdivision of the state.

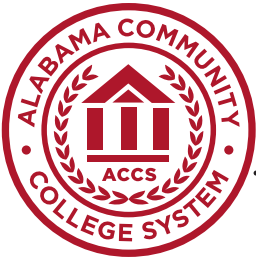
Article 51

PROJECT SIGN

A project sign is not required for ACCS projects unless specifically indicated in the drawings or project manual.

END OF GENERAL CONDITIONS OF THE CONTRACT

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FACILITIES DIVISION

ACCS FORM 2-C

PERFORMANCE BOND

7 SURETY'S BOND NUMBER:	
1 The PRINCIPAL (Company name and address of Contractor as appears in the Construction Contract)	
NAME:	
Address:	
2 The SURETY (Company name and primary place of business)	
NAME:	
Address:	
3 The OWNER: THE ALABAMA COMMUNITY COLLEGE SYSTEM ON BEHALF OF:	
Address:	
4 The PENAL SUM of this Bond (the Contract Sum):	
5 DATE of the Construction Contract:	
6 The PROJECT: (Same as appears in the Construction Contract)	

1. WE, THE PRINCIPAL (hereinafter “Contractor”) AND THE SURETY, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the Penal Sum stated above for the performance of the Contract, and Contract Change Orders, in accord with the requirements of the Contract Documents, which are incorporated herein by reference. If the Contractor performs the Contract, and Contract Change Orders, in accordance with the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

2. The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.

3. Whenever the Architect gives the Contractor and the Surety, at their addresses stated above, a written Notice to Cure a condition for which the Contract may be terminated in accordance with the Contract Documents, the Surety may, within the time stated in the notice, cure or provide the Architect with written verification that satisfactory positive action is in process to cure the condition.

4. The Surety’s obligation under this Bond becomes effective after the Contractor fails to satisfy a Notice to Cure and the Owner:

(a) gives the Contractor and the Surety, at their addresses stated above, a written Notice of Termination declaring the Contractor to be in default under the Contract and stating that the Contractor’s right to complete the Work, or a designated portion of the Work, shall terminate seven days after the Contractor’s receipt of the notice; and

(b) gives the Surety a written demand that, upon the effective date of the Notice of Termination, the Surety promptly fulfill its obligation under this Bond.

5. In the presence of the conditions described in Paragraph 4, the Surety shall, at its expense:

(a) On the effective date of the Notice of Termination, take charge of the Work and be responsible for the safety, security, and protection of the Work, including materials and equipment stored on and off the Project site, and

(b) Within twenty-one days after the effective date of the Notice of Termination, proceed, or provide the Owner with written verification that satisfactory positive action is in process to facilitate proceeding promptly, to complete the Work in accordance with the Contract Documents, either with the Surety’s resources or through a contract between the Surety and a qualified contractor to whom the Owner has no reasonable objection.

6. As conditions precedent to taking charge of and completing the Work pursuant to Paragraph 5, the Surety shall neither require, nor be entitled to, any agreements or conditions other than those of this Bond and the Contract Documents. In taking charge of and completing the Work, the Surety shall assume all rights and obligations of the Contractor under the Contract Documents; however, the Surety shall also have the right to assert "Surety Claims" to the Owner in accordance with the Contract Documents. The presence or possibility of a Surety Claim shall not be just cause for the Surety to fail or refuse to promptly take charge of and complete the Work or for the Owner to fail or refuse to continue to make payments in accordance with the Contract Documents.

7. By accepting this Bond as a condition of executing the Construction Contract, and by taking the actions described in Paragraph 4, the Owner agrees that:

(a) the Owner shall promptly advise the Surety of the unpaid balance of the Contract Sum and, upon request, shall make available or furnish to the Surety, at the cost of reproduction, any portions of the Project Record, and

(b) as the Surety completes the Work, or has it completed by a qualified contractor, the Owner shall pay the Surety, in accordance with terms of payment of the Contract Documents, the unpaid balance of the Contract Sum, less any amounts that may be or become due the Owner from the Contractor under the Construction Contract or from the Contractor or the Surety under this Bond.

8. In the presence of the conditions described in Paragraph 4, the Surety's obligation includes responsibility for the correction of Defective Work, liquidated damages, and reimbursement of any reasonable expenses incurred by the Owner as a result of the Contractor's default under the Contract, including architectural, engineering, administrative, and legal services.

9. Nothing contained in this Bond shall be construed to mean that the Surety shall be liable to the Owner for an amount exceeding the Penal Sum of this Bond, except in the event that the Surety should be in default under the Bond by failing or refusing to take charge of and complete the Work pursuant to Paragraph 5. If the Surety should fail or refuse to take charge of and complete the Work, the Owner shall have the authority to take charge of and complete the Work, or have it completed, and the following costs to the Owner, less the unpaid balance of the Contract Sum, shall be recoverable under this Bond:

(a) the cost of completing the Contractor's responsibilities under the Contract, including correction of Defective Work;

(b) additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees incident to completing the Work;

(c) interest on, and the cost of obtaining, funds to supplement the unpaid balance of the Contract Sum as may be necessary to cover the foregoing costs;

(d) the fair market value of any reductions in the scope of the Work necessitated by insufficiency of the unpaid balance of the Contract Sum and available supplemental funds to cover the foregoing costs; and

(f) additional architectural, engineering, managerial, and administrative services, and reasonable attorneys' fees incident to ascertaining and collecting the Owner's losses under the Bond.

10. All claims and disputes arising out of or related to this bond, or its breach, shall be resolved in accordance with Article 24, General Conditions of the Contract.

8 **SIGNED AND SEALED** this -Day- of -Month- -Year-

9 **SURETY:**

SURETY COMPANY NAME

BY: _____
SIGNEE'S PRINTED NAME

TITLE: _____
SIGNEE'S TITLE

10 **CONTRACTOR as PRINCIPAL:**

CONTRACTOR COMPANY NAME

BY: _____
SIGNEE'S PRINTED NAME

TITLE: _____
SIGNEE'S TITLE

11 **NOTE:** Original power of attorney for the Surety's signatory shall be furnished with the original bond form to be attached to each of the contract forms per project.



ACCS FORM 2-D

7 SURETY'S BOND NUMBER:	
1 The PRINCIPAL (Company name and address of Contractor as appears in the Construction Contract)	
NAME:	
Address:	
2 The SURETY (Company name and primary place of business)	
NAME:	
Address:	
3 The OWNER: THE ALABAMA COMMUNITY COLLEGE SYSTEM ON BEHALF OF:	
Address:	
4 The PENAL SUM of this Bond (the Contract Sum):	
5 DATE of the Construction Contract:	
6 The PROJECT: (Same as appears in the Construction Contract)	

- 1. WE, THE PRINCIPAL (hereinafter “Contractor”) AND THE SURETY**, jointly and severally, hereby bind ourselves, our heirs, executors, administrators, successors, and assigns to the Owner in the Penal Sum stated above to promptly pay all persons supplying labor, materials, or supplies for or in the prosecution of the Contract, which is incorporated herein by reference, and any modifications thereof by Contract Change Orders. If the Contractor and its Subcontractors promptly pay all persons supplying labor, materials, or supplies for or in the prosecution of the Contract and Contract Change Orders, then this obligation shall be null and void; otherwise to remain and be in full force and effect.
- 2.** The Penal Sum shall remain equal to the Contract Sum as the Contract Sum is adjusted by Contract Change Orders. All Contract Change Orders involving an increase in the Contract Sum will require consent of Surety by endorsement of the Contract Change Order form. The Surety waives notification of any Contract Change Orders involving only extension of the Contract Time.
- 3.** Any person that has furnished labor, materials, or supplies for or in the prosecution of the Contract and Contract Change Orders for which payment has not been timely made may institute a civil action upon this Bond and have their rights and claims adjudicated in a civil action and judgment entered thereon. Notwithstanding the foregoing, a civil action may not be instituted on this bond until 45 days after written notice to the Surety of the amount claimed to be due and the nature of the claim. The civil action must commence not later than one year from the date of final settlement of the Contract. The giving of notice by registered or certified mail, postage prepaid, addressed to the Surety at any of its places of business or offices shall be deemed sufficient. In the event the Surety or Contractor fails to pay the claim in full within 45 days from the mailing of the notice, then the person or persons may recover from the Contractor and Surety, in addition to the amount of the claim, a reasonable attorney’s fee based on the result, together with interest on the claim from the date of the notice.
- 4.** Every person having a right of action on this bond shall, upon written application to the Owner indicating that labor, material, or supplies for the Work have been supplied and that payment has not been made, be promptly furnished a certified copy of this bond and the Construction Contract. The claimant may bring a civil action in the claimant’s name on this Bond against the Contractor and the Surety, or either of them, in the county in which the Work is to be or has been performed or in any other county where venue is otherwise allowed by law.
- 5.** This bond is furnished to comply with Code of Alabama, §39-1-1, and all provisions thereof shall be applicable to civil actions upon this bond.
- 6.** All claims and disputes between Owner and either the Contractor or Surety arising out of or related to this bond, or its breach, shall be resolved in accordance with Article 24, General Conditions of the Contract.

8 **SIGNED AND SEALED** this -Day- of -Month- -Year-

9 **SURETY:**

SURETY COMPANY NAME

BY:

SIGNEE'S PRINTED NAME

TITLE:

SIGNEE'S TITLE

10 **CONTRACTOR** as **PRINCIPAL:**

CONTRACTOR COMPANY NAME

BY:

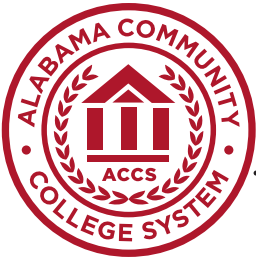
SIGNEE'S PRINTED NAME

TITLE:

SIGNEE'S TITLE

11 **NOTE:** Original power of attorney for the Surety's signatory shall be furnished with the original bond form to be attached to each of the contract forms per project.

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FACILITIES DIVISION

ACCS FORM 2-F

***NOTE: Any Change Orders without documented ACCS Facilities Division approval will be at the expense of the Architect and/or the Contractor.**

CONTRACT CHANGE ORDER

ACCS PROJECT#:		
CHANGE ORDER#:		
DATE:		
PROJECT:		
TO: <Contractor Company Name>		
Address:		
TERMS: You are hereby authorized, subject to the provisions of your Contract for this project, to make the following changes thereto in accordance with your proposal(s) dated: FURNISH the necessary labor, materials, and equipment to: (Description of work to be done or changes to be made. If the description is continued in an attachment, identify the attachment below.)		

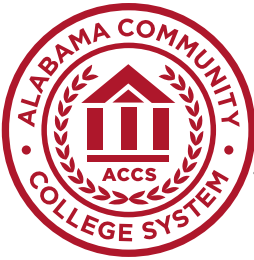
Review/Initial of Regional Facilities Director _____

VER: 10212025

ORIGINAL CONTRACT SUM:		ORIGINAL SUBSTANTIAL COMPLETION DATE:	
NET TOTAL OF PREVIOUS CHANGE ORDERS:		ORIGINAL CONTRACT DURATION (DAYS):	
PREVIOUS REVISED CONTRACT SUM:	\$ 0.00	NET TOTAL OF DAYS FROM PREVIOUS CHANGE ORDERS:	0
THIS CHANGE ORDER WILL: ☐ INCREASE ☐ DECREASE ☐ USE ALLOWANCES		THIS CHANGE ORDER WILL: ☐ INCREASE ☐ DECREASE	
THE CONTRACT SUM BY:		THE CONTRACT DURATION BY (DAYS)	0
REVISED CONTRACT SUM, INCLUDING THIS CHANGE ORDER:	\$ 0.00	REVISED CONTRACT DURATION, INCLUDING THIS CHANGE ORDER:	
The amount of this Change Order will be the responsibility of: <Select Client>		REVISED SUBSTANTIAL COMPLETION DATE, INCLUDING THIS CHANGE ORDER:	

The **OWNER** does hereby certify that this **CHANGE ORDER** was executed per the provisions of Title 39, Code of Alabama, 1975, as amended.

RECOMMENDED BY	CONTRACTING PARTIES
_____ ARCHITECTURAL/ENGINEERING FIRM BY: _____ NAME: _____ TITLE: _____	_____ CONTRACTOR COMPANY BY: _____ NAME: _____ TITLE: _____
APPROVALS	
_____ COMMUNITY COLLEGE PRESIDENT BY: _____ SIGNATURE OF OFFICER NAME: _____ TITLE: _____	ALABAMA COMMUNITY COLLEGE SYSTEM (AS OWNER) BY: _____ CHANCELLOR
ALABAMA COMMUNITY COLLEGE SYSTEM (ACCS) BY: _____ DATE: _____ CHIEF FACILITIES OFFICER	CONSENT OF SURETY _____ SURETY COMPANY BY: _____ (ATTACH CURRENT POWER OF ATTORNEY)



FACILITIES DIVISION

ACCS FORM 2-G

***NOTE: Any Change Order without documented ACCS Facilities Division approval is the expense of the Architect and/or the Contractor.**

CHANGE ORDER JUSTIFICATION

**Purpose and instructions on next page. Do not staple this form and/or attachments; use clips*

CHANGE ORDER JUSTIFICATION #		ACCS PROJECT #	DATE:
A PROJECT NAME & LOCATION:		OWNER ENTITY NAME & ADDRESS:	
CONTRACTOR COMPANY NAME & ADDRESS:		ARCHITECTURAL/ENGINEERING FIRM NAME & ADDRESS:	
B DESCRIPTION OF PROPOSED CHANGE(S): <i>*Attach contractor's detailed cost proposal(s)</i>			
C THIS CHANGE ORDER WILL: ☐ INCREASE ☐ DECREASE		THE CONTRACT SUM BY:	
THIS CHANGE ORDER WILL USE ALLOWANCES: ☐ YES ☐ NO		THE AMOUNT OF ALLOWANCES USED:	
THIS CHANGE ORDER WILL: ☐ INCREASE ☐ DECREASE		THE CONTRACT DURATION BY (DAYS):	
D THE CHANGE ORDER IS: ☐ Owner (ACCS) directed changes in the Work ☐ College requested changes in Work ☐ Differing (hidden) site conditions ☐ Other (please explain in Section D)		JUSTIFICATION FOR NEED OF CHANGE(S): Attach documented written approval from ACCS to proceed with change order.	
E JUSTIFICATION OF CHANGE ORDER vs. COMPETITIVE BID:			
F ARCHITECT/ENGINEER'S EVALUATION OF PROPOSED COST:			

G
CHANGER ORDER RECOMMENDED
CHANGE ORDER JUSTIFIED AND APPROVED

 ARCHITECTURAL/ENGINEERING FIRM NAME

BY: _____

ARCHITECT/ENGINEER'S SIGNATURE

BY: _____

OWNER'S DESIGNATED REPRESENTATIVE SIGNATURE

BY: _____

ACCS CHIEF FACILITIES OFFICER

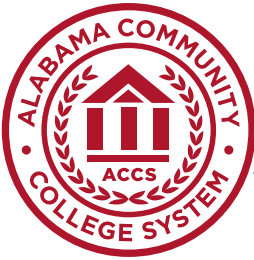
BY: _____

 OWNER'S LEGAL COUNSEL'S SIGNATURE
 (FOR CHANGE ORDERS 10% OR GREATER)

CHANGE ORDER JUSTIFICATION: PURPOSE and INSTRUCTIONS

The **CHANGE ORDER JUSTIFICATION** is to be prepared by the design professional, who has evaluated the fairness and reasonableness of the proposed cost of the change(s) and recommends that the proposed Change Order be executed. The fully executed Form **CHANGE ORDER JUSTIFICATION** must accompany the proposed Change Order. Instructions for completing the Change Order Justification form are:

- 1.** Insert the proposed Change Order Number, date of the Justification, and ACCS Project Number in the spaces provided in the upper right-hand corner.
- 2. Section (A):** Insert the complete name and address of the PROJECT, OWNER(S), CONTRACTOR, AND ARCHITECT/ENGINEER.
- 3. Section (B):** Provide a complete description of the proposed changes in work, referring to and attaching revised specifications and/or drawings as appropriate. An attachment may be used if additional space is needed. **Attached a copy of the contractor's detailed cost proposal.**
- 4. Section (C):** Insert the Contract Sum increase or decrease and the Contract Duration increase or decrease of Days of this Change Order request.
- 5. Section (D):** Explain why it is necessary, or in the public's interest, to make the proposed change(s) to the Work. Select the type of Change Order. Attach documented written approval.
- 6. Section (E):** Explain why award of the changed work to the existing contractor instead of awarding the work under the competitive bid process is justified.
- 7. Section (F):** The design professional must state his or her evaluation of the reasonableness and fairness of the proposed costs based upon his or her review of the contractor's proposal.
- 8. Section (G):** The design professional must recommend the Change Order to the Owner by signing the document; the Owner may require such recommendation from other individuals.



FACILITIES DIVISION

ACCS FORM 2-H

SUPPLY BOND

BOND NUMBER:

KNOW ALL BY THESE PRESENTS:

That _____, called the Principal, and _____, a _____, called the Surety, and _____, called the Obligee, in the amount of _____ U.S. Dollars(\$ _____), for payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein.

WHEREAS, Principal entered into that certain material and/or equipment contract ("Contract") with the Obligee dated _____ for _____, a copy of which is by reference made a part hereof ("Contract").

NOW, THEREFORE, if Principal shall faithfully comply with all terms and conditions of said Contract, or if the Principal or Surety shall pay, indemnify, and hold harmless the Obligee from all direct damages sustained by the Obligee as a result of any default by the Principal under the Contract, then this obligation shall be void, otherwise to remain in full force and effect.

PROVIDED, however, that it is a condition precedent to recovery under this bond that written notice of any default claimed under the Contract be provided to Surety at the following address:

However, the failure to comply with this notice requirement shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or to release the Surety from its obligations, except to the extent that the Surety demonstrates actual prejudice;

PROVIDED, further, that any suit by the Obligee under this bond must be instituted before the later of (a) the expiration of one year from the date the Principal was obligated under the Contract, which may be extended by the agreement of Principal and Obligee, to deliver the materials and/or equipment to the Obligee, or (b) the expiration of one year from the date any other default by the Principal under the Contract;

PROVIDED, further, that notwithstanding anything herein to the contrary, the terms of this bond shall be read to be consistent with the requirements of **Title 39** of the **Code of Alabama** relating to performance bonds required of persons contracting for public works, and

PROVIDED, further that no right of action shall accrue on this bond to or for the use of any person or corporation other than the Obligee named herein or its successor.

Sealed with our seals and dated this ____ day of _____, _____.

Witness _____

Witness _____

Agreed and acknowledged this ____ day of _____, _____.

By: _____

Obligee

PRINCIPAL:

Title: _____

SURETY:

Title: _____

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FACILITIES DIVISION

ACCS FORM 6-A

PRE-CONSTRUCTION CONFERENCE CHECKLIST

PROJECT NAME:

ACCS PROJECT #

ANTICIPATED NTP DATE:

ANTICIPATED COMPLETION DATE:

DATE:

MEETING PLACE:

MEETING TIME:

NA 1. INTRODUCTIONS

- ☐ ☐ A. Attendees have all completed Pre-Construction Sign-In Sheet (Name/Company/Telephone/Email)
- ☐ ☐ B. Define the Project Team - Introduction of all participants and their roles
 - ☐ 1. College Personnel - Owner; ACCS Facilities; College
 - ☐ 2. Design Professional(s) - Architect's Representative(s); Engineer's Representative(s)
 - ☐ 3. Contractor(s) - Project Manager; Superintendent; Major Sub-Contractor(s)

NA 2. PROJECT CONTRACT

- ☐ ☐ A. ACCS Facilities Division authority
 - ☐ 1. After bid there are no scope changes, change orders, etc without ACCS approval
 - ☐ 2. Acknowledgment of Understanding for Use of Allowances and Change Orders
- ☐ ☐ B. Identify Contract Amount - Base Bid plus Alternates
 - ☐ 1. Verify Alternates accepted
 - ☐ 2. Review of Allowance and Unit Prices
 - ☐ 3. Value Engineering
- ☐ ☐ C. Verify end of Contract has everything checked
- ☐ ☐ D. Notice to Proceed Date
- ☐ ☐ E. Contract Completion Date
- ☐ ☐ F. Liquidated Damages will be processed as Change Orders
- ☐ ☐ G. Conformance Documents set of Drawings and Project Manual made available to contractor
- ☐ ☐ H. Approved Schedule of Values
 - ☐ 1. How to correctly calculate the percentage of the schedule
- ☐ ☐ I. Letter from manufacturer on long lead times
- ☐ ☐ J. Approved list of sub-contractors
- ☐ ☐ K. Approved Weather Days - How to correctly calculate weather days
- ☐ ☐ L. Contractor to provide building permit status
- ☐ ☐ M. Pay Applications
 - ☐ 1. Pay Applications will be presented and reviewed in OAC meetings
 - ☐ 2. Pay Applications require the following attachments: **Schedule of Values, Construction Schedule, Progress Schedule**, and copies of any **Change Orders** requested for payment
 - ☐ 3. Any Pay Application with a Change Order shall have back up documentation before it can be reviewed
 - ☐ 4. All Final Pay Applications for Contractor and Design Professional will require ACCS Facilities Division review and approval
- ☐ ☐ N. Change Order process

NA 3. PROCEDURAL AND COORDINATION ITEMS

- ☐ ☐ A. Point of contact for project. Job Superintendent and phone number.
- ☐ ☐ B. Contractor's duty to coordinate work of separate contractors
 - ☐ 1. CMa responsible for multi-prime contracts
- ☐ ☐ C. Conduct of contractor's personnel
 - ☐ 1. Construction crew members shall conduct themselves professionally at all times
 - ☐ 2. No interaction with faculty, staff and/ or students
 - ☐ 3. No foul language

NA 3. PROCEDURAL AND COORDINATION ITEMS (CONTINUED)

☐	☐	4.	No smoking or use of tobacco products
☐	☐	5.	No drugs or alcohol
☐	☐	6.	No firearms on school property
☐	☐	D.	Project sign and other job signs
☐	☐	E.	Overall phasing of the work
☐	☐	F.	Communication from College regarding dates and times of unavailability
☐	☐	1.	Coordinate outages and work in existing building(s) with Owner
☐	☐	G.	Use of site and existing building(s), access drive, keep existing exit paths open
☐	☐	1.	Project limits as shown on drawings
☐	☐	2.	Building location(s) relative to critical property line, easement, setback, etc.
☐	☐	3.	Verify sanitary outfall before committing floor level
☐	☐	4.	Protecting trees
☐	☐	5.	Contractor must provide own dumpster(s) and cannot use facility dumpsters
☐	☐	6.	Parking for workers
☐	☐	H.	Use of existing toilets or need for temporary toilet facilities
☐	☐	I.	Coordinate and utilities supplied by Owner
☐	☐	1.	Where utility cut off valves are onsite in case of emergency
☐	☐	J.	Material storage, lay down areas and staging areas
☐	☐	K.	Routine job cleanup
☐	☐	1.	Secure job site (tools, materials, work)
☐	☐	L.	OSHA - report all accidents - safety General Contractor's responsibility
☐	☐	M.	Contractors reminded of obligation to comply with the Alabama Child Labor Law and E-Verify
☐	☐	N.	Bring to our attention any issues revealed during work

NA 4. OAC MEETINGS FORMAT

☐	☐	A.	Frequency of OAC meeting
☐	☐	B.	Architect shall coordinate, schedule, and conduct the OAC Meetings
☐	☐	C.	Agenda items to be included:
☐	☐	1.	Review previous OAC meeting minutes
☐	☐	2.	Project Schedule (Critical Path, Delays/Justifications, Recovery Schedule, 2-3 Week Look ahead, Upcoming Inspections/Testing)
☐	☐	3.	RFIs and Submittals Log (Procurement and Materials)
☐	☐	4.	ASIs and Open Change Order Requests
☐	☐	5.	Allowances Log
☐	☐	6.	Change Orders (Additional Days, Calculation of Weather Days)
☐	☐	7.	Pay Applications (Schedule of Values review, Percentage Completion, Progress Schedule)
☐	☐	8.	Job Site Logistics (Access, Site Use, Temporary Facilities, Deliveries, Cleaning, Safety Plans)
☐	☐	9.	Field Observations and Deficiencies Log
☐	☐	10.	Review Date and Time of next OAC meeting
☐	☐	11.	Site Visit after meeting
☐	☐	D.	Architect shall complete the meeting minutes for circulation and for the Project Record

NA 5. INSPECTIONS AND TESTING

☐	☐	A.	Advance notice for required inspections, must be requested 14 days in advance
☐	☐	1.	Contractor to notify architect by email of date project will be ready for inspection by AHJ
☐	☐	2.	Contractor to verify that their own inspection has been completed before AHJ inspection
☐	☐	B.	Cancellations of inspections may subject contractor to payment of any AHJ cancellation fees
☐	☐	C.	Other inspections required before work is covered
☐	☐	D.	Third-party inspections/special inspections

NA 5. INSPECTIONS AND TESTING (CONTINUED)

☐	☐	E. Soil Testing
☐	☐	1. Soil compaction, soil type, lab tests, etc.
☐	☐	2. Soil treatment, mix on site in presence of Superintendent
☐	☐	3. Stock piling top soil (location and protection)
☐	☐	4. Procedure if bad soil or rock is encountered, Geotech and special inspections
☐	☐	5. ADEM land disturbance permits shall be required if site is over 1 acre
☐	☐	F. Below Slab/Underground Utility Inspection
☐	☐	G. Footings and Foundations Inspection
☐	☐	H. Concrete Slab Inspection
☐	☐	I. Weatherproofing/Building Envelope Inspection
☐	☐	J. In-Wall/Framing Inspection
☐	☐	K. Gypsum Board Inspection
☐	☐	L. Roofing Inspection
☐	☐	M. Storm Shelter Inspection (if applicable)
☐	☐	N. Above Ceiling Inspections
☐	☐	1. Required attendees: Contractor, Owner, Architect, MEP Engineers, Major Subs
☐	☐	2. All work must be completed except for installation of ceiling tiles and/or hard ceilings
☐	☐	3. Space must be conditioned
☐	☐	4. Permanent power must be connected unless otherwise arranged
☐	☐	5. Grease duct must be inspected and approved prior to fire wrapping
☐	☐	O. Life Safety Inspections (Elevator, Fire Suppression, Fire Alarm, Emergency Lights, ADA)
☐	☐	1. Required attendees: Contractor, Owner, Architect, Engineers, Major Subs, Local Fire Marshall
☐	☐	2. Fire alarm certification
☐	☐	3. Fire alarm monitoring requirements (who is listed as first responder)
☐	☐	4. All sprinkler system valves must be electrically supervised
☐	☐	5. Project Schedule (Critical Path, Delays/Justifications, Recovery Schedule, 2-3 Week Look ahead, Upcoming Inspections/Testing)
☐	☐	6. Above ground and below ground sprinkler certifications
☐	☐	7. Emergency and exit lighting tests
☐	☐	8. Kitchen hood fire suppression systems must be complete and certified
☐	☐	9. Fire alarm and fire sprinkler contractors must be permitted through the State of Alabama Fire Marshall's office. Provide permits
☐	☐	10. Flush/pressure test for new and/or existing fire hydrants
☐	☐	11. Must have clear egress/access and emergency (for first responders) access to building
☐	☐	12. Must have ADA access completed
☐	☐	P. Substantial Completion
☐	☐	1. General Contractor's Roofing Guarantee and Manufacturer's Roofing Warranties must be presented to Owner at Final Inspection and submitted with Certificate of Substantial Completion
☐	☐	2. Certification of Structural Observations from the Structural Engineer of Record must be attached to the Certificate of Substantial Completion form
☐	☐	3. Certificate of Substantial Completion/Final Inspection
☐	☐	4. Advertisement for Completion for projects more than \$100,000
☐	☐	Q. Final Inspection
☐	☐	1. Completed certificate of structural engineer's observations (for storm shelter)
☐	☐	2. Elevator inspection completed and certificate of operation provided by the State of AL Dept of Labor
☐	☐	3. Boiler/vessels inspection completed and certificate of operation provided by the State of Alabama Department of Labor

NA 5. INSPECTIONS AND TESTING (CONTINUED)

- ☐ ☐ **4.** Elevators/Pressure Vessels must be inspected and approved by the State of Alabama Department of Labor prior to final inspection
- ☐ ☐ **5.** Release of retainage - 30 days after completion of advertisement
- ☐ ☐ **R. Year-End Inspection**

NA 6. CONFERENCES
☐ ☐ **A. Storm Shelter**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect, Structural Engineer, Major Subs, Special Inspections Representative
- ☐ ☐ **2.** Completed and signed Contractor's Statement of Responsibility for Construction of Tornado Storm Shelter (Hurricane Shelter Where Applicable) along with the required Quality Assurance Plan (QAP) must be submitted to the Owner at or before the pre-construction conference

☐ ☐ **B. Pre-Roofing Conference**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect, Roofing Sub, Roofing Manufacturer's Rep
- ☐ ☐ **2.** No roofing materials installed prior to conference
- ☐ ☐ **3.** Light gauge metal roof framing and/or wood truss framing to be inspected by structural engineer
- ☐ ☐ **4.** Roofing submittals and warranties must be approved by Architect prior to pre-roofing conference
- ☐ ☐ **5.** Roofing manufacturer must provide documentation that roof design and roofing materials meet code requirements for wind uplift and impact resistance
- ☐ ☐ **6.** Copy of sample roof warranty

☐ ☐ **C. Pre-Asphalt Paving Installation and Expectations Meeting**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect, Asphalt Sub
- ☐ ☐ **2.** Review sequencing and schedule of paving and striping
- ☐ ☐ **3.** Schedule to make sure surrounding irrigation is 2 days before and 2 days after paving
- ☐ ☐ **4.** Subgrade, milled surface, underlying pavement surface has been approved for paving
- ☐ ☐ **5.** Review examples of expectations for finished project

☐ ☐ **D. Pre-Landscape Sod Installation and Expectations Meeting**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect, Landscape Sub
- ☐ ☐ **2.** Review sequencing and schedule of landscaping materials
- ☐ ☐ **3.** Review expectations of cleared site, rough grade, top soil depth, finish grade and settled surface
- ☐ ☐ **4.** Review examples of expectations for finished project

☐ ☐ **E. Pre-Flooring Installation and Expectations Meeting**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect, Flooring Sub
- ☐ ☐ **2.** Review sequencing of the surrounding work (ceilings, walls, painting)
- ☐ ☐ **3.** Surrounding work completed before final flooring is installed

☐ ☐ **F. Pre-Closeout Review**

- ☐ ☐ **1.** Required attendees: Contractor, Owner, Architect
- ☐ ☐ **2.** Review timeline and checklist

NA 7. QUALITY CONTROL
☐ ☐ **A. Concrete**

- ☐ ☐ **1.** Ready mix plant, file delivery tickets, slump tests, cylinders
- ☐ ☐ **2.** Surveyor to check foundation wall if location critical
- ☐ ☐ **3.** Quality of concrete work; concrete testing
- ☐ ☐ **4.** Inspections before pouring concrete

☐ ☐ **B. What is expected of masonry work, mortar additive**
☐ ☐ **C. Problems with hollow metal (install proper fire labels)**
☐ ☐ **D. Fire damper installation issues**
☐ ☐ **E. Potential conflict of mechanical and electrical equipment (shop drawings)**
☐ ☐ **F. Return air plenums (no combustibles)**

NA 8. PROJECT CLOSEOUT

☐	☐	G.	Protect mechanical and electrical items during interior work
☐	☐	H.	Coordinate with local fire authority to assure access to the building for firefighting equipment during construction and before final acceptance. Provide fire extinguishers as required.
☐	☐	A.	All items received by Owner before Final Acceptance will be issued
☐	☐	1.	Closeout Documentation
☐	☐	2.	Final Pay Application, fully executed
☐	☐	3.	Conformance documents (digital copy)
☐	☐	4.	Owner acceptance of nonconforming work by Change Order
☐	☐	5.	Schedule of Attic Stock
☐	☐	6.	Letter from Design Professional certifying that the work is complete
☐	☐	B.	All closeout documentation must be submitted per specifications
☐	☐	C.	Project Closeout Documentation
☐	☐	1.	Warranties
☐	☐	2.	Lien Waivers
☐	☐	3.	Operation and Maintenance Manuals and Owner Training videos
☐	☐	4.	As-Built Drawings
☐	☐	5.	Submittals
☐	☐	6.	Tests and Reports
☐	☐	D.	After Project Closeout, Contractor to submit Advertisement for Completion
☐	☐	E.	Sales tax savings (Alabama Department of Revenue)
☐	☐	F.	Warranty Document Information
☐	☐	1.	Alabama Community College System
☐	☐	2.	Name of College
☐	☐	3.	Address/Name of College Building
☐	☐	4.	Contact Person: Office of the President

NA 9. OTHER (ADDITIONAL ITEMS SPECIFIC TO THE PROJECT)

☐	☐	1.	
☐	☐	2.	
☐	☐	3.	
☐	☐	4.	
☐	☐	5.	
☐	☐	6.	
☐	☐	7.	

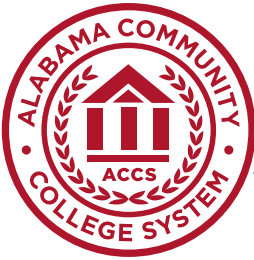
ATTENDEES

NAME:	COMPANY:

APPROVALS

BY: _____	DATE: _____
SIGNATURE OF ARCHITECTURAL/ENGINEERING FIRM	
BY: _____	DATE: _____
OWNER'S DESIGNATED REPRESENTATIVE	
BY: _____	DATE: _____
SIGNATURE OF CONTRACTOR	
BY: _____	DATE: _____
SIGNATURE OF REGIONAL FACILITIES DIRECTOR	

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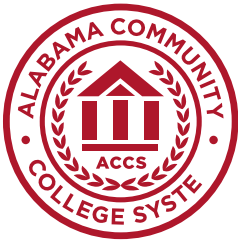
FACILITIES DIVISION

ACCS FORM 6-C

STATEMENT OF FIELD OBSERVATIONS

ACCS PROJECT#:		DATE:		TIME:	
PROJECT NAME:					
Address:					
OWNER ENTITY:					
Address:		Phone:			
		Email:			
CONTRACTOR COMPANY:					
Address:		Phone:			
		Email:			
ARCHITECTURAL/ENGINEERING FIRM:					
Address:		Phone:			
		Email:			
PROJECT DATA ON THE DATE OF OBSERVATION					
#OF WORKERS:		START DATE:			
WEATHER:					
SITE CONDITIONS:					
CONTRACT COMPLETION DATE:		CONTRACTOR COMPLETION DATE:			
SCHEDULED STATE OF COMPLETION:	%	ESTIMATED ACTUAL COMPLETION:	%		
CONTRACTOR'S SUPERINTENDENT:			JOB PHONE:		
COMMENTS/DEFICIENCIES:					
SIGNATURE:			REPORT#:		
CC: Owner, Architect/Engineer, Contractor					

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FACILITIES DIVISION **ACCS FORM 6-D**

APPLICATION AND CERTIFICATE FOR PAYMENT

ACCS PROJECT#:		APPLICATION#:		DATE:	
PROJECT:					
TO COLLEGE:					
Address:		Phone:			
		Email:			
FROM CONTRACTOR:					
Address:		Phone:			
		Email:			
ARCHITECT/ENGINEER:					
Address:		Phone:			
		Email:			
TOTAL ORIGINAL CONTRACT:					
FULLY EXECUTED CHANGE ORDER(S) NUMBERS THROUGH					
TOTAL CONTRACT TO DATE: \$ 0.00					
Work Completed to Date per attached Schedule of Values:					
Stored Materials:					
Total Completed Work and Stored Materials: (% of Contract To Date) \$ 0.00					
5% of Total Completed Work and Stored Materials (TCWSM) is retained when TCWSM is less than or equal to 50% of Total Contract to Date. 0% retained when TCWSM is more than 50% of Total Contract to Date. 0 is retained on final pay app.					
☐ Final Payment Application					
Less Retainage: \$ 0.00 Total Due: \$ 0.00					
Less Total Previous Payments: \$ 0.00					
Balance Due This Estimate: \$ 0.00					

1 CONTRACTOR'S CERTIFICATION

The undersigned Contractor certifies that to the best of his knowledge, information, and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by him for Work for which previous Certificates for Payments were issued and payments received from the Owner and that current payment shown herein has not yet been received.

By: _____ **Date:** _____
CONTRACTOR'S SIGNATURE

Name: _____
Title: _____

Sworn and subscribed before me this _____ day of <month>

(SEAL) _____
NOTARY PUBLIC'S SIGNATURE

2 ARCHITECT'S/ENGINEER'S CERTIFICATION

In accordance with the Contract Documents, the Architect or Engineer of Record certifies to the Owner and College that to the best of the Architect's/ Engineer's knowledge and belief:

- the work has progressed to the point indicated herein **and according to the updated attached project master schedule,**
- the quality of the Work is in accordance with the Contract documents, and
- the Contractor is entitled to payment of the amount approved.

By: _____ **Date:** _____
ARCHITECT'S/ENGINEER'S SIGNATURE

Name: _____
Title: _____

- INSTRUCTIONS**
- Contractor's signature date cannot precede this Pay App date.
 - One payment application per month may be submitted.
 - Retainage is released as final payment when all close-out requirements per General Conditions Article 34 are completed with ACCS Form 7-F Project Close Out Checklist attached.

3 COLLEGE APPROVAL

By: _____ **Date:** _____
COLLEGE

Name: _____
Title: _____

REQUIRED ATTACHMENTS: ① ACCS Form 6-E Schedule of Values; ② practicable construction schedule approved when the Notice to Proceed was issued; ③ updated construction schedule using ACCS Form 6-H Progress Schedule & Report or approved "more comprehensive schedule format;" ④ copies of all approved ACCS Form 2-F Contract Change Orders requesting payment this Pay Application (see General Conditions of the Contract, Article 12 - Progress Schedule).

IF APPLICABLE: ANY PAY APPLICATION THAT REDUCES RETAINAGE REQUIRES ACCS APPROVAL PRIOR TO PROCESSING FOR PAYMENT

ACCS FACILITIES REPRESENTATIVE **Name:** _____ **Date:** _____

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INVENTORY OF STORED MATERIALS

Project:			ACCS Project No.:		
Contractor:			For Estimate No.:		
			For Period Ending:		
A	B	C	D	E	F
DESCRIPTION	MATERIALS STORED LAST PERIOD	PURCHASED THIS PERIOD	TOTAL COLUMNS B + C	MATERIALS USED THIS PERIOD	MATERIALS PRESENTLY STORED

To be used as documentation to support value of Stored Materials reported on APPLICATION AND CERTIFICATE FOR PAYMENT.

Page ____ of ____

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PROJECT DEFICIENCY LOG

ACCS Form 6-G

ACCS Project #:		ACCS Project Name:	
Design Professional:		Contractor:	

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FACILITIES DIVISION

ACCS FORM 6-K

CERTIFICATE OF SUBSTANTIAL COMPLETION

TO: **ACCS FACILITIES DIVISION**, 135 S. Union Street Montgomery, AL 36130 | 334.293.4500

• Do not staple this form and/or attachments; use clips. Print single-sided; do not submit double-side printed documents

	ACCS PROJECT#:	
OWNER ENTITY NAME AND ADDRESS: Email to receive executed copy:	ARCHITECTURAL/ENGINEERING FIRM NAME & ADDRESS: Email to receive executed copy:	
CONTRACTOR COMPANY NAME AND ADDRESS: Email to receive executed copy:	BONDING COMPANY NAME AND ADDRESS: Email to receive executed copy:	

PROJECT:

Substantial Completion has been achieved for: ☐ the entire Work ☐ the following portion of the Work:

The **Date of Substantial Completion** of the Work covered by this certificate is established to be: _____

"Substantial Completion" means the stage in the progress of the Work, or designated portion of the Work, that all punch list items are completed, all change orders are executed, the Owner can occupy or utilize the Work for its intended use, warranties commence, Contractor is no longer liable for Liquidated Damages, and the Owner becomes responsible for security, utilities, insurance and maintenance.

"The Date of Substantial Completion of the Work establishes the extent to which the Contractor is liable for Liquidated Damages, if any. If the Contractor fails to complete all closeout items within forty-five (45) days, the Contractor shall bear any expenses, including additional Architectural services and expenses, incurred by the Owner as a result of failure to complete closeout items in a timely manner and may be issued a Notice to Cure.

The Year End Inspection Date to help identify and address any construction defects or warranty issues shall be established as _____, which is 11 months after the Date of Substantial Completion.

Nothing herein shall limit or waive the Owner's rights under Article 27 of the General Conditions (ACCS Form 2-B), including but not limited to issuance of Notices to Cure or Notice of Termination issued to Contractors and Sureties, to obtain completion, correction, or repair of any remaining unfinished Work.

Only one (1) originally executed substantial completion form shall be routed for signature. ACCS Facilities Division office will mail the fully-executed original to the Owner and email copies to all parties.

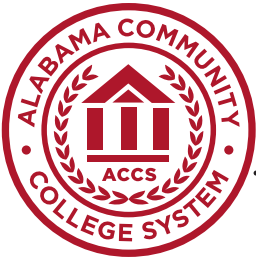
ATTACHMENTS:

- ☐ Completed Punch List
- ☐ Change Order Log: All change orders and their execution date, no outstanding change orders
- ☐ Pre-Closeout Meeting Review Checklist executed with signatures
- ☐ Documentation from the AHJ of their review and approval
- ☐ General Contractor's Roofing Guarantee (ACCS Form 6-L) and any other warranties specified in the Contract Documents - (if project includes roofing)
- ☐ Certification of Structural Observations (ACCS Form 6-J) - (if project includes classrooms or dorm rooms)

VER: 08122026

RECOMMENDED BY:	CONTRACTING PARTIES:
_____ ARCHITECT/ENGINEER DATE	_____ CONTRACTOR DATE
APPROVALS:	
_____ AHJ INSPECTOR (IF APPLICABLE) DATE	_____ ACCS CHIEF FACILITIES OFFICER DATE
_____ *A/E PEER REVIEWER(IF APPLICABLE) DATE	
_____ COLLEGE DESIGNATED REPRESENTATIVE DATE	
_____ ACCS REGIONAL FACILITIES DIRECTOR DATE	

*ACCS Colleges are required to provide an A/E Peer Reviewer to review the A/E of Record's project design and to perform construction inspections when AHJ is not present in city/town where project's work is taking place.



FACILITIES DIVISION

ACCS FORM 6-M

SAMPLE FORM OF ADVERTISEMENT FOR COMPLETION

LEGAL NOTICE

In accordance with Chapter 1, Title 39, Code of Alabama, 1975, as amended, notice is hereby given that:

(Contractor Company Name)

Contractor, has completed the Contract for:

☐ CONSTRUCTION ☐ RENOVATION ☐ ALTERATION ☐ EQUIPMENT ☐ IMPROVEMENT

of:

at:

for the State of Alabama and the (County) (City) of: _____,
Owner(s), and have made request for final settlement of said Contract. All persons having any claim for
labor, materials, or otherwise in connection with this project should immediately notify:

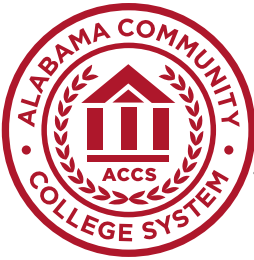
(Architect/Engineer)

BUSINESS ADDRESS:

(Contractor)

NOTE: This notice must be run once a week for three successive weeks for projects exceeding \$100,000. For projects of \$100,000 or less, there is no requirement for Advertisement for Completion. A copy of the publisher's affidavit of publication (including a copy of the advertisement) shall be submitted by the Contractor to the Design Professional.

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FACILITIES DIVISION

ACCS FORM 6-N

CONTRACTOR'S AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS

ACCS PROJECT#:			
DATE OF THE CONSTRUCTION CONTRACT:			
PROJECT (SAME AS APPEARS IN THE CONSTRUCTION CONTRACT):			
STATE OF:		COUNTY OF:	

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Construction Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:

SUPPORTING DOCUMENTS ATTACHED HERETO

1. Consent of Surety to Final Payment. Whenever Surety is involved, a Consent of Surety form is required.

INDICATE ATTACHMENT: ☐ YES ☐ NO

THE FOLLOWING SUPPORTING DOCUMENT SHOULD BE ATTACHED HERETO IF REQUIRED BY THE OWNER:

1. Contractor's Release of Waiver of Liens
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment supplies, to the extent required by the Owner, accompanied by the list thereof
3. Contractor's Affidavit of Release of Liens

CONTRACTOR

NAME :

ADDRESS :

SIGNATURE OF AUTHORIZED REPRESENTATIVE

BY: _____

SIGNEE'S PRINTED NAME

TITLE: _____

SIGNEE'S TITLE

Sworn to and subscribed before me this

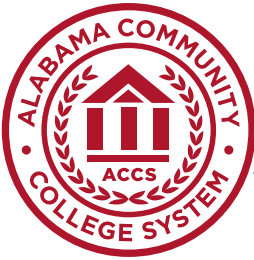
_____ day of _____ ,
_____ .

NOTARY PUBLIC'S SIGNATURE

My commission expires: _____

SEAL

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FACILITIES DIVISION

ACCS FORM 6-P

CONTRACTOR'S AFFIDAVIT OF RELEASE OF LIENS

ACCS PROJECT#:			
DATE OF THE CONSTRUCTION CONTRACT:			
PROJECT (SAME AS APPEARS IN THE CONSTRUCTION CONTRACT):			
STATE OF:		COUNTY OF:	

The undersigned hereby certifies that, except as listed below, payment has been made in full and all obligations have otherwise been satisfied for all materials and equipment furnished, for all work, labor and services performed, and for all known indebtedness and claims against the Contractor for damages arising in any manner in connection with the performance of the Construction Contract referenced above for which the Owner or Owner's property might in any way be held responsible or encumbered.

EXCEPTIONS:**SUPPORTING DOCUMENTS ATTACHED HERETO**

1. Contractor's Release of Waiver of Liens
2. Separate Releases or Waivers of Liens from Subcontractors and material and equipment supplies, to the extent required by the Owner, accompanied by the list thereof

CONTRACTOR**NAME :****ADDRESS :**_____
SIGNATURE OF AUTHORIZED REPRESENTATIVE**BY:** _____

SIGNEE'S PRINTED NAME

TITLE: _____

SIGNEE'S TITLE

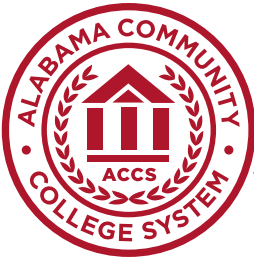
Sworn to and subscribed before me this

____ day of _____ ,
_____ ._____
NOTARY PUBLIC'S SIGNATURE

My commission expires: _____

SEAL

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FACILITIES MANAGEMENT

ACCS FORM 6-Q

CONSENT OF SURETY TO FINAL PAYMENT

ACCS PROJECT#:			
DATE OF THE CONSTRUCTION CONTRACT:			
SURETY'S BOND NUMBER:			
TO: OWNER (THE ALABAMA COMMUNITY COLLEGE SYSTEM)			
PROJECT: (SAME AS APPEARS IN THE CONSTRUCTION CONTRACT)			
In accordance with the provisions of the Contract between the Owner and the Contractor as indicated above, the SURETY: 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 of any of its obligations to the Owner. as set forth in said Surety's bond. SIGNED AND SEALED this _____ day of _____. SURETY: _____ COMPANY NAME SEAL: BY: _____ SIGNATURE OF AUTHORIZED REPRESENTATIVE _____ PRINTED NAME AND TITLE Note: Original Power of Attorney for the Surety's signatory shall be furnished with each original form.			

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FACILITIES DIVISION

ACCS FORM 7-E

PRE-CLOSEOUT REVIEW CHECKLIST

PROJECT NAME:

ACCS PROJECT #

DATE:

MEETING TIME:

MEETING LOCATION:

NA 1. TIMELINE

- ☐ A. Pre-Closeout Review - Minimum of 4 weeks prior to Substantial Completion
- ☐ B. Establish a Substantial Completion/Final Inspection date
- ☐ C. Final Punch List Items - completed and reinspected within 30 days of Pre-Closeout Review
- ☐ D. Closeout Meeting and Final Acceptance - within 45 days of Substantial Completion or possible Notice to Cure
- ☐ E. Advertisement of Completion - advertised immediately following Final Acceptance
- ☐ F. Final Payment for Contractor - 30 days after Advertisement of Completion has been posted for 3 weeks
- ☐ G. Final Payment for Design Professional - immediately following Final Payment for Contractor
- ☐ H. One-Year Inspection - scheduled 11 months after Date of Substantial Completion

NA 2. REQUIREMENTS

- ☐ A. Pre-Closeout Review
 - ☐ 1. Work is very close to being substantially complete
 - ☐ 2. Final Punch List contains only items that can be completed and reinspected within 30 days so that the Owner can occupy without disruption or interference by the Contractor. Contractor has established a schedule of when punch list items will be completed.
- ☐ B. Substantial Completion (ACCS Form 6-K)
 - ☐ 1. Final building cleaning is completed and accepted according to General Conditions Article 48 B
 - ☐ 2. Pre-Closeout Review Checklist completed and executed with signatures
 - ☐ 3. All Change Orders are completed and executed. A Change Order Log is provided showing the execution dates.
 - ☐ 4. Life safety systems have been tested and certified
 - ☐ 5. Certificate of Occupancy
 - ☐ 6. Systems start up and Owner Training have been completed
 - ☐ 7. General Contractors 5-Year Warranty (ACCS Form 6-L) and other Roofing Warranties
 - ☐ 8. Certification of Structural Observations (ACCS Form 6-J) if project includes classrooms and dorms
 - ☐ 9. Lock cores have been changed from the contractor to the College cores and keys have been transferred
 - ☐ 10. Scheduled One-Year inspection
- ☐ C. Closeout Meeting and Final Acceptance
 - ☐ 1. Contractor's Affidavit of Payment of Debts and Claims (ACCS Form 6-N)
 - ☐ 2. Contractor's Affidavit of Release of Liens (ACCS Form 6-P)
 - ☐ 3. Release of Claims (if claim has been given by one or more Subcontractors)
 - ☐ 4. Contractor's One-Year Warranty (General Conditions Article 35)
 - ☐ 5. Other Warranties as required in the Project Manual
 - ☐ 6. As-Built Drawings
 - ☐ a. Contractor to send to Architect within 10 days of Date of Substantial Completion
 - ☐ b. Design Professional deliver to Owner one hard copy and one digital copy
 - ☐ 7. Owner Training Videos on building systems and maintenance items
 - ☐ 8. O&M Manuals (one hard copy and one digital copy)
 - ☐ 9. Reports and Tests delivered to Owner (Material, Product, Compatibility, Field)

ACCS FORM 7-E

NA 2. REQUIREMENTS (CONTINUED)	
☐	☐ 10. Approved Submittals and Shop Drawings
☐	☐ a. Submittals due to Owner within 30 days of Date of Substantial Completion
☐	☐ 11. Schedule of Attic Stock, spare parts and materials that include quantity, label and storage location
☐	☐ 12. Notice of Intent to Close Permit (if ADEM project)
☐	☐ 13. Owner acceptance of nonconforming work by Change Order
☐	☐ 14. Letter from Architect/Engineer of Record certifying the work is complete.
☐	☐ 15. Conformance documents delivered to Owner (digital copy)
☐	☐ D. Advertisement for Completion submitted by Contractor
☐	☐ 1. Closeout Meeting and Final Acceptance has occurred
☐	☐ E. Final Payment for Contractor
☐	☐ 1. 30 Days after the Advertisement for Completion has completed its public posting
☐	☐ 2. Consent of Surety to Final Payment (ACCS Form 6-Q)
☐	☐ F. Final Payment for Design Professional
☐	☐ 1. Final Payment for Contractor has been executed
☐	☐ 2. Amendment between Owner and Architect is executed for final costs of project.
☐	☐ G. Final Project Request Form submitted by the College after all payments have been finalized.

ATTENDEE LIST

NAME:	COMPANY:

APPROVALS

BY: _____	DATE: _____
SIGNATURE OF ARCHITECTURAL/ENGINEER OF RECORD	
BY: _____	DATE: _____
SIGNATURE OF COLLEGE DESIGNATED REPRESENTATIVE	
BY: _____	DATE: _____
SIGNATURE OF CONTRACTOR	
BY: _____	DATE: _____
SIGNATURE OF REGIONAL FACILITIES DIRECTOR	

**SECTION 01 1000
SUMMARY**

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: LBW Jeff Bishop Student Center Renovation.
- B. Owner's Name: Alabama Community College System - Lurleen B. Wallace Community College.
- C. Architect's Name: Seay Seay & Litchfield, P.C..
- D. The Project consists of new construction and renovations of LBW's Student Center located on their Andalusia Campus. .
- E. Construction Time: 240 calendar days from notice to proceed to substantial completion, this is in addition to 30 days for the punch list to be completely accomplished. The owner will likely be installing furnishings during the 30 day punch list time frame. The contractor will be responsible for coordinating punch list activities around the owners activities if both are occurring at the same time.
- F. Liquidated Damages: Per the Alabama Community College System General Conditions
- G. Construction Superintendent: The General Contractor shall provide a full time construction superintendent to manage the project with a minimum of five years experience on a projects of similar size and type. This superintendent shall serve in a supervisory capacity. Prior to construction the contractor shall submit a resume of the construction superintendent to the architect for approval. Superintendent shall provide appropriate supervision and oversight at all work locations. Superintendent shall maintain awareness of schedule, which subs are on site and what work is being performed at any given time. Owner and school representatives shall be provided emergency contact list from General Contractor.
- H. Construction Project Manager: The General Contractor shall provide a project manager with a minimum of five years experience on projects of similar size and type. Prior to construction the project manager shall submit a resume of the project manager to the architect for approval.
- I. Comply with the Following Regulatory Agencies and/or Requirements
 - 1. Alabama Community College System
 - 2. Alabama Fire Marshall
 - 3. City and or Municipality in which project is located
 - 4. Alabama Department of Environmental Management
 - 5. Owner/ Agency/Department
 - 6. OSHA
 - 7. The American Disabilities Act
 - 8. Applicable Federal Agencies
 - 9. Obtain copies of the regulations listed above which are required by Law to be at the project site and keep at the project site for the use of all parties.
- J. Conflicts in the Contract Documents: Where conflicts occur in the contract documents the more expensive option shall be included for the contractor's pricing purposes unless otherwise clarified in writing by the Architect. Prior to execution of the work the Architect shall be consulted of all options, and a decision will be rendered by the Architect.
- K. Building Permit and Business License Requirements:
 - 1. The General Contractor will be required to obtain a Building Permit thru the City of Andalusia for the project. The building permit fee will be waived by the City of Andalusia.
 - 2. The General Contractor and all subcontractor's contracted to perform work under the scope of the General Contractor's scope of work will be required to have a business license through the City of Andalusia.
 - 3. Prior to the bid, Contact the City of Andalusia and Covington County for clarification of the requirements of all applicable city, county, and college requirements.

1.02 CONTRACT DESCRIPTION

- A. Contract Type: A single prime contract based on a Stipulated Price as described in Alabama Community College System Owner/Contractor Agreement.
- B. Scope of the work shall be as shown in the contract documents prepared by Seay, Seay, & Litchfield, P.C. Dated - September 30, 2026 .
- C. Refer to Contract Documents for Base Bid and Alternates, Allowances, Contingency Allowances, and Unit Prices.

1.03 SUBCONTRACTOR REQUIREMENTS

- A. Project will be executed on a Bid Basis, awarding to a General Contractor. However, each trade contractor acknowledges that his work will include:
 - 1. Supervision.
 - 2. Scheduling
 - 3. Layout
 - 4. Coordination of its forces with those of other trade contractors
 - 5. Quality control
 - 6. Demolition as required (including complete or partial removal, chipping, leveling, grinding, drilling, bracing, shoring, etc.)
 - 7. Repair of existing adjacent surfaces or conditions affected by demolition back to their previous undisturbed state.
 - 8. Temporary facilities.
 - 9. Cutting and patching.
 - 10. Waste removal.
 - 11. Cleaning.
 - 12. Protection of existing and new work.
 - 13. Safety program and procedures for contractor's work forces.

1.04 USE OF SITE AND MISC. REQUIREMENTS

- A. The space available to the contractor for the performance of the work, either exclusively or in conjunction with others performing other construction as part of the project, is as per the owner's approval.
 - 1. Other areas are off limits to all construction personnel.
- B. Access to site will be limited; obtain owner's approval of proposed routes of access.
- C. Keep existing sidewalks, roads, parking lots and drives on site clear and available at all times. Promptly remove mud, dirt, debris etc. from sidewalks, streets and public right-of-way during construction as it occurs.
- D. Storage areas on site are very minimal and will be limited to materials that are to be immediately used in the progress of the work. If additional storage is required, then contractor shall secure and be responsible to pay for such off site storage in a fully bonded and insured facility acceptable to the owner, with all items clearly identified as being assigned to this project.
- E. Contractors and Vendors are to lock all vehicles when parked and unattended. Do not leave keys in vehicles or equipment when unattended or leave unattended with motor running.
- F. The Owner, Representative, Architect and the Architect's consultants as well as Building Authorities will require vehicular site accessibility on a regular basis to conduct business related to the project including performing inspections, observations, etc. The Contractor will maintain reasonably accessible routes for foot traffic through the site.
- G. Provide secure temporary barricades, fencing, etc. as indicated to separate the public from construction operations. Compliant safety and/or warning signage is to be provided as well in conjunction with fencing and barricades.
- H. Construction operations are not to affect any of the ongoing operations of the Owner throughout the site. Construction equipment is not to be attached to, or swing over existing buildings to remain, public areas, occupied buildings or parking lots, right-of-ways, etc.

- I. Parking will only be allowed on site in the designated lay down area. Lay down yard will be shared between multiple ongoing projects.
- J. Smoking or other use of other types of tobacco products shall not be permitted on any campus property. Comply with all university policies.
- K. The use or presence of alcohol and/or debilitating substances are strictly prohibited on the project site.
- L. Comply with the owner's security requirements
- M. Signs: Provide signs adequate to direct visitors.
 - 1. Do not install, or allow to be installed, signs other than specified Project sign(s) and signs identifying only the principal Trade Contractors involved in the project. Location of signs to be determined by General Contractor per the approval of the Owner's representative.
- N. Extreme care shall be taken to protect the existing trees that are shown to remain. These trees shall be roped off and have no driving or parking or any other construction activities under the tree canopy.
- O. Music Devices: No music devices will be permitted on site to include but not limited to radios, tape players, CD players, Ipods, and head phones.

OWNER'S RESPONSIBILITIES

2.01 OWNER'S REPRESENTATIVE

- A. The Owner's Representative will manage the Work of the project and be the point of contact for all communications on behalf of the Owner. The Owner's Representative will also coordinate all administrative and procedural requirements. The Owner's Representative will be Stephen Whitlock (ACCS) and Tim Jones (LBW) unless the Owner gives other written instructions otherwise.

2.02 WORK BY OWNER

- A. Owner will award contracts as follows:
- B. Contractor to coordinate with owner regarding scheduling of installation of owner-provided products and materials.

2.03 CONTRACTOR USE OF SITE AND PREMISES

- A. Construction Operations: Limited to areas noted on Drawings.
- B. 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.
- C. Existing building spaces may not be used for storage.
- D. Time Restrictions:
 - 1. Limit conduct of especially noisy exterior work tonon school hours and school holidays _____. Site work may take place during school hours.

2.04 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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**SECTION 01 2000
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 Price and Contract Time.
- C. Procedures for preparation and submittal of application for final payment.

1.02 RELATED REQUIREMENTS

- A. Alabama Division of Construction Management General Conditions to the Contract for Construction.
- B. Section 01 2100 - Allowances: Payment procedures relating to allowances.
- C. Section 01 2200 - Unit Prices: Monetary values of unit prices; Payment and modification procedures relating to unit prices.
- D. Section 01 7800 - Closeout Submittals: Project record documents.

1.03 SCHEDULE OF VALUES

- A. Use Schedule of Values Form: ACCS Form 6-E.
- B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.
- C. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification section. Identify site mobilization.
 - 1. Provide separate line items for each phase/building where applicable.
- D. Include in each line item, the amount of Allowances specified in the section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.
- E. Revise schedule to list approved Change Orders, with each Application For Payment.
 - 1. Change Orders should be listed as separate line items included at the end of the schedule of values.
 - 2. When a Change Order includes multiple items of work, each item of work shall be listed as a separate line item with the approximate percentage complete for each scope of work listed.
- F. Submit schedule of values within the timeframe outlined in the General Conditions of the Contract for Construction.

1.04 APPLICATIONS FOR PROGRESS PAYMENTS

- A. Comply with all requirements of Article 29 of the General Conditions of the Contract for Construction. Additional requirements/explanations are listed below.
- B. Refer to Articles 30 & 31 of the General Conditions of the Contract for Construction.
- C. Use Form _____.
- D. 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.
 - 1. List each authorized Change Order as a separate line item, listing Change Order number and dollar amount as for an original item of work.
- E. Include the following with the application:
 - 1. Transmittal letter as specified for submittals in Section 01 3000.
 - 2. Construction progress schedule, revised and current as specified in Section 01 3000.
 - 3. Current construction photographs specified in Section 01 3000.

1.05 MODIFICATION PROCEDURES

- A. Comply with all requirements of Article 19 of the General Conditions of the Contractor for Construction.
- B. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.

1.06 APPLICATION FOR FINAL PAYMENT

- A. Comply with all requirements of Article 34 of the General Conditions of the Contractor for Construction.
- B. Application for Final Payment will not be considered until the following have been accomplished:
 - 1. All closeout procedures specified in Section 01 7000.
 - 2. All stipulated requirements stated in the General Conditions of the Contract for Construction.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 2500
SUBSTITUTION PROCEDURES**

PART 1 GENERAL

1.01 DEFINITIONS

- A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
 - 1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
 - a. Unavailability.
 - b. Regulatory changes.
 - 2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.
 - a. Substitution requests offering advantages solely to the Contractor will not be considered.

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.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
- C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
- D. Limit each request to a single proposed substitution item.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

- A. Instructions to Bidders (ACCS Form 5-C) specifies time restrictions for submitting requests for substitutions during the bidding period in section 7.
- B. Owner will consider requests for substitutions only if submitted at least 10 days prior to the date for receipt of bids.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

- A. Submittal Form (after award of contract):

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.

3.05 ACCEPTANCE

- A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

END OF SECTION

**SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Progress photographs.
- E. Coordination drawings.
- F. Submittals for review, information, and project closeout.
- G. Number of copies of submittals.
- H. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary:
- B. Section 01 7000 - Execution and Closeout Requirements: Additional coordination requirements.
- C. Section 01 7800 - Closeout Submittals: Project record documents; operation and maintenance data; warranties and bonds.

1.03 PROJECT COORDINATOR

- A. Project Coordinator: Contractor's Project Manager is responsible for overall project coordination. .
- B. Make the following types of submittals to Architect through the Project Coordinator:
 - 1. Requests for Information.
 - 2. Shop drawings, product data, and samples.
 - 3. Test and inspection reports.
 - 4. Design data.
 - 5. Manufacturer's instructions and field reports.
 - 6. Applications for payment and change order requests.
 - 7. Progress schedules.
 - 8. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 9. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Architect will schedule a meeting after notice to proceed.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. All major sub contractors and suppliers.
 - 5. ACCS Regional Facilities Director.
- C. Agenda:
 - 1. As outlined in ACCS Form 6-A
- D. Architect will record minutes and distribute copies promptly after meeting to participants, with copies to the Contractor, Owner, participants, and those affected by decisions made

3.02 PROGRESS MEETINGS

- A. Project Coordinator will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- B. Attendance Required: Job superintendent, Contractor's Project Manager, Owner, Architect, ACCS Regional Director when necessary, and major Subcontractors/Suppliers when necessary/requested by the Owner/Architect/Contractor.
- C. 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 RFIs log and status of responses.
 - 7. Maintenance of progress schedule.
 - 8. Corrective measures to regain projected schedules.
 - 9. Planned progress during succeeding work period.
 - 10. Maintenance of quality and work standards.
 - 11. Effect of proposed changes on progress schedule and coordination.
 - 12. Review of modifications to project record documents documenting changes made on site since previous progress meeting.
 - 13. Other business relating to work.
- D. Architect will record minutes and distribute copies promptly after meeting to participants, with copies to Architect and Owner. Contractor will be responsible for distributing minutes to suppliers/Subcontractor and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. Submit proposed project schedule as outlined in the General Conditions of the Contract for Construction.
- B. General Requirements:
 - 1. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion to date of Final Completion.
 - 2. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
 - a. Activity Duration: Define activities so no activity is longer than twenty days, unless specifically allowed by Architect.
 - b. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 - c. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
 - d. Startup and Testing Time: Include not less than seven days for startup and testing.
 - e. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
 - 3. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
 - a. Phasing: Arrange list of activities on schedule by phase.
 - b. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.

- c. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - d. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Division 1 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
 - e. Work Restrictions: Show the effect of the following items on the schedule:
 - 1) Coordination with existing construction.
 - 2) Limitations of continued occupancies.
 - 3) Uninterruptible services.
 - 4) Partial occupancy before Substantial Completion.
 - 5) Use of premises restrictions.
 - 6) Provisions for future construction.
 - 7) Seasonal variations.
 - 8) Environmental control.
- 4. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, review inspections by review agencies, Substantial Completion, and Final Completion.
- 5. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
 - a. Refer to Division 1 Section "Payment Procedures" for cost reporting and payment procedures.
- 6. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragments to demonstrate the effect of the proposed change on the overall project schedule.
- C. Gantt-Chart Schedule:
 - 1. Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within thirty days of date established from the Notice to Proceed . Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.
 - 2. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.
 - a. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in ten percent increments within time bar.
- D. Contractor's Construction Schedule Updating: At bi-weekly intervals, update schedule to reflect actual construction progress, activities, and phasing when applicable. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
 - 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- E. Distribution: Distribute copies of approved schedule to Architect/Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
 - 1. Post copies in Project meeting rooms and temporary field offices.
 - 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

3.04 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report and email to all required parties by noon of the following work day, recording the following information concerning events at Project site:
1. List of subcontractors at Project site.
 2. List of separate contractors at Project site.
 3. Approximate count of personnel at Project site.
 4. High and low temperatures and general weather conditions.
 5. Accidents.
 6. Meetings and significant decisions.
 7. Unusual events (refer to special reports).
 8. Stoppages, delays, shortages, and losses.
 9. Orders and requests of authorities having jurisdiction.
 10. Applicable photographs, noting location and condition.

3.05 PRE-CONSTRUCTION PHOTOGRAPHS

- A. Before starting construction, take one hundred color photographs and digital video recording of Project site and affected City right-of-ways and surrounding properties and interior existing photos of affected areas from different vantage points, as directed by Architect. Show existing conditions adjacent to property.

3.06 PROGRESS PHOTOGRAPHS

- A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment. Contractor shall take adequate photographs and recording of existing conditions.
- B. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, who can also be an employee of the contractor, acceptable to Architect.
- C. In addition to periodic, recurring views, take photographs of each of the following events:
1. Completion of site clearing.
 2. Excavations in progress.
 3. Foundations in progress and upon completion.
 4. Structural framing in progress and upon completion.
 5. Enclosure of building, upon completion.
 6. Final completion, minimum of ten (10) photos.
- D. Views:
1. Provide non-aerial photographs from four cardinal views at each specified time, until date of Substantial Completion.
 2. Consult with Architect for instructions on views required.
 3. Provide factual presentation.
 4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
- E. 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. PDF File: Assemble all photos into printable pages in PDF format, with 2 to 3 photos per page, each photo labeled with file name; one PDF file per submittal.
 4. Hard Copy: Printed hardcopy (grayscale) of PDF file and point of view sketch.

3.07 COORDINATION DRAWINGS

3.08 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review within seven (7) days of the contract being awarded:
 - 1. Product data.
 - 2. Shop drawings.
 - 3. Samples for selection.
 - 4. 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 7800 - Closeout Submittals.
- E. Paper format submittals will not be accepted except where specifically approved by Architect prior to submission.
- F. Use of Architect's "Newforma" Website Application:
 - 1. General Contractor shall use Architect's website software Newforma with access provided by the Architect to conduct all submittal reviews in electronic format.
 - 2. All recordkeeping, date stamping, access controls, shall be accomplished and managed by the contractor with access given to the entire project team.
 - 3. The software is capable of the following:
 - a. Markups & notations- marked electronically,
 - b. Sending submittals - Instant transfer, no maximum size
 - c. Logging & tracking,
 - d. Automatic reminders of outstanding items,
 - e. Central list of all required submittals for project team to work from,
 - f. Access for all team members to monitor submittal status & progress,
 - g. Clear version history with record of changes at each step.
 - 4. Contractor shall be responsible for any scanning required to upload PDFs.
 - a. All submittals must bear the stamp of the General Contractor indicating that the General Contractor's personnel have reviewed the submittal for compliance with project requirements prior to uploading the submittal to "Newforma."
 - 5. Orientation to the software is available on Newforma.com or Newformant.com.
 - 6. In addition, all RFIs, proposals, pay requests, action items, and electronic document management will be handled thru the Newforma Info Exchange site.
 - 7. A one time login fee of \$1000 will be accessed to the general contractor for online access to the server, payable to Seay, Seay & Litchfield P.C. at the award of the contract. This fee shall cover the access rights for the entire general contractor's and sub-contractor team.

3.09 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 - 1. Design data.
 - 2. Certificates.
 - 3. Test reports.
 - 4. Inspection reports.
 - 5. Manufacturer's instructions.
 - 6. Manufacturer's field reports.
 - 7. Other types indicated.
- B. Submit for Architect's knowledge as contract administrator or for Owner.

3.10 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 7800 - Closeout Submittals:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.11 SUBMITTAL PROCEDURES

- A. General Requirements:
- B. Contractor to submit all submittals within seven (7) days of the executed contract.
- C. Shop Drawing Procedures:
 - 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
 - 2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.
- D. Transmit each submittal with a copy of approved submittal form.
- E. Transmit each submittal with approved form.
- F. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.
- G. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.
- H. 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. Submittals not including the Contractor's stamp will be returned without review.
- I. Deliver submittals to Architect at business address.
- J. Schedule submittals to expedite the Project, and coordinate submission of related items.
- K. For each submittal for review, allow a minimum of 15 days excluding delivery time to and from the Contractor. Complicated submittals, and those submittals requiring review by architect's consultants or coordination with other trades may require additional review time. Contractor shall provide submittals in sufficient time to allow for review without impacting construction schedule. Contractor to advise Architect when review of submittal by certain dates is critical to the project schedule.
- L. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work. Refer to General Conditions of the Contract for Construction regarding variations from Contract Documents.
- M. Provide space for Contractor and Architect review stamps.
- N. When revised for resubmission, identify all changes made since previous submission.
- O. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- P. Submittals not requested will not be recognized or processed.
- Q. Multiple Re-submittals: If a submittal is rejected and then re-submitted, the re-submittal must comply with the contract documents and any previous comments. If the re-submittal is not in

compliance and has to be re-submitted again, a charge will be assessed for review of the 1st re-submittal and another charge will be assessed for each subsequent re-submittal review to account for additional review time by the Architect and engineers. The re-submittal fee shall be \$250.00 payable to the Architect. Check must accompany the second re-submittal.

END OF SECTION

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**SECTION 01 4000
QUALITY REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Submittals.
- C. References and standards.
- D. Mock-ups.
- E. Control of installation.
- F. Tolerances.
- G. Testing and inspection agencies and services.
- H. Control of installation.
- I. Mock-ups.
- J. Tolerances.
- K. Manufacturers' field services.
- L. Defect Assessment.

1.02 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittal procedures.
- B. Section 01 6000 - Product Requirements: Requirements for material and product quality.

1.03 REFERENCE STANDARDS

- A. ASTM C1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2014.
- B. ASTM C1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2013.
- C. 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.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Design Data: Submit 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. Report/Inspection Data: Written reports of each inspection, test or similar service shall include, but not be limited to:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making the inspection or test.
 - 6. Designation of the Work and test method.
 - 7. Identification of product and Specification Section.
 - 8. Complete inspection or test data.
 - 9. Test results and an interpretation of test results.
 - 10. Ambient conditions at the time of sample-taking and testing.
 - 11. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.

12. Name and signature of laboratory inspector.
 13. Recommendations on retesting.
 14. The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Contractor, in duplicate.
 15. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
- D. 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.
- E. 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.
- F. Manufacturer's Field Reports: Submit reports for Architect's benefit as contract administrator or for Owner.
1. Submit for information for the limited purpose of assessing compliance with information given and the design concept expressed in the Contract Documents.
- G. Erection Drawings: Submit drawings for Architect's benefit as contract administrator or for Owner.
1. 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 TESTING AND INSPECTION AGENCIES AND SERVICES

- A. Contractor Responsibilities: The Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by governing authorities, except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the Contractor. Costs for these services shall be included in the Contract Sum.

- B. Where the Owner has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless otherwise agreed in writing with the Owner.
- C. Retesting: The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
 - 1. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- D. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - 1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 - 2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 - 3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 - 4. Providing the agency with a preliminary design mix proposed for use for materials mixes that require control by the testing agency.
 - 5. Security and protection of samples and test equipment at the Project site.
- E. Owner Responsibilities: The Owner will employ and pay for the services of an independent agency, testing laboratory or other qualified firm to perform services which are specifically noted as the Owner's responsibility. If not specifically noted as the Owner's responsibility, the Contractor shall provide these services.
- F. Coordination: The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
- G. The Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

PART 3 EXECUTION

2.01 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.

2.02 MOCK-UPS

- A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Prior to ordering materials the contractor shall receive written acceptance of the mock up by the Owner and the Architect. Remove mock-up and clear area when directed to do so. Mark up shall remain remain for the entire duration of the work.
- E. Refer to drawings for area of required mock ups. All trades of materials associated with the drawing shall be included in the mock up as specified. All mock up materials shall be in preselected colors for the purpose of color verification and approval by owner and architect. Contractor shall coordinate location of mockups with Owner and Architect. Contractor shall receive approval of mockups prior to proceeding with construction. Contractor shall provide a line item in pay request for each mock up shown on drawings. All mockups to be stand alone and not part of the permanent building.

2.03 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.

2.04 TESTING AND INSPECTION

- A. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Architect and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 - 4. Promptly notify Architect and Contractor of observed irregularities or non-compliance of Work or products.
 - 5. Perform additional tests and inspections required by Architect.
 - 6. Submit reports of all tests/inspections specified.
- B. 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.
- C. Contractor Responsibilities:
 - 1. Cooperate with laboratory personnel, and provide access to the Work and to manufacturers' facilities.
 - 2. 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.
 - 3. Notify Architect and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.

4. When required, employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
5. When required, arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- D. Re-testing required because of non-compliance with specified requirements shall be performed by the same agency on instructions by Architect.
- E. Re-testing required because of non-compliance with specified requirements shall be paid for by Contractor.

2.05 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, and _____ 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.

2.06 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not complying with specified requirements.

END OF SECTION

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**SECTION 01 4100
REGULATORY REQUIREMENTS**

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

- A. Regulatory requirements applicable to this project are the following:
- B. ATBCB ADAAG - Americans with Disabilities Act Accessibility Guidelines, 2010.
- C. 2021 International Building Code
- D. 2021 International Plumbing Code
- E. 2021 International Mechanical Code
- F. 2021 International Fuel Gas Code
- G. 2021 International Fire Code
- H. 2020 National Electric Code
- I. ANSI/ASHRAE/IESNA Standard 90.1-2007 Energy Standard for Buildings Except Low-Rise Residential
- J. The requirements of the Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities supersede the handicapped requirements contained in the International Building Code.
- K. ICC/NSSA Standard for the Design and Construction of Storm Shelters (ICC500-2008) The requirements of the ICC 500 are mandatory for new public K-12 schools only.
- L. For additional requirements, refer to Chapter 2 of the Manual of Procedures of the Alabama Building Commission.
- M. Contact all applicable local authorities for other requirements.
- N. Comply with all codes that are referenced in the above noted codes.

1.02 RELATED REQUIREMENTS

- A. Section 01 4000 - Quality Requirements.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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SECTION 01 4217
DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 DEFINITIONS

- A. General: Basic Contract definitions are included in the General Conditions.
- B. Indicated refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
- C. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Architect", "requested by the Architect", and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
- D. A.D.A.--American Disabilities Act of July 26, 1991 and all revisions per Alabama Building Commission.
- E. Approve: The term "approved," where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the duties and responsibilities of the Architect as stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.
- F. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- G. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
- H. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- I. Installer: An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- J. The term "experienced," when used with the term "Installer" means having a minimum of 5 previous Projects similar in size and scope to this Project, being familiar with the precautions required, and having complied with requirements of the authority having jurisdiction.
- K. Project Site is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.
- L. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

1.03 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's format and MASTERFORMAT numbering system.

- B. Specification Content: This Specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
- C. Abbreviated Language: Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the full context of the Contract Documents so indicates.
- D. Imperative and streamlined language is used generally in the Specifications. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the text, for clarity, subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or by others when so noted.

1.04 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- B. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding
- C. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

END OF SECTION 01090

**SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Temporary Controls: Barriers, enclosures, and fencing.
- E. Security requirements.
- F. Vehicular access and parking.
- G. Waste removal facilities and services.
- H. Project identification sign.
- I. Field offices.

1.02 RELATED REQUIREMENTS

- A. Section 01 5100 - Temporary Utilities.
- B. Section 01 5500 - Vehicular Access and Parking.
- C. All current and applicable standards associated with the Code of Federal Regulations and the Occupational Safety and Health Standards.

1.03 TEMPORARY UTILITIES - SEE SECTION 01 5100

- A. Owner will provide the following:
 - 1. Electrical power, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.04 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization thru completion of the project.
- B. Telecommunications services shall include:
 - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
 - 2. Internet Connections: Minimum of one; DSL modem or faster.
 - 3. Email: Account/address reserved for project use.
 - 4. Facsimile Service: Minimum of one dedicated fax machine/printer, with dedicated phone line.
 - 5. Job Telephone.
 - 6. Job printer capable of printing 11x17 format prints.

1.05 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Maintain daily in clean and sanitary condition.

1.06 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.

- C. Provide protection for plants designated to remain. Replace damaged plants.
- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- E. Provide barricades around open excavations, obstructions, and other potential danger sources as may be required by applicable codes.

1.07 FENCING

- A. Provide a minimum of 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks. Provide additional fencing as may be deemed appropriate by Contractor for protection of the site and public.

1.08 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.09 VEHICULAR ACCESS AND PARKING - SEE SECTION 01 5500

- A. Coordinate access and haul routes with governing authorities and Owner.
- B. Provide and maintain access to fire hydrants, free of obstructions.
- C. Provide means of removing mud from vehicle wheels before entering streets.
- D. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- E. Provide one parking space for Owner use.
- F. Provide one parking space for Architect use.

1.10 WASTE REMOVAL

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Provide containers with lids. Remove trash from site periodically.
- C. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

1.11 PROJECT SIGNS

- A. Refer to requirements of the General Conditions of the Contract for Construction.

1.12 PROJECT IDENTIFICATION

- A. Provide project identification sign of design and construction indicated in the General Conditions of the Contract for Construction.
- B. Erect on site at location established by Architect and Owner.
- C. No other signs are allowed without Owner permission except those required by law.
- D. Coordinate with Architect for temporary installation of Architect's sign in location requested by Architect. Sign will be provided by Architect and temporarily installed on site by the contractor.

1.13 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack, and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 6 persons.
- C. Locate offices a minimum distance of 30 feet (10 m) from existing and new structures.

1.14 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Date of Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

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**SECTION 01 5100
TEMPORARY UTILITIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary Utilities: Provision of electricity, lighting, heat, ventilation, and water.

1.02 RELATED REQUIREMENTS

- A. Section 01 5000 - Temporary Facilities and Controls:
 - 1. Temporary telecommunications services for administrative purposes.
 - 2. Temporary sanitary facilities required by law.

1.03 TEMPORARY ELECTRICITY

- A. Cost: By Owner.
- B. Connect to Owner's existing power service.
 - 1. Do not disrupt Owner's need for continuous service.
 - 2. Exercise measures to conserve energy.
- C. Provide temporary electric feeder from existing building electrical service at location as directed.
- D. Complement existing power service capacity and characteristics as required.
- E. Provide power outlets for construction operations, with branch wiring and distribution boxes located as required. Provide flexible power cords as required.
- F. Provide main service disconnect and over-current protection at convenient location and meter.
- G. Permanent convenience receptacles may not be utilized during construction.
- H. Provide adequate distribution equipment, wiring, and outlets to provide single phase branch circuits for power and lighting.

1.04 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain minimum interior lighting levels for construction operations as is necessary for completion of the work and as may be required by all applicable codes and regulations.
- B. Provide and maintain exterior lighting levels at project site and associated staging areas as deemed appropriate by the Owner and Contractor, as may be required for security purposes, and as required by all applicable codes and regulations.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps as required.
- D. Maintain lighting and provide routine repairs.
- E. Permanent building lighting may be utilized during construction.

1.05 TEMPORARY HEATING

- A. Cost of Energy: By Contractor.
- B. Provide heating devices and heat as needed to maintain specified conditions for construction operations.
- C. Prior to operation of permanent equipment for temporary heating purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.06 TEMPORARY COOLING

- A. Cost of Energy: By Contractor.

- B. Provide cooling devices and cooling as needed to maintain specified conditions for construction operations.
- C. Prior to operation of permanent equipment for temporary cooling purposes, verify that installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts.

1.07 TEMPORARY VENTILATION

- A. Provide temporary ventilation in all areas of work as may be required for safe working environments and as may be required by all applicable codes and regulations.

1.08 TEMPORARY WATER SERVICE

- A. Cost of Water Used: By Owner.
- B. Provide and maintain suitable quality water service for construction operations at time of project mobilization.
- C. Connect to existing water source.
 - 1. Exercise measures to conserve water.
- D. Should abuse of this privilege be detected the contractor will be back-charged by the Owner.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

**SECTION 01 5500
VEHICULAR ACCESS AND PARKING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Access roads.
- B. Parking.
- C. Construction parking controls.
- D. Flag persons.
- E. Haul routes.
- F. Maintenance.
- G. Mud from site vehicles.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: For access to site, work sequence, and occupancy.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Temporary Construction: Contractor's option.
- B. Materials for Permanent Construction: As specified in product specification sections, including earthwork, paving base, and topping.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clear areas, provide surface and storm drainage of road, parking, area premises, and adjacent areas.

3.02 ACCESS ROADS

- A. Use of existing on-site streets and driveways for construction traffic is permitted.
- B. Tracked vehicles not allowed on paved areas.
- C. Provide unimpeded access for emergency vehicles. Maintain 20 foot (6 m) width driveways with turning space between and around combustible materials.
- D. Provide and maintain access to fire hydrants free of obstructions.

3.03 PARKING

- A. Arrange for temporary parking areas to accommodate use of construction personnel.
- B. When site space is not adequate, provide additional off-site parking.
- C. Locate as approved by Architect.

3.04 PERMANENT PAVEMENTS AND PARKING FACILITIES

- A. Prior to Substantial Completion the base for permanent roads and parking areas may be used for construction traffic.
- B. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.

3.05 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.
- B. Prevent parking on or adjacent to access roads or in non-designated areas.

3.06 FLAG PERSONS

- A. Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.07 HAUL ROUTES

- A. Confine construction traffic to designated haul routes.
- B. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

3.08 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
- B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

3.09 MUD FROM SITE VEHICLES

- A. Provide means of removing mud from vehicle wheels before entering streets.

END OF SECTION

**SECTION 01 5713
TEMPORARY EROSION AND SEDIMENT CONTROL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Prevention of erosion due to construction activities.
- B. Prevention of sedimentation of waterways, open drainage ways, and storm and sanitary sewers due to construction activities.
- C. Restoration of areas eroded due to insufficient preventive measures.
- D. Compensation of Owner for fines levied by authorities having jurisdiction due to non-compliance by Contractor.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete: Concrete for temporary and permanent erosion control structures indicated on drawings.
- B. Section 31 1000 - Site Clearing: Limits on clearing; disposition of vegetative clearing debris.
- C. Section 31 2200 - Grading: Temporary and permanent grade changes for erosion control.
- D. Section 32 9223 - Sodding: Permanent turf for erosion control.
- E. Section 32 9300 - Plants: Permanent plantings for erosion control.
- F. Section 03 3000 - Cast-in-Place Concrete: Concrete for temporary and permanent erosion control structures indicated on drawings.

1.03 REFERENCE STANDARDS

- A. ASTM D4355/D4355M - Standard Test Method for Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon Arc Type Apparatus; 2014.
- B. ASTM D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity.; 1999a (Reapproved 2014).
- C. ASTM D4533/D4533M - Standard Test Method for Trapezoid Tearing Strength of Geotextiles; 2015.
- D. ASTM D4632/D4632M - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles; 2015a.
- E. ASTM D4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile; 2012.
- F. ASTM D4873/D4873M - Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples; 2016.
- G. EPA (NPDES) - National Pollutant Discharge Elimination System (NPDES), Construction General Permit; Current Edition.
- H. FHWA FLP-94-005 - Best Management Practices for Erosion and Sediment Control; 1995.
- I. USDA TR-55 - Urban Hydrology for Small Watersheds; USDA Natural Resources Conservation Service; 2009.

1.04 PERFORMANCE REQUIREMENTS

- A. Comply with requirements of EPA (NPDES) for erosion and sedimentation control, as specified by the NPDES, for Phases I and II, and in compliance with requirements of Construction General Permit (CGP), whether the project is required by law to comply or not.
- B. Also comply with all more stringent requirements of State of Alabama Department of Environmental Management Erosion and Sedimentation Control Manual.
- C. Best Management Practices Standard: FHWA FLP-94-005.
- D. Runoff Calculation Standard for Urban Areas: USDA TR-55.

- E. Develop and follow an Erosion and Sedimentation Prevention Plan and submit periodic inspection reports.
- F. Do not begin clearing, grading, or other work involving disturbance of ground surface cover until applicable permits have been obtained; furnish all documentation required to obtain applicable permits.
 - 1. Obtain and pay for permits and provide security required by authority having jurisdiction.
 - 2. Owner will withhold payment to Contractor equivalent to all fines resulting from non-compliance with applicable regulations.
- G. Timing: Put preventive measures in place as soon as possible after disturbance of surface cover and before precipitation occurs.
- H. Storm Water Runoff: Control increased storm water runoff due to disturbance of surface cover due to construction activities for this project.
 - 1. Prevent runoff into storm and sanitary sewer systems, including open drainage channels, in excess of actual capacity or amount allowed by authorities having jurisdiction, whichever is less.
 - 2. Anticipate runoff volume due to the most extreme short term and 24-hour rainfall events that might occur in 2 years.
- I. Erosion On Site: Minimize wind, water, and vehicular erosion of soil on project site due to construction activities for this project.
 - 1. Control movement of sediment and soil from temporary stockpiles of soil.
 - 2. Prevent development of ruts due to equipment and vehicular traffic.
 - 3. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- J. Erosion Off Site: Prevent erosion of soil and deposition of sediment on other properties caused by water leaving the project site due to construction activities for this project.
 - 1. Prevent windblown soil from leaving the project site.
 - 2. Prevent tracking of mud onto public roads outside site.
 - 3. Prevent mud and sediment from flowing onto sidewalks and pavements.
 - 4. If erosion occurs due to non-compliance with these requirements, restore eroded areas at no cost to Owner.
- K. Sedimentation of Waterways On Site: Prevent sedimentation of waterways on the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 - 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
 - 2. If sediment basins are used as temporary preventive measures, pump dry and remove deposited sediment after each storm.
- L. Sedimentation of Waterways Off Site: Prevent sedimentation of waterways off the project site, including rivers, streams, lakes, ponds, open drainage ways, storm sewers, and sanitary sewers.
 - 1. If sedimentation occurs, install or correct preventive measures immediately at no cost to Owner; remove deposited sediments; comply with requirements of authorities having jurisdiction.
- M. Open Water: Prevent standing water that could become stagnant.
- N. Maintenance: Maintain temporary preventive measures until permanent measures have been established.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Erosion and Sedimentation Control Plan:

1. Submit not less than 30 days prior to anticipated start of clearing, grading, or other work involving disturbance of ground surface cover.
 2. Include:
 - a. Site plan identifying soils and vegetation, existing erosion problems, and areas vulnerable to erosion due to topography, soils, vegetation, or drainage.
 - b. Site plan showing grading; new improvements; temporary roads, traffic accesses, and other temporary construction; and proposed preventive measures.
 - c. Where extensive areas of soil will be disturbed, include storm water flow and volume calculations, soil loss predictions, and proposed preventive measures.
 - d. Schedule of temporary preventive measures, in relation to ground disturbing activities.
 - e. Other information required by law.
 - f. Format required by law is acceptable, provided any additional information specified is also included.
 3. Obtain the approval of the Plan by authorities having jurisdiction.
- C. Certificate: Mill certificate for silt fence fabric attesting that fabric and factory seams comply with specified requirements, signed by legally authorized official of manufacturer; indicate actual minimum average roll values; identify fabric by roll identification numbers.
- D. Inspection Reports: Submit report of each inspection; identify each preventive measure, indicate condition, and specify maintenance or repair required and accomplished.
- E. Maintenance Instructions: Provide instructions covering inspection and maintenance for temporary measures that must remain after Substantial Completion.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Mulch: Use one of the following:
1. Straw or hay.
 2. Wood waste, chips, or bark.
 3. Erosion control matting or netting.
 4. Cutback asphalt.
 5. Polyethylene film, where specifically indicated only.
- B. Grass Seed For Temporary Cover: Select a species appropriate to climate, planting season, and intended purpose. If same area will later be planted with permanent vegetation, do not use species known to be excessively competitive or prone to volunteer in subsequent seasons.
- C. Bales: Air dry, rectangular straw bales.
1. Cross Section: 14 by 18 inches (350 by 450 mm), minimum.
 2. Bindings: Wire or string, around long dimension.
- D. Bale Stakes: One of the following, minimum 3 feet (1 m) long:
1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot (1.98 kg per linear m).
 2. Wood, 2 by 2 inches (50 by 50 mm) in cross section.
- E. Silt Fence Fabric: Polypropylene geotextile resistant to common soil chemicals, mildew, and insects; non-biodegradable; in longest lengths possible; fabric including seams with the following minimum average roll lengths:
1. Average Opening Size: 30 U.S. Std. Sieve (0.600 mm), maximum, when tested in accordance with ASTM D4751.
 2. Permittivity: 0.05 sec^{-1} , minimum, when tested in accordance with ASTM D4491.
 3. Ultraviolet Resistance: Retaining at least 70 percent of tensile strength, when tested in accordance with ASTM D4355/D4355M after 500 hours exposure.

4. Tensile Strength: 100 pounds-force (450 N), minimum, in cross-machine direction; 124 pounds-force (550 N), minimum, in machine direction; when tested in accordance with ASTM D4632/D4632M.
5. Elongation: 15 to 30 percent, when tested in accordance with ASTM D4632/D4632M.
6. Tear Strength: 55 pounds-force (245 N), minimum, when tested in accordance with ASTM D4533/D4533M.
7. Color: Manufacturer's standard, with embedment and fastener lines preprinted.
8. Manufacturers:
 - a. TenCate: www.tencate.com/#sle.
 - b. North American Green: www.nagreen.com/#sle.
 - c. Propex Geosynthetics: www.geotextile.com/#sle.
- F. Silt Fence Posts: One of the following, minimum 5 feet (1500 mm) long:
 1. Steel U- or T-section, with minimum mass of 1.33 pound per linear foot (1.98 kg per linear m).
 2. Softwood, 4 by 4 inches (100 by 100 mm) in cross section.
 3. Hardwood, 2 by 2 inches (50 by 50 mm) in cross section.
- G. Gravel: See Section 32 1123 for aggregate.
- H. Concrete: See Section 03 3000.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine site and identify existing features that contribute to erosion resistance; maintain such existing features to greatest extent possible.

3.02 PREPARATION

- A. Schedule work so that soil surfaces are left exposed for the minimum amount of time.

3.03 SCOPE OF PREVENTIVE MEASURES

- A. In all cases, if permanent erosion resistant measures have been installed temporary preventive measures are not required.
- B. Construction Entrances: Traffic-bearing aggregate surface.
 1. Width: As required; 20 feet (7 m), minimum.
 2. Length: 50 feet (16 m), minimum.
 3. Provide at each construction entrance from public right-of-way.
 4. Where necessary to prevent tracking of mud onto right-of-way, provide wheel washing area out of direct traffic lane, with drain into sediment trap or basin.
- C. Linear Sediment Barriers: Made of silt fences.
 1. Provide linear sediment barriers:
 - a. Along downhill perimeter edge of disturbed areas, including soil stockpiles.
 - b. Along the top of the slope or top bank of drainage channels and swales that traverse disturbed areas.
 - c. Along the toe of cut slopes and fill slopes.
 - d. Perpendicular to flow across the bottom of existing and new drainage channels and swales that traverse disturbed areas or carry runoff from disturbed areas; space at maximum of 200 feet apart (at maximum of 60 m apart).
 - e. Across the entrances to culverts that receive runoff from disturbed areas.
 2. Space sediment barriers with the following maximum slope length upslope from barrier:
 - a. Slope of Less Than 2 Percent: 100 feet (30 m)..
 - b. Slope Between 2 and 5 Percent: 75 feet (23 m).
 - c. Slope Between 5 and 10 Percent: 50 feet (15 m).
 - d. Slope Between 10 and 20 Percent: 25 feet (7.5 m).
 - e. Slope Over 20 Percent: 15 feet (4.5 m).

- D. Storm Drain Curb Inlet Sediment Trap: Protect each curb inlet using one of the following measures:
 - 1. Filter fabric wrapped around hollow concrete blocks blocking entire inlet face area; use one piece of fabric wrapped at least 1-1/2 times around concrete blocks and secured to prevent dislodging; orient cores of blocks so runoff passes into inlet.
 - 2. Straw bale row blocking entire inlet face area; anchor into pavement.
- E. Storm Drain Drop Inlet Sediment Traps: As detailed on drawings.
- F. Temporary Splash Pads: Stone aggregate over filter fabric; size to suit application; provide at downspout outlets and storm water outlets.
- G. Soil Stockpiles: Protect using one of the following measures:
 - 1. Cover with polyethylene film, secured by placing soil on outer edges.
 - 2. Cover with mulch at least 4 inches (100 mm) thickness of straw or hay.
- H. Mulching: Use only for areas that may be subjected to erosion for less than 6 months.
 - 1. Wood Waste: Use only on slopes 3:1 or flatter; no anchoring required.
 - 2. Asphalt: Use only where no traffic, either vehicular or pedestrian, is anticipated.
- I. Temporary Seeding: Use where temporary vegetated cover is required.

3.04 INSTALLATION

- A. Traffic-Bearing Aggregate Surface:
 - 1. Excavate minimum of 6 inches (150 mm).
 - 2. Place geotextile fabric full width and length, with minimum 12 inch (300 mm) overlap at joints.
 - 3. Place and compact at least 6 inches (150 mm) of 1 1/2 to 3 1/2 inch (40 to 90 mm) diameter stone.
- B. Silt Fences:
 - 1. Store and handle fabric in accordance with ASTM D4873/D4873M.
 - 2. Where slope gradient is less than 3:1 or barriers will be in place less than 6 months, use nominal 16 inch (405 mm) high barriers with minimum 36 inch (905 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 4 inches (100 mm) in ground.
 - 3. Where slope gradient is steeper than 3:1 or barriers will be in place over 6 months, use nominal 28 inch (710 mm) high barriers, minimum 48 inch (1220 mm) long posts spaced at 6 feet (1830 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.
 - 4. Where slope gradient is steeper than 3:1 and vertical height of slope between barriers is more than 20 feet (6 m), use nominal 32 inch (810 mm) high barriers with woven wire reinforcement and steel posts spaced at 4 feet (1220 mm) maximum, with fabric embedded at least 6 inches (150 mm) in ground.
 - 5. Install with top of fabric at nominal height and embedment as specified.
 - 6. Embed bottom of fabric in a trench on the upslope side of fence, with 2 inches (50 mm) of fabric laid flat on bottom of trench facing upslope; backfill trench and compact.
 - 7. Do not splice fabric width; minimize splices in fabric length; splice at post only, overlapping at least 18 inches (460 mm), with extra post.
 - 8. Fasten fabric to wood posts using one of the following:
 - a. Four nails per post with 3/4 inch (19 mm) diameter flat or button head, 1 inch (25 mm) long, and 14 gage, 0.083 inch (2.11 mm) shank diameter.
 - 9. Fasten fabric to steel posts using wire, nylon cord, or integral pockets.
 - 10. Wherever runoff will flow around end of barrier or over the top, provide temporary splash pad or other outlet protection; at such outlets in the run of the barrier, make barrier not more than 12 inches (300 mm) high with post spacing not more than 4 feet (1220 mm).
- C. Straw Bale Rows:

1. Install bales in continuous rows with ends butting tightly, with one bale at each end of row turned uphill.
 2. Install bales so that bindings are not in contact with the ground.
 3. Embed bales at least 4 inches (100 mm) in the ground.
 4. Anchor bales with at least two stakes per bale, driven at least 18 inches (450 mm) into the ground; drive first stake in each bale toward the previously placed bale to force bales together.
 5. Fill gaps between ends of bales with loose straw wedged tightly.
 6. Place soil excavated for trench against bales on the upslope side of the row, compacted.
- D. Mulching Over Large Areas:
1. Dry Straw and Hay: Apply 2-1/2 tons per acre (6350 kg per hectare); anchor using dull disc harrow or emulsified asphalt applied using same spraying machine at 100 gallons of water per ton of mulch.
 2. Asphalt: Apply at 1200 gallons per acre (11,000 L per hectare).
 3. Erosion Control Matting: Comply with manufacturer's instructions.
- E. Mulching Over Small and Medium Areas:
1. Dry Straw and Hay: Apply 4 to 6 inches (100 to 150 mm) depth.
 2. Asphalt: Apply 1/4 gallon per square yard (1 L per 100 sq m).
 3. Erosion Control Matting: Comply with manufacturer's instructions.
- F. Temporary Seeding:
1. When hydraulic seeder is used, seedbed preparation is not required.
 2. When surface soil has been sealed by rainfall or consists of smooth undisturbed cut slopes, and conventional or manual seeding is to be used, prepare seedbed by scarifying sufficiently to allow seed to lodge and germinate.
 3. If temporary mulching was used on planting area but not removed, apply nitrogen fertilizer at 1 pound per 1000 sq ft (0.5 kg per 100 sq m).
 4. On soils of very low fertility, apply 10-10-10 fertilizer at rate of 12 to 16 pounds per 1000 sq ft (6 to 8 kg per 100 sq m).
 5. Incorporate fertilizer into soil before seeding.
 6. Apply seed uniformly; if using drill or cultipacker seeders place seed 1/2 to 1 inch deep (12 to 25 mm).
 7. Irrigate as required to thoroughly wet soil to depth that will ensure germination, without causing runoff or erosion.
 8. Repeat irrigation as required until grass is established.

3.05 MAINTENANCE

- A. Inspect preventive measures monthly, within 24 hours after the end of any storm that produces 0.5 inches (13 mm) or more rainfall at the project site, and daily during prolonged rainfall.
- B. Repair deficiencies immediately.
- C. Silt Fences:
1. Promptly replace fabric that deteriorates unless need for fence has passed.
 2. Remove silt deposits that exceed one-third of the height of the fence.
 3. Repair fences that are undercut by runoff or otherwise damaged, whether by runoff or other causes.
- D. Straw Bale Rows:
1. Promptly replace bales that fall apart or otherwise deteriorate unless need has passed.
 2. Remove silt deposits that exceed one-half of the height of the bales.
 3. Repair bale rows that are undercut by runoff or otherwise damaged, whether by runoff or other causes.
- E. Clean out temporary sediment control structures weekly and relocate soil on site.
- F. Place sediment in appropriate locations on site; do not remove from site.

3.06 CLEAN UP

- A. Remove temporary measures after permanent measures have been installed, unless permitted to remain by Architect.
- B. Clean out temporary sediment control structures that are to remain as permanent measures.
- C. Where removal of temporary measures would leave exposed soil, shape surface to an acceptable grade and finish to match adjacent ground surfaces.

END OF SECTION

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**SECTION 01 5719
TEMPORARY ENVIRONMENTAL CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Construction procedures to promote adequate indoor air quality after construction.

1.02 PROJECT GOALS

- A. Dust and Airborne Particulates: Prevent deposition of dust and other particulates in HVAC ducts and equipment.
 - 1. Cleaning of ductwork is not contemplated under this Contract.
 - 2. Contractor shall bear the cost of cleaning required due to failure to protect ducts and equipment from construction dust.
- B. Airborne Contaminants: Procedures and products have been specified to minimize indoor air pollutants.
 - 1. Furnish products meeting the specifications.
 - 2. Avoid construction practices that could result in contamination of installed products leading to indoor air pollution.

1.03 REFERENCE STANDARDS

- A. SMACNA (OCC) - IAQ Guidelines for Occupied Buildings Under Construction; 2007.

1.04 DEFINITIONS

- A. Adsorptive Materials: Gypsum board, acoustical ceiling tile and panels, carpet and carpet tile, fabrics, fibrous insulation, and other similar products.
- B. Contaminants: Gases, vapors, regulated pollutants, airborne mold and mildew, and the like, as specified.
- C. Particulates: Dust, dirt, and other airborne solid matter.
- D. Wet Work: Concrete, plaster, coatings, and other products that emit water vapor or volatile organic compounds during installation, drying, or curing.

PART 3 EXECUTION

2.01 CONSTRUCTION PROCEDURES

- A. Prevent the absorption of moisture and humidity by adsorptive materials by:
 - 1. Sequencing the delivery of such materials so that they are not present in the building until wet work is completed and dry.
 - 2. Delivery and storage of such materials in fully sealed moisture-impermeable packaging.
 - 3. Provide sufficient ventilation for drying within reasonable time frame.
- B. Begin construction ventilation when building is substantially enclosed.
- C. Do not store construction materials or waste in mechanical or electrical rooms.
- D. Prior to use of return air ductwork without intake filters clean up and remove dust and debris generated by construction activities.
 - 1. Inspect duct intakes, return air grilles, and terminal units for dust.
 - 2. Clean plenum spaces, including top sides of lay-in ceilings, outsides of ducts, tops of pipes and conduit.
 - 3. Clean tops of doors and frames.
 - 4. Clean mechanical and electrical rooms, including tops of pipes, ducts, and conduit, equipment, and supports.
 - 5. Clean return plenums of air handling units.
 - 6. Remove intake filters last, after cleaning is complete.
- E. Do not perform dusty or dirty work after starting use of return air ducts without intake filters.

- F. Use other relevant recommendations of SMACNA (OCC) for avoiding unnecessary contamination due to construction procedures.

END OF SECTION

**SECTION 01 6000
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. General product requirements.
- B. Re-use of existing products.
- C. Transportation, handling, storage and protection.
- D. Product option requirements.
- E. Substitution limitations.
- F. Procedures for Owner-supplied products.
- G. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Lists of products to be removed from existing building.
- B. Section 01 2500 - Substitution Procedures: Substitutions made during procurement and/or construction phases.
- C. Section 01 4000 - Quality Requirements: Product quality monitoring.
- D. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.
- E. Section 01 7419 - Construction Waste Management and Disposal: Waste disposal requirements potentially affecting product selection, packaging and substitutions.

1.03 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.

1.04 SUBMITTAL SCHEDULE

- A. At the beginning of the project, generate list of products requirements submittals by the specifications.
- B. In the schedule, include the following information for each product:
 - 1. Specification section for the product.
 - 2. Type of submittal (i.e. shop drawings, product data, samples, mock-up)
 - 3. Date submitted (to be filled in during construction)
 - 4. Action taken by Architect (to be filled in during construction)
 - 5. Date Approved (to be filled in during construction)
 - 6. Comments
 - 7. Critical Relationships
- C. Coordinate product submittal schedule with project construction schedule.
- D. Submit schedule to Architect for review within 15 days of Notice to Proceed.
- E. If necessary, revise schedule as requested by Architect.

- F. Schedule will be utilized at each progress meeting to review status of required submittals and coordination with project construction schedule.
 - 1. Update submittal schedule and submit to Owner and Architect 48 hours prior to each scheduled progress meeting.

1.05 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
- B. Each prime Contractor is responsible for providing products and construction methods that are compatible with products and construction methods of other prime or separate Contractors.
- C. If a dispute arises between prime Contractors over concurrently selectable, but incompatible products, the Architect will determine which products shall be retained and which are incompatible and must be replaced.
- D. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.
- E. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
- B. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

2.02 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.
- C. Where other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 6116.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 6116.

2.03 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
- B. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
- C. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- D. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:
- E. Where products or manufacturers are specified by name, accompanied by the term "or equal," or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product, unless noted otherwise in specific specification section.
- F. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of

these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

- G. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
- H. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.
- I. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
- J. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.
- K. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.

2.04 PRODUCT OPTIONS

- A. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

2.05 MAINTENANCE MATERIALS

- A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.
- B. Deliver to Project site; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

- A. See Section 01 2500 - Substitution Procedures.
- B. Architect will consider requests for substitutions only within 30 days after date established in Notice to Proceed.
 - 1. Substitutions received after this time period may be considered or rejected at the discretion of the Architect.
- C. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- D. A request for substitution 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.
 - 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.

- E. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- F. Conditions: The Contractor's substitution request will be received and considered by the Architect only when one or more of the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
 - 1. Extensive revisions to Contract Documents are not required.
 - 2. Proposed changes are in keeping with the general intent of Contract Documents.
 - 3. The request is timely, fully documented and properly submitted.
 - 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
 - 5. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 - 6. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit
 - 7. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
 - 8. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
 - 9. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.
- G. The Owner reserves the right to reject any substitutions.

3.02 OWNER-SUPPLIED PRODUCTS

- A. Owner's Responsibilities:
 - 1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
 - 2. Arrange and pay for product delivery to site unless specifically noted otherwise.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
 - 5. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities:
 - 1. Review Owner reviewed shop drawings, product data, and samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 3. Handle, store, install and finish products.
 - 4. Repair or replace items damaged after receipt.

3.03 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.

3.04 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 7419.
- 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. If approved by Owner, provide bonded off-site storage and protection when site does not permit on-site storage or protection.
- G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- H. Comply with manufacturer's warranty conditions, if any.
- I. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- J. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- K. Prevent contact with material that may cause corrosion, discoloration, or staining.
- L. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- M. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.
- N. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
- O. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- P. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
- Q. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.

END OF SECTION

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**SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. VOC restrictions for product categories listed below under "DEFINITIONS."
- B. All products of each category that are installed in the project must comply; Owner's project goals do not allow for partial compliance.

1.02 RELATED REQUIREMENTS

- A. Section 01 3000 - Administrative Requirements: Submittal procedures.

1.03 DEFINITIONS

- A. VOC-Restricted Products: All products of each of the following categories when installed or applied on-site in the building interior:
 - 1. Adhesives, sealants, and sealer coatings.
 - 2. Carpet.
 - 3. Carpet tile.
 - 4. Resilient floor coverings.
 - 5. Paints and coatings.
 - 6. Insulation.
 - 7. Gypsum board.
 - 8. Acoustical ceilings and panels.
 - 9. Cabinet work.
 - 10. Composite wood and agrifiber products used either alone or as part of another product.
- B. Interior of Building: Anywhere inside the exterior weather barrier.
- C. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
- D. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

1.04 REFERENCE STANDARDS

- A. GreenSeal GS-36 - Commercial Adhesives; 2011.
- B. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Evidence of Compliance: Submit for each different product in each applicable category.
- C. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.06 QUALITY ASSURANCE

- A. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Adhesives and Joint Sealants: Provide only products having volatile organic compound (VOC) content not greater than required by South Coast Air Quality Management District Rule No.1168.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Report of laboratory testing performed in accordance with requirements.

- B. Aerosol Adhesives: Provide only products having volatile organic compound (VOC) content not greater than required by GreenSeal GS-36.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Current GreenSeal Certification.
- C. Carpet Tile and Adhesive: Provide products having VOC content as specified in Section 09 6813.
- D. Composite Wood and Agrifiber Products and Adhesives Used for Laminating Them: Provide products having no added urea-formaldehyde resins.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Published product data showing compliance with requirements.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

- A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.
- B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

**SECTION 01 7000
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. Surveying for laying out the work.
- F. Cleaning and protection.
- G. Starting of systems and equipment.
- H. Demonstration and instruction of Owner personnel.
- I. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- J. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 1000 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 4000 - Quality Requirements: Testing and inspection procedures.
- C. Section 01 5000 - Temporary Facilities and Controls: Temporary exterior enclosures.
- D. Section 01 5100 - Temporary Utilities: Temporary heating, cooling, and ventilating facilities.
- E. Section 01 5713 - Temporary Erosion and Sediment Control: Additional erosion and sedimentation control requirements.
- F. Section 01 7800 - Closeout Submittals: Project record documents, operation and maintenance data, warranties, and bonds.
- G. Section 02 4100 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.
- H. Section 07 8400 - Firestopping.

1.03 REFERENCE STANDARDS

- A. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Survey work: Submit name, address, and telephone number of Surveyor before starting survey work.
 - 1. On request, submit documentation verifying accuracy of survey work.
 - 2. Submit a copy of site drawing signed by the Land Surveyor, that the elevations and locations of the work are in compliance with Contract Documents.
 - 3. Submit surveys and survey logs for the project record.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
 - 1. Indicate extent of demolition, removal sequence, bracing and shoring, and location and construction of barricades and fences. Include design drawings and calculations for bracing and shoring.
 - 2. Identify demolition firm and submit qualifications.
 - 3. Include a summary of safety procedures.

- D. Cutting and Patching: Submit written request in advance of cutting or alteration that 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.
- E. Project Record Documents: Accurately record actual locations of capped and active utilities.

1.05 QUALIFICATIONS

- A. For demolition work, employ a firm specializing in the type of work required.
- B. For surveying work, employ a land surveyor registered in the State in which the Project is located and acceptable to Architect. Submit evidence of surveyor's Errors and Omissions insurance coverage in the form of an Insurance Certificate. Employ only individual(s) trained and experienced in collecting and recording accurate data relevant to ongoing construction activities,
- C. For field engineering, employ a professional engineer of the discipline required for specific service on Project, licensed in the State in which the Project is located. Employ only individual(s) trained and experienced in establishing and maintaining horizontal and vertical control points necessary for laying out construction work on project of similar size, scope and/or complexity.

1.06 PROJECT CONDITIONS

- A. Use of explosives is not permitted.
- B. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- C. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- D. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- E. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
 - 1. Provide temporary measures such as berms, dikes, and drains, to prevent water flow.
 - 2. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.
- F. 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.

1.07 COORDINATION

- A. 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.
- B. Notify affected utility companies and comply with their requirements.
- C. 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.
- D. 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.

- E. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- F. Coordinate completion and clean-up of work of separate sections.
- G. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

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 6000 - 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 misfabrication.
- 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 PREINSTALLATION MEETINGS

- A. When required in individual specification sections, convene a preinstallation meeting at the site prior to commencing work of the section.
- B. Require attendance of parties directly affecting, or affected by, work of the specific section.
- C. Notify Architect four days in advance of meeting date.
- D. Prepare agenda and preside at meeting:
 - 1. Review conditions of examination, preparation and installation procedures.
 - 2. Review coordination with related work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.04 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Architect of any discrepancies discovered.
- C. Contractor shall locate and protect survey control and reference points.
- D. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- E. Promptly report to Architect the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- F. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Architect.
- G. Utilize recognized engineering survey practices.
- H. Establish a minimum of two permanent bench marks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- I. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, ground floor elevations.
- J. Periodically verify layouts by same means.
- K. Maintain a complete and accurate log of control and survey work as it progresses.
- L. Building Lines and Levels: Locate and lay out batter boards for structures, building foundations, column grids and locations, floor levels and control lines and levels required for mechanical and electrical Work.
- M. Site Improvements: Locate and lay out site improvements, including pavements, stakes for grading, fill and topsoil placement, utility slopes and invert elevations by instrumentation and similar appropriate means.
- N. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction. Furnish information necessary to adjust, move or relocate existing structures, utility poles, lines, services or other appurtenances located in, or affected by construction. Coordinate with local authorities having jurisdiction with construction.

3.05 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.

3.06 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. 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.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. 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.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Verify that abandoned services serve only abandoned facilities.
 - 2. 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.
- E. 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.
- F. 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 (6 mm) or more occurs in existing work, submit recommendation for providing a smooth transition for Architect review and request instructions.
 - 4. Trim existing wood doors as necessary to clear new floor finish. Refinish trim as required.
- G. 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.
- H. 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.
- I. Clean existing systems and equipment.
- J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- K. Do not begin new construction in alterations areas before demolition is complete.
- L. Comply with all other applicable requirements of this section.

3.07 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. Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
- E. Obtain approval of the cutting and patching proposal before cutting and patching the following structural elements:
 - 1. Foundation construction.
 - 2. Bearing and retaining walls.
 - 3. Structural concrete.
 - 4. Structural steel.
 - 5. Lintels.
 - 6. Timber and primary wood framing.
 - 7. Structural decking.
 - 8. Stair systems.
 - 9. Miscellaneous structural metals.
 - 10. Exterior curtain wall construction.
 - 11. Equipment supports.
 - 12. Piping, ductwork, vessels and equipment.
 - 13. Structural systems of special construction in Division-13.
- F. Contractor to provide insect control and vapor tight at structure (example: exterior cuts - patching of vapor retarder). All openings or penetrations made to be well-sealed from insect or rodents with plaster, "play" sand, copper gauze - contractor to adhere to all applicable fire ratings.
- G. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.
- H. Obtain approval of the cutting and patching proposal before cutting and patching the following operating elements or safety related systems:
 - 1. Primary operational systems and equipment.
 - 2. Membranes and flashings.
 - 3. Fire protection systems.
 - 4. Communication systems.
 - 5. Electrical wiring systems.
- I. 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.
- J. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- K. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- L. Restore work with new products in accordance with requirements of Contract Documents.
- M. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

- N. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 8400, to full thickness of the penetrated element.
- O. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- P. 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.

3.08 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- 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.

3.09 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. 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.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.10 SYSTEM STARTUP

- A. Coordinate schedule for start-up of various equipment and systems.
- B. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, and for conditions that may cause damage.
- C. Verify tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer.
- D. Verify that wiring and support components for equipment are complete and tested.
- E. Execute start-up under supervision of applicable Contractor personnel and manufacturer's representative in accordance with manufacturers' instructions.
- F. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check, and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

- G. Submit a written report that equipment or system has been properly installed and is functioning correctly.

3.11 DEMONSTRATION AND INSTRUCTION

- A. Demonstrate start-up, operation, control, adjustment, trouble-shooting, servicing, maintenance, and shutdown of each item of equipment at scheduled time, at equipment location.
- B. For equipment or systems requiring seasonal operation, perform demonstration for other season within six months.
- C. Provide a qualified person who is knowledgeable about the Project to perform demonstration and instruction of Owner's personnel.
- D. Utilize operation and maintenance manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.
- E. Prepare and insert additional data in operations and maintenance manuals when need for additional data becomes apparent during instruction.

3.12 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.13 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Use cleaning materials that are nonhazardous.
- C. 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.
- D. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.
- E. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- F. Clean filters of operating equipment.
- G. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, drainage systems, and _____.
- H. Clean site; sweep paved areas, rake clean landscaped surfaces.
- I. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.14 CLOSEOUT PROCEDURES

- A. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- B. Refer to requirements of General Conditions of the Contract for Construction.
- C. Substantial Completion
 - 1. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.
 - 2. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.
 - 3. Notify Architect of intended date of Substantial Completion as early as is feasibly possible. Architect will schedule Final Inspection of the work with Owner, Architect's Consultants, and the Alabama Building Commission Inspector. Contractor shall coordinate attendance

- of the Final Inspection by local Fire Department and other code officials requiring attendance.
4. Upon completion of the Final Inspection, if the work is deemed substantially complete, the Architect will distribute a Certificate of Substantial Completion with "Punch List" of items required to be corrected by the Contractor prior to Final Acceptance of the Work.
- D. Final Acceptance
1. Correct items of work listed in executed Certificates of Substantial Completion.
 2. Notify Architect when work is considered finally complete.
 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
 4. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 5. If necessary, reinspection will be repeated until all items of work are completed.
 6. Submit final meter readings for utilities and similar data as of the date of Substantial Completion.
 7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 8. Submit the final payment request with releases and supporting documentation as outlined in the General Conditions of the Contract for Construction.
- E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

3.15 MAINTENANCE

- A. Provide service and maintenance of components indicated in specification sections.
- B. Maintenance Period: As indicated in specification sections or, if not indicated, not less than one year from the Date of Substantial Completion or the length of the specified warranty, whichever is longer.
- C. Examine system components at a frequency consistent with reliable operation. Clean, adjust, and lubricate as required.
- D. Include systematic examination, adjustment, and lubrication of components. Repair or replace parts whenever required. Use parts produced by the manufacturer of the original component.
- E. Maintenance service shall not be assigned or transferred to any agent or subcontractor without prior written consent of the Owner.

END OF SECTION

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**SECTION 01 7800
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 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Section 01 7000 - Execution and Closeout Requirements: Contract closeout procedures.
- C. Individual Product Sections: Specific requirements for operation and maintenance data.
- D. Individual Product Sections: Warranties required for specific products or Work.

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.
 - 1. Architect will review record documents with Contractor's project manager after each progress meeting, or at intervals appropriate to the project, to ensure record documents are being kept accurate and up to date with the progress of the project.
- 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: Contractor to provide one paper copy and one digital copy in Autocad 2000 format on compact disc. All noted changes to be clouded.

3.02 OPERATION AND MAINTENANCE DATA

- A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

- A. For Each Product, Applied Material, and Finish:
 - 1. Product data, with catalog number, size, composition, and color and texture designations.
 - 2. Information for re-ordering custom manufactured products.
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.
- C. Additional information as specified in individual product specification sections.
- D. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- E. Provide a listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

- A. For Each Item of Equipment and Each System:
 - 1. Description of unit or system, and component parts.
 - 2. Identify function, normal operating characteristics, and limiting conditions.
 - 3. Include performance curves, with engineering data and tests.
 - 4. Complete nomenclature and model number of replaceable parts.
- B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.
- C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- E. Provide servicing and lubrication schedule, and list of lubricants required.
- F. Include manufacturer's printed operation and maintenance instructions.
- G. Include sequence of operation by controls manufacturer.
- H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- I. Provide list of original manufacturer's spare parts, current prices, and recommended quantities to be maintained in storage.
- J. Include test and balancing reports.
- K. Additional Requirements: As specified in individual product specification sections.

3.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

- A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.
- B. Where systems involve more than one specification section, provide separate tabbed divider for each system.
- C. Prepare instructions and data by personnel experienced in maintenance and operation of described products.
- D. Prepare data in the form of an instructional manual.

- E. Binders: Commercial quality, 8-1/2 by 11 inch (216 by 280 mm) three D side ring binders with durable plastic covers; 4 inch (____ mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- F. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.
- G. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.
- H. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.
- I. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.
- J. Text: Manufacturer's printed data, or typewritten data on 24 pound paper.
- K. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.
- L. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- M. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
- N. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of Architect, Consultants, and Contractor with name of responsible parties; schedule of products and systems, indexed to content of the volume.

3.06 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. Manual: Bind in commercial quality 8-1/2 by 11 inch (216 by 279 mm) three D side ring binders with durable plastic covers.

- F. Cover: Identify each binder with typed or printed title WARRANTIES AND BONDS, with title of Project; name, address and telephone number of Contractor and equipment supplier; and name of responsible company principal.
- G. Table of Contents: Neatly typed, in the sequence of the Table of Contents of the Project Manual, with each item identified with the number and title of the specification section in which specified, and the name of product or work item.
- H. Separate each warranty or bond with index tab sheets keyed to the Table of Contents listing. Provide full information, using separate typed sheets as necessary. List Subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
- I. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- J. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- K. Owner's Recourse: Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.

END OF SECTION

**SECTION 02 4100
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of built site elements.
- B. Abandonment and removal of existing utilities and utility structures.

1.02 RELATED REQUIREMENTS

- A. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.
- B. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.
- C. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Site Plan: Showing:
 - 1. Areas for temporary construction and field offices.
- C. Demolition Plan: Submit demolition plan as specified by OSHA and local authorities.
- D. 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. Visit site prior to bid and verify all existing conditions, existing structures, finishes, and location of work area.
- B. Remove concrete slabs on grade within site boundaries.

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. Provide, erect, and maintain temporary barriers and security devices.
 - 2. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 3. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 4. Do not close or obstruct roadways or sidewalks without permit or owner's permission.
 - 5. 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.
 - 6. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.
- B. Do not begin removal until receipt of notification to proceed from Owner.

- C. Protect existing structures and other elements that are not to be removed (including adjacent buildings).
 - 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.
- D. 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.
- E. 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.

3.03 EXISTING UTILITIES

- A. Coordinate work with owner; 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.

3.04 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site.
- B. Leave site in clean condition, ready for subsequent work.
- C. Clean up spillage and wind-blown debris from public and private lands.
- D. All demolished materials shall become the property of the Contractor and shall be removed from the site by the Contractor unless noted otherwise in Contract Documents.
- E. The Contractor shall select haul routes, obtain required approval of local authorities, and conduct its operations in such manner as to insure minimum interference with roads, street, sidewalks, and neighboring buildings and facilities and so that there is no interference with the normal operations of the building.
- F. The Contractor shall obtain all necessary permits and comply with all statutes, ordinances, codes and regulations applicable to the work to be performed.
- G. The Contractor shall take all precautions necessary to assure that the work will be performed in a manner that will not endanger the public, any workman, or any property in the vicinity of the work.
- H. The Contractor shall take such actions as shall be necessary to assure that members of the public will have safe passage on the public streets around the area of demolition, and construct such fencing, barricades and obstacles as will prevent unauthorized entry to the work site.
- I. Universal Waste shall be handled in accordance with ADEM Admin. Code r. 335-14-11 Chapter 11 specifically states the regulations on Universal Waste. See pages 1055-1081 of attached .pdf.

END OF SECTION

**SECTION 03 3000
CAST-IN-PLACE CONCRETE**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes.
- B. Related Sections include the following:
 - 1. Division 2 Section "Earthwork" for drainage fill under slabs-on-grade.
 - 2. Division 2 Section "Cement Concrete Pavement" for concrete pavement and walks.

1.03 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of fly ash and other pozzolans.

1.04 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixes: For each concrete mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.
 - 1. Indicate amounts of mix water to be withheld for later addition at Project site.
- C. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement. Include special reinforcement required for openings through concrete structures.
- D. Formwork Shop Drawings: Prepared by or under the supervision of a qualified professional engineer detailing fabrication, assembly, and support of formwork. Design and engineering of formwork are Contractor's responsibility.
 - 1. Shoring and Reshoring: Indicate proposed schedule and sequence of stripping formwork, shoring removal, and installing and removing reshoring.
- E. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
- F. Material Certificates: Signed by manufacturers certifying that each of the following items complies with requirements:
 - 1. Cementitious materials and aggregates.
 - 2. Form materials and form-release agents.
 - 3. Steel reinforcement and reinforcement accessories.
 - 4. Admixtures.
 - 5. Waterstops.
 - 6. Curing materials.
 - 7. Floor and slab treatments.
 - 8. Bonding agents.
 - 9. Adhesives.
 - 10. Vapor retarders.
 - 11. Epoxy joint filler.
 - 12. Joint-filler strips.
 - 13. Repair materials.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring and reshoring installations that are similar to those indicated for this Project in material, design, and extent.
- C. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
 - 1. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- D. Testing Agency Qualifications: An independent testing agency as provided by owner, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548. Retesting if failed test to be provided and paid for by the General Contractor.
 - 1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- E. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- F. Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code-Reinforcing Steel."
- G. ACI Publications: Comply with the following, unless more stringent provisions are indicated:
 - 1. ACI 301, "Specification for Structural Concrete."
 - 2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."
- H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."
 - 1. Before submitting design mixes, review concrete mix design and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
 - a. Contractor's superintendent.
 - b. Independent testing agency responsible for concrete design mixes.
 - c. Ready-mix concrete producer.
 - d. Concrete subcontractor.
- I. The General Contractor shall verify the floor elevations of the existing building and match the new floor elevations and provide flatness specified.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.

PART 2 PRODUCTS

2.01 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints. (Exposed concrete)
 - 1. Plywood, metal, or other approved panel materials.
 - 2. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - a. High-density overlay, Class 1, or better.

- b. Medium-density overlay, Class 1, or better, mill-release agent treated and edge sealed.
 - c. Structural 1, B-B, or better, mill oiled and edge sealed.
 - d. B-B (Concrete Form), Class 1, or better, mill oiled and edge sealed.
- B. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.
- D. Pan-Type Forms: Glass-fiber-reinforced plastic or formed steel, stiffened to resist plastic concrete loads without detrimental deformation. Steel forms shall be in good condition. Forms that are deformed will not be acceptable.
- E. Void Forms: Biodegradable paper surface, treated for moisture resistance, structurally sufficient to support weight of plastic concrete and other superimposed loads.
- F. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch (19 by 19 mm), minimum.
- G. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.
 - 1. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- H. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 - 1. Furnish units that will leave no corrodible metal closer than 1 inch (25 mm) to the plane of the exposed concrete surface.
 - 2. Furnish ties that, when removed, will leave holes not larger than 1 inch (25 mm) in diameter in concrete surface.
 - 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.02 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed.
- B. Plain-Steel Wire: ASTM A 82, as drawn.
- C. Deformed-Steel Wire: ASTM A 496.
- D. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

2.03 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete, and as follows:
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected or CRSI Class 2 stainless-steel bar supports.
- B. Joint Dowel Bars: Plain-steel bars, ASTM A 615, Grade 60. Cut bars true to length with ends square and free of burrs.

2.04 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, and as follows:
 - 1. Nominal Maximum Aggregate Size: 3/4 inch (19 mm).

2. Combined Aggregate Gradation: Well graded from coarsest to finest with not more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 (0.3-mm) sieve, and less than 8 percent may be retained on sieves finer than No. 50 (0.3 mm).
- C. Water: Potable and complying with ASTM C 94.
- D. Provide Portland cement parging in locations as shown on drawings. Refer to finish schedule.
- E. Refer to Additional Instructions to Bidders for approved concrete suppliers.

2.05 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C 260.
- C. Water-Reducing Admixture: ASTM C 494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

2.06 WATERSTOPS

- A. Flexible Rubber Waterstops: CE CRD-C 513, for embedding in concrete to prevent passage of fluids through joints. Factory fabricate corners, intersections, and directional changes.
 1. Profile: Flat, dumbbell with center bulb.
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Rubber Waterstops:
 - a. Greenstreak.
 - b. Progress Unlimited Inc.
 - c. Westec Barrier Technologies; Div. of Western Textile Products, Inc.
 - d. Williams Products, Inc.

2.07 VAPOR RETARDERS

- A. Vapor Retarder:
 1. Membrane Installation beneath slab on grade resistant to decay when tested in accordance with ASTM E154 and ASTM 1745-L and as follows:
 - a. Polyolefin - based resin/chemical technology - sheet not less than 15 mils thick, equal to WR Meadows "Perminator"
- B. Vapor Retarder: Refer to Division 7.
- C. Granular Fill: Clean mixture of crushed Limestone #67 based on Alabama Department of Transportation standards.

2.08 FLOOR AND SLAB TREATMENTS

- A. Penetrating Liquid Floor Treatment: Chemically reactive, waterborne solution of inorganic silicate or silicate materials and proprietary components; odorless; colorless; that penetrates, hardens, and densifies concrete surfaces.
- B. Products: Subject to compliance with requirements, provide one of the following:
 1. Penetrating Liquid Floor Treatment:
 - a. Ashford Formula; Curecrete Chemical Co., Inc.

2.09 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Potable.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- F. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Evaporation Retarder:
 - a. Spray-Film; ChemMasters.
 - b. Eucobar; Euclid Chemical Co.
 - c. E-Con; L&M Construction Chemicals, Inc.
 - d. Rich Film; Richmond Screw Anchor Co.
 - e. Finishing Aid; Symons Corporation.
 - 2. Clear, Waterborne, Membrane-Forming Curing Compound:
 - a. AH Clear Cure WB; Anti-Hydro International, Inc.
 - b. High Seal; Conspec Marketing & Manufacturing Co., Inc.
 - c. Cure & Seal 309 Emulsion; Kaufman Products Inc.
 - d. Vocomp-20; W. R. Meadows, Inc.

2.10 RELATED MATERIALS

- A. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
- B. Epoxy Joint Filler: Two-component, semirigid, 100 percent solids, epoxy resin with a Shore A hardness of 80 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy-Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements, and as follows:
 - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Reglets: Fabricate reglets of not less than 0.0217-inch- (0.55-mm-) thick galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- F. Dovetail Anchor Slots: Hot-dip galvanized steel sheet, not less than 0.0336 inch (0.85 mm) thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.11 REPAIR MATERIALS

- A. Repair Underlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch (3.2 mm) and that can be feathered at edges to match adjacent floor elevations.
 - 1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
 - 2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
 - 3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch (3 to 6 mm) or coarse sand as recommended by underlayment manufacturer.
 - 4. Compressive Strength: Not less than 4100 psi (29 MPa) at 28 days when tested according to ASTM C 109/C 109M.

2.12 CONCRETE MIXES

- A. Prepare design mixes for each type and strength of concrete determined by either laboratory trial mix or field test data bases, as follows:
 - 1. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.

- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the laboratory trial mix basis.
- C. Footings and Retaining Walls Piers and Columns: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28 Days): 3000 psi (20.7 MPa).
 - 2. Maximum Slump: 4 inches (100 mm).
 - 3. Maximum Slump for Concrete Containing High-Range Water-Reducing Admixture: 8 inches (200 mm) after admixture is added to concrete with 2- to 3-inch (50- to 100-mm) slump.
- D. Slab-on-Grade: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28 Days): 3000 psi (20.7 MPa).
 - 2. Maximum Slump: 4 inches (100 mm).
- E. Suspended Slabs: Proportion light-weight concrete mix as follows:
 - 1. Compressive Strength (28 Days): 4000 psi.
 - 2. Maximum Slump: 4 inches (100 mm).
- F. Cementitious Materials: For concrete exposed to deicers, limit percentage, by weight, of cementitious materials other than Portland cement according to ACI 301 requirements.
- G. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
 - 1. Fly Ash: 20 percent.
- H. Maximum Water-Cementitious Materials Ratio: 0.50 for concrete with a 28 day compressive strength of $F'c = 3000$ psi.
- I. Maximum Water-Cementitious Materials Ratio: 0.45 for concrete with a 28 day compressive strength of $F'c = 4000$ psi.
- J. Maximum Water-Cementitious Materials Ratio: 0.40 for concrete with a 28 day compressive strength of $F'c = 5000$ psi.
- K. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 4 to 6 percent, unless otherwise indicated.
- L. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- M. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing admixture or high-range water-reducing admixture (superplasticizer) in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

2.13 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.14 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94, and furnish batch ticket information.
 - 1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 EXECUTION

3.01 FORMWORK

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
 - 1. Class A, 1/8 inch (3 mm).
- D. Construct forms tight enough to prevent loss of concrete mortar.
- E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal.
 - 1. Do not use rust-stained steel form-facing material.
- F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- H. Chamfer exterior corners and edges of permanently exposed concrete.
- I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.
- J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.02 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 1. Install anchor bolts, accurately located, to elevations required.
 - 2. Install reglets to receive top edge of foundation sheet waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 3. Install dovetail anchor slots in concrete structures as indicated and required.

3.03 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F (10 deg C) for 24 hours after placing concrete provided concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.
- B. Leave formwork, for beam soffits, joists, slabs, and other structural elements, that supports weight of concrete in place until concrete has achieved the following:
 - 1. At least 75 percent of 28-day design compressive strength.
 - 2. Determine compressive strength of in-place concrete by testing representative field- or laboratory-cured test specimens according to ACI 301.

3. Remove forms only if shores have been arranged to permit removal of forms without loosening or disturbing shores.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched or damaged forms for concrete surfaces unless approved by Architect.

3.04 SHORES AND RESHORES

- A. Comply with ACI 318, ACI 301, and recommendations in ACI 347R for design, installation, and removal of shoring and reshoring.
- B. In multistory construction, extend shoring or reshoring over a sufficient number of stories to distribute loads in such a manner that no floor or member will be excessively loaded or will induce tensile stress in concrete members without sufficient steel reinforcement.
- C. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.05 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
 1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
 1. Shop- or field-weld reinforcement according to AWS D1.4, where indicated.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

3.06 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of strip placements of slabs on grade.
 2. Form from preformed, plastic keyway-section forms, or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
 3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 5. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 6. Use epoxy-bonding adhesive at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint to a radius of 1/8 inch (3 mm). Repeat grooving of contraction joints after applying surface finishes. Eliminate groover tool marks on concrete surfaces.
- D. Isolation Joints in Slabs-on-Grade: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
 2. Terminate full-width joint-filler strips not less than 1/2 inch (12 mm) or more than 1 inch (25 mm) below finished concrete surface where joint sealants, specified in Division 7 Section "Joint Sealants," are indicated.
 3. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Dowel Joints: Install dowel sleeves and dowels or dowel bar and support assemblies at joints where indicated.
 1. Use dowel sleeves or lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

3.07 WATERSTOPS

- A. Flexible Waterstops: Install in construction joints as indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of Work. Field-fabricate joints in waterstops according to manufacturer's written instructions.

3.08 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Architect.
- C. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- D. Deposit concrete in forms in horizontal layers no deeper than 24 inches (600 mm) and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
 1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI 309R.
 2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
 1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
 2. Maintain reinforcement in position on chairs during concrete placement.
 3. Screed slab surfaces with a straightedge and strike off to correct elevations.
 4. Slope surfaces uniformly to drains where required.

5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, free of humps or hollows, before excess moisture or bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- F. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- G. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.09 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched. Remove fins and other projections exceeding ACI 347R limits for class of surface specified.
- B. Apply to concrete surfaces of retaining walls to be covered with earth backfill.
- C. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch (3 mm) in height.
 1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
 2. Do not apply rubbed finish to smooth-formed finish.
- D. Rubbed Finish: Apply the following to smooth-formed finished concrete:
 1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
- E. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.
- F. All exposed finished concrete of areaway walls which would include surfaces above grade and inside the areaway shall be formed with MDO plywood.
- G. All tie holes shall be pointed and patched with matching material. Grind all joints smooth. Smooth rub finish as noted above.

3.10 CONCRETE SIDEWALKS

- A. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.
- B. 3000 PSI
- C. Control Joints: 6' on center
- D. Fiber Expansion Joint: 60' on center. See civil drawings for details.

3.11 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraighening until surface is left with a uniform, smooth, granular texture.
 - 1. Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- C. Trowel Finish: After applying float finish, apply first trowel finish and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.
 - 1. Apply a trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system
 - 2. Finish surfaces to the following tolerances, measured within 24 hours according to ASTM E 1155/E 1155M for a randomly trafficked floor surface:
 - a. Specified overall values of flatness, F(F) 35; and levelness, F(L) 25; with minimum local values of flatness, F(F) 24; and levelness, F(L) 17; for slabs-on-grade.
 - b. Specified overall values of flatness, F(F) 30; and levelness, F(L) 20; with minimum local values of flatness, F(F) 24; and levelness, F(L) 15; for suspended slabs.
- D. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

3.12 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Equipment Bases and Foundations: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment.

3.13 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and

during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

- C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing by only as approved by structural engineer.
- D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by one or a combination of the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
 - 3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.14 LIQUID FLOOR TREATMENTS

- A. Penetrating Liquid Floor Treatment: Prepare, apply, and finish penetrating liquid floor treatment according to manufacturer's written instructions.
 - 1. Remove curing compounds, sealers, oil, dirt, laitance, and other contaminants and complete surface repairs.
 - 2. Do not apply to concrete that is less than seven days old.
 - 3. Apply liquid until surface is saturated, scrubbing into surface until a gel forms; rewet; and repeat brooming or scrubbing. Rinse with water; remove excess material until surface is dry. Apply a second coat in a similar manner if surface is rough or porous.

3.15 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions.
 - 1. Defer joint filling until concrete has aged at least six months. Do not fill joints until construction traffic has permanently ceased.
- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.

3.16 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 (1.2-mm) sieve, using only enough water for handling and placing.
- C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch (13 mm) in any dimension in solid concrete but not less than 1 inch (25 mm) in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
 2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
 3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.
- D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch (0.25 mm) wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
 2. After concrete has cured at least 14 days, correct high areas by grinding.
 3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
 4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
 5. Repair defective areas, except random cracks and single holes 1 inch (25 mm) or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least 3/4 inch (19 mm) clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mix as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
 6. Repair random cracks and single holes 1 inch (25 mm) or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.
- E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.
- F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements: All retesting as a result of failed test to be provided by and paid for by the General Contractor.

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mix exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof.
2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
5. Compression Test Specimens: ASTM C 31; cast and laboratory cure one set of four standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39; test one laboratory-cured specimens at 7 days and two at 28 days. Hold fourth specimen for future specimen for future testing if required. Discard if not required.
 - a. The contractor shall engage a qualified independent testing laboratory to make, field cure, and test standard cylinder specimens. The results of these tests shall be used by the contractor to evaluate field curing and for form removal.
 - b. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at age indicated.
- C. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
- D. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
- E. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.
- F. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- G. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect.

END OF SECTION

**SECTION 04 2000
UNIT MASONRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete Block.
- B. Concrete facing brick.
- C. Clay Facing Brick.
- D. Mortar and Grout. Provide new masonry joints to match existing and point up existing masonry joints as required for fully restored brick.
- E. Reinforcement and Anchorage.
- F. Flashings.
- G. Lintels.
- H. Accessories.

1.02 RELATED REQUIREMENTS

- A. Section 04 7200 - Cast Stone Masonry
- B. Section 05 5000 - Metal Fabrications: Loose steel lintels.
- C. Section 06 1000 - Rough Carpentry: Nailing strips built into masonry.
- D. Section 07 1113 - Bituminous Dampproofing: Dampproofing parged masonry surfaces.
- E. Section 07 2100 - Thermal Insulation: Insulation for cavity spaces.
- F. Section 07 8401 - Firestopping: Firestopping at penetrations of fire-rated masonry and at top of fire-rated walls.
- G. Section 07 6200 - SHEET METAL FLASHING AND TRIM: Through-wall masonry flashings.
- H. Section 07 9200 - Joint Sealants: Sealing control and expansion joints.
- I. Section 07 6500 - Wall Flashing

1.03 REFERENCE STANDARDS

- A. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures; 2016.
- B. ACI 530.1/ASCE 6/TMS 602 - Specification For Masonry Structures; American Concrete Institute International; 2008.
- C. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.
- E. ASTM A951/A951M - Standard Specification for Steel Wire for Masonry Joint Reinforcement; 2016.
- F. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- G. ASTM C62 - Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale); 2013.
- H. ASTM C67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile; 2014.
- I. ASTM C90 - Standard Specification for Loadbearing Concrete Masonry Units; 2022.
- J. ASTM C91/C91M - Standard Specification for Masonry Cement; 2012.
- K. ASTM C129 - Standard Specification for Nonloadbearing Concrete Masonry Units; 2011.

- L. ASTM C140/C140M - Standard Test Methods of Sampling and Testing Concrete Masonry Units and Related Units; 2014.
- M. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- N. ASTM C207 - Standard Specification for Hydrated Lime for Masonry Purposes; 2006 (Reapproved 2011).
- O. ASTM C216 - Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale); 2014.
- P. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- Q. ASTM C404 - Standard Specification for Aggregates for Masonry Grout; 2011.
- R. ASTM C476 - Standard Specification for Grout for Masonry; 2010.
- S. ASTM C744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units; 2014.
- T. ASTM C780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry; 2012.
- U. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.
- V. BIA Technical Notes No. 13 - Ceramic Glazed Brick Exterior Walls; 2017.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all relevant installers.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data for masonry units, fabricated wire reinforcement, mortar, and masonry accessories.
- C. Samples: Submit four samples of decorative block and face brick units to illustrate color, texture, and extremes of color range.
- D. Manufacturer's Certificate: Certify that masonry units meet or exceed specified requirements.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.

1.06 MOCK-UP

- A. Construct a masonry wall as a mock-up panel sized and as indicated on drawings; include mortar and accessories, structural backup, wall openings, flashings, and wall insulation in mock-up, and other materials. Provide repurposed masonry samples as required and approved by architect.
- B. Mock-up may remain as part of the Work. **Provide in place mock-up at corner column and EIFS/herringbone areas. Utilize all specified components. Architect to give written approval prior to proceeding with work.**

1.07 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 (400 by 200 mm) and nominal depths as indicated on drawings for specific locations.
 - 2. Grade in Special Shapes: Provide non-standard blocks configured for corners.

3. Load-Bearing Units: ASTM C90, normal weight.
 - a. Hollow block, as indicated.
 - b. Exposed Faces: Manufacturer's standard color and texture where indicated.
4. Non-Loadbearing Units: ASTM C129.
 - a. Hollow block.

2.02 BRICK UNITS

- A. **Manufacturers:**
 1. Color must be available equal to Williamsburg Red.
 2. ***Taylor Clay Brick Products, Inc. Color: To be selected by Architect from full range of manufacturer's colors. Texture: Smooth***
 3. ***Watson town Brick. Texture: Smooth.***
 4. ***Cherokee Brick & Tile Co.***
 5. ***Acme Brick***
 6. ***Substitutions: See Section 01 6000 - Product Requirements***
- B. Facing Brick: ASTM C216, Type FBS Smooth, Grade SW.
 1. Color and texture to match Architect's sample.
 2. Nominal size: As indicated on drawings.
 3. Special shapes: Molded units as required by conditions indicated, unless standard units can be sawn to produce equivalent effect.

2.03 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I; color as required to produce approved color sample.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Grout Aggregate: ASTM C404.
- D. Pigments for Colored Mortar: Pure, concentrated mineral pigments specifically intended for mixing into mortar and complying with ASTM C979/C979M.
 1. Color(s): Color to be selected by Architect from manufacturer's full range of colors as required to match architects sample.

2.04 REINFORCEMENT AND ANCHORAGE

- A. Manufacturers:
 1. Hohmann & Barnard, Inc: www.h-b.com.
 2. WIRE-BOND: www.wirebond.com/#sle.
 3. Substitutions: See Section 01 6000 - Product Requirements.
- B. Reinforcing Steel: ASTM A615/A615M Grade 60 (420) deformed billet bars.
- C. Joint Reinforcement: Use ladder type joint reinforcement where vertical reinforcement is involved and truss type elsewhere, unless otherwise indicated. Size to provide not more than 1 inch (25 mm) and not less than 1/2 inch of mortar coverage from masonry face. Hot dipped galvanized.
- D. Single Wythe Joint Reinforcement: ASTM A951/A951M.
 1. Type: Truss or ladder. 16" on center vertically.
 2. Material: ASTM A1064/A1064M steel wire, mill galvanized to ASTM A641/A641M Class 3.
 3. Size: 0.1875 inch (4.8 mm) side rods with 0.1875 inch (4.8 mm) cross rods; width as required to provide not less than 5/8 inch (16 mm) of mortar coverage on each exposure.
 4. Equal to Hohmann & Barnard 120 Truss/220 Ladder
- E. Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
 1. Type: Truss.
 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to 16 CFR 1201 Class B.

3. Size: 0.1875 inch (4.8 mm) side rods with 0.1875 inch (4.8 mm) cross rods; width as required to provide not less than 5/8 inch (16 mm) of mortar coverage on each exposure.
- F. Adjustable Multiple Wythe Joint Reinforcement: ASTM A951/A951M.
 1. Type: Truss, with adjustable ties or tabs spaced at 16 in (406 mm) on center vertically and with adjustable eyelets and pentel veneer ties equal to 2xhook-16" o.c. horizontally.
 2. Material: ASTM A1064/A1064M steel wire, hot dip galvanized after fabrication to ASTM A153/A153M Class B.
 3. Size: 0.1875 inch (4.8 mm) side rods with 0.1483 inch (3.8 mm) cross rods and adjustable components of 0.1875 inch (4.8 mm) wire, width of components as required to provide not less than 5/8 inch (16 mm) of mortar coverage from each masonry face.
 4. Vertical adjustment: Not more than 1 1/4 inches (32 mm).
 5. Equal to Hohmann and Barnard 170 Truss/270 Ladder with 2x hook.
- G. Flexible Anchors: 2-piece anchors that permit differential movement between masonry and building frame, sized to provide not more than 1 inch (25 mm) and not less than 1/2 inch (13 mm) of mortar coverage from masonry face.
 1. Concrete frame: Dovetail anchors of bent steel strap, nominal 1 inch (25 mm) width x 0.024 in (0.61 mm) thick, with trapezoidal wire ties 0.1875 inch (4.75 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B. Equal to Hohmann and Barnard 315 Flexible dove tail tie.
 2. Steel frame: Crimped wire anchors for welding to frame, 0.25 inch (6.3 mm) thick, with trapezoidal wire ties 0.1875 inch (4.75 mm) thick, hot dip galvanized to ASTM A 153/A 153M, Class B. Equal to Hohmann and Barnard 359 Weldon tie with Vee Bna-Tie
- H. Masonry Veneer Anchors: 2-piece anchors that permit differential movement between masonry veneer and structural backup, hot dip galvanized to ASTM A 153/A 153M, Class B.
 1. Wire ties: Manufacturer's standard shape, 0.1875 inch (4.75 mm) thick.
 2. Vertical adjustment: Not less than 1-1/4 inches (32 mm).
 3. For metal stud wall backup: As required for project conditions as recommended by manufacturer.
 4. Provide screw pullout hold load per manufacturers requirement for back-up material. Note pullout information on submittal.
 5. Equal to Hohmann and Barnard 2 Seal-Tie with 2 seal wire tie.

2.05 FLASHINGS

- A. Thru Wall Flashing - Refer to Division 07.

2.06 ACCESSORIES

- A. Preformed Control Joints: Polyvinyl chloride material. Provide with corner and tee accessories, fused joints.
 1. Manufacturers:
 - a. Dur-O-Wal: www.dur-o-wal.com.
 - b. Hohmann & Barnard, Inc; _____: www.h-b.com/#sle.
 - c. WIRE-BOND: www.wirebond.com/#sle.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- B. Joint Filler: Closed cell polyvinyl chloride; oversized 50 percent to joint width; self expanding; maximum lengths available.
- C. Cavity Mortar Control: Semi-rigid polyethylene or polyester mesh panels, sized to thickness of wall cavity, and designed to prevent mortar droppings from clogging weeps and cavity vents and allow proper cavity drainage.
 1. Mortar Diverter: Semi-rigid mesh designed for installation at flashing locations.
 - a. Manufacturers:
 - 1) Advanced Building Products Inc; Mortar Break: www.advancedflashing.com/#sle.
 - 2) Mortar Net Solutions; _____: www.mortarnet.com/#sle.

- D. Weeps:
 - 1. Manufacturers:
 - a. Hohmann & Barnard, Inc; Basis of Design - Quadro-Vent: www.h-b.com/#sle.
 - b. Mortar Net Solutions; _____: www.mortarnet.com.
 - 2. This is to be used at stone as well; adjust size to accommodate stone. Color to be selected from manufacturer's full range. ASTM D 2240 Polypropylene
- E. Cleaning Solution: Non-acidic, not harmful to masonry work or adjacent materials.
 - 1. Diedrick technologies or equal.
- F. Where horizontal reinforcement is specified, provide prefabricated "L" and "T" sections. Cut and bend reinforcing units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures, and other special conditions.
- G. Stainless Steel Termination Bar install continuous termination bar - refer to Section 07 6500.

2.07 MORTAR AND GROUT MIXES

- A. Mortar for Unit Masonry: ASTM C270, using the Proportion Specification.
 - 1. Masonry below grade and in contact with earth: Type S.
 - 2. Exterior, loadbearing masonry: Type S.
 - 3. Exterior, non-loadbearing masonry: Type S.
 - 4. Interior, loadbearing masonry: Type S.
- B. Colored Mortar: Proportion selected pigments and other ingredients to match Architect's sample, without exceeding manufacturer's recommended pigment-to-cement ratio.
- C. Grout: ASTM C476. Consistency required to fill completely volumes indicated for grouting; fine grout for spaces with smallest horizontal dimension of 2 inches (50 mm) or less; coarse grout for spaces with smallest horizontal dimension greater than 2 inches (50 mm). Provide 28 day compressive strength indicated on drawings.
- D. Mixing: Use mechanical batch mixer and comply with referenced standards.

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. Maintain materials and surrounding air temperature to minimum 40 degrees F (5 degrees C) prior to, during, and 48 hours after completion of masonry work.
- B. Maintain materials and surrounding air temperature to maximum 90 degrees F (32 degrees C) prior to, during, and 48 hours after completion of masonry work.

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.
 - 2. Coursing: One unit and one mortar joint to equal 8 inches (200 mm).

3. Mortar Joints: Concave.
- D. Brick Units:
 1. Bond: As indicated for different locations. Flemish bond unless noted otherwise.
 2. Coursing: Three units and three mortar joints to equal 8 inches (200 mm).
 3. Mortar Joints: Concave.
 4. At existing Admin Building: Match existing bond pattern, coursing, and mortar joints.

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. Interlock intersections and external corners, except for units laid in stack bond.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges.
- H. Cut mortar joints flush where wall tile is scheduled or resilient base is scheduled.
- I. Isolate masonry partitions from vertical structural framing members with a control joint as indicated.
- J. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.

3.06 WEEPS/CAVITY VENTS

- A. Install weeps in veneer and cavity walls at 24 inches (600 mm) on center horizontally above through-wall flashing, above shelf angles and lintels, at bottom of walls, and at top of walls for ventilation.

3.07 CAVITY MORTAR CONTROL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep/cavity vents.
- B. For cavity walls, build inner wythe ahead of outer wythe to accommodate accessories.
- C. Install cavity mortar control panels continuously throughout exterior masonry cavities during construction of exterior wythe, complying with manufacturer's installation instructions. Verify that airspace width is no more than 3/8 inch (9 mm) greater than panel thickness. Install horizontally between joint reinforcement. Stagger end joints in adjacent rows. Fit to perimeter construction and penetrations without voids.
- D. Install cavity mortar diverter at base of cavity and at other flashing locations as recommended by manufacturer to prevent mortar droppings from blocking weep/cavity vents.

3.08 REINFORCEMENT AND ANCHORAGE - GENERAL

- A. Unless otherwise indicated on drawings or specified under specific wall type, install horizontal joint reinforcement 16 inches (400 mm) on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches (150 mm).
- D. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Unless otherwise indicated on drawings or closer spacing is indicated under specific wall type, space anchors at maximum of 36 inches (900 mm) horizontally and 24 inches (600 mm) vertically.
- E. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

3.09 REINFORCEMENT AND ANCHORAGE - SINGLE WYTHE MASONRY

- A. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.
- B. Lap joint reinforcement ends minimum 6 inches (150 mm).

3.10 REINFORCEMENT AND ANCHORAGE - MASONRY VENEER

- A. Install horizontal joint reinforcement 16 inches (400 mm) on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches (150 mm).
- D. Masonry Back-Up: Embed anchors to bond veneer at maximum 16 inches (400 mm) on center vertically and 16 inches (400 mm) on center horizontally. Place additional anchors at perimeter of openings and ends of panels, so maximum spacing of anchors is 16 inches (400 mm) on center.

3.11 REINFORCEMENT AND ANCHORAGES - MULTIPLE WYTHE UNIT MASONRY

- A. Install horizontal joint reinforcement 16 inches (400 mm) on center.
- B. Place masonry joint reinforcement in first and second horizontal joints above and below openings. Extend minimum 16 inches (400 mm) each side of opening.
- C. Lap joint reinforcement ends minimum 6 inches (150 mm).
- D. Fasten anchors to structural framing and embed in masonry joints as masonry is laid. Space anchors at maximum of 16 inches (400 mm) horizontally and 16 inches (400 mm) vertically.

3.12 MASONRY FLASHINGS

- A. Whether or not specifically indicated, install masonry flashing to divert water to exterior at all locations where downward flow of water will be interrupted.
- B. Refer to Division 7 for flashing requirements.

3.13 LINTELS

- A. Install loose steel lintels over openings of size required for loading if not specified otherwise.
- B. Install reinforced unit masonry lintels over openings where steel or precast concrete lintels are not scheduled.

3.14 GROUTED COMPONENTS

- A. Reinforce bond beams with 2 scheduled bars, 1 inch (25 mm) from bottom web.
- B. Lap splices minimum 24 bar diameters.
- C. Support and secure reinforcing bars from displacement. Maintain position within 1/2 inch (13 mm) of dimensioned position.
- D. Place and consolidate grout fill without displacing reinforcing.
- E. At bearing locations, fill masonry cores with grout for a minimum 12 inches (300 mm) either side of opening.

3.15 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control or expansion joints.

3.16 BUILT-IN WORK

- A. As work progresses, install built-in metal door frames and other items to be built into the work and furnished under other sections.
- B. Install built-in items plumb, level, and true to line.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout.

1. Fill adjacent masonry cores with grout minimum 12 inches (300 mm) from framed openings, unless noted otherwise.

- D. Do not build into masonry construction organic materials that are subject to deterioration.

3.17 TOLERANCES

- A. Maximum Variation from Alignment of Columns: 1/4 inch (6 mm).
- B. Maximum Variation From Unit to Adjacent Unit: 1/16 inch (1.6 mm).
- C. Maximum Variation from Plane of Wall: 1/4 inch in 10 ft (6 mm/3 m) and 1/2 inch in 20 ft (13 mm/6 m) or more.
- D. Maximum Variation from Plumb: 1/4 inch (6 mm) per story non-cumulative; 1/2 inch (13 mm) in two stories or more.
- E. Maximum Variation from Level Coursing: 1/8 inch in 3 ft (3 mm/m) and 1/4 inch in 10 ft (6 mm/3 m); 1/2 inch in 30 ft (13 mm/9 m).
- F. Maximum Variation of Mortar Joint Thickness: Head joint, minus 1/4 inch, plus 3/8 inch (minus 6.4 mm, plus 9.5 mm).
- G. Maximum Variation from Cross Sectional Thickness of Walls: 1/4 inch (6 mm).

3.18 CUTTING AND FITTING

- A. Cut and fit for chases. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.19 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 4000 - Quality Requirements.
- B. Clay Masonry Unit Tests: Test each variety of clay masonry in accordance with ASTM C67 requirements, sampling 5 randomly chosen units for each 50,000 installed.
- C. Concrete Masonry Unit Tests: Test each variety of concrete unit masonry in accordance with ASTM C140/C140M for conformance to requirements of this specification.
- D. Mortar Tests: Test each type of mortar in accordance with ASTM C780, testing with same frequency as masonry samples.

3.20 CLEANING

- A. Remove excess mortar and mortar droppings.
- B. Replace defective mortar. Match adjacent work.
- C. Clean soiled surfaces with cleaning solution.
- D. Use non-metallic tools in cleaning operations.

3.21 PROTECTION

- A. Without damaging completed work, provide protective boards at exposed external corners that are subject to damage by construction activities.

END OF SECTION

**SECTION 04 7200
CAST STONE MASONRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Architectural cast stone.

1.02 REFERENCE STANDARDS

- A. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2011.
- B. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products; 2015.
- C. ASTM A185/A185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- D. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon Steel Bars for Concrete Reinforcement; 2015.
- E. ASTM A767/A767M - Standard Specification for Zinc-Coated (Galvanized) Steel Bars for Concrete Reinforcement; 2009.
- F. ASTM A884/A884M - Standard Specification for Epoxy-Coated Steel Wire and Welded Wire Reinforcement; 2014.
- G. ASTM A1064/A1064M - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete; 2015.
- H. ASTM C33/C33M - Standard Specification for Concrete Aggregates; 2013.
- I. ASTM C150/C150M - Standard Specification for Portland Cement; 2015.
- J. ASTM C270 - Standard Specification for Mortar for Unit Masonry; 2014a.
- K. ASTM C494/C494M - Standard Specification for Chemical Admixtures for Concrete; 2013.
- L. ASTM C642 - Standard Test Method for Density, Absorption, and Voids in Hardened Concrete; 2013.
- M. ASTM C979/C979M - Standard Specification for Pigments for Integrally Colored Concrete; 2010.
- N. ASTM C1364 - Standard Specification for Architectural Cast Stone; 2010b.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Manufacturer's Qualification Data: Documentation showing compliance with specified requirements.
- C. Product Data: Test results of cast stone components made previously by the manufacturer.
 - 1. Include one copy of ASTM C1364 for Architect's use.
- D. Shop Drawings: Include elevations, dimensions, layouts, profiles, cross sections, reinforcement, exposed faces, arrangement of joints, anchoring methods, anchors, and piece numbers.
 - 1. Provide Alabama licensed engineer's stamp on drawings.
 - 2. Reuse of Architect's drawings for shop drawings is not allowed.
- E. Mortar Color Selection Samples.
- F. Verification Samples: Pieces of actual cast stone components not less than 12 inches (305 mm) square, illustrating range of color and texture to be anticipated in components furnished for the project.
 - 1. Prior to ordering materials, the Contractor shall receive written approval of color selection from the Owner and Architect.

1.04 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm with a minimum of 5 years of experience in producing cast stone of the types required for project.
 - 1. Adequate plant capacity to furnish quality, sizes, and quantity of cast stone required without delaying progress of the work.
 - 2. Products previously produced by plant and exposed to weather that exhibit satisfactory appearance.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver cast stone components secured to shipping pallets and protected from damage and discoloration. Protect corners from damage.
- B. Number each piece individually to match shop drawings and schedule.
- C. Store cast stone components and installation materials in accordance with manufacturer's instructions.
- D. Store cast stone components on pallets with nonstaining, waterproof covers. Ventilate under covers to prevent condensation. Prevent contact with dirt.
- E. Protect cast stone components during handling and installation to prevent chipping, cracking, or other damage.
- F. Store mortar materials where contamination can be avoided.
- G. Schedule and coordinate production and delivery of cast stone components with unit masonry work to optimize on-site inventory and to avoid delaying the work.

PART 2 PRODUCTS

2.01 ARCHITECTURAL CAST STONE

- A. Cast Stone: Architectural concrete product manufactured to simulate appearance of natural stone, complying with ASTM C1364.
 - 1. Compressive Strength: As specified in ASTM C1364; calculate strength of pieces to be field cut at 80 percent of uncut piece.
 - 2. Freeze-Thaw Resistance: Demonstrated by field experience.
 - 3. Surface Texture: Fine grained texture, with no bugholes, air voids, or other surface blemishes visible from distance of 20 feet (6 meters).
 - 4. Color: Selected by Owner and Architect from manufacturer's full range.
 - 5. Remove cement film from exposed surfaces before packaging for shipment.
- B. Shapes: Provide shapes indicated on drawings.
 - 1. Variation from Any Dimension, Including Bow, Camber, and Twist: Maximum of plus/minus 1/8 inch (3 mm) or length divided by 360, whichever is greater, but not more than 1/4 inch (6 mm).
 - 2. Unless otherwise indicated on drawings, provide:
 - a. Wash or slope of 1:12 on exterior horizontal surfaces.
 - b. Drips on projecting components, wherever possible.
 - c. Raised fillets at back of sills and at ends to be built in.
- C. Reinforcement: Provide reinforcement as required to withstand handling and structural stresses; comply with ACI 318. Provide design for connections to structure.

2.02 MATERIALS

- A. Portland Cement: ASTM C150/C150M.
 - 1. For Units: Type I, white or gray as required to match Owner and Architect's sample.
 - 2. For Mortar: Type I or II, except Type III may be used in cold weather.
- B. Coarse Aggregate: ASTM C33/C33M, except for gradation; granite, quartz, or limestone.
- C. Fine Aggregate: ASTM C33/C33M, except for gradation; natural or manufactured sands.
- D. Pigments: ASTM C979, inorganic iron oxides; do not use carbon black.

- E. Admixtures: ASTM C494/C494M.
- F. Water: Potable.
- G. Reinforcing Bars: ASTM A615/A615M deformed bars, galvanized.
 - 1. Galvanized in accordance with ASTM A767/A767M, Class I.
- H. Steel Welded Wire Reinforcement: ASTM A1064/A1064M, galvanized or ASTM A884/A884M, epoxy coated.
- I. Embedded Anchors, Dowels, and Inserts: standard building stone anchors commercially available in a non-corrosive materials such as zinc plated galvanized steel brass or stainless steel Type 302 or 304., of type and size as required for conditions.
- J. Provide Reinforcement and Anchorage as called for in Unit Masonry 04 2000 and structural drawings for horizontal joint reinforcement back to support walls.
- K. Shelf Angles and Similar Structural Items: Hot-dip galvanized steel per ASTM A123/A123M, of shapes and sizes as required for conditions.
- L. Mortar: Portland cement-lime, ASTM C 270 Type N ; do not use masonry cement.
- M. Sealant: As specified in Section 07 9005.
- N. Cleaner: General-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces; approved for intended use by cast stone manufacturer and by cleaner manufacturer for use on cast stone and adjacent masonry materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine construction to receive cast stone components. Notify Architect if construction is not acceptable.
- B. Do not begin installation until unacceptable conditions have been corrected.

3.02 INSTALLATION

- A. Install cast stone components in conjunction with masonry, complying with requirements of Section 04 2000.
- B. Mechanically anchor cast stone units indicated; set remainder in mortar.
- C. Setting:
 - 1. Drench cast stone components with clear, running water immediately before installation.
 - 2. Set units in a full bed of mortar unless otherwise indicated.
 - 3. Fill vertical joints with mortar.
 - 4. Fill dowel holes and anchor slots completely with mortar or non-shrink grout.

3.03 CLEANING

- A. Clean completed exposed cast stone after mortar is thoroughly set and cured.
 - 1. Wet surfaces with water before applying cleaner.
 - 2. Apply cleaner to cast stone in accordance with manufacturer's instructions.
 - 3. Remove cleaner promptly by rinsing thoroughly with clear water.
 - 4. Do not use acidic cleaners.

3.04 PROTECTION

- A. Protect completed work from damage.
- B. Clean, repair, or restore damaged or mortar-splashed work to condition of new work.
- C. Protect from soil stains during construction.

END OF SECTION

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**SECTION 05 4000
COLD-FORMED METAL FRAMING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Formed steel stud exterior wall framing.
- B. Exterior sheathing (gypsum sheathing) in locations where sheathing attaches to cold form framing (not on wood).

1.02 RELATED REQUIREMENTS

- A. Section 04 2000 - Unit Masonry
- B. Section 05 3100 - Steel Decking.
- C. Section 06 1000 - Rough Carpentry: Wood blocking and miscellaneous framing.
- D. Section 07 2500.01 - Weather Barriers System: Weather barrier over sheathing.
- E. Section 07 9005 - Joint Sealers.
- F. Section 09 2116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- 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 C955 - Standard Specification for Load-Bearing (Transverse and Axial) Steel Studs, Runners (Tracks), and Bracing or Bridging for Screw Application of Gypsum Panel Products and Metal Plaster Bases; 2011c.
- D. ASTM C1007 - Standard Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories; 2011a.
- E. ASTM C1177/C1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2013.
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with work of other sections that is to be installed in or adjacent to the metal framing system, including but not limited to structural anchors, cladding anchors, utilities, insulation, and firestopping.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on standard framing members; describe materials and finish, product criteria, limitations and _____.
- C. Shop Drawings: Indicate component details, framed openings, bearing, anchorage, loading, welds, and type and location of fasteners, and accessories or items required of related work.
 - 1. Indicate stud.
 - 2. Describe method for securing studs to tracks and for bolted framing connections.
 - 3. Provide details and calculations for factory-made framing connectors.
- D. Manufacturer's Installation Instructions: Indicate special procedures, conditions requiring special attention .

1.06 MOCK-UP

- A. Provide mock-up of exterior framed wall, including components specified elsewhere, such as insulation, sheathing, window frame, door frame, exterior wall finish, and interior wall finish.

- B. Location: As directed.
- C. Mock-up may remain as part of the Work.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Metal Framing:
 - 1. Clarkwestern Dietrich Building Systems LLC: www.clarkdietrich.com.
 - 2. Marino; ____: www.marinoware.com/#sle.
 - 3. The Steel Network, Inc; ____: www.SteelNetwork.com/#sle.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Framing Connectors and Accessories:
 - 1. Same manufacturer as metal framing.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FRAMING SYSTEM

- A. Provide primary and secondary framing members, bridging, bracing, plates, gussets, clips, fittings, reinforcement, and fastenings as required to provide a complete framing system.
- B. Deliver to site in largest practical sections.

2.03 FRAMING MATERIALS

- A. Studs and Track: ASTM C955; studs formed to channel, "C", or "Sigma" shape with punched web; U-shaped track in matching nominal width and compatible height.
- B. Framing Connectors: Factory-made, formed steel sheet.
 - 1. Fixed Connections: Provide non-movement connections for tie-down to foundation, floor-to-floor tie-down, roof-to-wall tie-down, joist hangers, gusset plates, and stiffeners.
 - 2. Rafters: Unpunched structural studs with properties indicated on drawings.

2.04 WALL SHEATHING (GYPSUM SHEATHING)

- A. Sheathing: Glass mat faced gypsum; ASTM C 1177/C 1177M, square, 5/8 inch Type X fire-resistant (16 mm Type X fire-resistant). Comply with all governing authorities.

2.05 ACCESSORIES

- A. Bracing, Furring, Bridging: Formed sheet steel, match stud thickness unless noted on drawings; finish to match framing components.

2.06 FASTENERS

- A. Self-Drilling, Self-Tapping Screws, Bolts, Nuts and Washers: Hot dip galvanized per ASTM A153/A153M.
- B. Anchorage Devices: Powder actuated.
- C. Anchorage Devices: Power actuated.
- D. Welding: In conformance with AWS D1.1, when noted on drawings.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify field measurements and adjust installation as required.

3.02 INSTALLATION OF STUDS

- A. Install components in accordance with manufacturers' instructions and ASTM C1007 requirements.
- B. Align floor and ceiling tracks; locate to wall layout. Secure in place with fasteners at maximum 24 inches (600 mm) on center. Coordinate installation of sealant with floor and ceiling tracks.

- C. Construct corners using minimum of three studs. Install double studs at wall openings, door and window jambs.
- D. Install load bearing studs full length in one piece. Splicing of studs is not permitted.
- E. Install load bearing studs, brace, and reinforce to develop full strength and achieve design requirements.
- F. Install intermediate studs above and below openings to align with wall stud spacing.
- G. Attach cross studs to studs for attachment of fixtures anchored to walls.
- H. Install framing between studs for attachment of mechanical and electrical items, and bridging to prevent stud rotation and buckling.
- I. Touch-up field welds and damaged galvanized surfaces with primer.

3.03 INSTALLATION OF JOISTS, PURLINS, AND RAFTERS

- A. Install framing components in accordance with manufacturer's instructions and drawings.
- B. Make provisions for erection stresses. Provide temporary alignment and bracing.

3.04 WALL SHEATHING (GYPSUM SHEATHING)

- A. Install wall sheathing with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using self-tapping screws.
 - 1. Provide steel diagonal bracing at corners with foam insulation or gypsum board wall sheathing.

END OF SECTION

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**SECTION 06 1000
ROUGH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concealed blocking for miscellaneous items.
- B. Sheathing.
- C. Roof-mounted curbs.
- D. Roofing nailers.
- E. Preservative treated wood materials.
- F. Fire retardant treated wood materials.
- G. Concealed wood blocking, nailers, and supports.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section : Miscellaneous steel connectors and support angles for wood framing.
- C. Section 07 2500.01 - Weather Barriers System: Air barrier over sheathing.
- D. Section 07 6200 - SHEET METAL FLASHING AND TRIM: Sill flashings.
- E. Section 09 2116 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
- 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 D2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2010.
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- E. AWPA U1 - Use Category System: User Specification for Treated Wood; 2012.
- F. PS 1 - Structural Plywood; 2009.
- G. PS 20 - American Softwood Lumber Standard; 2010.
- H. SPIB (GR) - Grading Rules; 2014.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide technical data on wood preservative materials and application instructions.
- C. Samples: For rough carpentry members that will be exposed to view, submit two samples, ____by____ inch (____by____ mm) in size illustrating wood grain, color, and general appearance.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. Species: Southern Pine, unless otherwise indicated.
 - 2. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 3. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

2.03 EXPOSED DIMENSION LUMBER

- A. Grading Agency: Southern Pine Inspection Bureau, Inc; SPIB (GR).
- B. Sizes: Nominal sizes as indicated on drawings.
- C. Surfacing: S4S.
- D. Sizes: Nominal sizes as indicated on drawings, S4S.
- E. Moisture Content: S-dry or MC19.

2.04 EXPOSED BOARDS

- A. Submit manufacturer's certificate that products meet or exceed specified requirements, in lieu of grade stamping.
- B. Moisture Content: Kiln-dry (15 percent maximum).
- C. Surfacing: S4S.
- D. Species: Douglas Fir.
- E. Grade: No. 2, 2 Common, or Construction.

2.05 CONSTRUCTION PANELS

- A. Wall Sheathing, 3/4": Pressure Treated Plywood, PS 1, Grade C-C, Exterior Exposure.
 - 1. Edges: Square.
- B. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood, or medium density fiberboard; 3/4 inch (19 mm) thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.

2.06 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.

2.07 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWP standards.
- B. Fire Retardant Treatment:
1. Manufacturers:
 - a. Lonza Group; ____: www.wolmanizedwood.com/#sle.
 - b. Hoover Treated Wood Products, Inc; ____: www.frtw.com/#sle.
 - c. Koppers, Inc; ____: www.koppersperformancechemicals.com/#sle.
 2. Interior Type A: AWP U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread index of 25 when tested in accordance with ASTM E84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat rough carpentry items as indicated .
 - c. Do not use treated wood in applications exposed to weather or where the wood may become wet.
- C. Preservative Treatment:
1. Manufacturers:
 - a. Lonza Group; ____: www.wolmanizedwood.com/#sle.
 - b. Viance, LLC; Product ____: www.treatedwood.com.
 - c. Osmose, Inc: www.osmose.com.
 2. Preservative Pressure Treatment of Lumber Above Grade: AWP U1, Use Category UC3B, Commodity Specification A using waterborne preservative.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with roofing, flashing, or waterproofing.
 - c. Treat lumber in contact with masonry or concrete.
 - d. Treat lumber less than 18 inches (450 mm) above grade.
 3. Preservative Pressure Treatment of Plywood Above Grade: AWP U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne preservative.
 - a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with roofing, flashing, or waterproofing.
 - c. Treat plywood in contact with masonry or concrete.
 - d. Treat plywood less than 18 inches (450 mm) above grade.

PART 3 EXECUTION

3.01 PREPARATION

- A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches (100 mm) and seal.
- B. 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.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

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, provide solid wood fireblocking as required by applicable local code, 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.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- E. Specifically, provide the following non-structural concealed framing and blocking:
 - 1. Cabinets and shelf supports.
 - 2. Wall brackets.
 - 3. Handrails.
 - 4. Grab bars.
 - 5. Towel and bath accessories.
 - 6. Wall-mounted door stops.
 - 7. Chalkboards and marker boards.
 - 8. Joints of rigid wall coverings that occur between studs.
 - 9. Interior Wall Plaques
 - 10. Acoustical Wall Panels.
 - 11. Audio/Visual Equipment
 - 12. Uniform Storage and Instrument Storage Cabinets.

3.04 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.05 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 (610 mm) on center on all edges and into studs in field of board.
 - 1. At fire-rated walls, install board over wall board indicated as part of the fire-rated assembly.
 - 2. Where boards are indicated as full floor-to-ceiling height, install with long edge of board parallel to studs.
 - 3. Install adjacent boards without gaps.
 - 4. Size and Location: As indicated on drawings.

3.06 TOLERANCES

- A. Framing Members: 1/4 inch (6 mm) from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet (2 mm/m) maximum, and 1/4 inch in 30 feet (7 mm in 10 m) maximum.

3.07 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 7419 - Construction Waste Management and 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 any 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

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**SECTION 06 4100
ARCHITECTURAL WOOD CASEWORK**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units.
- B. Countertops.
- C. Hardware.
- D. Factory finishing.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

- A. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
- C. Product Data: Provide data for hardware accessories.
- D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches (300 mm) square, illustrating proposed cabinet and countertop substrate and finish.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from moisture damage.

1.06 FIELD CONDITIONS

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

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.
- B. Plastic Laminate Faced Cabinets: Custom grade.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.03 LAMINATE MATERIALS

- A. Manufacturers:
 - 1. Formica Corporation; ____: www.formica.com/#sle.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.04 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Plastic Edge Banding: Extruded PVC, convex shaped; smooth finish; self locking serrated tongue; of width to match component thickness.
 - 1. Color: As selected by Architect from manufacturer's standard range.

2.05 FABRICATION

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

3.02 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

**SECTION 07 1300
SHEET WATERPROOFING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. **Sheet membrane waterproofing system located at the perimeter foundation shown on Details BA5 Sheet waterproofing shall extend 36 inches continuous from top, attached by termination bar, to bottom turned out horizontally on top the footing (36 " is the width of basis of design product). Install in strict accordance to manufacturer's instructions.**

1.02 SUBMITTALS

- A. See Section 01 3300 - Submittal Procedures, for submittal procedures.
- B. Product Data: Provide data for sheet waterproofing membrane.
- C. Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Indicate special procedures.
- E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.03 QUALITY ASSURANCE

- A. Membrane Manufacturer Qualifications: Company specializing in waterproofing sheet membranes with three years experience.
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum five years experience.

1.04 MOCK-UP

- A. Construct mock-up 100 sq ft (10 sq m) of horizontal waterproofed panel; to represent finished work including internal and external corners.
- B. Locate where directed.
- C. Mock-up may not remain as part of the Work.

1.05 FIELD CONDITIONS

- A. Apply only in dry weather and at air and surface temperatures of 40 degrees F (5 degrees C) and above.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer warranty for waterproofing failing to resist penetration of water , except where such failures are the result of structural failures of building. Hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Sheet Membrane Waterproofing System:
- B. Basis of Design: Hohmann Barnard HB Below-Grade 60 woven polyethylene membrane bonded to highly self adhesive bituminous layer protected by release liner. 60 mil heavy duty membrane.
 - 1. Tensile strength: per ASTM D 412, 2027 PSI
 - 2. Elongation: For Asphalt Adhesive, per ASTM 412 C, 1316.9 percent.
 - 3. Puncture resistance: Per ASTM D 570, less than 0.5% .
 - 4. Resistance to Hydrostatic head: Per ASTM D 5385, 231 feet.
 - 5. Low Temperature flexibility: Per CGSB 37-GP-56M, no cracks.
 - 6. Moisture Vapor Permeation: Per ASTM E96. 0.017 perm.

- C. Approved Manufacturers: GCP Applied Technologies, W.R. Meadows, & Tremco
- D. Substitutions: per 00 2100 - Instruction to Bidders and 00 7200 - General Conditions of the Contract.

2.02 ACCESSORIES

- A. Provide all products to include but limited to (primers,tape, liquid membranes as required for a complete systems for manufacturers 5 year warranty.
- B. Prefabricated Drainage Composite: Equal to Hydroduct® 220 for vertical walls. Hydroduct® 660 for horizontal applications. Drainage Composite shall be designed to promote positive drainage while serving as a protection course

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that items that penetrate surfaces to receive waterproofing are securely installed.

3.02 PREPARATION

- A. Protect adjacent surfaces not designated to receive waterproofing.
- B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions. Vacuum substrate clean.
- C. Do not apply waterproofing to surfaces unacceptable to membrane manufacturer.
- D. Seal cracks and joints with sealant using depth to width ratio as recommended by sealant manufacturer.
- E. Surfaces for Adhesive Bonding: Apply surface conditioner at a rate recommended by manufacturer. Protect conditioner from rain or frost until dry.

3.03 INSTALLATION - MEMBRANE

- A. Install membrane waterproofing in strict accordance with manufacturer's instructions and warranty requirements.
- B. Roll out membrane. Minimize wrinkles and bubbles.
- C. Self-Adhering Membrane: Remove release paper layer. Roll out on substrate with a mechanical roller to encourage full contact bond.
- D. Overlap edges and ends and seal by method recommended by manufacturer, minimum 3 inches (75 mm). Seal permanently waterproof. Apply uniform bead of sealant to joint edge.
- E. Reinforce membrane with multiple thickness of membrane material over joints, whether joints are static or dynamic.
- F. Weather lap joints on sloped substrate in direction of drainage. Seal joints and seams.
- G. Install flexible flashings. Seal items penetrating through membrane with flexible flashings. Seal watertight to membrane.
- H. Seal membrane and flashings to adjoining surfaces. Install counterflashing over all exposed edges.

3.04 PROTECTION

- A. Per Manufacturers recommendations
- B. Do not permit traffic over unprotected or uncovered membrane.
- C. Protect from sunlight as quickly as possible after installation. (maximum UV exposure Limit: 30 days)
- D. Avoid damage from other trades, materials, or backfill.

3.05 INSPECTION AND REPAIR

- A. Review all work and check if there are damaged areas or inadequately lapped seams.

- B. If repair is necessary, patch with sheet waterproofing membrane. Patch must extend 6 inches in every direction from damaged area. Roll the patch firmly and seal edges with manufacturer's sealant.
- C. Only repair when the membrane is dry.

END OF SECTION

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**SECTION 07 2100
THERMAL INSULATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Batt insulation and vapor retarder in exterior wall construction.

1.02 REFERENCE STANDARDS

- A. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2015a.
- B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.
- C. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Insulation Inside Masonry Cavity Walls: Extruded polystyrene (XPS) board.
- B. Insulation in Metal Framed Walls: Batt insulation with no vapor retarder.

2.02 FOAM BOARD INSULATION MATERIALS

- A. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with either natural skin or cut cell surfaces.
 - 1. ***Where Extruded Polystyrene (XPS) Board Insulation ("Rigid Insulation" on the Drawings) is indicated, thickness shall be 1-3/4" unless noted otherwise. R-11***
 - 2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
 - 3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
 - 4. Type and Thermal Resistance, R-value (RSI-value): Type IV, 5.0 (0.88) per 1 inch (25.4 mm) thickness at 75 degrees F (24 degrees C) mean temperature.
 - 5. R-value (RSI-value); 1 inch (25 mm) of material at 72 degrees F (22 C): 5 (0.88), minimum.
 - 6. Board Edges: Square.
 - 7. Manufacturers:
 - a. Dow Chemical Company; STYROFOAM HIGHLOAD 40:
www.dowbuildingsolutions.com/#sle.
 - b. Kingspan Insulation LLC; GreenGuard XPS Type IV, 25 psi:
www.kingspan.com/#sle.
 - c. Owens Corning Corporation; FOAMULAR Extruded Polystyrene (XPS) Insulation:
www.ocbuildingspec.com/#sle.
 - 8. Substitutions:

2.03 BATT INSULATION MATERIALS

- A. Where batt insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.
- B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 - 1. Flame Spread Index: 75 or less, when tested in accordance with ASTM E84.
 - 2. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.

3. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
 4. Formaldehyde Content: Zero.
 5. Facing: none.
 6. Manufacturers:
 - a. CertainTeed Corporation; _____: www.certainteed.com/#sle.
 - b. Johns Manville; _____: www.jm.com/#sle.
 - c. Owens Corning Corporation; EcoTouch PINK FIBERGLAS Insulation: www.ocbuildingspec.com/#sle.
 7. Substitutions: See Section 01 6000 - Product Requirements.
- C. Mineral Fiber Batt Insulation: Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84.
1. Smoke Developed Index: 0 (zero), when tested in accordance with ASTM E84.

2.04 ACCESSORIES

- A. Insulation Fasteners: Impaling clip of unfinished steel with washer retainer and clips, to be adhered to surface to receive insulation, length to suit insulation thickness and substrate, capable of securely and rigidly fastening insulation in place.
- B. Nails or Staples: Steel wire; electroplated or galvanized; type and size to suit application.
- C. Adhesive: Type recommended by insulation manufacturer for application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 BOARD INSTALLATION AT CAVITY WALLS

- A. Install boards to fit snugly between wall ties.
- B. Install boards horizontally on walls.
- C. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.03 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION

**SECTION 07 2400
EXTERIOR INSULATION AND FINISH SYSTEMS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Composite wall and soffit cladding of rigid insulation and reinforced finish coating ("Class PB")

1.02 RELATED REQUIREMENTS

- A. Section 05 4000 - Cold-Formed Metal Framing: Sheathing on metal studs.
- B. Section 06 1000 - Rough Carpentry: Wood Sheathing on wood framing.
- C. Section 07 6200 - SHEET METAL FLASHING AND TRIM: Perimeter flashings.
- D. Section 07 9005 - Joint Sealers: Perimeter and penetration sealants.
- E. Section 08 9100 - Louvers

1.03 REFERENCE STANDARDS

- A. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus; 2011.
- B. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2015a.
- C. ASTM C1397 - Standard Practice for Application of Class PB Exterior Insulation and Finish Systems (EIFS) and EIFS with Drainage; 2013.
- D. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2009.
- E. ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive; 2005 (Reapproved 2010).
- F. ASTM D2247 - Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity; 2011.
- G. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- H. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- I. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).
- J. ASTM E1677 - Standard Specification for Air Barrier (AB) Material or Assemblies for Low-Rise Framed Building Walls; 2025.
- K. ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies; 2003 (reapproved 2011).
- L. ASTM E2486/E2486M - Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS); 2013.
- M. ASTM G153 - Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials; 2013.
- N. ASTM G155 - Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Nonmetallic Materials; 2013.
- O. ICC-ES AC219 - Acceptance Criteria for Exterior Insulation and Finish Systems; 2009.
- P. ICC-ES AC235 - Acceptance Criteria for EIFS Clad Drainage Wall Assemblies; 2004 (Editorially revised 2009).
- Q. NFPA 259 - Standard Test Method for Potential Heat of Building Materials; 2023, with Errata.
- R. NFPA 268 - Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source; 2022.

- S. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components; 2012.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate wall and soffit joint patterns, joint details, and molding profiles.
- C. Product Data: Provide data on system materials, product characteristics, performance criteria, and system limitations.
- D. Verification Samples: Submit actual samples of selected coating on specified substrate, minimum 12 inches (300 mm) square, illustrating project colors and textures.
- E. Manufacturer's Installation Instructions: Indicate preparation required, installation techniques, and jointing requirements.
- F. Provide written acceptance of EIFS substrate as specified in Section 06 1000 Rough Carpentry under wall sheathing.

1.05 QUALITY ASSURANCE

- A. Maintain copy of specified installation standard and manufacturer's installation instructions at project site during installation.
- B. EIFS Manufacturer Qualifications: Provide EIFS products other than insulation from the same manufacturer with qualifications as follows:
 - 1. Member in good standing of EIMA (EIFS Industry Members Association).
 - 2. Manufacturer of EIFS products for not less than 5 years.
- C. Insulation Manufacturer Qualifications: Approved by manufacturer of EIFS and approved and labeled under third party quality program as required by applicable building code.
- D. Installer Qualifications: Company specializing in the type of work specified and with at least three years of documented experience.

1.06 MOCK-UP

- A. Refer to section 01 4000.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to project site in manufacturer's original, unopened containers with labels intact. Inspect materials and notify manufacturer of any discrepancies.
- B. Storage: Store materials as directed by manufacturer's written instructions.
 - 1. Protect Portland cement based materials from moisture and humidity. Store under cover off the ground in a dry location.
 - 2. Protect insulation materials from exposure to sunlight.

1.08 FIELD CONDITIONS

- A. Do not prepare materials or apply EIFS under conditions other than those described in the manufacturer's written instructions.
- B. Do not prepare materials or apply EIFS during inclement weather unless areas of installation are protected. Protect installed EIFS areas from inclement weather until dry.
- C. Do not install coatings or sealants when ambient temperature is below 40 degrees F (5 degrees C).
- D. Do not leave installed insulation board exposed to sunlight for extended periods of time.

1.09 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's standard material warranty, covering a period of not less than 10 years.
- C. Provide separate warranty from installer covering labor for repairs or replacement for a period of not less than 10 years.

- D. Note in all warranties acceptance of substrate. Installation of EIFS indicates acceptance of substrates for all specified warranties.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Other Acceptable Manufacturers:
1. Basis of Design: Dryvit Systems, Inc; Dryvit Outsulation Exterior Insulation and Finish System, Class PB; www.dryvit.com/#sle.
 2. Parex USA, Inc.: www.parex.com.
 3. BASF Wall Systems (Senergy, Finestone, Acrocrete, SonoWall): www.wallsystems.basf.com.
 4. Sto Corp: www.stocorp.com.
 5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 EXTERIOR INSULATION AND FINISH SYSTEM

- A. Exterior Insulation and Finish System: BARRIER type; reinforced finish coating on insulation board adhesive-applied direct to substrate; provide a complete system that has been tested to show compliance with the following characteristics; include all components of specified system and substrate in tested samples.
- B. Allowable Wind Loading: At least _____ psf (_____ Pa), positive and negative, determined in accordance with ICC-ES AC219 or ICC-ES AC235 using factor of safety of 3.0.
- C. Fire Characteristics:
1. Flammability: Pass, when tested in accordance with NFPA 285.
 2. Ignitibility: No sustained flaming when tested in accordance with NFPA 268.
 3. Potential Heat of Foam Plastic Insulation Tested Independently of Assembly: No portion of the assembly having potential heat that exceeds that of the insulation sample tested for flammability (above), when tested in accordance with NFPA 259 with results expressed in Btu per square foot (mJ/sq m).
- D. Water Penetration Resistance: No water penetration beyond the plane of the base coat/insulation board interface after 15 minutes, when tested in accordance with ASTM E331 at 6.24 psf (299 Pa) differential pressure with tracer dye in the water spray; include in tested sample at least two vertical joints and one horizontal joint of same type to be used in construction; disassemble sample if necessary to determine extent of water penetration.
- E. Salt Spray Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating after 300 hours exposure in accordance with ASTM B117, using at least three samples matching intended assembly, at least 4 by 6 inches (100 by 150 mm) in size.
- F. Freeze-Thaw Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating when viewed under 5x magnification after 10 cycles, when tested in accordance with ICC-ES AC 219 or 235. ASTM E 2485, ASTM C 67 Modified.
- G. Weathering Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating when viewed under 5x magnification after 2000 hours of accelerated weathering conducted in accordance with ASTM G153 Cycle 1 or ASTM G155 Cycle 1, 5, or 9.
- H. Water Degradation Resistance: No cracking, checking, crazing, erosion, blistering, peeling, delamination, or corrosion of finish coating after 14 days exposure, when tested in accordance with ASTM D2247.
- I. Mildew Resistance: No growth supported on finish coating during 28 day exposure period, when tested in accordance with ASTM D3273.
- J. Abrasion Resistance Of Finish: No cracking, checking or loss of film integrity when tested in accordance with ASTM D968 with 113.5 gallons (500 liters) of sand.

- K. Impact Resistance: Construct system to provide the following impact resistance without exposure of broken reinforcing mesh, when tested in accordance with ASTM E2486/E2486M:
1. Standard: 25 to 49 in-lb (2.83 to 5.54 J), for areas not indicated as requiring higher impact resistance.
 2. Panzer 15 or equal (50-89 in.-lb.) where noted in paragraph 2.03 C.

2.03 MATERIALS

- A. Finish Coating Top Coat: Water-based, air curing, acrylic or polymer-based finish with integral color and texture.
1. Texture: as selected by owner & architect from manufacturer's full range of finish textures.
Match texture of smooth finish on Long Hall.
 2. Color: Factory mixed, integrally colored finish coating as selected by Architect from manufacturer's full range.
- B. Base Coat: Fiber-reinforced, compatible with all materials and as required for warranty requirements. Product shall be compatible with insulation board and reinforcing mesh.
- C. Reinforcing Mesh: Balanced, open weave glass fiber fabric, treated for compatibility and improved bond with coating, weight, strength, and number of layers as required to meet required system impact rating. For surfaces below 8 feet above grade provide a secondary impact resistant mesh and base coats as required by manufacturer.
- D. Insulation Board: Molded, expanded polystyrene board; ASTM C 578, Type I; with the following characteristics:
1. Board Size: 24 by 48 inches (610 by 1220 mm).
 2. Board Size Tolerance: Plus/minus 1/16 inch (1.5 mm) from square and dimension.
 3. Board Thickness: As indicated on drawing. (Minimum thickness per manufacturers requirements)
 4. Thickness Tolerance: Plus/minus 1/16 inch (1.5 mm) maximum.
 5. Board Edges: Square.
 6. Thermal Resistance (R factor per 1 inch (25.4 mm)) at 75 degrees F (24 degrees C): 3.60 (0.63).
 7. Board Density: 0.7 lb/cu ft (12 kg/cu m).
 8. Compressive Resistance: 10 psi (69 kPa).
 9. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
 10. Smoke Developed Index: 450 or less, when tested in accordance with ASTM E84.
 11. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, when tested in accordance with ASTM E84.

2.04 ACCESSORY MATERIALS

- A. Insulation Adhesive: Type required by EIFS manufacturer for project substrate and project warranties.
- B. Trim: EIFS manufacturer's standard PVC or galvanized steel trim accessories, as required for a complete project and including starter track and drainage accessories.
- C. Sealant Materials: Compatible with EIFS materials and as recommended by EIFS manufacturer.
- D. Flashing Tape:
1. 30-mil thick, self-sealing, self-healing composite membrane of polyester fabric and rubberized asphalt.
 2. Flashing Primer: Water-based primer for use prior to application flashing tape open all acceptable surfaces.
 3. Ensure compatibility with EIFS system.

PART 3 EXECUTION

3.01 GENERAL

- A. Install in accordance with EIFS manufacturer's instructions and ASTM C1397.

- B. Where different requirements appear in either document, comply with the most stringent.
- C. Neither of these documents supercedes the provisions of the Contract Documents that define the contractual relationships between the parties or the scope of work.

3.02 EXAMINATION

- A. Verify that substrate is sound and free of oil, dirt, other surface contaminants, efflorescence, loose materials, or protrusions that could interfere with EIFS installation and is of a type and construction that is acceptable to EIFS manufacturer. Do not begin work until substrate and adjacent materials are complete and thoroughly dry.
- B. Verify that substrate surface is flat, with no deviation greater than 1/4 in (6 mm) when tested with a 10 ft (3 m) straightedge.

3.03 INSTALLATION - INSULATION

- A. Install in accordance with manufacturer's instructions for specified substrates.
- B. Install back wrap reinforcing mesh at all openings and terminations that are not to be protected with trim.
- C. On wall surfaces, install boards horizontally. On horizontal surfaces, install boards _____.
- D. Place boards in a method to maximize tight joints. Stagger vertical joints and interlock at corners. Butt edges and ends tight to adjacent board and to protrusions. Achieve a continuous flush insulation surface, with no gaps in excess of 1/16 inch (1.6 mm).
- E. Fill gaps greater than _____ with strips or shims cut from the same insulation material.
- F. Rasp irregularities off surface of installed insulation board.
- G. Adhesive Attachment: Use method required by manufacturer to achieve drainage efficiency specified; do not close up drainage channels when placing insulation board.
- H. Install expansion joints as recommended by manufacturer.
- I. Install sealant joints at terminations into intersecting materials in strict accordance with manufacturer's instruction.
- J. At horizontal sloped areas, provide all necessary materials and processes required to meet specified warranty requirements and manufacturers instructions.

3.04 INSTALLATION - CLASS PB FINISH

- A. Base Coat: Apply in thickness as necessary to fully embed reinforcing mesh, wrinkle free, including back-wrap at terminations of EIFS. Install reinforcing fabric as recommended by EIFS manufacturer.
 - 1. Lap reinforcing mesh edges and ends a minimum of 2-1/2 inches (64 mm).
 - 2. Allow base coat to dry a minimum of 24 hours before next coating application.
- B. Apply finish coat after base coat has dried not less than 24 hours, embed finish aggregate, and finish to a uniform texture and color.
- C. Seal control and expansion joints within the field of exterior finish and insulation system, using procedures recommended by sealant and finish system manufacturers.
- D. Apply sealant at finish perimeter and expansion joints in accordance with Section 07 9005.

3.05 CLEANING

- A. Clean EIFS surfaces and work areas of foreign materials resulting from EIFS operations.

3.06 PROTECTION

- A. Protect completed work from damage and soiling by subsequent work.

END OF SECTION

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**SECTION 07 2700
AIR BARRIERS**

PART 2 PRODUCTS

END OF SECTION

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**SECTION 07 5200
MODIFIED BITUMINOUS MEMBRANE ROOFING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Modified bituminous roofing membrane, conventional application.
- B. Insulation, flat and tapered.
- C. Deck sheathing.
- D. Base flashings.
- E. Roofing cant strips, accessories, and roofing expansion joints.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Wood nailers and curbs.
- B. Section 07 6200 - Sheet Metal Flashing and Trim: Counterflashings and reglets.
- C. Section 22 1540 - Plumbing: Roof Drains & Emergency Overflow Drains

1.03 REFERENCE STANDARDS

- A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board; 2012.
- B. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board; 2014.
- C. ASTM D41/D41M - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing; 2011.
- D. ASTM D312/D312M - Standard Specification for Asphalt Used in Roofing; 2015.
- E. ASTM D4586/D4586M - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007 (Reapproved 2012).
- F. ASTM D6163/D6163M - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements; 2000 (Reapproved 2015).
- G. ASTM E1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces; 2024.
- H. FM DS 1-28 - Wind Design; 2007.
- I. NRCA ML104 - The NRCA Roofing and Waterproofing Manual; Fifth Edition, with interim updates.
- J. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.
- K. UL (FRD) - Fire Resistance Directory; current edition.

1.04 REGULATORY REQUIREMENTS

- A. Work shall be performed in a safe, professional manner, conforming to all federal, state and local codes.
 - 1. Exterior Fire Test Exposure: Provide a roofing system achieving a UL Class rating for roof slopes indicated.
 - a. UL Class A rating.
 - 2. Windstorm Classification: Provide a roofing system which will achieve the required uplift resistance as calculated in accordance with ASCE 7-05 or as listed in the current FM Approval Guide. Corners and perimeter areas shall be calculated in accordance with ASCE 7-05.
 - a. I-100 wind uplift resistance
- B. The Alabama Building Commission Requirements.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's catalog data for membrane and bitumen materials, base flashing materials, insulation, vapor retarder, and surfacing.
- C. Samples: Submit two samples ____by____ inches (____by____ mm) in size illustrating granule surfaced sheet, colored coated sheet, insulation, and _____.
- D. Manufacturer's Qualification Statement.
- E. Installer's Qualification Statement.
- F. Manufacturer's Installation Instructions: Indicate special procedures.

1.06 QUALITY ASSURANCE

- A. Perform work in accordance with {rs\#1} and manufacturer's instructions.
- B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- C. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years experience and approved by manufacturer.
- D. Installer Qualifications: A company approved or licensed by the roofing materials manufacturer and which has completed at least 20 previous installations of roofing material similar to the type included in this section.
 - 1. Certification: Furnish to the architect, before roofing contract award, written documentation that installer is manufacturer certified to install roofing systems of the type included in this section.
 - 2. Installer supervision: Have installer identify a supervisor with at least 5 years experience in the application of the type of modified bituminous sheet roofing system included in this section, to provide full-time review of built-up roofing installation work.
- E. The roofing manufacturer shall be required to provide documentation certifying that the roof design provided complies with the performance requirements as set forth in IBC Chapter 15 Section 1504. The documentation shall be attached to the roof warranty and provided at project closeout.

1.07 PRE-ROOFING MEETING:

- A. Organize and conduct a meeting at the construction site 2 weeks before scheduled start of roof system installation with roofing installer; installer of each component of related work, including deck or substrate construction, roof equipment, penetrations of roof deck, and other work integral with or adjacent to roofing; the architect; the Owner; the Alabama Building Commission inspector, roofing manufacturer's representative; approved roofing consultant; owner's construction manager; and other parties involved with roofing system performance, including owner's insurance representative, independent testing agencies, and governing authorities.
 - 1. Walk roof areas to review and discuss substrate preparation including repair of unacceptable surfaces, roof drainage, penetrations, equipment curbs, and work performed by other trades which requires coordination with roofing system.
 - 2. Examine steel deck for proper flatness and slope, review structural capability for supporting roofing system and methods of fastening.
 - 3. Review contract document requirements and submittals for roofing system, including roofing schedule, inspection and testing, and environmental conditions. Identify what are considered unacceptable weather conditions for roofing, and which governing regulations or insurance requirements will affect roofing system installation.
 - 4. Document discussions in writing, including actions required, and distribute copy of reports to each meeting participant.

1.08 DELIVERY, STORAGE, AND HANDLING

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

1.09 FIELD CONDITIONS

- A. Do not apply roofing membrane when environmental conditions are outside the ranges recommended by manufacturer.
- B. Do not apply roofing membrane during unsuitable weather.
- C. Do not apply roofing membrane when ambient temperature is below 40 degrees F (5 degrees C).
- D. Do not apply roofing membrane to damp or frozen deck surface or when precipitation is expected or occurring.
- E. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.
- F. Schedule applications so that no partially completed sections of roof are left exposed at end of workday.

1.10 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's standard (NDL) No Dollar Limit Warranty with single source coverage and no monetary limitation where the manufacturer agrees to repair or replace components in the roofing system, which cause a leak due to a failure in materials or workmanship. Standard Manufacturers' roofing guarantees, which contain language regarding the governing of the guarantee by any state other than the State of Alabama, must be amended to exclude such language, and substituting the requirement that the Laws of the State of Alabama shall govern such guarantees.
 - 1. Duration: Twenty (20) years from the date of completion.
- C. Provide the Alabama Building Commission's Workmanship Warranty with no monetary limitation where the contractor agrees to repair or replace components in the roofing system, which cause a leak due to a failure in workmanship.
 - 1. Duration: Five (5) years from the date of completion.
- D. When conflicts occur between these specifications and the manufacturers warranty requirements, the architect shall be notified immediately in writing prior to bid explaining the difference and requesting approval for change from the specifications in order to comply with manufacturer's warranty requirements

1.11 ROOFING CONSULTANT

- A. Roofing Consultant: The General Contractor shall provide the services of a Professional Roof Consultant. The Consultant must be listed as a Professional Member of the Roof Consultants Institute (RCI, Inc) and provide a certificate of adequate error and omissions insurance. The Consultant must be present at the pre-roof meeting and perform a minimum of one (1) site inspection per week during the installation of the new roof system(s). The Roofing Consultant must document all visits with photographs and written reports. All reports shall be sent to the Owner, Architect and General Contractor with documentation of the job progress and any deficiencies noted during the inspections. Upon completion of all punch list items, the Consultant shall provide a letter of Certification to the Architect stating the new roof system has

been installed per the manufacturer's warranty requirements, installation instructions and the contract documents.

B. Approved roofing consultants:

1. Williamson & Associates, Inc.
William A. Rice
(404) 256-2388
6100 Lake Forest Drive
Suite 100 South
Atlanta Georgia 30328

2. Roof Asset Management, Inc.
David Lee
334-590-7999
4950 Woodfield Dr.
Millbrook, AL 36054

3. Hixon Consultants
Ben Hixon
947 1st Ave. West
Alabaster, AL 35007
(205) 663-2220

NOTE: Roof consulting firms not listed above must be pre-approved by the Architect.

Requests for a substituting firm must be submitted "in writing" ten (10) days prior to the bid opening and be added "as approved" by addendum.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Membrane Materials:

1. GAF: www.gaf.com.
2. Firestone Building Products Company; _____: www.firestonebpco.com/#sle.
3. Tamko Roofing Products, Inc; _____: www.tamko.com/#sle.
4. Johns Manville
5. Substitutions: See Section 01 6000 - Product Requirements.

B. Insulation:

1. Atlas Roofing Corporation: www.atlasroofing.com.
2. Johns Manville
3. GAF Materials Corporation: www.gaf.com.
4. Owens Corning Corporation; _____: www.owenscorning.com/#sle.
5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 ROOFING - CONVENTIONAL APPLICATION

A. Modified Bituminous Roofing: _____, with insulation.

1. Substitutions: See Section 01 6000 - Product Requirements.

B. Roofing Assembly Requirements:

1. Solar Reflectance Index (SRI): 78, minimum, calculated in accordance with ASTM E1980, based on 3-year aged data.
 - a. Field applied coating may not be used to achieve specified SRI.
2. Wind Resistance Classification: Factory Mutual 1-75, in accordance with FM DS 1-28.
3. Refer to part 2.05 for minimum start thickness of insulation.
4. Surfacing: Mineral granules.

C. Acceptable Insulation Types - Constant Thickness Application: Any of the types specified.

1. Layers of constant thickness as required to achieve minimum start thickness of polyisocyanurate board.
- D. Acceptable Insulation Types - Tapered Application: Any of the types specified.
 1. Tapered polyisocyanurate, perlite, extruded polystyrene, or cellular glass board covered with uniform thickness cellulose board.

2.03 MEMBRANE AND SHEET MATERIALS

- A. Premium asphalt coated glass fiber ply sheet with flexible Design: Conforms to or exceeds requirements of ASTM D 2178 Type VI and UL Type G1 BUR. Each roll contains five (5) squares (530 sf) of material, approximately 39.4 inches by 161.8 feet (1 m by 49.3 m), 44 lb (20 kg), Ply 6 ply sheet (3 plies).
- B. Heavy-duty, fire-retardant, granule-surfaced modified bitumen membrane with a non-woven polyester reinforcing mat coated with flexible, SBS polymer-modified asphalt. Conforms to or exceeds requirements of ASTM D 6164 Type II Grade G. Each roll contains one square of material, approximately 39.4 inches by 33.6 feet (1 m by 10.3 m), 102 lb (46.4 kg), SBS 250FR roof membrane (1 ply).
 1. Color: to be selected by owner from standard manufacturer selections.
- C. Flexible Flashing Material: Same material as membrane.

2.04 BITUMINOUS MATERIALS

- A. Bitumen: Asphalt, ASTM D 312 Type IV (no smell/low fume); for adhering insulation, use Type III.
- B. Primer: ASTM D41/D41M, asphalt type.
- C. Roof Cement: ASTM D4586/D4586M, Type II, asbestos free.

2.05 INSULATION

- A. Cellulose Fiber Board Insulation: ASTM C208 Type II; one face finished with mineral fiber, asphalt and kraft paper.
 1. Board Size: 48 by 96 inch (1219 by 2438 mm).
 2. Board Thickness: 1/2 inch (13 mm).
 3. Board Edges: Square.
- B. Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C1289, Type I, aluminum foil both faces; Class 1, non-reinforced foam core, and with the following characteristics:
- C. Polyisocyanurate Board Insulation: Rigid cellular foam, complying with ASTM C1289, Type I; Class 1, non-reinforced foam core, and with the following characteristics:
 1. Provide tapered board insulation with a minimum start thickness as required to achieve R-20.
 2. Provide 1/4" per foot slope, minimum.
 3. Compressive Strength:
 4. Board Size: 48 by 96 inch (1220 by 2440 mm).
 5. Board Edges: Square.
 6. Substitutions: See Section 01 6000 - Product Requirements.

2.06 ACCESSORIES

- A. Cant and Edge Strips: Asphalt-impregnated wood fiberboard, compatible with roofing materials ; cants formed to 45 degree angle.
- B. Insulation Fasteners: Appropriate for purpose intended and approved by roofing manufacturer.
 1. Length & diameter as required for thickness of insulation material and penetration of deck substrate, with metal washers.
 2. G-90 galvanized, R-10 Corrosion resistant coating
- C. Sealants: As recommended by membrane manufacturer.

- D. Roof top penetrations to be sealed using Chem Curb (or equal) system by Chem Link (or equal), incorporated in compliance with all warranty requirements. Provide preformed curbs, pourable sealer, primer, and all other components required by manufacturer to provide a complete penetration seal system - refer to details.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces and site conditions are ready to receive work.
- B. Verify deck is supported and secure.
- C. Verify deck is clean and smooth, flat, free of depressions, waves, or projections, properly sloped and suitable for installation of roof system.
- D. Verify deck surfaces are dry and free of snow or ice.
- E. Verify that roof openings, curbs, and penetrations through roof are solidly set, and cant strips are in place.

3.02 INSULATION INSTALLATION - CONVENTIONAL APPLICATION

- A. Attachment of Insulation:
 - 1. Fully adhere with Type III no fume asphalt in accordance with roofing manufacturer's instructions and Factory Mutual requirements.
- B. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.
- C. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.
- D. Do not apply more insulation than can be covered with membrane in same day.

3.03 MEMBRANE APPLICATION

- A. Apply modified bituminous membrane roofing system in accordance with manufacturer's recommendations and NRCA (RM) applicable requirements.
- B. Apply membrane; lap and seal edges and ends permanently waterproof.
- C. Apply smooth, free from air pockets, wrinkles, fish-mouths, or tears. Ensure full bond of membrane to substrate.
- D. At end of day's operation, install waterproof cut-off. Remove cut-off before resuming roofing.
- E. At intersections with vertical surfaces:
 - 1. Apply flexible flashing over membrane.
- F. At gravel stops, extend membrane and base sheet under gravel stop and to the outside face of the wall.
- G. Around roof penetrations, mop in and seal flanges and flashings with flexible flashing.
- H. Coordinate installation of roof drains and related flashings.

3.04 FIELD QUALITY CONTROL

- A. Require site attendance of roofing and insulation material manufacturers as required during installation of the Work to ensure products are installed in accordance with manufacturer's recommendations in order to receive all specified warranties.

3.05 CLEANING

- A. Remove bituminous markings from finished surfaces.
- B. In areas where finished surfaces are soiled by bitumen or other source of soiling caused by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.
- C. Repair or replace defaced or damaged finishes caused by work of this section.

3.06 PROTECTION

- A. Protect installed roofing and flashings from construction operations.
- B. Where traffic must continue over finished roof membrane, protect surfaces using durable materials.

END OF SECTION

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SECTION 07 9005 JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Precompressed foam sealers.

1.02 RELATED REQUIREMENTS

- A. Section 07 2500 - Weather Barriers: Sealants required in conjunction with air barriers.
- B. Section 07 8401 - Firestopping: Firestopping Sealants.
- C. Section : Glazing sealants and accessories.
- D. Section 09 2116 - Gypsum Board Assemblies

1.03 REFERENCE STANDARDS

- A. ASTM C834 - Standard Specification for Latex Sealants; 2014.
- B. ASTM C919 - Standard Practice for Use of Sealants in Acoustical Applications; 2012.
- C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2013.
- D. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.04 SUBMITTALS

- A. See Section , for submittal procedures.
- B. Manufacturer's Installation Instructions: Indicate .

1.05 QUALITY ASSURANCE

- A. Maintain of referenced document covering installation requirements on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum years experience.
- C. Applicator Qualifications: Company specializing in performing the work of this section .

1.06 MOCK-UP

- A. Refer to 01 4000.

1.07 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.08 WARRANTY

- A. See Section , for additional warranty requirements.
- B. Correct defective work within a the specified warranty periods.
 - 1. Unless noted otherwise, provide manufacturer's standard 5 year material warranty.
 - 2. Provide additional manufacturer's warranties listed for specific products.
- C. Provide General Contractor's Project Joint Sealant Warranty at the back of this specification section. Warranty to be signed by the Joint Sealant Contractor and General Contractor.
- D. Warranty: Include coverage for installed sealants and accessories which fail to achieve , exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Silicone Sealants:
 - 1. Dow Corning: www.dowcorning.com
 - 2. Pecora Corporation: www.pecora.com.

3. Tremco: www.tremcosealants.com
- B. Polyurethane Sealants:
 1. Pecora; www.pecora.com
 2. Sonneborn; www.chemrex.com
 3. Tremco; www.tremcosealants.com
- C. Acrylic Emulsion Latex Sealants:
 1. Pecora Corporation: www.pecora.com.
 2. Sonneborn; www.chemrex.com
 3. Tremco; www.tremcosealants.com

2.02 SEALANTS

- A. Sealants and Primers - General: Provide only products having lower volatile organic compound (VOC) content than required by South Coast Air Quality Management District Rule No.1168.
- B. Type I - General Purpose Exterior Sealant: Silicone ; ASTM C 920, Grade NS, Class 25, Uses M ; single component, ultra low-mod.
 1. Color: To be selected by Architect from manufacturer's full range.
 2. Product:
 - a. Dow 790
 - b. Pecora 890
 - c. Tremco Spectrem-1
 3. Applications: Use for:
 - a. Vertical and horizontal construction joints between masonry/concrete/stone to masonry/concrete/stone.
 4. Warranties: In addition to manufacturer's standard product warranties, Provide manufacturer's 20 year Non-Staining and 20 year Structural Adhesion limited warranties. Provide manufacturer's compatibility testing as required.
- C. Type II - General Purpose Exterior Sealant: Silicone ; ASTM C 920, Grade NS, Class 25, Uses M, G, and A; single component, structural
 1. Color: To be selected by Architect from manufacturer's range.
 2. Product;
 - a. Dow 795
 - b. Pecora 895
 - c. Tremco Spectrum -2
 3. Applications: Use for:
 - a. All other vertical and horizontal construction joints not listed in sealant type I & III.
 4. Warranties: In addition to manufacturer's standard product warranties, Provide manufacturer's 20 year Non-Staining and 20 year Structural Adhesion limited warranties. Provide manufacturer's compatibility testing as required.
- D. Exterior Expansion Joint Sealer: Precompressed foam sealer; urethane with water-repellent;
 1. .
 2. Product: Equal to Backerseal by Emseal
 3. Size as required to provide seal when installed.
 4. Applications: Use for:
 - a. Exterior wall expansion joints used in conjunction with Dow 790
- E. Type IV - General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, Type S, single component, paintable.
 1. Color: To be selected by Architect from manufacturer's standard range.
 2. Product:
 - a. Pecora AC-20
 - b. Tremco Tremflex 834
 - c. Sonneborn Sonolac
 3. Applications: Use for:

- a. Interior wall and ceiling control joints.
 - b. Other interior joints for which no other type of sealant is indicated.
- F. Type V - General Purpose Interior Sealant: Medium Modulus silicone sealant
 - 1. Color: To be selected by Architect from manufacturer's range.
 - 2. Products:
 - a. Dow 795
 - b. Percora 895
 - c. Tremco Spectrem-2
 - 3. Applications: Use for:
 - a. Joints between aluminum door and window frames and adjacent wall surfaces.
- G. Bathtub/Tile Sealant: White silicone; ASTM C920, Uses M and A; single component, mildew resistant.
 - 1. Product:
 - a. Dow 786
 - b. Tremco Tremsil 200
 - c. Pecora 898
 - 2. Applications: Use for:
 - a. Joints between plumbing fixtures and floor and wall surfaces.
 - b. Joints between kitchen and bath countertops and wall surfaces.
- H. Type VII - Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Grade P, Class 25, Uses T, M and A; multi- component, type M
 - 1. Color: To be selected by Architect from manufacturer's range.
 - 2. Product:
 - a. Tremco THC 900/901
 - b. Pecora NR-200
 - c. Sonneborn- SL-2
 - 3. Applications: Use for:
 - a. Expansion joints in floors.
 - b. .
- I. Type VIII - Concrete Joint Sealant: Polyurethane; ASTM C 920, Class 25, Uses T, and M; multi- component (type M), Grade NS vertical and horizontal
 - 1. Color:
 - 2. Product:
 - a. Sonneborn NP-2
 - b. Pecora Dynatrol-II
 - c. Tremco Dymeric 240 FC
 - 3. Applications: Use for:
 - a. Joints in sidewalks and curb and gutters
 - b. Joints in concrete walls

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application, and compatible with joint substrates.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Sealant Backer Rod: Bi- Cellular Polyolefin foam rod equal to SOF ROD/ Nomaco and or Open cell Polyurethane foam equal to Foam Pak II/Nomaco. All backer rods shall be as recommended by sealant manufacture for specific use. Provide size and shape of rod to control joint depth, break bond at the bottom of joint, form optimum shape of bead on back side, and minimize the possibility of extrusion when joint is compressed.
- D. Joint Backing: Round foam rod compatible with sealant; oversized 25 percent larger than joint width.

- E. Tooling Agent: Agent recommended by material manufacturer to ensure contact of material with inner joint faces.
- F. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application. Provide self adhering tape where applicable.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

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.
- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints .
- H. Precompressed Foam Sealant: Do not stretch; avoid joints except at corners, ends, and intersections; install with face below adjoining surface.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION

- A. Protect sealants until cured.

PROJECT JOINT SEALANT WARRANTY

PROJECT : _____

LOCATION: _____

OWNER : _____

WATERPROOFING

CONTRACTOR _____

ADDRESS _____

DATE OF ACCEPTANCE _____ **DATE OF EXPIRATION** _____

The Joint Sealant Contractor and General Contractor do hereby certify that the above and underground work included in this contract was installed in strict accordance with all requirements of the plans and specifications and in accordance with approved joint sealants manufacturers' recommendations.

The Joint Sealant Contractor and General Contractor do hereby guarantee the joint sealants and associated work including but not limited to all above and underground vertical and horizontal joint sealants to be water tight and free from all leaks, due to faulty or defective materials and workmanship for a period of five (5) years, starting on the date of substantial completion of the project.

Subject to the terms and conditions listed below, the Joint Sealants Contractor and General Contractor also guarantee that during the guarantee period he will, at his own cost and expense, make or cause to be made such repairs to, or replacements of said work, in accordance with the joint sealant manufacturers recommendations as are necessary to correct faulty and defective work and/or materials which may develop in the work including.

Anticipated life of the joint sealant systems and the best standards applicable to the particular joint sealant type in value and in accordance with construction documents as are necessary to maintain said work in watertight conditions, and further, to respond on or within seven (7) calendar days upon proper notification of leaks or defects by the Owner.

During the guarantee period, if the Owner allows alteration of the work by anyone other the Joint Sealant Contractor or General Contractor, including cutting, patching and maintenance in connection with penetrations, and positioning of anything affected by, this guarantee shall become null and void upon the date of said alterations.

Future building additions will not void this guarantee, except for that portion of the future addition that might affect the work under this contract at the point of connection of the joint sealant areas, and any damage caused by such addition. If this contract is for joint sealant of an addition to an existing building, then this guarantee covers the work involved at the point of connection with the existing.

The Owner shall promptly notify the Joint Sealant Contractor or General Contractor of observed, known or suspected leaks, defects or deterioration, and shall afford reasonable opportunity for the Joint Sealant Contractor or General Contractor to inspect the work, and to examine the evidence of such leaks, defects or deterioration.

IN WITNESS THEREOF,

**THIS INSTRUMENT HAS BEEN DULY EXECUTED THIS _____ DAY OF
_____(YEAR).**

**GENERAL CONTRACTOR'S
AUTHORIZED SIGNATURE**

**JOINT SEALANT CONTRACTOR'S
AUTHORIZED SIGNATURE**

NAME AND TITLE

TYPED NAME AND TITLE

TYPED

Notary Public

END OF SECTION

**SECTION 08 1113
HOLLOW METAL DOORS AND FRAMES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Non-fire-rated hollow metal doors and frames.
- B. Hollow metal frames for wood doors.
- C. Thermally insulated hollow metal doors with frames.
- D. Steel glazing frames.
- E. Accessories, including glazing, louvers, and matching panels.

1.02 RELATED REQUIREMENTS

- A. Section 08 7100 - Door Hardware.
- B. Section 08 8000 - Glazing: Glass for doors and borrowed lites.
- C. Section 09 900 - Painting

1.03 ABBREVIATIONS AND ACRONYMS

- A. ANSI - American National Standards Institute.
- B. HMMA - Hollow Metal Manufacturers Association.
- C. NAAMM - National Association of Architectural Metal Manufacturers.
- D. NFPA - National Fire Protection Association.
- E. SDI - Steel Door Institute.
- F. UL - Underwriters Laboratories.

1.04 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. ANSI/SDI A250.3 - Test Procedure and Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames; 2007 (R2011).
- C. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors; 2011.
- D. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames; 2003 (R2009).
- E. ANSI/SDI A250.8 - Specifications for Standard Steel Doors and Frames (SDI-100); 2014.
- F. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames; 2011.
- G. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.
- H. 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; 2015.
- I. 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; 2014.
- J. ASTM C1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus; 2011.
- 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. ITS (DIR) - Directory of Listed Products; current edition.
- N. NAAMM HMMA 830 - Hardware Selection for Hollow Metal Doors and Frames; 2002.
- O. NAAMM HMMA 831 - Hardware Locations for Hollow Metal Doors and Frames; 2011.
- P. NAAMM HMMA 840 - Guide Specifications for Installation and Storage of Hollow Metal Doors and Frames; 2007.
- Q. NAAMM HMMA 861 - Guide Specifications for Commercial Hollow Metal Doors and Frames; 2006.
- R. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- S. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2017.
- T. SDI 117 - Manufacturing Tolerances for Standard Steel Doors and Frames; 2013.
- U. UBC Std 7-2, Part II - Test Standard for Smoke- and Draft-control Assemblies; International Conference of Building Officials; 1997.
- V. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.
- W. UL 10B - Standard for Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- X. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- Y. UL 1784 - Standard for Air Leakage Tests of Door Assemblies; Current Edition, Including All Revisions.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. 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 standards/guidelines.
- C. Shop Drawings: Details of each opening, showing elevations, glazing, frame profiles, and any indicated finish requirements.
- D. Installation Instructions: Manufacturer's published instructions, including any special installation instructions relating to this project.
- E. Manufacturer's Certificate: Certification that products meet or exceed specified requirements.
- F. Manufacturer's Qualification Statement.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.
- B. Maintain at project site copies of reference standards relating to installation of products specified.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Comply with NAAMM HMMA 840 or ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
- B. Protect with resilient packaging; avoid humidity build-up under coverings; prevent corrosion and adverse effects on factory applied painted finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hollow Metal Doors and Frames:
 - 1. Ceco Door, an Assa Abloy Group company; ____: www.assaabloydss.com/#sle.
 - 2. Republic Doors; ____: www.republicdoor.com.
 - 3. Steelcraft: www.steelcraft.com.

4. Mesker Hollow Metal Doors & Frames.
5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DESIGN CRITERIA

- A. Requirements for Hollow Metal Doors and Frames:
 1. Steel used for fabrication of doors and frames shall comply with one or more of the following requirements; Galvannealed steel conforming to ASTM A653/A653M, cold-rolled steel conforming to ASTM A1008/A1008M, or hot-rolled pickled and oiled (HRPO) steel conforming to ASTM A1011/A1011M, Commercial Steel (CS) Type B for each.
 2. Accessibility: Comply with ICC A117.1 and ADA Standards.
 3. Exterior Door Top Closures: Flush end closure channel, with top and door faces aligned.
 4. Door Edge Profile: Manufacturers standard for application indicated.
 5. Typical Door Face Sheets: Flush.
 6. Hardware Preparations, Selections and Locations: Comply with NAAMM HMMA 830 and NAAMM HMMA 831 or BHMA A156.115 and ANSI/SDI A250.8 (SDI-100) in accordance with specified requirements.
 7. Zinc Coating for Typical Interior and/or Exterior Locations: Provide metal components zinc-coated (galvanized) and/or zinc-iron alloy-coated (galvannealed) by the hot-dip process in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness, unless noted otherwise for specific hollow metal doors and frames.
 - a. Based on SDI Standards: Provide at least A40/ZF120 (galvannealed) when necessary, coating not required for typical interior door applications, and at least A60/ZF180 (galvannealed) for corrosive locations.
 8. Finish: Factory primed, for field finishing.
- B. 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 door that is also indicated as being sound-rated must comply with the requirements specified for exterior doors and for sound-rated doors; where two requirements conflict, comply with the most stringent.

2.03 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS, Type B.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A40 metallic coating.

2.04 HOLLOW METAL DOORS

- A. Exterior Doors
 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 1 - Standard-duty.
 - b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 20 gage, 0.032 inch (0.8 mm), minimum.
 2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.
 3. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with manufacturer's standard coating thickness.
 4. Insulating Value: U-value of 0.50, when tested in accordance with ASTM C 1363 .
 5. Weatherstripping: Refer to Section 08 7100.
 6. Door Finish: Factory primed and field finished.
- B. Interior Doors, Non-Fire Rated:
 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 1 - Standard-duty.

- b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 20 gage, 0.032 inch (0.8 mm), minimum.
 - e. Door Face Metal Thickness for doors 168, 168, and 164A: 14 gage, 0.064 inch (1.63mm), minimum.
- 2. Core Material: Manufacturers standard core material/construction and in compliance with requirements.
- 3. Door Thickness: 1-3/4 inch (44.5 mm), nominal.
- C. Fire-Rated Doors:
 - 1. Based on SDI Standards: ANSI/SDI A250.8 (SDI-100).
 - a. Level 1 - Standard-duty.
 - b. Physical Performance Level C, 250,000 cycles; in accordance with ANSI/SDI A250.4.
 - c. Model 1 - Full Flush.
 - d. Door Face Metal Thickness: 20 gage, 0.032 inch (0.8 mm), minimum.
 - 2. Fire Rating: As indicated on Door Schedule, tested in accordance with UL 10C and NFPA 252 ("positive pressure fire tests").
 - a. Provide units listed and labeled by UL (DIR) or ITS (DIR).
 - b. Attach fire rating label to each fire rated unit.
 - 3. Door Thickness: 1-3/4 inch (44.5 mm), nominal.
 - 4. Door Face Sheets: Flush.
 - 5. Door Finish: Factory primed and field finished.
- D. Panels: Same construction, performance, and finish as doors.
- E. Hardware Reinforcement: ANSI/SDI A250.6-1997.

2.05 HOLLOW METAL FRAMES

- A. Comply with standards and/or custom guidelines as indicated for corresponding door in accordance with applicable door frame requirements.
- B. General:
 - 1. Comply with the requirements of grade specified for corresponding door.
 - a. ANSI/SDI A250.8 (SDI-100), Level 1 Door Frames: 16 gage, 0.053 inch (1.3 mm), minimum thickness.
 - b. ANSI/SDI A250.8 (SDI-100), Level 2 and 3 Door Frames: 14 gage, 0.067 inch (1.7 mm), minimum thickness.
 - c. Frames for Wood Doors: Comply with frame requirements in accordance with ANSI/SDI A250.8 (SDI-100), Level 1, 18 gage, 0.042 inch (1.0 mm), minimum thickness.
 - 2. Finish: Factory primed, for field finishing.
 - 3. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inches high (100 mm high) to fill opening without cutting masonry units.
- C. Exterior Door Frames: Welded.
 - 1. Galvanizing: Components hot-dipped zinc-iron alloy-coated (galvannealed) in accordance with ASTM A653/A653M, with A40/ZF120 coating.
 - 2. Weatherstripping: Separate, see Section 08 7100.
- D. Interior Door Frames, Non-Fire Rated: Full profile/continuously welded type.
 - 1. Terminated Stops: Provide at interior doors; closed end stop terminated 6 inch (150 mm), maximum, above floor at 45 degree angle.
 - 2. Frame Finish: Factory primed and field finished.
- E. Door Frames, Fire-Rated: Welded.
 - 1. Fire Rating: Same as door, labeled.
 - 2. Frame Finish: Factory primed and field finished.

- F. Frames for Wood Doors: Comply with frame requirements in accordance with corresponding door.
- G. Borrowed Lites Glazing Frames: Construction and face dimensions to match door frames, and as indicated on drawings.
- H. Hardware Reinforcement: ANSI/SDI A250.6.
- I. All frames are to wrap the entire wall. No butt conditions will be acceptable. Coordinate frame jamb depths with each wall condition.
- J. Provide mortar guard boxes for hardware cut-outs in frames to be installed in masonry or to be grouted.
- K. Frames in Masonry Walls: Size to suit masonry coursing with head member 4 inch (102 mm) high to fill opening without cutting masonry units.

2.06 FINISHES

- A. Primer: Rust-inhibiting, complying with ANSI/SDI A250.10, door manufacturer's standard.

2.07 ACCESSORIES

- 1. In Fire-Rated Doors: UL (DIR) or ITS (DIR) listed fusible link louver, same rating as door.
- 2. Style: Sightproof inverted V blade.
- 3. Louver Free Area: 50 percent.
- 4. Fasteners: Concealed fasteners.
- B. Removable Stops: Formed sheet steel, shape as indicated on drawings, mitered or butted corners; prepared for countersink style tamper proof screws.
- C. Grout for Frames: Portland cement grout with maximum 4 inch (102 mm) slump for hand troweling; thinner pumpable grout is prohibited.
- D. Silencers: Resilient rubber, fitted into drilled hole; 3 on strike side of single door, 3 on center mullion of pairs, and 2 on head of pairs without center mullions.
- E. Temporary Frame Spreaders: Provide for factory- or shop-assembled frames.
- F. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
 - a. Jamb Anchors:
 - 1) Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
 - 2) Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
 - 3) Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
 - 4) Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch- (9.5-mm-) diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
 - b. Floor Anchors: Formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:
 - 1) Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
 - 2) Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch (50-mm) height adjustment. Terminate bottom of frames at finish floor surface.
- G. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

- H. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
- I. Mineral-Fiber Insulation: ASTM C 665, Type I.

2.08 FABRICATION

- A. Tolerances: Fabricate hollow metal work to tolerances indicated in SDI 117.
- B. Hollow Metal Doors:
 - 1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors. Seal joints in top edges of doors against water penetration with flush door cap.
 - 2. Glazed Lites: Factory cut openings in doors.
- C. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
 - 2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 - 3. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
 - 4. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches (1524 mm) high.
 - 2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - 3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
 - 4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
 - 5) Two anchors per head for frames more than 42 inches (1066 mm) wide and mounted in metal-stud partitions.
 - b. Compression Type: Not less than two anchors in each jamb.
 - c. Postinstalled Expansion Type: Locate anchors not more than 6 inches (152 mm) from top and bottom of frame. Space anchors not more than 26 inches (660 mm) o.c.
 - 5. Door Silencers: Except on weather-stripped doors, drill stops to receive door silencers.
 - a. Single-Door Frames: Three door silencers.
 - b. Double-Door Frames: Two door silencers.
- D. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 8 Section "Door Hardware."
 - 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 - 2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
 - 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 - 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 16 electrical Sections.

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 PREPARATION

- A. Coat inside of frames to be installed in masonry or to be grouted, with bituminous coating, prior to installation.

3.03 INSTALLATION

- A. Install doors and frames in accordance with manufacturer's instructions and related requirements of specified door and frame standards or custom guidelines indicated.
- B. Install fire rated units in accordance with NFPA 80.
- C. Coordinate frame anchor placement with wall construction.
- D. Grout frames in masonry construction, using hand trowel methods; brace frames so that pressure of grout before setting will not deform frames.
- E. Install door hardware as specified in Section 08 7100.
 - 1. Comply with recommended practice for hardware placement of doors and frames in accordance with ANSI/SDI A250.6 or NAAMM HMMA 861.
- F. Comply with glazing installation requirements of Section 08 8000.
- G. Coordinate installation of electrical connections to electrical hardware items.
- H. Hollow Metal Frames and Stainless Steel Frames: Comply with ANSI/SDI A250.11.
 - 1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-protection-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable glazing stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - g. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.
 - h. Remove temporary "shipping spreader bars" before installation.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with powder-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 - 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
 - 4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 - 5. Concrete Walls: Solidly fill space between frames and concrete with grout. Take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
 - 6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 - 7. In-Place Gypsum Board Partitions: Secure frames in place with postinstalled expansion anchors through floor anchors at each jamb. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
 - 8. Ceiling Struts: Extend struts vertically from top of frame at each jamb to overhead structural supports or substrates above frame unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for

- securing to supporting construction. Provide adjustable wedged or bolted anchorage to frame jamb members.
9. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
- Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- I. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
- Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - Between Edges of Pairs of Doors: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
 - Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).
- J. Glazing: Comply with installation requirements in Division 8 Section "Glazing" and with hollow metal manufacturer's written instructions.
1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (50 mm) o.c. from each corner.

3.04 TOLERANCES

- A. Clearances Between Door and Frame: Comply with related requirements of specified frame standards or custom guidelines indicated in accordance with SDI 117 or NAAMM HMMA 861
- B. Maximum Diagonal Distortion: 1/16 in (1.5 mm) measured with straight edge, corner to corner.

3.05 ADJUSTING

- A. Adjust for smooth and balanced door movement.
- B. Test sound control doors for force to close, latch, and unlatch; adjust as necessary in compliance with requirements.
- C. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- D. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- E. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

3.06 SCHEDULE

- A. Refer to Door and Frame Schedule on the drawings.

END OF SECTION

**SECTION 08 1416
FLUSH WOOD DOORS**

PART 1 GENERAL

- A. Flush wood doors; flush and flush glazed configuration; fire-rated, non-rated, acoustical, and special function.

1.02 RELATED REQUIREMENTS

- A. Section 08 1113 - Hollow Metal Doors and Frames.
- B. Section 08 7100 - Door Hardware.
- C. Section 08 8000 - Glazing.

1.03 REFERENCE STANDARDS

- A. ASTM E413 - Classification for Rating Sound Insulation; 2010.
- B. AWI (QCP) - Quality Certification Program; current edition at www.awiqcp.org.
- C. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- D. UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.
- E. WDMA I.S. 1A - Interior Architectural Wood Flush Doors; 2013.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. 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.
- D. Samples: Submit two samples of door veneer, 6 by 6 inch (____ by ____ mm) in size illustrating wood grain, stain color, and sheen.
- E. Samples: Submit two samples of door veneer, in size illustrating wood grain, stain color, and sheen.
- F. Manufacturer's Installation Instructions: Indicate special installation instructions.
- G. 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. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than three years of documented experience.
- D. Fire Rated Door _____ Assembly: Conform to NFPA 80 for fire rated class as indicated.
- E. Package, deliver and store doors in accordance with specified quality standard.
- F. Accept doors on site in manufacturer's packaging. Inspect for damage.
- G. Protect doors with resilient packaging sealed with heat shrunk plastic. Do not store in damp or wet areas; or in areas where sunlight might bleach veneer. Seal top and bottom edges with tinted sealer if stored more than one week. Break seal on site to permit ventilation.

1.06 WARRANTY

- A. See Section 01 7800 - 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 Wood Doors: www.grahamdoors.com.
 - 2. Eggers Industries; ____: www.eggersindustries.com/#sle.
 - 3. Marshfield DoorSystems, Inc; ____: www.marshfielddoors.com/#sle.
 - 4. Oshkosh; www.oshkoshdoor.com.
 - 5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 DOORS AND PANELS

- A. Doors: Refer to drawings for locations and additional requirements.
 - 1. Quality Standard: Custom Grade, Heavy Duty performance, in accordance with AWI/AWMAC/WI (AWS) or AWMAC/WI (NAAWS), unless noted otherwise.
 - 2. Wood Veneer Faced Doors: 7-ply unless otherwise indicated.
- B. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; flush construction.
 - 1. Provide solid core doors at all locations ____.
 - 2. Fire Rated Doors: Tested to ratings indicated on drawings in accordance with UL 10C - Positive Pressure; Underwriters Laboratories Inc (UL) or Intertek/Warnock Hersey (WHI) labeled without any visible seals when door is open.
 - 3. Wood veneer facing with factory stained finish . Provide stain tint samples to architect for selection.

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 above.
- B. Fire-Rated Doors: Mineral core type, with fire resistant composite core (FD), plies and faces as indicated above; with core blocking as required to provide adequate anchorage of hardware without through-bolting.

2.04 DOOR FACINGS

- A. Veneer Facing for Transparent Finish: Select White birch, 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: Same species as face veneer.
 - 2. "Pair Match" each pair of doors; "Set Match" pairs of doors within 10 feet (3 m) 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:
 - 1. Provide solid blocks at lock edge and top of door for closer for hardware reinforcement.
 - 2. Provide solid blocking for other throughbolted hardware.
- C. Glazed Openings: Non-removable stops on non-secure side; sizes and configurations as indicated on drawings.
- D. Factory machine doors for hardware other than surface-mounted hardware, in accordance with hardware requirements and dimensions.
- E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
 - 1. Exception: Doors to be field finished.

- F. Provide edge clearances in accordance with the quality standard specified.
- G. 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 - 12 Polyurethane Water-based.
 - b. Sheen: Satin.
- H. Factory finish doors in accordance with approved sample.
- I. Seal door top edge with color sealer to match door facing.
- J. Color as selected by Architect from architect's samples.

2.06 ACCESSORIES

- A. Hollow Metal Door Frames: As specified in Section 08 1113.
- B. Metal Louvers:
 - 1. Material and Finish: Roll formed steel; pre-painted finish to match metal door frame color.
 - 2. In Fire-Rated Doors: UL (DIR) or ITS (DIR) listed fusible link louver, same rating as door.
 - 3. Louver Blade: Inverted V blade, sight proof, light proof.
 - 4. Louver Free Area: 50 percent.
 - 5. Fasteners: Concealed fasteners.
- C. Glazing: As specified in Section 08 8000.
- D. Glazing Stops: Wood, of same species as door facing, butted corners; prepared for countersink style tamper proof screws.

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. Use machine tools to cut or drill for hardware.
- C. Coordinate installation of doors with installation of frames and hardware.
- D. Coordinate installation of glazing.

3.03 TOLERANCES

- A. Conform to specified quality standard for fit and clearance tolerances.
- B. Conform to 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.

END OF SECTION

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**SECTION 08 3200
SLIDING GLASS DOORS**

PART 1 GENERAL

1.01 SECTION INCLUDES

PART 2 PRODUCTS

2.01 SLIDING GLASS DOORS

- A. Aluminum Sliding Doors: Extruded aluminum unit frame and operable panel frame, factory fabricated, factory glazed; complete with integral sloped sill/threshold, flashings, and anchorage devices.
 - 1. Configuration: One fixed panel and one horizontal sliding panel.
 - 2. Finish: Powder coat paint finish.
 - 3. Color: As selected by Architect from manufacturer's standard colors.
 - 4. Aluminum Members: Factory finished; screw lock corner construction; thermally broken.
 - 5. Drainage: Provide drainage to exterior for moisture entering joints and glazing spaces and for condensation occurring within frame construction.
 - 6. Glass Stops: Same material and color as frame, sloped for wash.
 - 7. Operable Panels: Stainless steel bottom rollers; adjustable.

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**SECTION 08 3344
OVERHEAD COILING FIRE CURTAINS**

PART 2 PRODUCTS

1.01 FIRE CURTAINS

1.02 COMPONENTS

- A. Coated Fabric Curtains: Woven, reinforced, and coated fabric curtain in accordance with UL 10B, with flame spread index of 25 or less and smoke developed index of 50 or less when tested in accordance with ASTM E84.
- B. Roller Assembly: Horizontal structural support with minimal deflection of protective curtain assembly, sized to incorporate motor drive unit.
- C. Hood Assembly: Totally enclosed curtain and roller assembly with approved smoke seals and removable cover plates to access curtain rollers.
 - 1. Enclosure: Galvanized steel, with manufacturer's standard finish.
 - 2. Mounting: As indicated on drawings.
 - 3. Height and Depth: As indicated on drawings.
- D. Mounting Brackets: Metal plates and brackets as required for supporting hood assembly.
 - 1. Mounting: As indicated on drawings.
- E. Vertical Guide Assemblies: Guide rails to secure curtain during deployment and operation, with positive mechanical curtain retention.
- F. Bottom Bar: Provide seal at sill with necessary stiffness to limit deflection caused by air pressure currents.

END OF SECTION

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**SECTION 08 4313
ALUMINUM-FRAMED STOREFRONTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum-framed storefront, with vision glass.

1.02 RELATED REQUIREMENTS

- A. Section 07 9200 - Joint Sealants: Sealing joints between frames and adjacent construction.
- B. Section 08 7100 - Door Hardware: Hardware items other than specified in this section.
- C. Section 08 8000 - Glazing: Glass and glazing accessories.

1.03 REFERENCE STANDARDS

- A. AAMA 501.2 - Quality Assurance and Diagnostic Water Leakage Field Check of Installed Storefronts, Curtain Walls, and Sloped Glazing Systems; 2015.
- B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).
- C. AAMA 612 - Voluntary Specification, Performance Requirements, and Test Procedures for Combined Coatings of Anodic Oxide and Transparent Organic Coatings on Architectural Aluminum; 2015.
- D. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.
- E. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; 2010, with 2013 Supplements and Errata.
- F. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- G. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- H. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.
- I. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).
- J. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- K. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).
- L. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference; 2000 (Reapproved 2009).
- M. ASTM E1105 - Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference; 2015.
- N. SSPC-Paint 20 - Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic"); 2002 (Ed. 2004).

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, internal drainage details and _____.
- C. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.

- D. Samples: Submit two samples 12 by 12 inches (____by____ mm) in size illustrating finished aluminum surface, glass, infill panels, glazing materials.
- E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.
- F. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
- G. Installation instructions of manufacturer's system.

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. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.
- C. The contractor shall be responsible for coordinating and holding a pre-installation conference. The required attendees shall be the Contractor, all related sub-contractors, the waterproofing subcontractor, project manager, and superintendent, and the waterproofing manufacturer's representative, the Owner, and Architect. Topics to be discussed include, but are not limited to delivery dates, specialty contractor skill sets and capabilities, work schedules, and approved submittals.

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 (5 degrees C). Maintain this minimum temperature during and 48 hours after installation.

1.08 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a five year period after Date of Substantial Completion.
- C. Provide twenty year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 BASIS OF DESIGN

- A. Center-Set Style, Thermally-Broken:
 - 1. Basis of Design: Equal to Kawneer 451t Series. YKK approved equal.
 - 2. Mullion Dimensions: 2 inches wide by 4-1/2 inches deep (50 mm wide by 114 mm deep).
- B. Center-Set Style, Non-Thermally Broken
 - 1. Basis of design: Equal to Kawneer 450 Series
 - 2. Mullion Dimensions: 2 inches wide by 4-1/2 inches deep.

2.02 MANUFACTURERS

- A. Aluminum-Framed Storefront and Doors:
 - 1. Coral Architectural Products, a division of Coral Industries, Inc; ____:
www.coralap.com/#sle.
 - 2. EFCO Corporation; Series 403T: www.efcocorp.com/sle.
 - 3. Kawneer North America; 451T: www.kawneer.com.
 - 4. Oldcastle BuildingEnvelope; ____: Series 300 multiplane
 - 5. Substitutions: See Section 01 6000 - Product Requirements.

2.03 STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
 - 1. Glazing Rabbet: For 1 inch (25 mm) insulating glazing.
 - 2. Finish: High performance 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.
 - 3. Finish Color: As selected by Architect from manufacturer's standard line.
 - 4. 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.
 - 5. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
 - 6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
 - 7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F (95 degrees C) 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.
- B. Performance Requirements:
 - 1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E330/E330M, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
 - a. Design Wind Loads: Comply with requirements of ASCE 7.
 - b. Member Deflection: Limit member deflection to flexure limit of glass in any direction, with full recovery of glazing materials.
 - 2. Water Penetration Resistance: No uncontrolled water on interior face, when tested in accordance with ASTM E331 at pressure differential of 8 psf (390 Pa).
 - 3. Air Leakage: Maximum of 0.06 cu ft/min sq ft (0.3 L/sec sq m) of wall area, when tested in accordance with ASTM E283 at 6.27 psf (300 Pa) pressure differential across assembly.
 - 4. Overall U-value Including Glazing: 0.44 Btu/(hr sq ft deg F) (W/(sq m K)), maximum.

2.04 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
 - 1. Glazing Stops: Flush.
 - 2. Cross-Section: As indicated on drawings.
 - 3. Structurally Reinforced Members: Extruded aluminum with internal reinforcement of structural steel member.
- B. Glazing: As specified in Section 08 8000.
- C. Swing Doors: Glazed aluminum - Thermally Broken
 - 1. Thickness: 2-1/4 inches (50 mm).
 - 2. Top Rail: 5 inches (____ mm) wide.
 - 3. Vertical Stiles: 6.5 inches (____ mm) wide.
 - 4. Bottom Rail: 10 inches (254 mm) wide.

5. Glazing Stops: Beveled. Color to be selected by Architect.
6. Finish: Same as storefront.
7. Equal to Kawneer Insulclad 560 Wide Stile Entrance.

2.05 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M).
- B. Fasteners: Stainless steel.
- C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.
- D. Glazing Accessories: As specified in Section 08 8000.
- E. HP (High Performance) sill, with incorporated screw-applied end dams, ensuring positive engagement and tight joints between the sill flashing and end dam.

2.06 FINISHES

- A. Superior Performing Organic Coatings System: Polyvinylidene fluoride (PVDF) multi-coat superior performing organic coatings system complying with AAMA 2605, including at least 70 percent 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 (0.030 mm).
- B. Color: As selected by Architect from manufacturer's standard range.
- C. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.07 HARDWARE

- A. For each door, include weatherstripping and sill sweep strip.
- B. Other Door Hardware: As specified in Section 08 7100 - Door Hardware.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify dimensions, tolerances, and method of attachment with other work.
- B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 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. Provide thermal isolation where components penetrate or disrupt building insulation.
- F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.
- G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- I. Set thresholds in bed of sealant and secure.
- J. Install hardware using templates provided.
 1. See Section 08 7100 for hardware installation requirements.
- K. Install glass in accordance with Section 08 8000, using glazing method required to achieve performance criteria.

- L. Install perimeter sealant in accordance with Section 07 9200.
- M. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.03 TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches every 3 ft (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for independent testing and inspection requirements. Inspection will monitor quality of installation and glazing.
- B. Test installed storefront for water leakage in accordance with AAMA 501.2 hose test.
- C. Test 100 linear feet of exterior storefront systems installed with perimeter sealant cured. If test fails, retest the 100 linear feet plus additional linear feet as selected by the Architect/Waterproof Consultant. Additional testing shall be the glazing subcontractors responsibility.

3.05 ADJUSTING

- A. Adjust operating hardware and sash for smooth operation.

3.06 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.

3.07 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

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**SECTION 08 71 00
DOOR HARDWARE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for fire-rated doors.
- B. Electrically operated and controlled hardware.
- C. Lock cylinders for doors with balance of hardware specified in other sections.
- D. Thresholds.
- E. Weatherstripping and gasketing.

1.02 RELATED REQUIREMENTS

- A. Section 07 92 00 - Joint Sealants: Sealants for setting exterior door thresholds.
- B. Section 08 11 13 - Hollow Metal Doors and Frames.
- C. Section 08 11 16 - Aluminum Doors and Frames.
- D. Section 08 12 13 - Hollow Metal Frames.
- E. Section 08 14 16 - Flush Wood Doors.
- F. Section 08 33 23 - Overhead Coiling Doors: Door hardware, except cylinders.
- G. Section 08 43 13 - Aluminum-Framed Storefronts: Door hardware, except as noted in section.
- H. Section 08 71 13 - Automatic Door Operators.
- I. Section 10 22 15: Fixed Glass Panel Partitions.
- J. Section 10 26 00 - Wall and Door Protection: Door and frame protection.
- K. Section 28 10 00 - Access Control: Electronic access control devices.

1.03 REFERENCE STANDARDS

- A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.
- B. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2019.
- C. BHMA A156.1 - Standard for Butts and Hinges; 2021.
- D. BHMA A156.3 - Exit Devices; 2025.
- E. BHMA A156.4 - Door Closers and Pivots; 2024.
- F. BHMA A156.5 - Cylinders and Input Devices for Locks; 2020.
- G. BHMA A156.6 - Standard for Architectural Door Trim; 2021.
- H. BHMA A156.7 - Template Hinge Dimensions; 2022.
- I. BHMA A156.8 - Door Controls - Overhead Stops and Holders; 2021.
- J. BHMA A156.13 - Mortise Locks & Latches Series 1000; 2022.
- K. BHMA A156.16 - Standard for Auxiliary Hardware; 2023.
- L. BHMA A156.18 - Standard for Materials and Finishes; 2020.
- M. BHMA A156.19 - Power Assist and Low Energy Power Operated Swinging Doors; 2019.
- N. BHMA A156.21 - Thresholds; 2025.
- O. BHMA A156.22 - Standard for Gasketing; 2021.
- P. BHMA A156.25 - Electrified Locking Devices; 2023.
- Q. BHMA A156.26 - Standard for Continuous Hinges; 2021.

- R. BHMA A156.28 - Standard for Recommended Practices for Mechanical Keying Systems; 2023.
- S. BHMA A156.115 - Hardware Preparation in Steel Doors and Frames; 2016.
- T. BHMA A156.115W - Hardware Preparation in Wood Doors with Wood or Steel Frames; 2006.
- U. DHI (H&S) - Sequence and Format for the Hardware Schedule; 2019.
- V. DHI (KSN) - Keying Systems and Nomenclature; 2019.
- W. ICC (IBC) - International Building Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- X. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.
- Y. ITS (DIR) - Directory of Listed Products; Current Edition.
- Z. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- AA. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2025.
- BB. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- CC. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; 2022.
- DD. UL (DIR) - Online Certifications Directory; Current Edition.
- EE. UL 10C - Standard for Positive Pressure Fire Tests of Door Assemblies; Current Edition, Including All Revisions.
- FF. UL 294 - Access Control System Units; Current Edition, Including All Revisions.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.
- B. Sequence installation to ensure facility services connections are achieved in an orderly and expeditious manner.
- C. Preinstallation Meeting: Convene a preinstallation meeting one week prior to commencing work of this section; require attendance by affected installers and the following:
 - 1. Architect.
 - 2. Installer's Architectural Hardware Consultant (AHC).
 - 3. Hardware Installer.
- D. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.
- E. Keying Requirements Meeting:
 - 1. Attendance Required:
 - a. Contractor.
 - b. Installer's Architectural Hardware Consultant (AHC).
 - c. Manufacturer Representative / Key System Specialist.
 - 2. Agenda:
 - a. Establish keying requirements.
 - b. Verify locksets and locking hardware are functionally correct for project requirements.
 - c. Verify that keying and programming complies with project requirements.
 - d. Establish keying submittal schedule and update requirements.
 - 3. Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following:
 - a. Access control requirements.
 - b. Flow of traffic and extent of security required.

4. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.
5. Deliver established keying requirements to manufacturers.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.
- C. Shop Drawings - Door Hardware Schedule: A detailed listing that includes each item of hardware to be installed on each door.
 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
 2. Comply with DHI (H&S) using door numbering scheme and hardware set numbers as indicated in Contract Documents.
 - a. Submit in vertical format.
 3. Include complete description for each door listed.
 4. Include manufacturer's and product names, and catalog numbers; include functions, types, styles, sizes and finishes of each item.
- D. Shop Drawings - Electrified Door Hardware: Include diagrams for power, signal, and control wiring for electrified door hardware that include details of interface with building safety and security systems. Provide elevations and diagrams for each electrified door opening as follows:
 1. Prepared by or under supervision of Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC).
 2. Elevations: Include front and back elevations of each door opening showing electrified devices with connections installed and an operations narrative describing how opening operates from either side at any given time.
 3. Diagrams: Include point-to-point wiring diagrams that show each device in door opening system with related colored wire connections to each device.
- E. Manufacturer's Instructions: Indicate special procedures and perimeter conditions requiring special attention.
- F. Manufacturer's qualification statement.
- G. Supplier's qualification statement.
- H. Installer's qualification statement.
- I. Operation and Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
 1. Include manufacturer's parts lists and templates.
- J. Keying Schedule:
 1. Submit three copies of Keying Schedule complying with requirements established during Keying Requirements Meeting unless otherwise indicated.
- K. Executed Warranty.
- L. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.
- M. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 2. Tools: One set of each special wrench or tool applicable for each different or special hardware component, whether supplied by hardware component manufacturer or not.

1.06 QUALITY ASSURANCE

- A. Standards for Fire-Rated Doors: Maintain one copy of each referenced standard on site, for use by Architect and Contractor.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years of documented experience.
- C. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) to assist in work of this section.
- D. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least five years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. See Section 01 74 19 - Construction Waste Management and Disposal for packaging waste requirements.
- B. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.

1.08 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Manufacturer Warranty: Provide manufacturer warranty against defects in material and workmanship for period indicated, from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.
 - 1. Closers: Thirty-five years.
 - 2. Exit Devices:
 - a. Mechanical: Five years.
 - b. Electrical: Two years.
 - 3. Locksets:
 - a. Mechanical: Ten years.
 - 4. Cylinders: Three years.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.
- B. Provide individual items of single type, of same model, and by same manufacturer.
- C. Locks: Provide a lock for each door, unless it is indicated that lock is not required.
 - 1. Lock Function: Provide lock and latch function numbers and descriptions of manufacturer's Series. As indicated in hardware sets.
 - 2. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.
 - 3. Strikes:
 - a. Finish: To match lock or latch.
 - b. Curved-Lip Strikes: Provide as standard, with extended lip to protect frame, unless otherwise indicated.
 - c. Aluminum-Frame Strike Box: Provide strike box fabricated for use with aluminum framing.
 - d. Center Strike At Pairs of Doors: 7/8 inch lip, where indicated in hardware sets.
- D. Closers:
 - 1. Provide door closer on each exterior door, unless otherwise indicated.
 - 2. Provide door closer on each fire-rated and smoke-rated door.
 - 3. Spring hinges are not an acceptable self-closing device, unless otherwise indicated.

- E. Overhead Stops and Holders (Door Checks):
 - 1. Provide stop for every swinging door, unless otherwise indicated.
 - 2. Overhead Stop is not required if positive stop feature is specified for door closer.
 - 3. Overhead stop is not required if a floor or wall stop has been specified for the door.
- F. Drip Guards: Provide at head of out swinging exterior doors unless protected by roof or canopy directly overhead.
- G. Thresholds:
 - 1. Interior Applications: Provide when specified at interior doors for transition between two different floor types, and over building expansion joints, unless otherwise indicated.
 - 2. Exterior Applications: Provide at each exterior door, unless otherwise indicated.
- H. Weatherstripping and Gasketing:
 - 1. Provide weatherstripping on each exterior door at head, jambs, and meeting stiles of door pairs, unless otherwise indicated.
 - 2. Provide door bottom or sweep on each exterior door, unless otherwise indicated.
- I. Electrically Operated and/or Controlled Hardware: Provide necessary power supplies, power transfer hinges, relays, and interfaces as required for proper operation; provide wiring between hardware and control components and to building power connection in compliance with NFPA 70.
- J. See Section 28 10 00 for additional access control system requirements.
- K. Fasteners:
 - 1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.
 - a. Aluminum fasteners are not permitted.
 - b. Provide Phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.
 - 2. Provide machine screws for attachment to reinforced hollow metal and aluminum frames.
 - a. Self-drilling (Tek) type screws are not permitted.
 - 3. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.
 - 4. Provide wall grip inserts for hollow wall construction.
 - 5. Fire-Resistance-Rated Applications: Comply with NFPA 80.
 - a. Provide wood or machine screws for hinges mortised to doors or frames, strike plates to frames, and closers to doors and frames.
 - b. Provide steel through bolts for attachment of surface mounted closers, hinges, or exit devices to door panels unless proper door blocking is provided.

2.02 PERFORMANCE REQUIREMENTS

- A. Provide door hardware products that comply with the following requirements:
 - 1. Applicable provisions of federal, state, and local codes.
 - a. ICC (IBC).
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Fire-Resistance-Rated Doors: NFPA 80, listed and labeled by qualified testing agency for fire protection ratings indicated, based on testing at positive pressure in accordance with NFPA 252 or UL 10C.
 - 4. Hardware on Fire-Resistance-Rated Doors: Listed and classified by UL (DIR) or ITS (DIR) as suitable for application indicated.
 - 5. Hardware Preparation for Steel Doors and Steel Frames: BHMA A156.115.
 - 6. Hardware Preparation for Wood Doors with Wood or Steel Frames: BHMA A156.115W.
 - 7. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified.

2.03 HINGES

- A. Manufacturers: Conventional butt hinges.
 - 1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 - 2. McKinney.
 - 3. PBB.
- B. Manufacturers: Continuous hinges.
 - 1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 - 2. ABH.
 - 3. National Guard Products.
- C. Properties:
 - 1. Butt Hinges: As applicable to each item specified.
 - a. Standard Weight Hinges: Minimum of two (2) permanently lubricated non-detachable bearings.
 - b. Heavy Weight Hinges: Minimum of four (4) permanently lubricated bearings on heavy weight hinges.
 - c. Template screw hole locations.
 - d. Bearing assembly installed after plating.
 - e. Bearings: Exposed fully hardened bearings.
 - f. Bearing Shells: Shapes consistent with barrels.
 - g. Pins: Easily seated, non-rising pins.
 - 1) Fully plated hinge pins.
 - 2) Non-Removable Pins: Slotted stainless steel screws.
 - h. UL 10C listed for fire-resistance-rated doors.
 - 2. Continuous Hinges: As applicable to each item specified.
 - a. Geared Continuous Hinges: As applicable to each item specified.
 - 1) Non-handed.
 - 2) Anti-spinning through-fastener.
 - 3) UL 10C listed for fire-resistance-rated doors.
 - (a) Metal Door Installation: Rated up to 90 minutes.
 - (b) Wood Door Installation: Rated up to 60 minutes.
 - 4) Sufficient size to permit door to swing 180 degrees.
 - 5) Provide appropriate EPT prep, where indicated in hardware sets.
- D. Sizes: See Door Hardware Schedule.
 - 1. Sufficient size to allow 180 degree swing of door.
- E. Finishes: See Door Hardware Schedule.
 - 1. Fully polished hinges; front, back, and barrel.
- F. Grades:
 - 1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
 - 2. Comply with BHMA A156.18.
- G. Material: Base metal as indicated for each item by BHMA material and finish designation.
- H. Types:
 - 1. Butt Hinges: Include full mortise hinges.
 - 2. Continuous Hinges: Include geared hinges.
- I. Quantities:
 - 1. Butt Hinges: Three (3) hinges per leaves up to 90 inches in height. Add one (1) for each additional 30 inches in height or fraction thereof.
 - a. Hinge weight and size unless otherwise indicated in hardware sets:
 - 1) For doors up to 36 inches wide and up to 1-3/4 inches thick provide hinges with a minimum thickness of 0.134 inch and a minimum of 4-1/2 inches in height.

- 2) For doors from 36 inches wide up to 42 inches wide and up to 1-3/4 inches thick provide hinges with a minimum thickness of 0.145 inch and a minimum of 4-1/2 inches in height.
 - 3) For doors from 42 inches wide up to 48 inches wide and up to 1-3/4 inches thick provide hinges with a minimum thickness of 0.180 inch and a minimum of 5 inches in height.
 - 4) For doors greater than 1-3/4 inches thick provide hinges with a minimum thickness of 0.180 inch and a minimum of 5 inches in height.
2. Continuous Hinges: One per door leaf.
- J. Applications: At swinging doors.
1. Provide non-removable pins at out-swinging doors with locking hardware and at all exterior doors.
- K. Products:
1. Butt Hinges:
 - a. Ball Bearing, Five (5) Knuckle. Best FBB Series.
 2. Continuous Hinges:
 - a. Aluminum geared hinges. Best 661HDUL.

2.04 BOLTS

- A. Manufacturers:
1. Architectural Builders Hardware Mfg. (ABH): www.abhmfg.com#sle.
 2. Burns.
 3. Rockwood.
- B. Properties:
1. Flush Bolts:
 - a. Pairs of Swing Doors: At inactive leaves, provide flush bolts of type as required to comply with code.
 - b. Automatic Flush Bolts: Automatically latching upon closing of door leaf.
 - 1) Bolt Throw: 3/4 inch, minimum.
 - c. Self-Latching Flush Bolts: Automatically latching upon closing of door; manually retracted; located on inactive leaf of pair.
 - 1) Bolt Throw: 3/4 inch, minimum.
 2. Dustproof Strikes: For bolting into floor, provide except at metal thresholds.
- C. Options:
1. Extension Bolts: In leading edge of door, one bolt into floor, one bolt into top of frame.
 2. Lever extensions: Provide for top bolt at oversized doors.
- D. Products:
1. Automatic flush bolts. See hardware sets.
 2. Self-Latching Flush Bolts. See hardware sets.

2.05 EXIT DEVICES

- A. Manufacturers:
1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 2. dormakaba: www.dormakaba.com/#sle.
 3. Sargent.
- B. Properties:
1. Actuation: Push Pad.
 2. Chassis:
 - a. Construction: Investment cast steel, zinc dichromate plated.
 - b. Compatibility: Standard Stile and Narrow Stile doors.

3. Touchpads: "T" style metal touchpads and rail assemblies with matching chassis covers end caps.
 4. Latch Bolts: Stainless steel deadlocking with 3/4 inch projection using latch bolt.
 5. Lever Design: Match project standard lockset trims.
 6. Cylinder: Include where cylinder dogging or locking trim is indicated.
 7. Strike as recommended by manufacturer for application indicated.
 8. Sound dampening on touch bar.
 9. Dogging:
 - a. Non-Fire-Resistance-Rated Devices: Cylinder dogging.
 - b. Fire-Resistance-Rated Devices: Manual dogging not permitted.
 - c. Motorized Latch Retraction Devices: No dogging.
 10. Touch bar assembly on wide style exit devices to have a 1/4 inch clearance to allow for vision frames.
 11. All exposed exit device components to be of architectural metals and "true" architectural finishes.
 12. Hanging: Field-reversible.
 13. Fasteners on Back Side of Device Channel: Concealed - exposed fasteners not allowed.
 14. Vertical Latch Assemblies' Operation: Gravity, without use of springs.
 - a. Latch Bolts: Stainless steel, with 1/2 inch throw.
- C. Grades: Complying with BHMA A156.3, Grade 1.
- D. Standards Compliance:
1. UL Listed for Panic and Fire for Class II Circuitry.
 2. Provide UL (DIR) listed exit device assemblies for fire-resistance-rated doors.
 3. Comply with UL 10C.
- E. Options:
1. Electrified Devices:
 - a. Latchbolt Retraction: Motorized latchbolt retraction.
 2. Internally mounted switch used to signal other components.
 3. Furnish less bottom rod (LBR) at scheduled locations to eliminate use of floor mounted strikes.
 4. Electrified Device Voltage: 24 VDC.
- F. Products:
1. BEST, Precision 2000 Series.

2.06 LOCK CYLINDERS

- A. Manufacturers:
1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 2. Substitutions: Not permitted.
- B. Properties:
1. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
 - a. Provide cylinders from same manufacturer as locking device.
 - b. Provide cams and/or tailpieces as required for locking devices.
 - c. Provide cylinders with appropriate format interchangeable cores where indicated.
- C. Grades:
1. Standard Security Cylinders: Comply with BHMA A156.5.
- D. Material:
1. Manufacturer's standard corrosion-resistant brass alloy.
- E. Types: As applicable to each item specified.
1. Standard security small format interchangeable core (SFIC) type cylinders, with seven-pin, Best CORMAX cores.

F. Products:

1. Rim/mortise. Best, 12E / 1E Series.

2.07 MORTISE LOCKS

A. Manufacturers:

1. BEST, dormakaba Group: www.bestaccess.com/#sle.
2. Substitutions: Not permitted.

B. Properties:

1. Mechanical Locks: Manufacturer's standard.
 - a. Fitting modified ANSI A115.1 door preparation.
 - b. Door Thickness Coordination Fitting 1-3/4 inch to 2-1/4 inch thick doors.
 - c. Latch: Solid, one-piece, anti-friction, self-lubricating stainless steel.
 - 1) Latchbolt Throw: 3/4 inch, minimum.
 - d. Auxiliary Deadlatch: One piece stainless steel, permanently lubricated.
 - e. Backset: 2-3/4 inch.
 - f. Cylinders:
 - 1) Cylinder Core Types: Locks capable of supporting manufacturers' cores, as applicable.
 - (a) Small format interchangeable.
 - g. Lever Trim:
 - 1) Functionality: Allow the lever handle to move up to 45 degrees from horizontal position prior to engaging the latchbolt assembly.
 - 2) Strength: Locksets outside locked lever designed to withstand minimum 1,400 inch-lbs. of torque. In excess of that, a replaceable part will shear. Key from outside and/or inside lever will still operate lockset.
 - 3) Spindle: Designed to prevent forced entry from attacking of lever.
 - 4) Independent spring mechanism for each lever.
 - (a) Trim to be self-aligning and thru-bolted.
 - 5) Handles: Made of forged or cast brass, bronze, or stainless steel construction. Levers that contain a hollow cavity are not acceptable.
 - 6) Levers to operate a roller bearing spindle hub mechanism.

C. Finishes: See Door Hardware Schedule.

1. Core Faces: Match finish of lockset.

D. Grades:

1. Comply with BHMA A156.13, Grade 1, Security; Grade 2.

E. Products:

1. BEST, 45H Series.

2.08 COORDINATORS

A. Manufacturers:

1. dormakaba: www.dormakaba.com/#sle.
2. Architectural Builders Hardware Manufacturing, Inc (ABH): www.abhmfg.com/#sle.
3. Rockwood.

B. Properties:

1. General: Non-handed devices, with field-selectable active door leaf.
2. Coordinators: Devices on pairs of doors with closers and self-latching or automatic flush bolts installed.
 - a. Coordinator Operation: Only when inactive door is opened.

C. Code Compliance: As required by authorities having jurisdiction in the State in which the Project is located.

1. Meet UL 10C for Positive Pressure.

- D. Types:
 - 1. Coordinators: Bar.
- E. Installation:
 - 1. Mounting: Provide necessary mounting brackets and filler bars to ensure proper installation of coordinator and related hardware.
 - 2. Coordination: Properly sequence installation of other door hardware affected by placement of coordinators and carry bars.
- F. Products:
 - 1. ABH, 3700 Series.

2.09 CLOSERS

- A. Manufacturers:
 - 1. dormakaba: www.dormakaba.com/#sle.
 - 2. Best.
 - 3. Sargent.
- B. Properties:
 - 1. Surface Mounted Closers: Manufacturer's standard.
 - a. Construction: Corrosion-resistant Silicone-Aluminum alloy.
 - b. Maximum Projection from Face of Door: 2-7/16 inches.
 - c. Mechanism: Separate tamper-resistant adjusting valves for closing and latching speeds.
 - d. Hydraulic Fluid: All-weather type.
 - e. Arm Assembly: Standard for product specified.
 - 1) Include hold-open, integral stop, or spring-loaded stop feature, as specified in Door Hardware Schedule.
 - 2) Parallel arm to be a heavy-duty rigid arm.
 - 3) Where "IS" or "S-IS" arms are specified in hardware sets, if manufacturer does not offer this arm provide a regular arm mount closer in conjunction with a heavy-duty overhead stop equal to a dormakaba 900 Series.
 - f. Covers:
 - 1) Type: Standard for product selected.
 - (a) Full.
 - 2) Material: Plastic.
 - 3) Finish: Painted.
 - 4) Attachment: Two-point flange mounting, dual-clamp friction fit closer cover.
- C. Grades:
 - 1. Closers: Comply with BHMA A156.4, Grade 1.
 - a. Underwriters Laboratories Compliance:
 - 1) Product Listing: UL (DIR) for use on fire-resistance-rated doors.
 - (a) UL 228 - Door Closers-Holders, With or Without Integral Smoke Detectors.
 - b. Testing Standards Compliance: Meeting requirements of UL 10C for positive pressure.
- D. Code Compliance: As required by authorities having jurisdiction in the State in which the Project is located.
 - 1. Devices listed with California Department of Forestry and Fire Protection, Office of the State Fire Marshal.
- E. Types:
 - 1. Rack-and-pinion, surface-mounted. 1-1/2 inches minimum bore.
- F. Options:
 - 1. Delayed action, adjustable with an independent valve.

2. Advanced backcheck.
 3. Adjustable, for force or angle of opening hold open.
 4. Cushion limit stay.
- G. Installation:
1. Mounting: Includes surface mounted and concealed, overhead mounted installations.
 2. Mount closers on non-public side of door and stair side of stair doors unless otherwise noted in hardware sets.
 3. At out swinging exterior doors, mount closer on interior side of door.
 4. Provide adapter plates, shim spacers, and blade stop spacers as required by frame and door conditions.
 5. Where an overlapping astragal is included on pairs of swinging doors, provide coordinator to ensure door leaves close in proper order.
- H. Products:
1. Surface Mounted:
 - a. dormakaba, Architectural Hardware 8900 Series.

2.10 OVERHEAD STOPS AND HOLDERS

- A. Manufacturers:
1. dormakaba: www.dormakaba.com/#sle.
 2. Architectural Builders Hardware Mfg. (ABH): www.abhmfg.com/#sle.
 3. Glynn-Johnson.
- B. Properties:
1. Stop Settings: At 90 degrees opening.
 - a. Adjustable friction tension.
- C. Sizes: Manufacturer's standard for the application.
- D. Finishes:
1. Arms and Brackets: Zinc-plated.
- E. Grades: As applicable to item specified.
1. Comply with BHMA A156.8, Grade 1.
- F. Material: Base metal as indicated for each item by BHMA material and finish designation.
1. Track Channel: Extruded aluminum alloy.
 2. Slide Block: Machined from solid brass alloy.
- G. Types:
1. Surface-applied.
- H. Products:
1. Surface Overhead Stops and Holders:
 - a. dormakaba Architectural Hardware 900 Series (Heavy Duty)

2.11 PROTECTION PLATES

- A. Manufacturers:
1. Burns.
 2. ABH.
 3. Rockwood.
- B. Properties:
1. Plates:
 - a. Kick Plates: Provide along bottom edge of push side of each door, where indicated in hardware sets.
 - 1) Size: 10 inches high by 2 inches less than door width (LDW) on push side of door; 1 inch LDW on pairs of doors with no mullion.

- b. Mop Plates: Provide along bottom edge of pull side of each door, where indicated in hardware sets.
 - 1) Size: 6 inches high by 1 inch less than door width (LDW) on pull side of door.
 - c. Edges: Beveled, on four (4) unless otherwise indicated.
- C. Grades: Comply with BHMA A156.6.
- D. Material: As indicated for each item by BHMA material and finish designation.
 - 1. Metal Properties: Stainless steel.
 - a. Metal, Standard Duty: Thickness 0.050 inch, minimum.
- E. Installation:
 - 1. Fasteners: Countersunk screw fasteners
- F. Products:
 - 1. KP50, MP50.

2.12 STOPS AND HOLDERS

- A. Manufacturers:
 - 1. Burns.
 - 2. Rockwood.
 - 3. Don-Jo.
- B. General: Provide overhead stop/holder when wall or floor stop is not feasible.
- C. Grades:
 - 1. Wall Bumpers: Comply with BHMA A156.16 and Resilient Material Retention Test as described in this standard.
- D. Material: Base metal as indicated for each item by BHMA material and finish designation.
- E. Types:
 - 1. Wall Bumpers: Bumper, concave, wall stop.
- F. Installation:
 - 1. Non-Masonry Walls: Confirm adequate wall reinforcement has been installed to allow lasting installation of wall bumpers.
- G. Products:
 - 1. Wall Bumpers. Burns, 575.

2.13 THRESHOLDS

- A. Manufacturers:
 - 1. National Guard Products, Inc (NGP): www.ngpinc.com/#sle.
 - 2. Reese.
 - 3. Pemko.
- B. Properties:
 - 1. Threshold Surface: Fluted horizontal grooves across full width.
- C. Threshold Grades: Comply with BHMA A156.21.
- D. Material: Base metal as indicated for each item by BHMA material and finish designation.
 - 1. Threshold Assemblies: Aluminum.
- E. Types: As applicable to project conditions. Provide barrier-free type at every location where specified.
 - 1. Bumper Seal Thresholds with Gasket: Use neoprene gaskets.
- F. Products:
 - 1. NGP 896N.

2.14 WEATHERSTRIPPING AND GASKETING

- A. Manufacturers:

1. National Guard Products, Inc (NGP): www.ngpinc.com/#sle.
 2. Reese.
 3. Pemko.
- B. Properties:
1. Weatherstripping Air Leakage Performance: Not exceeding 0.3 cfm/sq ft of door opening at 0.3 inches of water pressure differential for single doors, and 0.5 cfm/sq ft of door area at 0.3 inches of water pressure differential for double doors for gasketing other than smoke control, as tested according to ASTM E283/E283M; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.
 2. Adhesive-Backed Perimeter Gasketing: Silicone or synthetic rubber gasket material applied to frame with self-adhesive.
 3. Rigid, Housed, Perimeter Gasketing: Sponge neoprene gasket material held in place by aluminum housing; fastened to frame stop with screws.
 4. Door Sweeps: Nylon brush with EPDM strip gasket material held in place by flat aluminum housing or flange; surface mounted to face of door with screws.
- C. Grades: Comply with BHMA A156.22.
- D. Products:
1. Weatherstripping and gasketing: See Door Hardware Schedule.
 2. Door Bottom Seals:
 - a. Door Sweeps: See Door Hardware Schedule.

2.15 MISCELLANEOUS ITEMS

- A. Manufacturers:
1. Burns Manufacturing, Inc: www.burnsmfg.com/#sle.
 2. Rockwood.
 3. ABH.
- B. Properties:
1. Silencers: Provide at equal locations on door frame to mute sound of door's impact upon closing.
 - a. Single Door: Provide three on strike jamb of frame.
 - b. Pair of Doors: Provide two on head of frame, one for each door at latch side.
 - c. Material: Rubber, gray color.
- C. Products:
1. Silencers
 - a. Burns, 500.

2.16 ELECTRIFIED HARDWARE

- A. Manufacturers:
1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 2. RCI.
 3. Sargent.
- B. Properties:
1. Door Position Switches: Recessed devices with magnetic contacts.
 - a. Power Requirement: 50mA Max, 100 VDC.
 - b. Provide door position switch that is self-locking in steel and wood.
 - c. SPDT configuration.
 2. Power Supply Units: Manufacturer's standard.
 - a. Regulatory Compliance:
 - 1) United States Compliance:
 - (a) UL listed for Class II Output.

- (b) Comply with UL 294 standards incorporating enhanced Access Control communications capabilities.
- b. Enclosures: Lockable NEMA Type 1, with hinged cover and knockouts.
- c. Power: 24 VDC filtered, regulated output.
 - 1) Incoming Power Voltage: 120 VAC.
 - 2) Input circuit protection fuse.
- d. Emergency Release Terminals: Designed to release devices upon activation of fire alarm system.
- e. Auxiliary contacts for remote signaling.
- f. User-selectable time delay from 0 to 4 minutes.
- g. Fire Alarm System Interface: Standard.
 - 1) Fire alarm terminal with green LED indicating power is available.
- h. Output Distribution Board with indicator LEDs.
- i. Battery backup.
- j. On/Off LED power indicator.
- 3. Power Transfers: Manufacturer's standard.
 - a. Mortised Type with Wires & Connectors:
 - 1) Listed by UL.
 - 2) Stainless steel housing and spring conduit.
 - 3) Wire Harness: Pre-installed, twelve wire, equipped with ten (10) 24 gauge wires and two 18 gauge wires.
 - 4) Accommodate 180 degree door swing.
 - 5) Quick-Connect Plugs: Pre-installed.
- 4. Wire Harnesses: Of sufficient length, with quick connectors.
- C. Products:
 - 1. Door Position Switches:
 - a. RCI 9540 Recessed Magnetic Contact/Door Position Switch.
 - 2. Power Supplies:
 - a. BEST Precision RPSMLR2 Series.
 - 3. Power Transfers:
 - a. BEST EPT-12C (Mortise Type with Wires and Connectors)
 - 4. Wire Harnesses:
 - a. Best (Precision), WH Series.

2.17 KEYS AND CORES

- A. Manufacturers:
 - 1. BEST, dormakaba Group: www.bestaccess.com/#sle.
 - 2. Substitutions: Not permitted.
- B. Properties: Complying with guidelines of BHMA A156.28.
 - 1. Provide small format interchangeable core.
 - 2. Provide Patented CORMAX keys and cores.
 - 3. Provide keying information in compliance with DHI (KSN) standards.
 - 4. Keying Schedule: Arrange for a keying meeting, with Architect, Owner and hardware supplier, and other involved parties to ensure locksets and locking hardware, are functionally correct and keying complies with project requirements.
 - 5. Keying: Grand master keyed. Verify specific keying requirements with Owner.
 - 6. Include construction keying and control keying with removable core cylinders.
 - 7. Do not make brass construction cores and construction control and operating keys a part of Owner's permanent keying system, nor furnish in the same keyway (or key section) as Owner, permanent keying system.
 - 8. Key to existing keying system.
 - 9. Supply keys in following quantities:

- a. Grand Master Keys: 1 each.
 - b. Master Keys: 4 each.
 - c. Construction Master Keys: 6 each.
 - d. Construction Keys: 15 each.
 - e. Construction Control Keys: 2 each.
 - f. Control Keys if New System: 2 each.
 - g. Change Keys: 2 each for each keyed core.
 10. Provide key collection envelopes, receipt cards, and index cards in quantity suitable to manage number of keys.
 11. Deliver keys with identifying tags to Owner by security shipment direct from manufacturer.
 12. Permanent Keys and Cores: Stamped with applicable key marking for identification. Do not include actual key cuts within visual key control marks or codes. Stamp permanent keys "Do Not Duplicate."
 13. Include installation of permanent cores and return construction cores to hardware supplier. Construction cores and keys to remain property of hardware supplier.
- C. Products:
1. Patented:
 - a. Best, CORMAX.

2.18 FINISHES

- A. Finishes: Identified in Hardware Sets.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive this work; labeled, fire-rated doors and frames are properly installed, and dimensions are as indicated on shop drawings.
- B. Correct all defects prior to proceeding with installation.
- C. Verify that electric power is available to power operated devices and of correct characteristics.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Install hardware using the manufacturer's fasteners provided. Drill and tap all screw holes located in metallic materials. Do not use "Riv-Nuts" or similar products.
- C. Install hardware on fire-rated doors and frames in accordance with applicable codes and NFPA 80.
- D. Use templates provided by hardware item manufacturer.
- E. Do not install surface mounted items until application of finishes to substrate are fully completed.
- F. Wash down masonry walls and complete painting or staining of doors and frames.
- G. Complete finish flooring prior to installation of thresholds.
- H. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list, unless noted otherwise in Door Hardware Schedule or on drawings.
 1. Mounting heights in compliance with ADA Standards and per Manufacturer's installation instructions.
- I. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal. Anchor thresholds with stainless steel countersunk screws.
 1. See Section 07 92 00 for additional requirements.

- J. Include in installation for existing doors and frames any necessary field modification and field preparation of doors and frames for new hardware. Provide necessary fillers, reinforcements, and fasteners for mounting new hardware and to cover existing door and frame preparations.

3.03 FIELD QUALITY CONTROL

- A. Perform field inspection and testing under provisions of Section 01 40 00 - Quality Requirements.

3.04 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.05 CLEANING

- A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.
- B. Clean adjacent surfaces soiled by hardware installation activities.
- C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.
- D. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

3.06 PROTECTION

- A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

Manufacturer List

Code:	Name:
ABH	Architectural Builders Hardware
BES	BEST
PRE	BEST (Precision)
BRN	Burns Manufacturing
DKA	dormakaba Architectural
NGP	National Guard Products
RCI	Rutherford Controls Inc

Finish List

Code:	Name:
AL	Anodized Aluminum
626	Chromium plated, satin
630	Satin Stainless Steel
689	Aluminum

HARDWARE SETS

Set #1 - EXT.ALUM.PR. / AUTOMATIC OPERATORS

Doors: 100A

2	Continuous Hinge	661 HD UL 83 EPT	AL	BES
2	Power Transfer	EPT-12C		PRE
1	Exit Device	C TDS 2803 CD 1703A	630	PRE
1	Exit Device	TDS C 2802 CD 1702A	630	PRE
2	Mortise Cylinder	1E7 4 RP3 PATD	626	BES
1	Rim Cylinder	12E7 2 RP PATD	626	BES
2	Automatic Operator	Provided under Section 08 71 13		
2	Touchless Actuator Switch	Provided under Section 08 71 13		
2	Wire Harness	WH-26P		BES
2	Wire Harness	WH-50		BES
1	Gasketing	Provided by Aluminum Door Manufacturer		
2	Door Sweep	Provided by Aluminum Door Manufacturer		
1	Threshold	Provided by Aluminum Door Manufacturer		

NOTE: Verify finish requirements with Architect. Operation: Doors normally latched and locked. Turning key in outside cylinder retracts latch bolt, allowing entry through the active leaf. Exit devices may be dogged (held retracted) by turning key in dogging cylinders. Touch Switch in exit devices are activated upon depressing push pads. When exit devices are dogged and internal touch switches are engaged, outside and inside actuator switches become enabled. When enabled, activating either inside or outside actuator switch signals automatic operator to open doors. Manual free egress is possible through both leaves at all times. Coordinate wiring and electrical requirements with Electrical Contractor and Automatic Operator Installer.

Set #2 - EXT.ALUM.SGL. / CARD READER

Doors: 137B

1	Continuous Hinge	661 HD UL 83 EPT	AL	BES
1	Power Transfer	EPT-12C		PRE
1	Exit Device	TS C MLR 2103 1703A S300	630	PRE
1	Rim Cylinder	12E7 2 RP PATD	626	BES
1	Door Closer	8916 SDS DP89 BSHD	689	DKA
1	Gasketing	Provided by Aluminum Door Manufacturer		
1	Door Sweep	Provided by Aluminum Door Manufacturer		
1	Threshold	Provided by Aluminum Door Manufacturer		

1	Power Supply	RPSMLR2BB	PRE
1	Door Position Switch	9540_x_W	RCI
1	Wire Harness	WH-192P	BES
1	Wire Harness	WH-26P	BES
1	Card Reader	Provided by Access Control System Contractor	

NOTE: Replace existing Aluminum Storefront door. Verify finish requirements with Architect.
Operation: Door normally latched and locked. Turning key in outside cylinder retracts latch bolt, allowing entry. Presenting valid credential to card reader retracts motorized latch bolt, allowing door to be pulled open. Door Position Switch monitors door status. Request-to-Exit Switch (TS) in exit device is activated upon depressing push pad, shunting forced door alarm at Access Control System. Free egress is possible at all times. Coordinate wiring and electrical requirements with Electrical Contractor and Access Control System Contractor.

[Set #3 - EXT.ALUM.SGL.](#)

Doors: 143A

1	Continuous Hinge	661 HD UL 83	AL	BES
1	Exit Device	2103 CD 1703A S300	630	PRE
1	Rim Cylinder	12E7 2 RP PATD	626	BES
1	Mortise Cylinder	1E7 4 RP3 PATD	626	BES
1	Door Closer	8916 SDS DP89 BSHD	689	DKA
1	Gasketing	Provided by Aluminum Door Manufacturer		
1	Door Sweep	Provided by Aluminum Door Manufacturer		
1	Threshold	Provided by Aluminum Door Manufacturer		

[Set #4 - EXT.ALUM.PR.2803CD/2802CD.SDS](#)

Doors: 143B

2	Continuous Hinge	661 HD UL 83	AL	BES
1	Exit Device	2803 CD 1703A	630	PRE
1	Exit Device	2802 CD 1702A	630	PRE
1	Rim Cylinder	12E7 2 RP PATD	626	BES
2	Mortise Cylinder	1E7 4 RP3 PATD	626	BES
2	Door Closer	8916 SDS DP89 BSHD	689	DKA
1	Gasketing	Provided by Aluminum Door Manufacturer		
2	Door Sweep	Provided by Aluminum Door Manufacturer		
1	Threshold	Provided by Aluminum Door Manufacturer		

Set #5 - EXT.ALUM.SGL.

Doors: 133B

1	Continuous Hinge	661 HD UL 83	AL	BES
1	Mortise Lock	45H 7 T 15 H PATD	626	BES
1	Door Closer	8916 SDS DP89 BSHD	689	DKA
1	Gasketing	Provided by Aluminum Door Manufacturer		
1	Door Sweep	Provided by Aluminum Door Manufacturer		
1	Threshold	Provided by Aluminum Door Manufacturer		

Set #6 - EXT.HM.PR.

Doors: 124

6	Hinge	FBB199 4.5x4.5 NRP	630	BES
1	Mortise Lock	45H 7 D 15 H PATD 7/8_LTC	626	BES
1	Coordinator	3721	689	ABH
2	Mounting Bracket	3751 or 3752 as required.	689	ABH
2	Door Closer	8916 SDS	689	DKA
2	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 1"	630	BRN
1	Gasketing	127NA (Head & Jamb)		NGP
1	Threshold	896 LAR 10-24_SS_MS/LA		NGP
2	Sweep	C699A 3	A	NGP
1	Drip Cap	16A x 4" ODW	A	NGP
1	Overlapping Astragal	without specification		

NOTE: Overlapping astragal to be mounted on pull side of active leaf.

Set #7 - INT.UL.ALUM.SGL.

Doors: 137A

3	Hinge	FBB168 4.5x4.5 NRP	652	BES
1	Exit Device	FL 2108 V4908A S300	630	PRE
1	Rim Cylinder	12E7 2 RP PATD	626	BES
1	Door Closer	8916 SDS DP89 BSHD	689	DKA
1	Gasketing	Provided by Aluminum Door Manufacturer		

Set #8 - CASED OPENING

Doors: 102, 147, 149

NOTE: Cased Opening. No hardware required.

Set #9 - BI-PARTING SLIDING DOORS

Doors: 134

NOTE: Hardware provided under 08 41 26.

Set #10 - INT.ALUM.PR. / AUTOMATIC OPERATORS

Doors: 100B

2	Continuous Hinge	661 HD UL 83 EPT	AL	BES
2	Power Transfer	EPT-12C		PRE
1	Exit Device	C TDS 2803 CD 1703A	630	PRE
1	Exit Device	TDS C 2802 CD 1702A	630	PRE
2	Mortise Cylinder	1E7 4 RP3 PATD	626	BES
1	Rim Cylinder	12E7 2 RP PATD	626	BES
2	Automatic Operator	Provided under Section 08 71 13		
2	Touchless Actuator Switch	without specification		
2	Wire Harness	WH-26P		BES
2	Wire Harness	WH-50		BES
1	Gasketing	Provided by Aluminum Door Manufacturer		

NOTE: Verify finish requirements with Architect. Operation: Doors normally latched and locked. Turning key in outside cylinder retracts latch bolt, allowing entry through the active leaf. Exit devices may be dogged (held retracted) by turning key in dogging cylinders. Touch Switch in exit devices are activated upon depressing push pads. When exit devices are dogged and internal touch switches are engaged, outside and inside actuator switches become enabled. When enabled, activating either inside or outside actuator switch signals automatic operator to open doors. Manual free egress is possible through both leaves at all times. Coordinate wiring and electrical requirements with Electrical Contractor and Automatic Operator Installer.

Set #11 -

Doors: 101, 142A

6	Hinge	FBB168 4.5x4.5 NRP	652	BES
2	Exit Device	FL 2808 LBR 4908A	630	PRE
2	Rim Cylinder	12E7 2 RP PATD	626	BES
2	Door Closer	8916 SDS	689	DKA
2	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 1"	630	BRN
1	Gasketing	5070 x Door Ht.		NGP
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #12 -

Doors: 112B

6	Hinge	FBB168 4.5x4.5 NRP	652	BES
1	Flushbolt	1860P	630	ABH
1	Dust Proof Strike	1870	630	ABH
1	Mortise Lock	45H 7 AT 15 H PATD	626	BES
1	Coordinator	3721	689	ABH
2	Mounting Bracket	3751 or 3752 as required.	689	ABH
2	Door Closer	8916 DS	689	DKA
2	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 1"	630	BRN
1	Astragal	672A (SET) 7		NGP
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #13 -

Doors: 121

6	Hinge	FBB168 4.5x4.5	652	BES
1	Flushbolt	1862P	630	ABH
1	Dust Proof Strike	1870	630	ABH
1	Mortise Lock	45H 7 D 15 H PATD	626	BES
1	Coordinator	3721	689	ABH
2	Door Closer	8916 IS	689	DKA
2	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 1"	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP
1	Overlapping Astragal	without specification		

NOTE: Overlapping astragal to be mounted on push side of inactive leaf.

Set #14 -

Doors: 103, 118, 127, 130

3	Hinge	FBB168 4.5x4.5 NRP	652	BES
1	Mortise Lock	45H 7 AT 15 H PATD	626	BES
1	Door Closer	8916 DS	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #15 -

Doors: 133A

3	Hinge	FBB168 4.5x4.5	652	BES
1	Mortise Lock	45H 7 AT 15 H PATD	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #16 -

Doors: 112A

3	Hinge	FBB168 4.5x4.5	652	BES
1	Mortise Lock	45H 7 AT 15 H PATD	626	BES
1	Door Closer	8916 IS	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #17 -

Doors: 105, 125

3	Hinge	FBB168 4.5x4.5	652	BES
1	Mortise Lock	45H 7 D 15 H PATD	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #18 -

Doors: 106, 107, 108, 123, 128

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #19 -

Doors: 131

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Mop Plate	MP50 CSK B4E Heavy 6" Door Width less 1"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #20 - INT.UL.INSW.HM.PVCY.IS.KP

Doors: 129

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H	626	BES
1	Door Closer	8916 IS	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #21 -

Doors: 120

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H	626	BES
1	Door Closer	8916 IS	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP
1	Automatic Door Bottom	423NA-36		NGP

Set #22 -

Doors: 104

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H VIBC	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Mop Plate	MP50 CSK B4E Heavy 6" Door Width less 1"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #23 -

Doors: 130B

1	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H	626	BES
1	Door Closer	8916 AF89	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #24 - INT.INSW.WD.PVCY.NOCLSR.NOPLATE.WS

Doors: 113, 114, 115, 116, 117

3	Hinge	FBB179 4.5X4.5	652	BES
3	Mortise Lock	45H 0 L 15 H	626	BES
1	Wall Stop	575	630	BRN
3	Silencer	500	Gray	BRN

Set #25 -

Doors: 132

3	Hinge	FBB179 4.5X4.5	652	BES
1	Mortise Lock	45H 0 L 15 H VIBC	626	BES
1	Door Closer	8916 AF89P	689	DKA
1	Kick Plate	KP50 CSK B4E Heavy 10" Door Width less 2"	630	BRN
1	Mop Plate	MP50 CSK B4E Heavy 6" Door Width less 1"	630	BRN
1	Automatic Door Bottom	423NA-36		NGP
1	Wall Stop	575	630	BRN
1	Gasketing	5050 B (Head & Jambs)		NGP

Set #26 -

Doors: 135, 136

3	Hinge	FBB179 4.5X4.5 NRP	652	BES
1	Mortise Lock	45H 7 D 15 H PATD	626	BES
1	Overhead Stop	902S	689	DKA
3	Silencer	500	Gray	BRN

Set #27 - OHD

Doors: 124B, 142B, 142C

NOTE: Hardware provided by Overhead Door Manufacturer.

Set #28 - NOT FOUND

Doors: 124C

NOTE: Opening not located on floor plan.

OPENING LIST:

OPENING #	SET	RATING
100A	1	
100B	10	
101	11	20-MIN
102	8	
103	14	20-MIN
104	22	20-MIN
105	17	20-MIN
106	18	20-MIN
107	18	20-MIN
108	18	20-MIN
112A	16	20-MIN
112B	12	20-MIN
113	24	
114	24	
115	24	
116	24	
117	24	
118	14	20-MIN
120	21	20-MIN
121	13	20-MIN
123	18	20-MIN
124	6	
124B	27	
124C	28	
125	17	20-MIN
127	14	20-MIN
128	18	20-MIN
129	20	20-MIN
130	14	20-MIN
130B	23	
131	19	20-MIN
132	25	
133A	15	20-MIN
133B	5	
134	9	
135	26	
136	26	
137A	7	20-MIN
137B	2	
142A	11	20-MIN
142B	27	60-MIN
142C	27	60-MIN
143A	3	
143B	4	
147	8	
149	8	

END OF SECTION

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**SECTION 08 71 13
AUTOMATIC DOORS**

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes the following types of automatic door operators:
 - 1. Low-energy door operators for swinging doors.
- B. Related Sections:
 - 1. Division 7 Sections for caulking to the extent not specified in this section.
 - 2. Division 8 Sections for "Aluminum-Framed Entrances and Storefronts" for entrances furnished and installed separately in Division 8 Section.
 - 3. Division 8 Section "Door Hardware" for hardware to the extent not specified in this section.
 - 4. Division 8 Section "Glazing" for materials and installation requirements of glazing for automatic entrances.
 - 5. Division 26 and 28 Sections for electrical connections including conduit and wiring for automatic entrance operators and access-control devices.

1.3 REFERENCES

- A. References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. CUL – Approved for use in Canada.
 - 4. NFPA 70 - National Electrical Code.
 - 5. NFPA 80 - Fire Doors and Windows.
 - 6. NFPA 101 - Life Safety Code.
 - 7. NFPA 105 - Installation of Smoke Door Assemblies.
- B. American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA).
 - 1. ANSI/BHMA A156.19 Standards for Power Assist and Low Energy Power Operated Doors.
- C. Underwriters Laboratories (UL).
 - 1. UL10C – Positive Pressure Fire Tests of Door Assemblies.
 - 2. UL 325 - Standard for Safety for Door, Drapery, Gate, Louver, and Window Operators and Systems.
- D. American Association of Automatic Door Manufacturers (AAADM).
- E. American Society for Testing and Materials (ASTM).
 - 1. ASTM B221 Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.
 - 2. ASTM B209 Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate.

- F. American Architectural Manufacturers Association (AAMA).
 - 1. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum.
- G. National Association of Architectural Metal Manufacturers (NAAMM).
 - 1. Metal Finishes Manual for Architectural Metal Products.
- H. International Code Council (IBC).
 - 1. IBC: International Building Code Building Code.

1.4 DEFINITIONS

- A. Activation device: Device that, when actuated, sends an electrical signal to the door operator to initiate the door operation.
- B. Monitored Safety Devices: A tested system that works in conjunction with the automatic door control that detects the presence of a person or an object within a zone where contact could occur and provides a signal to stop the movement of the door.
- C. AAADM: American Association of Automatic Door Manufacturers.
- D. Operating ambient Temperature Range: 5 Degrees F to plus 122 degrees F (minus 15 C to 50 degrees C).
- E. For automatic door terminology, refer to ANSI/BHMA A 156.19 for definitions of terms.

1.5 PERFORMANCE REQUIREMENTS

- A. General: Provide automatic doors that have been designed and fabricated to comply with specified performance requirements, as demonstrated by testing manufacturers corresponding systems.
- B. Compliance:
 - 1. ICC/IBC International Building Code
 - 2. ANSI/BHMA A 156.19 American National Standard for Power Operated Doors Pedestrian Doors.
 - 3. UL 325 Listed
 - 4. NFPA 70 National Electrical Code.
 - 5. NFPA 101 Life Safety Code
 - 6. CUL Approved for use in Canada
 - 7. UL Listed Fire Door Operator with Automatic Closer
- C. Opening Force Requirements:
 - 1. Power-Operated swinging doors shall open with a manual force not to exceed 30 lbf. (133N) to set the door in motion and 15 lbf. to fully open the door with force applied at 1" (25mm) from the latched edge of the door. The required force to prevent a stopped door from opening or closing shall not exceed 15 lbf. (67N) measured 1" (25mm) from the latch edge of the door at any point during the opening or closing.
- D. Closing Time:
 - 1. Door operators shall be field adjustable to close 90 degrees to 10 degrees in 3 seconds or longer per ANSI/BHMA A 156.19 standard.

2. Door shall be field adjusted to close from 10 degrees to fully closed position in not less than 1.5 seconds.

1.6 SUBMITTALS

- A. Comply with Division 01 – Submittal Procedures.
- B. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles fabrication, operational descriptions and finishes.
- C. Shop Drawings: For automatic entrances. Include plans, elevations, sections, details, hardware mounting heights, additional accessories and attachments to other work.
- D. Informational Submittals: Manufacturers product information and applicable sustainability program credits that are available towards a LEED rated product certification.
 1. Credit MR 4.1 and 4.2: Manufacture's or fabricator's certificate indicating percentage of post-consumer recycled content by weight and pre-consumer recycled content by weight for each product specified under this section.
- E. Manufacturers Field Reports: Submit manufacturer's field reports from AAADM certified technician of inspection and approval of doors for compliance with ANSI/BHMA A 156.19 after completion of installation.
- F. Operating and Maintenance Manuals: Provide manufacturers operating, owners and maintenance manuals for each item specified as required in Division 01, Closeout Submittals.

1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: 10 years minimum of documented experience in manufacturing door equipment similar to that indicated within this specification with a proven record of successful service performance. A manufacturer with company certificate issued by AAADM.
- B. Installer Qualifications: Installers, trained by the primary product manufacturers, with a minimum 5 years documented experience installing and maintenance of units similar in material, design, and extent to that indicated in this specification and whose work has resulted in construction with a record of successful in-service performance. Manufacturer's authorized representative who is trained and approved for installation and maintenance of units by AAADM required for this Project
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- D. Power-Operated Door Standard: ANSI/BHMA A 156.19 Current year.
- E. Emergency-Exit Door Requirements: Comply with requirements of authorities having jurisdiction for automatic entrances serving as a required means of egress.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings to receive automatic entrances by field measurements before fabrication.

1.9 COORDINATION

- A. Coordinate door operators with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish. Coordinate hardware for automatic entrances with hardware required for rest of project.
- B. Electrical System Roughing-in: Coordinate layout and installation of automatic power door operator with connections to power supplies and access-control system.

1.10 WARRANTY

- A. Automatic Door Operators to be free of defects in material and workmanship for a period of One (1) year from the date of substantial completion.
- B. During the warranty period a factory trained technician shall preform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form submitted to the owner.
- C. During the warranty period all warranty work shall be performed during normal working hours.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. dormakaba • Reamstown, PA • 1-844-SPEC-NOW (1-844-773-2669) • Website: www.dormakaba.us • Email: specnow@dorma.com
- B. Substitutions: Requests for substitution and product approval in compliance with the specification must be submitted in writing and in accordance with the procedures outlined in Division 1, Section "Substitution Procedures". Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 AUTOMATIC SWING DOOR OPERATOR

- A. Model: dormakaba, ED Series; ED250 (exterior), ED100 (interior) (Basis of Design); An Integrated, self-learning automatic swing door operator with an advanced CPU, a multistage gearbox with real time adaptive software and available user interface.
 - 1. Automatic Door Configuration:
 - a. Configuration: Single swing door or pair of doors swinging.
 - b. Traffic Pattern: two-way
 - c. Mounting: Surface applied
- B. Control Features
 - 1. Power-hold Close
 - 2. Built in Lock Delay
 - 3. On-Off-Hold Open switch control to control door function, (Automatic-Hold Open- Exit Only)
 - 4. On-Off Power Switch
 - 5. Fire Alarm Integration
 - 6. Field Adjustable Handing
 - 7. Push and Go
 - 8. Power Assist Opening Activation

9. Intergraded Connections for Monitored Safety Sensors and other accessories.
10. Integrated access control

C. Door Control Features

1. Wind Load and Stack Pressure microprocessor monitored with power boost to ensure secure opening and closing in changing conditions.
2. Door Weight Max. ED 250 (Max. Door Weight: 800 lbs.).
3. Door Weight Max. ED100 (Max. Door Weight: 600 lbs.)

- D. Header Size: Fine header height at 2-3/4" by 5-1/8" depth.

2.3 ACTIVATION DEVICES

A. Activation Device:

1. Touchless Actuator with "Wave to Open" or symbol.

2.4 ALUMINUM FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Anodized Finish:

1. Verify finish requirements with Architect.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames with Installer present, for compliance with requirements for installation tolerances, wall and floor construction and other conditions affecting performance of automatic entrances.
- B. Examine roughing in for electrical source power to verify actual locations of wiring connections.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Do not install damaged components. Fit frame joints to produce hairline joints free of burrs and distortion. Rigidly secure non-movement joints.
- B. Entrances: Install automatic entrances plumb and true in alignment with established lines and grades without warp or rack of framing members and doors. Anchor securely in place.
1. Install surface-mounted hardware using concealed fasteners to greatest extent possible.
 2. Set headers, carrier assemblies, tracks, operating brackets, and guides level and true to location with anchorage for permanent support.
- C. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections

- D. Sealants: Comply with requirements specified in Division 07 Section "Joint Sealants" to provide seal between the operator housing and wall surface. installation.
- E. Signage: Apply signage on both sides of each door and each sidelight as required by ANSI/BHMA A 156.19

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's representative shall provide technical assistance and guidance for installation of automatic doors.
 - 1. Factory trained and AAADM certified representative shall test and inspect each automatic door to determine compliance of the installed system to ANSI/BHMA A 156.19

3.4 ADJUSTING

- A. Adjust door operators and controls for smooth and safe operation.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by automatic operator installation promptly after installation .

3.6 DEMONSTRATION

- A. Engage a factory authorized representative to train Owner's maintenance personnel to adjust, operate, and maintain safe operation of automatic entrances.

HARDWARE SETS:

AO-1: Exterior Aluminum Pair

Doors: 100A

1 Pair ED250 Fine Header Full Length Cover
2 Touchless Actuator (1 exterior, 1 interior)

AO-2: Interior Aluminum Pair

Doors: 100B, 124C*

1 Pair ED100 Fine Header Full Length Cover
2 Touchless Actuator (Interior)

**Door 124C not found on plans. Verify location and requirements with Architect.*

NOTE: Refer to Hardware Sets in related Door Hardware and Aluminum Door sections for operational descriptions and door hardware details for each opening listed above. Coordinate wiring, electrical, and installation requirements with Electrical Contractor, Security Contractor, Hardware Supplier, and Aluminum Door and Frame Supplier.

END OF SECTION

**SECTION 08 8000
GLAZING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. .
- B. Glazing compounds and accessories.

1.02 RELATED REQUIREMENTS

- A. Section : components with requirement for .
- B. Section : Sealants for other than glazing purposes.
- C. Section : Glazed .
- D. Section 08 1416 - Flush Wood Doors
- E. Section : Glazed lites in doors.
- F. Section : Glazing furnished by storefront manufacturer.
- G. Section .
- H. Section : Mirrors.

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 C1172 - Standard Specification for Laminated Architectural Flat Glass; 2014.
- F. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- G. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.
- H. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.
- I. GANA (GM) - GANA Glazing Manual; 2009.
- J. GANA (LGRM) - Laminated Glazing Reference Manual; 2009.
- K. GANA (SM) - GANA Sealant Manual; 2008.
- L. ICC (IBC) - International Building Code; 2015.
- M. IGMA TM-3000 - North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial & Residential Use; 1990 (2004).

1.04 SUBMITTALS

- A. See Section , for submittal procedures.
- B. Product Data on Types: Provide structural, physical and environmental characteristics, size limitations, special handling or installation requirements.
- C. Product Data on Glazing Compounds: Provide chemical, functional, and environmental characteristics, limitations, special application requirements. Identify available colors.
- D. Samples: Submit two samples 12 by 12 inch (___ by ___ mm) in size of glass units, showing coloration and design.
- E. Certificates: Certify that meet or exceed .

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with for .
- B. Installer Qualifications: Company specializing in performing the work of this section with minimum years experience.

1.06 FIELD CONDITIONS

- A. Do not install glazing when ambient temperature is less than .

1.07 WARRANTY

- A. See Section , for additional warranty requirements.
- B. Sealed Insulating Glass Units: Provide a year warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.
- C. Laminated Glass: Provide a year warranty to include coverage for delamination, including replacement of failed units.

PART 2 PRODUCTS

2.01 INSULATING GLASS UNITS

- A. Type IG-1 - Sealed Insulating Glass Units: +/-1" Thick Vision glass, double glazed.
 - 1. Application:
 - 2. Outboard Lite: Annealed float glass, 1/4 inch (6 mm) thick, minimum, tempered.
 - a. Tint: Solar Grey.
 - b. Coating: , on #2 surface.
 - c. Coating: Equal to Solarban 70 XL.
 - 3. Inboard Lite: Annealed float glass, +/- 1/4 inch (6 mm) thick, minimum, tempered.
 - a. Tint: Clear. (non coated)
 - 4. Total Visible Light Transmittance: 34 percent, nominal.
 - 5. Total Solar Heat Gain Coefficient: 0.20 percent, nominal.
 - 6. U-Value: 0.28
 - 7. Glazing Method:

2.02 GLAZING UNITS

- A. Single Vision Glazing:
 - 1. Application:
 - 2. Type: float glass.
 - 3. Tint:
 - 4. Thickness: 1/4 inch (6 mm).
 - 5. Provide fire rating per schedule.
- B. Type S-2 - Fire-Protection-Rated Glazing:
 - 1. IBC Fire Protection Rating:
 - 2. Safety Certification: 16 CFR 1201 Category II.
 - 3. Manufacturer: FireLite® as manufactured by Nippon Electric Glass Company, Ltd., and distributed by Technical Glass Products, 8107 Bracken Place SE, Snoqualmie, WA 98065, voice 1-800-426-0279, fax 1-800-451-9857, e-mail sales@fireglass.com, web site www.fireglass.com. or approved equal
 - 4. Impact Safety Resistance: Fully-tempered as required by code for glass applications in doors.
 - 5. Positive Pressure Test: UL 10C, UBC 7-2 and 7-4; passes.
 - 6. Surface Finish:
 - a. Premium Grade-Ground and polished on both sides
 - 7. Labeling: Permanently label each piece of FireLite® with the FireLite® logo, UL logo and fire rating in sizes up to 3,325 sq. in., and with the FireLite® label only for sizes that exceed the listing (as approved by the local authority having jurisdiction).
 - 8. Thickness: as required by manufacturer for specified rating.

9. Glazing Method: As required for fire rating.
 10. Fire Rating: As indicated on the drawings, refer to life safety plan.
- C. Type M - [I] - 1/4" thick polished plate mirror with safety backing CFR 1201 with brushed stainless steel edge on four sides. Refer to section 10 2800 - Toilet, Bath, and Laundry Accessories, and to drawings for size and location.

2.03 EXTERIOR GLAZING ASSEMBLIES

- A. Structural Design Criteria: Select type and thickness to withstand dead loads and wind loads acting normal to plane of glass at design pressures calculated in accordance with The 2015 International Building Code code as well as applicable blast resistance requirements
1. Design Pressure: Calculated in accordance with .
 2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
 3. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/200 of their lengths under specified design load or flexural limit of glass, whichever is less, with full recovery of glazing materials.
 4. Glass thicknesses listed are minimum.

2.04 GLASS MATERIALS

- A. Float Glass Manufacturers:
1. AGC Flat Glass North America, Inc: www.na.agc-flatglass.com.
 2. Guardian Industries Corp: www.sunguardglass.com.
 3. Pilkington North America Inc: www.pilkington.com/na.
 4. PPG Industries, Inc: www.ppgideascape.com.
 5. Substitutions:
- B. Float Glass: Provide float glass based glazing unless noted otherwise.
1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, .
 2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and Kind FT.
 3. Tinted Types: ASTM C1036, Class 2 - Tinted, color and performance characteristics as indicated.
 4. Thicknesses: As indicated; for exterior glazing comply with requirements indicated for wind load design regardless of thickness indicated.
- C. Anti-Reflective Glass: Float glass with physically bonded surface coatings to reduce reflection and glare on glazing units. (Located at Judges bench)
1. Glazing Type: Monolithic; laminated safety glass.
 2. Thickness:
 3. Polished exposed edges.
- D. Fire-Protection-Rated Glazing: Type, thickness, and configuration as required to achieve indicated ratings.
1. IBC Fire Protection Rating:
 2. Provide products listed by .
 3. Labeling: Provide permanent label on each piece giving the IBC rating and other information required by the applicable code.

2.05 SEALED INSULATING GLASS UNITS

- A. Manufacturers:
1. Any of the manufacturers specified for float glass.
 2. Substitutions:
- B. Sealed Insulating Glass Units: Types as indicated.
1. Application: Exterior, except as otherwise indicated.
 2. Durability: Certified by an independent testing agency to comply with ASTM E2190.
 3. Edge Spacers: , corners.
 4. Edge Seal:

5. Purge interpane space with dry air.

2.06 GLAZING COMPOUNDS

- A. Manufacturers:
 1. Bostik Inc: www.bostik-us.com.
 2. Pecora Corporation: www.pecora.com.
 3. BASF Construction Chemicals-Building Systems: www.buildingsystems.basf.com.
 4. Substitutions:

2.07 GLAZING ACCESSORIES

- A. Setting Blocks: , Shore A durometer hardness. Length of of glazing or minimum x width of glazing rabbet space minus x height to suit glazing method and pane weight and area.
- B. Spacer Shims: , Shore A durometer hardness. Minimum long x one half the height of the glazing stop x thickness to suit application.
- C. Glazing Tape: Preformed butyl compound with integral resilient tube spacing device; 10 to 15 Shore A durometer hardness; coiled on release paper; black color.
 1. Manufacturers:
 - a. Pecora Corporation: www.pecora.com.
 - b. Tremco Global Sealants: www.tremcosealants.com.
 - c. Substitutions:
- D. Glazing : Resilient extruded shape to suit glazing channel retaining slot; color.
- E. Glazing Clips: Manufacturer's standard type.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that openings for glazing are correctly sized and within tolerance.
- B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and ready to receive glazing.

3.02 PREPARATION

- A. Clean contact surfaces with solvent and wipe dry.
- B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.
- C. Prime surfaces scheduled to receive sealant.
- D. Install sealants in accordance with ASTM C1193 and GANA Sealant Manual.
- E. Install sealants in accordance with manufacturer's instructions.

3.03 INSTALLATION - EXTERIOR/INTERIOR DRY METHOD (GASKET GLAZING)

- A. Place setting blocks at points with edge block no more than from corners.
- B. Rest glazing on setting blocks and push against fixed stop with sufficient pressure on gasket to attain full contact.
- C. Install removable stops without displacing glazing gasket; exert pressure for full continuous contact.

3.04 CLEANING

- A. Remove glazing materials from finish surfaces.
- B. Remove labels after Work is complete.
- C. Clean glass and adjacent surfaces.

3.05 PROTECTION

- A. After installation, mark pane with an 'X' by using removable plastic tape or paste.

END OF SECTION

**SECTION 08 9100
LOUVERS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Type 1: Aluminum Drainable Blade Louvers
- B. Frames and Accessories

1.02 RELATED REQUIREMENTS

- A. Section 07 6200 - SHEET METAL FLASHING AND TRIM.
- B. Section 07 9005 - Joint Sealers.
- C. Section 09 9113 - Exterior Painting: Field painting.
- D. Division 15 - Mechanical
- E. Section 23 3100 - HVAC Ducts and Casings: Ductwork attachment to louvers.

1.03 REFERENCE STANDARDS

- A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).
- B. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- C. AAMA 2605 - Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels (with Coil Coating Appendix); 2017a.
- D. AMCA 500-L - Laboratory Methods of Testing Louvers for Rating; 2012.
- 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 A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- G. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- H. ASTM B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate (Metric); 2014.
- I. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- J. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.
- K. AMCA 550 - Test method for High Velocity Wind Driven Rain Resistant Louvers

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data describing design characteristics, maximum recommended air velocity, design free area, materials and finishes.
- C. Shop Drawings: Indicate louver layout plan and elevations, opening and clearance dimensions, tolerances; head, jamb and sill details; blade configuration, screens, blankout areas required, and frames.
- D. Samples: Submit two samples 2 by 2 inches (50 by 50 mm) in size illustrating finish and color of exterior and interior surfaces.
- E. Test Reports: Independent agency reports showing compliance with specified performance criteria.
- F. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

- G. Maintenance Data: Include lubrication schedules and adjustment requirements .

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year manufacturer's warranty against distortion, metal degradation, and connection failures of louver components.
1. Finish: Include twenty year coverage against degradation of exterior finish.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Louvers:
1. Airolite Company, LLC; _____: www.airolite.com/#sle.
 2. Ruskin ; www.ruskin.com
 3. Greenheck: Basis of Design EVH-501D with 54% free area; www.greenheck.com
 4. American Warming and Ventilating; _____: www.awv.com.
 5. Construction Specialties, Inc; Acoustical Louver: www.c-sgroup.com/#sle.
 6. Greenheck Fan Corp.; www.greenheck.com

2.02 LOUVERS

- A. Type 1: Stationary Louvers : Horizontal blade, extruded aluminum construction.
1. Free Area: 57%, minimum.
 2. Bird Screen
 3. Construction: all welded, standard frame
 4. Blades: Drainable Blade, hidden mullions, 37.5 degree angle, spaced approximately 5 29/32 inch center to center
 5. Frame: 6 inches deep (150 mm deep), channel profile; corner joints mitered and , with continuous recessed caulking channel each side.
 6. Aluminum Thickness: Frame 12 gage, 0.0808 inch (2.05 mm) minimum; blades 12 gage, 0.0808 inch (2.05 mm) minimum.
 7. Color: As selected from manufacturer's standard colors.
 8. Complies with AMCA 550.

2.03 MATERIALS

- A. Extruded Aluminum: ASTM B221 (ASTM B221M), _____ alloy, _____ temper.
- B. Formed Aluminum: Formed sheet, ASTM B209 (ASTM B209M), _____ alloy, _____ temper.
- C. Bird Screen: Interwoven wire mesh of steel, 0.063 inch (1.6 mm) diameter wire, 1/2 inch (13 mm) open weave, diagonal design.
- D. Primer: Zinc chromate, alkyd type.

2.04 ACCESSORIES

- A. Blank-Off Panels: Same material as louver, painted black on exterior side; provide where duct connected to louver is smaller than louver frame, sealing off louver area outside duct.
- B. Fasteners and Anchors: Galvanized steel.
- C. Head and Sill Flashings: See Section 07 6200.
- D. Sealant for Setting Sills and Sill Flashing: Non-curing butyl type.
- E. Sealant: as specified in Section 07 9005.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that prepared openings and flashings are ready to receive this work and opening dimensions are as indicated on shop drawings.
- B. Verify that field measurements are as indicated.

3.02 INSTALLATION

- A. Install Type 1 louver assembly in accordance with manufacturer's instructions.
 - 1. Coordinate with installation of flashings by others.
 - 2. Install louvers level and plumb.
 - 3. Align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.
 - 4. Secure louver frames in openings with concealed fasteners.
 - 5. Install perimeter sealant and backing rod in accordance with Section 07 9005.
 - 6. Coordinate with installation of mechanical ductwork.
- B. Install Type 2 Chevron Blade FEMA Louvers in strict accordance with manufacturer's instructions for each condition and project. Submit shop drawings to Architect for approval prior to installation. Comply with FEMA and applicable building code requirements.
 - 1. Coordinate with installation of flashings by others.
 - 2. Install louvers level and plumb.
 - 3. Align louver assembly to ensure moisture shed from flashings and diversion of moisture to exterior.
 - 4. Secure louver frames in openings with concealed fasteners.
 - 5. Install perimeter sealant and backing rod in accordance with Section 07 9005.
 - 6. Coordinate with installation of mechanical ductwork.

3.03 CLEANING

- A. Strip protective finish coverings.
- B. Clean surfaces and components.

END OF SECTION

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**SECTION 09 2116
GYPSUM BOARD ASSEMBLIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing.
- C. Metal channel ceiling framing.
- D. Gypsum sheathing.
- E. Cementitious backing board.
- F. Gypsum wallboard.
- G. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 05 4000 - Cold-Formed Metal Framing: Exterior wind-load-bearing metal stud framing.
- C. Section 06 1000 - Rough Carpentry: Wood blocking product and execution requirements.
- D. Section 07 2100 - Thermal Insulation: Acoustic insulation.
- E. Section 07 8400 - Firestopping: Top-of-wall assemblies at fire rated walls.
- F. Section 07 9005 - Joint Sealers: Acoustic sealant.
- G. Section 09 3000 - Tiling: Tile backing board.

1.03 REFERENCE STANDARDS

- A. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2018.
- B. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium).; 2013.1.
- C. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium).; 2013.1.
- D. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2016).
- E. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.
- F. ASTM C645 - Standard Specification for Nonstructural Steel Framing Members; 2014.
- G. ASTM C754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2015.
- H. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.
- I. 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.
- J. 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.
- K. ASTM C1278/C1278M - Standard Specification for Fiber-Reinforced Gypsum Panel; 2007a (Reapproved 2011).
- L. ASTM C1325 - Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units; 2014.
- M. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014.

- N. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2021.
- O. ASTM E90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009.
- P. ASTM E413 - Classification for Rating Sound Insulation; 2010.
- Q. GA-216 - Application and Finishing of Gypsum Board; 2013.
- R. ICC (IBC) - International Building Code; 2009

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate special details associated with fireproofing and acoustic seals.
- C. Product Data: Provide data on metal framing, gypsum board, accessories, and joint finishing system.
- 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.
- E. Samples: Submit two samples of gypsum board finished with proposed texture application, 12 by 12 inches (300 by 300 mm) in size, illustrating finish color and texture.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board installation and finishing, with minimum __ years of experience.
- B. Copies of Documents at Site: Maintain at the project site a copy of each referenced document that prescribes execution requirements.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.
- B. Interior Partitions: Provide completed assemblies with the following characteristics:
 - 1. Acoustic Attenuation: STC of 45-49 calculated in accordance with ASTM E413, based on tests conducted in accordance with ASTM E90. Similar and equal to QuietRock PGD-01-10-270.

2.02 METAL FURRING CHANNELS AND RESILIENT CHANNELS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. ClarkDietrich; ____: www.clarkdietrich.com/#sle.
 - 2. Dietrich Metal Framing: www.dietrichindustries.com.
 - 3. Marino; ____: www.marinoware.com/#sle.
 - 4. Phillips Manufacturing Company; ____: www.phillipsmfg.com.
 - 5. Substitutions: See Section 01 6000 - Product Requirements.
- B. Non-Loadbearing Framing System Components: ASTM C645; galvanized 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 (L/120 at 240 Pa).
 - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 2. Runners: U shaped, sized to match studs.
 - 3. Furring: Hat-shaped sections, minimum depth of 7/8 inch (22 mm).
 - 4. Resilient Furring Channels: for attachment to substrate. (Conform to applicable UL requirements)
 - a. Products:
 - 1) Same manufacturer as other framing materials.
 - 2) Substitutions: See Section 01 6000 - Product Requirements.

- C. Ceiling Hangers: Type and size as specified in ASTM C754 for spacing required.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
1. American Gypsum: www.americangypsum.com.
 2. CertainTeed Corporation; ____: www.certainteed.com/#sle.
 3. Georgia-Pacific Gypsum; ____: www.gpgypsum.com/#sle.
 4. Lafarge North America Inc: www.lafargenorthamerica.com.
 5. National Gypsum Company; ____: www.nationalgypsum.com/#sle.
 6. USG Corporation; ____: www.usg.com/#sle.
 7. Substitutions: See Section 01 6000 - Product Requirements.
- B. Impact Resistant Wallboard:
1. Application: High-traffic areas indicated.
 2. Paper-Faced Type: Gypsum wallboard as defined in ASTM C1396/C1396M.
 3. Unfaced Type: Interior fiber-reinforced gypsum panels as defined in ASTM C1278/C1278M.
 4. Type: Fire resistance rated Type X, UL or WH listed.
 5. Thickness: 5/8 inch (16 mm).
 6. Edges: Tapered.
 7. Products:
 - a. National Gypsum Company; Gold Bond Hi-Impact Brand XP Wallboard.
 - b. Temple-Inland Building Product by Georgia-Pacific, LLC; ComfortGuard IR Impact Resistant.
 - c. USG Corporation; Fiberock Brand Panels--VHI Abuse-Resistant.
 - d. Substitutions: See Section 01 6000 - Product Requirements.
- C. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including behind toilets, urinals, and lavatories..
 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D3273.
 3. ANSI Cement-Based Board: Non-gypsum-based; aggregated Portland cement panels with glass fiber mesh embedded in front and back surfaces complying with ANSI A118.9 or ASTM C1325.
 - a. Thickness: 1/2 inch (12.7 mm).
 - b. Products:
 - 1) Custom Building Products; ____: www.custombuildingproducts.com/#sle.
 - 2) National Gypsum Company; PermaBase Cement Board: www.nationalgypsum.com/#sle.
 - 3) USG Corporation; ____: www.usg.com/#sle.

2.04 GYPSUM WALLBOARD ACCESSORIES

- A. Acoustic Sealant: Acrylic emulsion latex or water-based elastomeric sealant; do not use solvent-based non-curing butyl sealant.
- B. Refer to Section 07 2000
- C. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.
1. Paper Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
 2. Ready-mixed vinyl-based joint compound.
- D. Screws for Fastening of Gypsum Panel Products to Cold-Formed Steel Studs Less than 0.033 inch (0.84 mm) in Thickness and Wood Members: ASTM C1002; self-piercing tapping screws, corrosion resistant.

- E. Screws for Fastening of Gypsum Panel Products to Steel Members from 0.033 to 0.112 inch (0.84 to 2.84 mm) in Thickness: ASTM C954; steel drill screws, corrosion resistant.
- F. 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. Suspended Ceilings and Soffits: Space framing and furring members as indicated.
 - 1. Laterally brace entire suspension system.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.
- D. Standard Wall Furring: Install at concrete walls scheduled to receive gypsum board, not more than 4 inches (100 mm) from floor and ceiling lines and abutting walls. Secure in place on alternate channel flanges at maximum 24 inches (600 mm) on center.
 - 1. Orientation: Vertical.
- E. Acoustic Furring: Install resilient channels at maximum 24 inches (600 mm) on center. Locate joints over framing members.
- F. Blocking: Install wood blocking for support of:
 - 1. Framed openings.
 - 2. Wall mounted cabinets.
 - 3. Plumbing fixtures.
 - 4. Toilet partitions.
 - 5. Toilet accessories.
 - 6. Wall mounted door hardware.
 - 7. In all locations noted elsewhere
 - 8. As required for the secure installation of any product to be attached to stud /gypsum partitions or ceilings

3.03 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 Non-Rated: 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. Double-Layer Non-Rated: Use gypsum board for first layer, placed parallel to framing or furring members, with ends and edges occurring over firm bearing. Use glass mat faced gypsum board at exterior walls and at other locations as indicated. Place second layer perpendicular to framing or furring members. Offset joints of second layer from joints of first layer.
- D. Fire-Rated Construction: Install gypsum board in strict compliance with requirements of assembly listing.
- E. Exposed Gypsum Board in Interior Wet Areas: Seal joints, cut edges, and holes with water-resistant sealant.
- F. Cementitious Backing Board: Install over steel framing members and plywood substrate where indicated, in accordance with ANSI A108.11 and manufacturer's instructions.
- G. Installation on Metal Framing: Use screws for attachment of gypsum board except face layer of non-rated double-layer assemblies, which may be installed by means of adhesive lamination.

- H. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Control Joints: Place control joints consistent with lines of building spaces and as indicated.
1. Not more than 30 feet (10 meters) apart on walls and ceilings over 50 feet (16 meters) long. Fire rated as required
- B. Corner Beads: Install at external corners, using longest practical lengths.

3.05 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.
- B. 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 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. 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 (0.8 mm).

3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet (3 mm in 3 m) in any direction.

END OF SECTION

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**SECTION 09 3000
TILING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Tile for shower receptors.
- D. Cementitious backer board as tile substrate, refer to Section 09 21 16 for specification.
- E. Stone thresholds.
- F. Ceramic accessories. to include (Non Ceramic and Honed Marble Thresholds)

1.02 RELATED REQUIREMENTS

- A. Section 04 20 00 Unit Masonry
- B. Section 07 9200 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- C. Section 09 2116 - Gypsum Board Assemblies: Tile backer board.
- D. Section 22 4000 - Plumbing Fixtures: Shower receptor.

1.03 REFERENCE STANDARDS

- A. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2017.
- B. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- C. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).
- D. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- E. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- F. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
- G. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
- H. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).
- I. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
- J. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- K. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2016).
- L. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium).; 2013.1.

- M. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium).; 2013.1.
- N. ANSI A118.1 - American National Standard Specifications for Dry-Set Cement Mortar; 2012 (Revised).
- O. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.
- P. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2013.1.
- Q. ASTM C1027-99 Abrasion Resistance Data to equal Class Four or Class Five
- R. ASTM C1028-06 Static Coefficient of Friction (COF) Slip Resistance of tile
- S. ASTM C373 - Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products, Ceramic Tiles, and Glass Tiles; 2014a.
- T. ASTM C648-04 Breaking strength
- U. ASTM C650-04 Chemical Resistance
- V. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

1.05 SUBMITTALS

- A. See Section 01 3000 - 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. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches (457 by 457 mm) in size illustrating pattern, color variations, and grout joint size variations.
- D. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.

1.06 QUALITY ASSURANCE

- A. Maintain one copy of and {rs#1} and {rs#2} on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum 3 years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

1.08 FIELD CONDITIONS

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Manufacturers: All products of each type by the same manufacturer.
 - 1. Refer to finish schedule for tile types and colors basis of design.
 - 2. Substitutions: See Section 01 6000 - Product Requirements.
- B. Porcelain Tile, Type _____: ANSI A137.1 standard grade.
 - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
 - 2. Size: 12by24 and ____ inch (30by60 mm), nominal. Field Floor and Wall Tile. See drawings

3. Thickness: 0.35 inch (9 mm).
4. Surface Finish: Unglazed.
5. Color(s): To be selected by Architect from manufacturer's standard range.
6. Pattern: Brick.
7. Trim Units: Matching bullnose, double bullnose, cove base, and cove shapes in sizes coordinated with field tile.
8. Products:
 - a. Dal-Tile Corporation; _____: www.daltile.com/#sle.
 - b. Basis of Design: See sheet A3.1.
 - c. Substitutions: See Section 01 6000 - Product Requirements.

2.02 TRIM AND ACCESSORIES

- A. Soap Dish: Without handle, [Corner mount] design, recess mounted; cast strength sufficient to resist lateral pull force of 75 lbs (34 Kg). One each per shower. Solid surface material. Color to be selected by architect.
- B. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile; same manufacturer as tile.
 1. Soap Dish: Without handle, Corner mount design, recess mounted; cast strength sufficient to resist lateral pull force of 75 lbs (34 Kg). One each per shower.
- C. Non-Ceramic Trim: Satin natural anodized extruded aluminum or prefinished aluminum, color to be selected by architect, style and dimensions to suit application, for setting using tile mortar or adhesive.
 1. Applications: Edge Strips and Thresholds: [Extruded Aluminum], color as selected by Architect. Equal to Schluter, straight and radiused as required. Conform to ADAAG Requirements.
 - a. Open edges of wall tile. (Equal to aluminum finished Schleuter Rondec-DB) at showers.
 - b. At floors where ceramic tile terminates into carpet. Equal to aluminum finished Schleuter Reno-TK)
 - c. Open edges of floor tile.
 - d. Wall corners, outside. Equal to Schluter Jolly.
 - e. Transition between floor finishes of different heights.
 - f. Wall to floor transition/inside corners. Equal to Schluter Dilex-EKE.
- D. Thresholds: Marble, white or gray, honed finish; 2 inches (51 mm) wide by full width of wall or frame opening; 1/2 inch thick (12.7 mm thick); beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.

2.03 SETTING MATERIALS

- A. Manufacturers:
 1. ARDEX Engineered Cements; ARDEX X 4: www.ardexamericas.com.
 2. Bostik Inc; _____: www.bostik-us.com/#sle.
 3. Custom Building Products; _____: www.custombuildingproducts.com.
 4. LATICRETE International, Inc; _____: www.laticrete.com/#sle.
 5. Merkrete, by Parex USA, Inc; _____: www.merkrete.com/#sle.
 6. ProSpec, an Oldcastle brand; _____: www.prospec.com.
 7. Substitutions: See Section 01 6000 - Product Requirements.
- B. Dry-Set Portland Cement Mortar Bond Coat: ANSI A118.1.

2.04 GROUTS

- A. Manufacturers:
 1. Bostik True Color, urethane grout (full range of colors) see finish schedule.
 2. Substitutions: See Section 01 6000 - Product Requirements.

2.05 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
 - 1. Applications: Between tile and plumbing fixtures.
 - 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. Custom Building Products; Commercial 100% Silicone Caulk: www.custombuildingproducts.com/#sle.
 - c. LATICRETE International, Inc; LATICRETE LATASIL: www.laticrete.com/#sle.
 - d. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: www.merkrete.com/#sle.
 - e. ProSpec, an Oldcastle brand; ProColor Advantage Caulk: www.prospec.com.
 - f. Substitutions: See Section 01 6000 - Product Requirements.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
 - 1. Composition: Water-based colorless silicone.

2.06 ACCESSORY MATERIALS

- A. Waterproofing Membrane at all floors and at all walls receiving tile: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
 - 1. Fluid or Trowel Applied Type:
 - a. Material: 2 coats cement based
 - b. Thickness: 25 mils (0.6 mm), minimum, dry film thickness.
 - c. Products:
 - 1) ARDEX Engineered Cements; ARDEX 8+9 and ARDEX SK MESH: www.ardexamericas.com.
 - 2) AVM Industries, Inc; System 700 with continuous polyester fabric reinforcement: www.avmindustries.com.
 - 3) Hydroment Black-Top 90210.
 - 4) Substitutions: See Section 01 6000 - 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.
- 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 sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
- D. Verify that concrete sub-floor surfaces are ready for tile 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.
- 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. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, manufacturer's instructions, and TCNA (HB) recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
- C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
- D. 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.
- E. Form internal angles square and external angles bullnosed.
- F. Install ceramic accessories rigidly in prepared openings.
- G. Install non-ceramic trim in accordance with manufacturer's instructions.
- H. Install thresholds where indicated.
- I. Sound tile after setting. Replace hollow sounding units.
- J. Keep control and expansion joints free of mortar, grout, and adhesive.
- K. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- L. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- M. 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.

3.04 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method F113, dry-set or latex-Portland cement bond coat, with standard grout, unless otherwise indicated.

3.05 INSTALLATION - FLOORS - MORTAR BED METHODS

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method _____, unless otherwise indicated.
 - 1. Where waterproofing membrane is indicated, with standard grout or no mention of grout type, install in accordance with TCNA (HB) Method F121 at shower walls.
- B. Waterproofing Membrane: Install as recommended by manufacturer and as specified in the section in which the product is specified.
- C. Mortar Bed Thickness: 2 inch (____ mm), unless otherwise indicated.

3.06 INSTALLATION - SHOWERS AND BATHTUB WALLS

- A. At bathtub walls install in accordance with TCNA (HB) Method W202, thin-set over masonry (concrete masonry units)
- B. Grout with standard grout as specified above.

3.07 INSTALLATION - WALL TILE

- A. Over concrete floor in accordance with TCNA(HB) F113-12 with full crack and waterproof membrane.
- B. Over interior concrete and masonry install in accordance with TCNA (HB) Method W202, thin-set with dry-set or latex-Portland cement bond coat.

3.08 CLEANING

- A. Clean tile and grout surfaces.

3.09 PROTECTION

- A. Do not permit traffic over finished floor surface for 4 days after installation.

3.10 ATTIC STOCK

- A. 3% of installed amount
- B. Accessory Materials (grout, sealant, etc.) - 3% of installed amount

END OF SECTION

**SECTION 09 5100
ACOUSTICAL CEILINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 RELATED REQUIREMENTS

- A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 26 5100 - Interior Lighting: Light fixtures in ceiling system.

1.03 REFERENCE STANDARDS

- A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.
- C. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.
- D. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2015.
- E. UL (FRD) - Fire Resistance Directory; current edition.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.
- B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on suspension system components.
- C. Samples: Submit two samples 6 x6 inch (____by____ mm) in size illustrating material and finish of acoustical units.
- D. Samples: Submit two samples each, 12 inches (____ mm) long, of suspension system main runner.
- E. Manufacturer's Installation Instructions: Indicate special procedures.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 6000 - Product Requirements, for additional provisions.

1.06 QUALITY ASSURANCE

- A. Fire-Resistive Assemblies: Complete assembly listed and classified by {rs\#1} for the fire resistance indicated.
- B. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- C. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.07 FIELD CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acoustic Panels: Type 1
 - 1. Armstrong World Industries, Inc: www.armstrong.com.(Basis of Design- Armstrong Fine Fissured 1728, USG Radar 2210, 2x2 x 5/8 inch with 15/16" Square Layin), sag resistance Humid guard Plus, Class A, ASTM 84, ASTM E1264, Meets CA dept. of health VOC Emissions , Anti Mold & Bacteria Bio-Block, 1.5 R Value. (BTU units) , 30 year manufacturers warranty. Color: white
 - 2. CertainTeed Corporation; ____: www.certainteed.com/#sle.
 - 3. USG; ____: www.usg.com/#sle.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- B. Acoustic Panels: Type 2
 - 1. Vinyl Coated Gypsum Board USG Clima Plus 3260 , 2x2 x 1/2" or with 15/16 inch Square layin. Color:
- C.
- D. Suspension Systems:
 - 1. Armstrong World Industries, Inc; ____: www.armstrong.com. (basis of design Prelude XL 7300 15/16") approved equals must meet basis of design: Donn DX, Chicago Metallic 1200,USG DX Heavy duty 15/16 , 10 year warranty, 10 year warranty with Humid guard plus products, Superlock, hot dipped Galvanized coating , secure lock connection. Grid to m
 - 2. CertainTeed Corporation; ____: www.certainteed.com/#sle.
 - 3. USG; ____: www.usg.com/#sle.
 - 4. Donn:
 - 5. Substitutions: See Section 01 6000 - Product Requirements.

2.02 SUSPENSION SYSTEM(S)

- A. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with perimeter moldings, hold down clips, stabilizer bars, clips, and splices as required.

2.03 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Touch-up Paint: Type and color to match acoustical and grid units.
- C. Clean and touch up existing grid to remain.

PART 3 EXECUTION

3.01 INSTALLATION - SUSPENSION SYSTEM

- A. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- B. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.
- C. 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.
- D. 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.
- E. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- F. Support fixture loads using supplementary hangers located within 6 inches (150 mm) of each corner, or support components independently.

- G. Do not eccentrically load system or induce rotation of runners.

3.02 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 units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Make field cut edges of same profile as factory edges.
- G. Install hold-down clips on each panel to retain panels tight to grid system; comply with fire rating requirements.

3.03 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

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**SECTION 09 6500
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 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 03 3000 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors.

1.03 REFERENCE STANDARDS

- A. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2014c.
- B. ASTM E 662 Smoke - 450 or less
- C. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
- D. ASTM F1700 - Standard Specification for Solid Vinyl Tile; 2013a.
- E. ASTM F1861 - Standard Specification for Resilient Wall Base; 2008 (Reapproved 2012).

1.04 SUBMITTALS

- A. See Section 01 3000 - 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. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.
- D. Concrete Testing Standard: Submit a copy of ASTM F710.
- E. Certification: Prior to installation of flooring, submit written certification by flooring manufacturer and adhesive manufacturer that condition of sub-floor is acceptable.
- F. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.
- B. Maintain temperature in storage area between 55 degrees F (13 degrees C) and 90 degrees F (72 degrees C).
- C. Protect roll materials from damage by storing on end.
- D. Do not double stack pallets.

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 (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

PART 2 PRODUCTS

2.01 TILE FLOORING

- A. Vinyl Tile - Type ____: Printed film type, with transparent or translucent wear layer; acoustic interlayer or backing.
 - 1. Manufacturers:
 - a. Basis of Design: See sheet A3.1.
 - b. Substitutions: See Section 01 6000 - Product Requirements.
 - 2. Minimum Requirements: Comply with ASTM F1700, Class III.
 - 3. Wear Layer Thickness: 0.020 inch (0.50 mm).
 - 4. Total Thickness: ____ inch (4.5 mm).
 - 5. Tile Edge: Squared.
 - 6. Pattern: Brick.
 - 7. Color: To be selected by Architect from manufacturer's full range.

2.02 RESILIENT BASE

- A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove.
 - 1. Height: 4 inch (100 mm).
 - 2. Thickness: 0.125 inch (3.2 mm).
 - 3. Finish: Satin.
 - 4. Length: Roll.
 - 5. Color: Color as selected from manufacturer's standards.
 - 6. Manufacturers:
 - a. Roppe Corp; ____: www.roppe.com.
 - b. Substitutions: See Section 01 6000 - Product Requirements.
 - 7. Outside and inside corners using continuous roll base.
 - 8. 6' minimum length

2.03 ACCESSORIES

- A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.
- B. Primers, Adhesives, and Seam Sealer: 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.
- B. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.
 - 1. Test in accordance with ASTM F710.
 - 2. Obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare floor substrates as recommended by flooring and adhesive manufacturers.
- B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is fully cured.

3.03 INSTALLATION - GENERAL

- A. Starting installation constitutes acceptance of sub-floor conditions.

- B. Install in accordance with manufacturer's written instructions.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Fit joints and butt seams tightly.
- E. Set flooring in place, press with heavy roller to attain full adhesion.
- F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 INSTALLATION - RESILIENT BASE

- A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches (45 mm) between joints.
- B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.05 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's written instructions.
- C. VCT flooring shall be scrubbed to remove factory finish and then waxed with 4 coats of wax. Wax specifications to be coordinated by University Project Lead.
- D. Newly waxed VCT flooring shall be burnished with a hog's hair pad by a high speed burnisher at 1500-2000 rpm.

3.06 PROTECTION

- A. Prohibit traffic on resilient flooring for 48 hours after installation.

3.07 WARRANTY

- A. Provide a five year warranty.

END OF SECTION

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**SECTION 09 7800
INTERIOR WALL PANELING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Composite interior wall paneling.
- B. Accessories.

1.02 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's descriptive literature for each specified product; include data to indicate _____. Include anchorage devices specific to project substrate types.
- C. Shop Drawings: Submit elevations for each application and location. Indicate details of joints and attachments.
- D. Samples: Submit two samples 12 by 12 inches (300 by 300 mm) in size, indicating finish, surface design, and color for each type of panels; _____.
- E. Manufacturer's Instructions: Provide manufacturer's installation instructions.
- F. Maintenance Data: Include recommended instructions, methods, and materials for cleaning glass, aluminum framing, and FRP panels.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to project site in manufacturer's original packaging, marked with manufacturer's product identification.
- B. Store panels flat, indoors, on a clean, dry surface. Remove packaging and allow panels to acclimate to room temperature for 48 hours prior to installation.

1.04 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.
- B. Extended Correction Period: Correct defective work within a 5-year period for _____ commencing on the Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Composite Interior Wall Paneling:
 - 1. Basis of Design: WoodPlank; Solid Oak Slat Wall Panels;
<https://woodplank.com/products/oak-slats>
 - 2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 WOOD SLAT INTERIOR WALL PANELING

- A. Wood Slat Wall Panel System:
 - 1. Applications: As indicated on drawings.
 - 2. Panel Size: 5 1/4 by 135 inches (_____ by _____ mm).
 - 3. Thickness: 7/8" inch (_____ mm).
 - 4. Orientation: Vertical.
 - 5. Color: Solid Oak (Clear Seal).
 - 6. Substrate: As indicated on drawings.
- B. Adhesives and Sealants: As recommended by panel manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces for adhered items are clean and smooth.

1. Test painted or wall covering surfaces for adhesion in inconspicuous area, as recommended by manufacturer.
- B. Start of installation constitutes acceptance of project conditions.

3.02 INSTALLATION

- A. Install panels in accordance with manufacturer's instructions.
- B. Apply adhesive to back side of panel using trowel recommended by adhesive manufacturer.
- C. Apply panels to wall with vertical joints plumb and horizontal joints level and pattern aligned with adjoining panels.
- D. Using a roller, apply pressure to panel face to ensure proper adhesion between surfaces.
- E. Install panels with manufacturer's recommended gaps for panel field and corner joints.
- F. Install trim with adhesive.
- G. Seal joints at wall base and between panels with approved sealant to prevent moisture intrusion.
- H. Remove excess sealant after paneling is installed and prior to curing.

3.03 CLEANING

- A. Clean panel faces using cleaning agents and methods recommended by manufacturer to remove soiling.

3.04 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals for closeout submittals.

END OF SECTION

**SECTION 09 9000
PAINTING AND COATING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of .
- C. Scope: Finish all interior and exterior surfaces exposed to view, unless fully factory-finished
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Pre-engineered prefinished metal building components. Including primed structural members, unless noted on finish schedule in a room as paint walls.
 - 3. Items indicated to receive other finishes.
 - 4. Items indicated to remain unfinished.
 - 5. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - 6. Non-metallic roofing and flashing.
 - 7. Stainless steel, anodized aluminum, bronze, terne, and lead items.
 - 8. Floors, unless specifically so indicated. (refer to finish schedule)
 - 9. Toilet Accessories and Toilet Partitions+
 - 10. Concealed pipes, ducts, and conduits.

1.02 RELATED REQUIREMENTS

- A. Section - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section - : Shop-primed items.
- C. Section 09 2116 - Gypsum Board Assemblies

1.03 DEFINITIONS

- A. Conform to 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; 2014.
- C. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.
- D. GreenSeal GS-11 - Paints and Coatings; 2013.

1.05 SUBMITTALS

- A. See Section , for submittal procedures.
- B. Product Data: Provide complete list of all 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. MPI product number (e.g. MPI #47).
 - 3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
- C. Product Data: Provide data on all finishing products, including VOC content.
- D. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.

- E. Certification: By manufacturer that all paints and coatings do not contain any of the prohibited chemicals specified; GreenSeal GS-11 certification is not required but if provided shall constitute acceptable certification.
- F. Samples: Provide samples of all colors and types of coatings, proceed only after receiving owner written approval and architect written approval.
- G. Manufacturer's Instructions: Indicate .
- H. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section , for additional provisions.
 - 2. Extra Paint and Coatings: of each ; store where directed.
 - 3. Label each container with in addition to the manufacturer's label.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum years experience.

1.07 MOCK-UP

- A. See Section - Quality Requirements, for general requirements for mock-up.
- B. Provide panel, long by wide, illustrating coating color, texture, and finish.
- C. Provide door and frame assembly illustrating coating color, texture, and finish.
- D. Locate .
- E. Mock-up remain as part of the work.

1.08 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 and a maximum of , in ventilated area, and as required by manufacturer's instructions.

1.09 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. Provide lighting level of measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Provide all paint and coating products from the same manufacturer .
- C. Paints:
 - 1. .
 - 2. Behr Process Corporation: www.behr.com/#sle.
 - 3. Glidden Professional, a product of PPG Architectural Coatings: www.gliddenprofessional.com.
 - 4. Benjamin Moore & Co: www.benjaminmoore.com/#sle.
 - 5. PPG Paints: www.ppgpaints.com/#sle.
 - 6. Pratt & Lambert Paints: www.prattandlambert.com/#sle.
- D. Transparent Finishes:

1. Sherwin-Williams Company: www.sherwin-williams.com/#sle.
- E. Primer Sealers: Same manufacturer as top coats.
- F. Block Fillers: Same manufacturer as top coats.
- G. Substitutions:

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 1. Provide paints and coatings 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. Supply each coating material in quantity required to complete entire project's work from a single production run.
 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: As follows unless other primer is required or recommended by manufacturer of top coats; where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
 1. Gypsum Board: Interior Latex Primer Sealer.
 2. Wood: Latex Primer for Interior Wood.
 3. Steel, Uncoated: Anti-Corrosive Alkyd Primer for Metal.
 4. Steel, Uncoated: Interior Rust-Inhibitive Water Based Primer.
 5. Steel -- Shop Primer: Interior/Exterior Quick Dry Alkyd Primer for Metal.
- C. Volatile Organic Compound (VOC) Content:
 1. Provide coatings 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.
- D. Colors:

2.03 PAINT SYSTEMS - EXTERIOR

- A. All Exterior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including .
 1. Semi-Gloss: MPI gloss level 5; use this sheen .
 2. Primer(s): As recommended by manufacturer of top coats.
- B. Paint CE-OP-3L - Masonry/Concrete, Opaque
 1. Primer: B25W00025 - PrepRite Block Filler White.
 2. **Prime Coat if needed on raw block
 3. 2 Coats: A05W00451 - ConFlex XL High Build Coating Extra White
 4. Elastomeric Coating
 5. Colors as selected by Owner and Architect.
- C. Ferrous Metals, Primed, Alkyd, 2 Coat:
 1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer equal to SW B50WZ0001 - Kem Kromik Universal Metal Primer Off White.
 2. Gloss: Two coats of alkyd enamel.
- D. Galvanized Metals, Alkyd, 3 Coat:
 1. One coat galvanize primer Equal to SW B66W00310 - Pro Industrial Pro - Cryl Universal Primer Off White.
 2. Gloss: Two coats of alkyd enamel.

2.04 PAINT SYSTEMS - INTERIOR

- A. All Interior Surfaces Indicated to be Painted, Unless Otherwise Indicated: Including .
 - 1. Flat: MPI gloss level 1; use this sheen .
 - 2. Eggshell: MPI gloss level 3; use this sheen .
 - 3. Semi-Gloss: MPI gloss level 5; use this sheen .
 - 4. Primer(s): As recommended by manufacturer of top coats.
- B. Dry Fall: Metals; exposed structure and overhead-mounted services , including shop primed .
 - 1. Top Coat: Latex Dry Fall.
 - 2. Flat: MPI gloss level 1; use this sheen .
- C. Interior Concrete Floors Indicated to be Sealed. Refer to finish schedule. Provide clear sealer equal to Sherwin Williams general polymers 3477 water emulsion primer/sealer. 2 coats, 2 to 4 mils wft each. Install per manufacturers recommendations.
- D. Transparent Finish on Wood, Unless Otherwise Indicated: for Decorative Wood Louver at Vestibule
 - 1. Stain: Semi-Transparent Stain for Wood.
- E. Wood, Opaque, Latex, 3 Coat:
 - 1. One coat of latex primer sealer equal to SW B51W00020 PrepRite ProBlock Int/Ext Latex Primer/Sealer White.
 - 2. Semi-gloss: Two coats of latex enamel.
 - 3. Eggshell: Two coats of latex enamel.
- F. Concrete/Masonry, Opaque, Latex, 3 Coat:
 - 1. One coat of block filler equal to SW B25W00025 Preprite Block Filter White.
 - 2. Semi-gloss: Two coats of latex enamel.
- G. Ferrous Metals, Unprimed, Latex, 3 Coat:
 - 1. One coat of latex primer equal to SW B66W00310 Pro Industrial Pro-Cryl Universal Primer Off White.
 - 2. Semi-gloss: Two coats of latex enamel.
- H. Ferrous Metals, Primed, Latex, 2 Coat:
 - 1. Touch-up with .
 - 2. Semi-gloss: Two coats of latex enamel.
- I. Gypsum Board/Plaster, Latex, 3 Coat:
 - 1. One coat of latex primer sealer equal to SW B28W08200 ProMar 200 Interior Latex Primer White.
 - 2. Eggshell: Two coats of latex enamel.
 - 3. Flat: Two coats of latex enamel.
- J. Sealed Concrete Floor
 - 1. Provide general polymers 3477 or approved equal, water based clear epoxy, fully breathable, three (3) coats 4 mils WFT each coat, 0 VOC, provide submittal to include written letter from manufacturer approving installer, Install per manufacturer's instructions. ASTM 84/NFPA 255
- K. Dry Fall Paint:
 - 1. Paint ME- OP- 2A - Ferrous Metals, Primed, Latex, 2 Coat (Dry Fall)
 - a. Gloss: Two coats of Acrylic Primer and Finish Coats: Equal to SW B66W00501 - Pro Industrial Multi - Surface Acrylic Gloss Extra White
 - 2. Paint ME-OP-3A - Galvanized Metal Latex, 2 Coat (Dry Fall)
 - a. Gloss: Two coats of Acrylic Primer and Finish Coats: Equal to SWB66W00501 - Pro Industrial Multi Surface Acrylic Gloss Extra White
 - 3. Refer to A7.7-A7.11. Provide paint to match dry fall paint(s) above for all surfaces indicated. Provide paint system as recommended by paint manufacturer for materials/surfaces to be painted.

2.05 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: filler.
- C. Fastener Head Cover Material: filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Commencement of paint operations indicates applicators acceptance of surfaces and conditions.
- 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. Test shop-applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: percent.
 - 2. Masonry, Concrete, and Concrete Unit Masonry: percent.
 - 3. Interior Wood: percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of and bleach. Rinse with clean water and allow surface to dry.
- F. Concrete and Unit Masonry Surfaces to be Painted: Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter. Remove oil and grease with a solution of tri-sodium phosphate; rinse well and allow to dry. Remove stains caused by weathering of corroding metals with a solution of sodium metasilicate after thoroughly wetting with water. Allow to dry.
- G. Gypsum Board Surfaces to be Painted: Fill minor defects with filler compound. Spot prime defects after repair.
- H. Galvanized Surfaces to be Painted: Remove surface contamination and oils and wash with solvent. Apply coat of etching primer.
- I. Corroded Steel and Iron Surfaces to be Painted: Prepare using at least SSPC-SP 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
- J. Uncorroded Uncoated Steel and Iron Surfaces to be Painted: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of phosphoric acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
- K. Shop-Primed Steel Surfaces to be Finish Painted: 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.

- L. Interior 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.
- M. Metal Doors to be Painted: Prime metal door top and bottom edge surfaces.

3.03 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance.
- D. Sand wood and metal surfaces lightly between coats to achieve required finish.
- E. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- F. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.
- G. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- H. ***Interior walls and surfaces scheduled to receive paintings or coatings shall extend paintings/coatings a minimum of 6 inches above all drop ceilings unless noted otherwise in the drawings.***

3.04 CLEANING

- A. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.

3.05 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Touch-up damaged coatings after Final Acceptance.

END OF SECTION

**SECTION 10 1100
VISUAL DISPLAY UNITS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Markerboards
- B. Tackboards

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Blocking and supports.
- B. Section 09 2116 - Gypsum Board Assemblies: Concealed supports in metal stud walls.

1.03 REFERENCE STANDARDS

- A. ANSI A135.4 - American National Standard for Basic Hardboard; 2012.
- B. ANSI A208.1 - American National Standard for Particleboard; 2009.
- C. ASTM A424/A424M - Standard Specification for Steel, Sheet, for Porcelain Enameling; 2009a (Reapproved 2016).
- D. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- E. ASTM F793/F793M - Standard Classification of Wall Coverings by Use Characteristics; 2015.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data on chalkboard, markerboard, tackboard, tackboard surface covering, trim, and accessories.
- C. Shop Drawings: Indicate wall elevations, dimensions, joint locations, special anchor details.
- D. Samples: Submit color charts for selection of color and texture of chalkboard, markerboard, tackboard, tackboard surface covering, and trim.
- E. Maintenance Data: Include data on regular cleaning, stain removal.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.06 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year warranty for chalkboard and markerboard to include warranty against discoloration due to cleaning, crazing or cracking, and staining.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. ADP Lemco, Inc; ____: www.adplemco.com/#sle.
- B. Claridge Products and Equipment, Inc; ____: www.claridgeproducts.com/#sle.
- C. MooreCo, Inc; ____: www.moorecoinc.com/#sle.
- D. Nelson Adams NACO; ____: www.nelsonadamsnaco.com/#sle.
- E. Polyvision Corporation; ____: www.polyvision.com/#sle.
- F. Substitutions: See Section 01 6000 - Product Requirements.

2.02 VISUAL DISPLAY UNITS

- A. Markerboards: Porcelain enamel on steel, laminated to core. Provide 4 markboards, materials and labor installed.

1. Color: White.
2. Steel Face Sheet Thickness: 24 gage, 0.0239 inch (0.61 mm).
3. Core: Particleboard, manufacturer's standard thickness, laminated to face sheet.
4. Backing: Aluminum foil, laminated to core.
5. Height: 48 inches (1220 mm).
6. Length: 12 feet (3660 mm), in one piece.
7. Frame: Extruded aluminum , with concealed fasteners.
8. Frame Finish: Anodized, natural.
9. Accessories: Provide marker tray and map rail.

2.03 MATERIALS

- A. Porcelain Enameled Steel Sheet: ASTM A424/A424M, Type I, Commercial Steel, with fired-on vitreous finish.
- B. Vinyl-Coated Fabric: Roll stock, _____ , complying with the following:
- C. Particleboard: ANSI A208.1; wood chips, set with waterproof resin binder, sanded faces.
- D. Foil Backing: Aluminum foil sheet, 0.005 inch thick (0.13 mm thick).

2.04 ACCESSORIES

- A. Map Rail: Extruded aluminum, manufacturer's standard profile, with cork insert and runners for accessories; 1 inch wide overall (; 25 mm wide overall) , full width of frame.
- B. Temporary Protective Cover: Sheet polyethylene, 8 mil (0.2 mm) thick.
- C. Marker Tray: Aluminum, manufacturer's standard profile, one piece full length of markerboard, molded ends, concealed fasteners, same finish as frame.
- D. Mounting Brackets: Concealed.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify that internal wall blocking is ready to receive work and positioning dimensions are as indicated on shop drawings. Provide blocking as required.

3.02 INSTALLATION

- A. Install boards in accordance with manufacturer's instructions.
- B. Secure units level and plumb.

3.03 CLEANING

- A. Clean board surfaces in accordance with manufacturer's instructions.
- B. Cover with protective cover, taped to frame.
- C. Remove temporary protective cover at Date of Substantial Completion.

3.04 SCHEDULE

- A. As indicated on plans.

END OF SECTION

SECTION 10 1400 SIGNAGE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Room and door signs.
- B. Building identification signs for exterior raised cast aluminum.

1.02 REFERENCE STANDARDS

- A. 36 CFR 1191 - Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines; current edition.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- D. ATBCB ADAAG - Americans with Disabilities Act Accessibility Guidelines; 2002.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's printed product literature for each type of sign, indicating sign styles, font, foreground and background colors, locations, overall dimensions of each sign.
- C. Samples: Submit two samples of each type of sign, of size similar to that required for project, illustrating sign style, font, and method of attachment.
- D. Verification Samples: Submit samples showing colors specified.
- E. Manufacturer's Installation Instructions: Include installation templates and attachment devices.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Package signs as required to prevent damage before installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Dimensional Letter Signs:
 - 1. FASTSIGNS; _____: www.fastsigns.com/#sle.
 - 2. Architectural Signing www.archsign.com.
 - 3. Leeds Architectural Letters of Alabama Inc. www.leedsletters.com.
 - 4. A.R.K Ramos.

2.02 SIGNAGE APPLICATIONS

- A. Accessibility Compliance: Signs are required to comply with ADA Standards and ICC A117.1 _____, unless otherwise indicated; in the event of conflicting requirements, comply with the most comprehensive and specific requirements.
- B. Room and Door Signs: Provide a sign for every doorway, whether it has a door or not, not including corridors, lobbies, and similar open areas.
 - 1. Sign Type: Flat signs with _____ panel media as specified.
 - 2. Provide "tactile" signage, with letters raised minimum 1/32 inch (0.8 mm) and Grade II braille.
 - 3. Character Height: 1 inch (25 mm).
 - 4. Sign Width: 6 inches
 - 5. Sign Height: 6 inches (____ mm), without window, 8 inches for with window and restroom signage.
 - 6. Office Doors: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section for replaceable occupant name.

7. Conference and Meeting Rooms: Identify with room numbers to be determined later, not the numbers indicated on drawings; in addition, provide "window" section with sliding "In Use/Vacant" indicator.
 8. Service Rooms: Identify with room names and numbers to be determined later, not those indicated on drawings.
 9. Rest Rooms: Identify with pictograms, the names "MEN" and "WOMEN", room numbers to be determined later, and braille.
- C. Building Identification Signs:
1. Use individual metal letters.
 2. Mount on outside wall in location indicated on drawings.

2.03 SIGN TYPES

- A. Flat Signs: Signage media without frame.
1. Edges: Bevelled.
 2. Corners: Radiused.
 3. Wall Mounting of One-Sided Signs: Tape adhesive.
- B. Color and Font: Unless otherwise indicated:
1. Character Font: _____.
 2. Character Case: Upper case only.
 3. Background Color: Color to be selected from manufacturer's full color range.
 4. Character Color: Contrasting color.

2.04 TACTILE SIGNAGE MEDIA

- A. Engraved Panels: Laminated colored plastic; engraved through face to expose core as background color:
1. Total Thickness: 1/16 inch (1.6 mm).

2.05 DIMENSIONAL LETTERS

- A. Metal Letters:
1. Metal Thickness: 1/8 inch minimum (3 mm).
 2. Letter Height: 12 inches (____ mm).
 3. Text and Typeface:
 - a. Character Font: As indicated on drawings.
 - b. Character Case: Upper case only.
 4. Finish: As selected by Architect from manufacturer's full range.
 5. Product: _____.
 6. Mounting: Concealed screws.

2.06 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install neatly, with horizontal edges level.
- C. Locate signs where indicated:
1. Room and Door Signs: Locate on wall at latch side of door with baseline of the lowest tactile character located at a minimum of 48" above finish floor and the baseline of the highest character located at a maximum of 60" above finish floor in accordance with 704.4.1 of the 2010 ADA Standards for Accessible Design. ____ inches (____ mm)

2. If no location is indicated obtain Owner's instructions through the architect.
- D. Protect from damage until Substantial Completion; repair or replace damaged items.

END OF SECTION

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SECTION 10 2113.19
PLASTIC TOILET COMPARTMENTS - ASI

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Solid plastic toilet compartments.
- B. Solid plastic urinal screens.
- C. Solid plastic entrance screens.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry: Blocking and supports.
- B. Section 10 2800 - 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/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes [Metric]; 2013.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- F. ICC (IBC) - International Building Code; 2015.
- G. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- H. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate work with placement of support framing and anchors in walls and ceilings.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on panel construction, hardware, accessories, and finishes.
- C. Shop Drawings:
 - 1. Indicate plans, elevations, and dimensions. Include door swings, toilet fixture centerlines, and floor drains on plans.
- D. Samples:
 - 1. For Initial Selection: Submit color charts and samples for each type of toilet compartment material.
 - 2. For Verification: Submit two samples of partition materials, 3 inches by 3 inches (76 mm by 76 mm) in size, indicating color.

1.06 QUALITY ASSURANCE

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle materials and products in accordance with manufacturer's instructions and recommendations and industry standards.

- B. Do not deliver materials or begin installation until building is enclosed, with complete protection from outside weather, and building temperature maintained at minimum of 60 degrees F (15.6 C).
- C. Lay cartons flat, with adequate support to ensure flatness and prevent damage to prefinished surfaces.
- D. Do not store where ambient temperature exceeds 120 degrees F (49 C).

1.08 FIELD CONDITIONS

- A. Ambient Conditions: Maintain environmental conditions such as temperature, humidity, and ventilation within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Existing Conditions: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

1.09 WARRANTY

- A. See Section 01 7800 - Closeout Submittals for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design Manufacturer: ASI Global Partitions: www.asi-globalpartitions.com/#sle.
- B. Substitutions: See Section 01 6000 - Product Requirements.
 - 1. Submit proposed substitutions in writing for approval by Architect minimum of 10 working days prior to bid date and make available to bidders. Accompany proposed substitutes with review of specification and the appropriate ASI Group partition company specifications noting compliance on line-by-line basis.

2.02 PLASTIC TOILET COMPARTMENTS

- A. Toilet Compartments: Solid plastic (HDPE), standard privacy, floor anchored, overhead braced.
- B. Urinal Screens: Solid plastic (HDPE), wall hung.
- C. Entrance Screens: Solid plastic (HDPE), floor-mounted pilaster.
- D. Design Criteria:
 - 1. Accessibility: Design compartments indicated on drawings to comply with ICC A117.1 and ADA Standards.
 - 2. Fire Performance: Provide assemblies that pass when tested in accordance with NFPA 286.
- E. Fabrication:
 - 1. Fabricate toilet compartment components to sizes indicated.
 - 2. Coordinate requirements and provide cutouts for through-partition toilet accessories.
 - 3. Provide manufacturer's standard corrosion-resistant supports, leveling mechanisms, anchors, and anchoring assemblies for pilasters and posts.
 - 4. Floor-Anchored, Overhead-Braced Units: Provide supports, leveling mechanisms, Easy-Stall shoes, and anchors at pilasters to suit floor conditions.

2.03 COMPONENTS

- A. Doors and Panels: Single sheets of solid molded homogenous high-density polyethylene (HDPE).
 - 1. Finish:
 - a. Color: As selected from manufacturer's color card.
 - b. Texture: Manufacturer's standard for selected color.
 - 2. Edges: 1/4-inch (6 mm) radius machined edges.
 - 3. Heat Sink: Extruded aluminum attached to bottom of doors and panels.

- B. Door and Panel Dimensions:
 - 1. Thickness: 1 inch (25 mm).
 - 2. Door Panel Height: 55 inches (1397 mm).
 - 3. Door Height Above Floor: 14 inches (355 mm).
- C. Pilasters: 1 inch (25 mm) thick, of sizes required to suit compartment width and spacing; minimum 3 inches (76 mm) wide.
 - 1. Pilaster Height: 82 inches (2032 mm).
 - 2. Pilaster Shoes: Formed 20 gauge, 0.0359 inch (0.91 mm) ASTM A666 Type 304 stainless steel with No.4 finish, 5 inches (127 mm) high, concealing floor fastenings; secured to pilaster with stainless steel tamper-resistant screws; secured to floor with concrete anchors.
 - 3. Pilaster Anchors: Manufacturer's standard stainless steel mounting bars attached to pilaster and secured to building structure.

2.04 MATERIALS

- A. Aluminum Extrusions: ASTM B221 (ASTM B221M).
- B. High-Density Polyethylene (HDPE):
 - 1. Composition: Formed from waterproof, nonabsorbent, high-density polyethylene resins.
 - 2. Properties: Mark-resistant self-lubricating surface.
 - 3. Fire Resistance: ASTM E84, Class B.
 - 4. Material Fire Ratings: NFPA 286, Pass.
 - 5. Material Fire Ratings: ICC (IBC), Class B.

2.05 HARDWARE AND ACCESSORIES

- A. Brackets:
 - 1. Continuous Type: Clear anodized aluminum, standard depth.
- B. Door Hardware: Clear anodized aluminum:
 - 1. Hinges: 8 inch (203 mm) wrap-around pivot hinges, gravity type, adjustable for door close positioning; two per door.
 - 2. Latch and Keeper: 6 inch (152 mm) slide latch with wrap-around keeper.
 - 3. Coat Hook: Chrome-plated zamac. Manufacturer's standard coat hook with rubber bumper; one per compartment, mounted on door.
 - 4. Door Pull: Chrome-plated zamac. Provide door pull for outswinging doors. Provide on both sides of doors designated as accessible.
 - 5. Door Bumper: Chrome-plated zamac. Provide rubber-tipped door bumpers at outswinging doors.
- C. Attachments, Screws, and Bolts: Stainless steel , tamper-resistant type..

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that field measurements are as indicated.
- B. Verify correct spacing of and between plumbing fixtures.

3.02 INSTALLATION

- A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Attach Easy Stall shoe system to floor with 1/4 by 2 inch (6 by 52 mm) screws. Insert pilaster into Easy Stall shoe and secure after height adjustment.
- C. Maintain maximum 1/2-inch (13 mm) space between pilasters and panels.
- D. Maintain maximum 1-inch (25 mm) space between wall and panels.
- E. Attach panel brackets securely to walls using anchor devices.
- F. Attach panels and pilasters to brackets. Locate head rail joints at pilaster centerlines.

- G. Do not permit field touch-up of scratches or damaged finish. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

- A. Maximum Variation From True Position: 1/4 inch (6 mm).
- B. Maximum Variation From Plumb: 1/8 inch (3 mm).

3.04 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch (5 mm).
- B. Adjust hinges to locate doors in partially opened position when unlatched. Return outswinging doors to closed condition.

3.05 CLEANING

- A. Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

**SECTION 10 22 15
FIXED GLASS PANEL PARTITIONS**

GENERAL

1.1 SUMMARY

- A. Section includes fixed, framed glass panel partitions with sliding glass doors.
- B. Related Requirements: Related project requirements can be found in the following documents:
 - 1. Section 05 50 00 "Metal Fabrications" for overhead supports that attach glass panel partition tracks to structure.
 - 2. Section 28 13 00 "Access Control" for security access system providing control for door access and intrusion detection systems interfacing with glass panel partition door controls.

1.2 REFERENCE STANDARDS

- A. American Architectural Manufacturers Association (AAMA): www.aama.org:
 - 1. AAMA 611 Voluntary Specification for Anodized Architectural Aluminum
- B. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI): www.asce.org:
 - 1. ASCE/SEI 7 Minimum Design Loads for Buildings and Other Structure
- C. ASTM International (ASTM): www.astm.org:
 - 1. ASTM A666 Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar
 - 2. ASTM B221/ASTM B221M Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
 - 3. ASTM C1048 Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass
 - 4. ASTM C1172 Standard Specification for Laminated Architectural Flat Glass
 - 5. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials
 - 6. ASTM E90 Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
 - 7. ASTM E413 Classification for Rating Sound Insulation
 - 8. ASTM E557 Guide for the Installation of Operable Partitions
- D. Code of Federal Regulations
 - 1. 16 CFR 1201 Safety Standard for Architectural Glazing Materials
- E. International Code Council (ICC): www.iccsafe.org:
 - 1. ICC A117.1 Accessible and Usable Buildings and Facilities (ANSI)
- F. U.S. Architectural & Transportation Barriers Compliance Board: www.access-board.gov:
 - 1. Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities.

1.3 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate installation of glass panel partitions with installation of floor, wall, and ceiling construction to comply with substrate tolerance requirements of partition manufacturer.
 - 2. Coordinate installation of anchors and secondary structural members indicated on approved glass panel partition shop drawings and specified in other sections.
- B. Preinstallation Conference: Conduct conference at Project Site.

1.4 ACTION SUBMITTALS

- A. Product Data: For each glass panel partition and door component specified, including:
 - 1. Glass panels.
 - 2. Frame and sill tracks.
 - 3. Door hardware and accessories.
- B. Shop Drawings: For fixed glass panel partitions.
 - 1. Include plans, elevations, sections, and details. Provide numbered panel installation sequence.
 - 2. Show locations and requirements for tracks, bracing, blocking, and attachments to other work.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified installer.
- B. Warranty: Sample of unexecuted manufacturer warranty.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Experienced Installer equipped and trained for installation of glass panel partitions required for this Project with record of successful completion of not less than five projects of similar scope.
- B. Single Source Responsibility: Provide glass panel partitions and associated hardware by a single manufacturer through a single source.
- C. Mockups: Provide mockup consisting of initial sections of tracks, frames, and glass panels with operating doors and hardware, in location as directed by Architect. Proceed with work upon approval of mockup by Architect.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Standard form in which manufacturer agrees to repair or replace components of glass panel partitions that demonstrate deterioration or faulty operation due to defects in materials or workmanship under normal use within warranty period specified.
 - 1. Warranty Period: Five years date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: Provide glass panel sliding doors, manufactured by dormakaba USA, Inc.; (800) 523-8483; email: specifications@dormakaba.com; website: dormakaba.us , or comparable products of other manufacturer approved by Architect in accordance with Instructions to Bidders and Division 01 General Requirements.

2.2 PERFORMANCE REQUIREMENTS

- A. Acoustical Performance: Provide glass panel partition tested by qualified testing agency as follows:
1. Partition Frames: Aluminum extrusion, 1-1/4 by 3-9/16 inch (32 by 90 mm).

2.3 GLASS PANEL PARTITIONS

- A. Frameless Fixed Glass Panel Partitions: Frameless glass panel partition with top track and bottom sill guide, with butt-glazed dry joint between panels, and equipped with sliding doors where indicated.
1. Basis of Design: dormakaba, PURE Sonos.
 2. Sound Transmission Class (STC): 35.
 3. Partition Top Track: Aluminum extrusion, low-profile.
 4. Sill Guide: Aluminum extrusion.

2.4 SLIDING DOORS

- A. Accessibility Standard: Comply with applicable provisions in ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1 requirements of authorities having jurisdiction.
- B. Door Panels:
1. Glass panels of material and thickness specified, of size indicated on Drawings.
 2. Fixed Glass Panel Partitions: Framed glass panel partition with sliding doors.
- C. Sliding Door Track: Full-width extruded aluminum track, 2-11/16 inches (69 mm) high (PURE Sonos), designed for operation, size, and weight of panel door, with factory-finished track with roller carriers, integrated end-of-travel stops, and floor guide.
- D. Wall and sidelite receiver profile: Full width extruded aluminum profile 3-9/16" (90mm) wide with dual brush seals for interior and exterior glass surface, silicone seal at vertical glass edge and surface guide at floor to help protect glass and ensure proper sealing.
- E. Door Panel Carriers: Trolley system designed for operation, size, and weight of glass panel door, with ball-bearing wheels.
- F. Track Mounting:
1. Ceiling surface-mounted.
- G. Manual Sliding Door Operation:
1. Single door with regulated sliding and cushioned close.
 - a. Basis of Design: PURE Sonos DORMOTION Dampening Unit.

2.3 MATERIALS

- H. Aluminum: ASTM B221 (ASTM B221M), with strength and durability characteristics of not less than Alloy 6063-T5.

2.4 FINISHES

- A. Aluminum Finish:
 - 1. Clear anodic finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
 - 2. Anodized to match No. 4 satin brushed stainless steel.
 - 3. Powder Coat: Manufacturer's standard thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils (0.04 mm), in color selected by Architect from manufacturer's full range.

2.5 DOOR HARDWARE AND FITTINGS

- B. Door Hardware, General: All-glass door hardware units in types, sizes, quantities, and mounting locations recommended by manufacturer for glass door types, sizes, and operation. For exposed components, match metal and finish of exposed partition fittings unless otherwise noted.
- C. Non-Locking Ladder Pull: Pair of tubular non-lockable pull handles, Grade 316L stainless steel.
 - 1. Basis of Design: dormakaba , Non - Locking Ladder Pulls – TG 9387.
 - a. Material: stainless steel.
 - b. Bar diameter: [1 inch (25mm)] [1 ¼ inches (32mm)].
 - c. Bar center to center length: [12 inches (305mm)] [18 inches (457mm)] [36 inches (914mm)] [42 inches (1067mm)] [60 inches (1524mm)] [Custom Size as selected by Architect].
 - d. Pull to project off door [2-15/16 inches (75mm) for 1 inch diameter] [3-11/32 inches (85mm) for 1-1/4 inch diameter].
- D. Pulls and Handles: [One-sided] [and] [Back-to-back], minimum 1-3/8 inch diameter.
 - 1. Design: As selected by Architect from manufacturer's standard designs.

PART 3 - EXECUTION

3.1 EXAMINATION

- E. Examine partition substrates to determine if work is within glass panel partition manufacturer's required tolerances and ready to receive work. Proceed with installation of partitions once conditions affecting installation and performance of partitions meet manufacturer's requirements.
- F. Verify that partition construction adjacent to acoustically-rated glass panel partitions complies with requirements of ASTM E557.

3.2 PARTITION INSTALLATION

- G. General: Comply with glass panel partition manufacturer's written installation instructions and approved shop drawings.

- H. Install glass panel partitions after other finishing operations have been completed.
- I. Set units level, plumb, and true to line, with uniform joints.
- J. Fasten glass panel partition framing to building structure and supports as indicated on approved shop drawings, utilizing approved fasteners and spacing.
- K. Set framing in continuous bed of sealant or in positive contact with preformed gasket where indicated.
- L. Set, seal, and grout floor closer cases.

3.3 ADJUSTING

- M. Adjust doors and hardware to produce smooth operation and tight, uniform fit.
- N. Adjust door closers to required timing and force.
- O. Adjust latches and locks for smooth operation.
- P. Test and adjust hardware linked to access control system.
- Q. Replace damaged panels and accessories.

3.4 CLEANING

- R. Clean glass panels in accordance with glass manufacturer's written instructions. Do not use cleaning agents or methods not approved by glass manufacturer.
- S. Clean exposed metal surfaces to factory new appearance.

HARDWARE SET:

Set #1 – dormakaba PURE SONOS

Doors:134

- 2 Interior Glass Wall Pure Sonos LP6 F1 DK1
Systems

END OF SECTION

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**SECTION 10 2800
TOILET, BATH, AND LAUNDRY ACCESSORIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Commercial toilet accessories.
- B. Accessories for toilet rooms, showers, and House keeping.
- C. Grab bars.

1.02 RELATED REQUIREMENTS

- A. Section 06 1000 - Rough Carpentry
- B. Section 09 2116 - Gypsum Board Assemblies
- C. Section 09 3000 - Tiling:
- D. Section 10 2113.13 - Metal Toilet Compartments.

1.03 REFERENCE STANDARDS

- A. ASTM A269/A269M - Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service; 2015a (Reapproved 2019).
- 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 A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- D. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium; 2017 (Reapproved 2022).
- E. ASTM C1036 - Standard Specification for Flat Glass; 2011.
- F. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.
- G. ASTM C1503 - Standard Specification for Silvered Flat Glass Mirror; 2008 (Reapproved 2013).
- H. GSA CID A-A-3002 - Mirrors, Glass; U.S. General Services Administration; 1996.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with the placement of internal wall reinforcement, concealed ceiling supports, and reinforcement of toilet partitions to receive anchor attachments.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit data on accessories describing size, finish, details of function, and attachment methods.
- C. Manufacturer's Installation Instructions: Indicate special procedures and conditions requiring special attention.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Basis of Design: Bobrick.
- B. Commercial Toilet, Shower, and Bath Accessories:
 - 1. AJW Architectural Products; ____: www.ajw.com/#sle.
 - 2. American Specialties, Inc; ____: www.americanspecialties.com/#sle.
 - 3. Bradley Corporation; ____: www.bradleycorp.com/#sle.
 - 4. Substitutions: Section 01 6000 - Product Requirements.

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. Keys: Provide 5 keys for each accessory to Owner; master key lockable accessories.
- C. Stainless Steel Sheet: ASTM A666/A666M, Type 304.
- D. Stainless Steel Tubing: ASTM A269/A269M, Grade TP304 or TP316.
- E. Galvanized Sheet Steel: Hot-dipped galvanized steel sheet, ASTM A653/A653M, with G90/Z275 coating.
- F. Mirror Glass: Tempered safety glass, ASTM C1048; and ASTM C1036 Type I, Class 1, Quality Q2, with silvering as required.
- G. Adhesive: Two component epoxy type, waterproof.
- H. Fasteners, Screws, and Bolts: Hot dip galvanized; tamper-proof; security type.
- I. Expansion Shields: Fiber, lead, or rubber as recommended by accessory manufacturer for component and substrate.
- J. Expansion Bolts, stainless steel

2.03 FINISHES

- A. Stainless Steel: Satin finish, unless otherwise noted.

2.04 COMMERCIAL TOILET ACCESSORIES

- A. Refer to drawings.

Provide wood blocking for all toilet accessories to be installed in wood and metal stud wall assemblies. Where toilet accessories are located in CMU walls, comply with manufacturer's recommendations. Coordinate and provide concrete filled CMU cells where applicable. Mount and locate per ADA. Coordinate with all other trades.

- B. Grab Bars: Stainless steel, smooth surface.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify exact location of accessories for installation.

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 ADAAG, unless otherwise indicated.
- D. At Concrete Masonry Units fill cells at toilet accessory attachment points with 2500 PSI concrete and install stainless steel anchor bolts per toilet accessory manufacturers written instructions for size and type.

3.04 PROTECTION

- A. Protect installed accessories from damage due to subsequent construction operations.

END OF SECTION

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**SECTION 10 4400
FIRE PROTECTION SPECIALTIES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fire extinguishers.
- B. Fire extinguisher cabinets.
- C. Accessories.

1.02 REFERENCE STANDARDS

- A. NFPA 10 - Standard for Portable Fire Extinguishers; 2022.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide extinguisher operational features.
- C. Manufacturer's Installation Instructions: Indicate special criteria and wall opening coordination requirements.
- D. Maintenance Data: Include test, refill or recharge schedules and re-certification requirements.

1.04 FIELD CONDITIONS

- A. Do not install extinguishers when ambient temperature may cause freezing of extinguisher ingredients.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Fire Extinguishers:
 - 1. Ansul, a Tyco Business; Cleanguard: www.ansul.com/#sle.
 - 2. Nystrom, Inc; _____: www.nystrom.com/#sle.
 - 3. Pyro-Chem, a Tyco Business; _____: www.pyrochem.com/#sle.
 - 4. Strike First Corporation of America; ABC-Seamless Steel Fire Extinguisher: www.strikefirstusa.com/#sle.
 - 5. Substitutions: See Section 01 6000 - Product Requirements.
- B. Fire Extinguisher Cabinets and Accessories:
 - 1. Ansul, a Tyco Business; _____: www.ansul.com/#sle.
 - 2. JL Industries, Inc; _____: www.jlindustries.com.
 - 3. Larsen's Manufacturing Co; _____: www.larsensmfg.com/#sle.
 - 4. Potter-Roemer; _____: www.potterroemer.com/#sle.
 - 5. Pyro-Chem, a Tyco Business; _____: www.pyrochem.com/#sle.
 - 6. Strike First Corporation of America; EL-Elite Architectural Series Fire Extinguisher Cabinet, Non-Fire-Rated: www.strikefirstusa.com/#sle.
 - 7. Substitutions: See Section 01 6000 - Product Requirements.

2.02 FIRE EXTINGUISHERS

- A. Fire Extinguishers - General: Comply with product requirements of NFPA 10 and applicable codes, whichever is more stringent.
- B. Multipurpose Dry Chemical Type Fire Extinguishers: Carbon steel tank, with pressure gage.
 - 1. Class: A:B:C type.
 - 2. Size: 10 pound (4.54 kg).

2.03 FIRE EXTINGUISHER CABINETS

- A. Metal: Formed aluminum; .036 inch (____ mm) thick.
- B. Cabinet Configuration: Semi-recessed type.
 - 1. Size to accommodate accessories.

- C. Door: 0.036 inch (0.9 mm) metal thickness, reinforced for flatness and rigidity with nylon catch. Hinge doors for 180 degree opening with two butt hinge.
- D. Door Glazing: Float glass, clear, 1/8 inch (3 mm) thick, and set in resilient channel glazing gasket.
- E. Cabinet Mounting Hardware: Appropriate to cabinet, with pre-drilled holes for placement of anchors.
- F. Weld, fill, and grind components smooth.
- G. Finish of Cabinet Exterior Trim and Door: No. 4 - Brushed stainless steel.
- H. Finish of Cabinet Interior: White colored enamel.

2.04 ACCESSORIES

- A. Extinguisher Brackets: Formed steel, chrome-plated.
- B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.
 - 1. Identify fire extinguisher in fire-protection cabinet with the words ' FIRE EXTINGUISHER'.
 - a. Location: Applied to cabinet glazing.
 - b. Application Process: Silk-screened.
 - c. Lettering Color: Red
 - d. Orientation: Vertical

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify rough openings for cabinet are correctly sized and located.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install cabinets plumb and level in wall openings, 40" max inches (____ mm) from finished floor to handle.
- C. Secure rigidly in place.

3.03 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of portable fire extinguishers that fail in materials or workmanship within specified warranty period.
- B. Failures include, but are not limited to, the following:
 - 1. Failure of hydrostatic test according to NFPA 10.
 - 2. Faulty operation of valves of release levers.
- C. Warranty Period: Six years from date of Substantial Completion.

3.04 SCHEDULES

- A. Multipurpose Dry-Chemical Type in Steel Container 4-A:60-B:C, 10-lb nominal capacity, with monoammonium phosphate-based dry chemical in enameled-steel container.

END OF SECTION

**SECTION 12 2400
WINDOW SHADES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Interior manual roller shades.
- B. Interior motorized roller shades.

1.02 REFERENCE STANDARDS

- A. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
- B. UL 325 - Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems; Current Edition, Including All Revisions.
- C. WCMA A100.1 - Safety of Corded Window Covering Products; Current Edition, Including All Revisions.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Sequencing:
 - 1. Do not fabricate shades until field dimensions for each opening have been taken with field conditions in place.
 - 2. Do not install shades until final surface finishes and painting are complete.

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets, including materials, finishes, fabrication details, dimensions, profiles, mounting requirements, and accessories.
- C. Shop Drawings: Include shade schedule indicating size, location and keys to details, head, jamb and sill details, mounting dimension requirements for each product and condition, and operation direction.
- D. Selection Samples: Include fabric samples in full range of available colors and patterns.
- E. Operation and Maintenance Data: List of all components with part numbers, sources of supply, and operation and maintenance instructions; include copy of shop drawings.
- F. Warranty: Submit sample of manufacturer's warranty and documentation of final executed warranty completed in Owner's name and registered with manufacturer.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.

1.06 FIELD CONDITIONS

- A. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.07 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide manufacturer's warranty from Date of Substantial Completion, covering the following:
 - 1. Shade Hardware: One year.
 - 2. Fabric: One year.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Interior Manually Operated Roller Shades:
 - 1. Draper, Inc; Clutch Operated FlexShade: www.draperinc.com/#sle.

2. Hunter Douglas Architectural; RB500 Manual Roller Shades: www.hunterdouglasarchitectural.com/#sle.
 3. Levolor; _____: www.levolor.com/commercial/#sle.
 4. Lutron Electronics Co., Inc; Contract Roller Manual Roller Shades: www.lutron.com/#sle.
 5. MechoShade Systems LLC; Mecho/5 System: www.mechoshade.com/#sle.
 6. Substitutions: See Section 01 6000 - Product Requirements.
- B. Interior Motorized Roller Shades, Motors and Motor Controls:
1. Draper, Inc; Motorized FlexShade: www.draperinc.com/#sle.
 2. Hunter Douglas Architectural; RB500 Motorized Roller Shades: www.hunterdouglasarchitectural.com/#sle.
 3. Levolor; _____: www.levolor.com/commercial/#sle.
 4. Lutron Electronics Co., Inc; Contract Roller Motorized Roller Shades: www.lutron.com/#sle.
 5. MechoShade Systems LLC; UrbanShade Single Roller - Motorized: www.mechoshade.com/#sle.

2.02 ROLLER SHADES

- A. General:
1. Provide shade system components that are easy to remove or adjust without removal of mounted shade brackets.
 2. Provide shade system that operates smoothly when shades are raised or lowered.
 3. Motorized Shades: Motor system housed inside roller tube, controlling shade movement via motor controls indicated; listed or recognized to UL 325.
 - a. Comply with NFPA 70.
 - b. Electrical Components: Listed, classified, and labeled as suitable for the purpose intended. Where applicable, system components to be FCC compliant.
 - c. Motors: Size and configuration as recommended by manufacturer for the type, size, and arrangement of shades to be operated; integrated into shade operating components and concealed from view; fully compatible with controls to be installed.
- B. Roller Shades Type _____:
1. Description - Interior Roller Shades: Single roller, manually operated fabric window shade system complete with mounting brackets, roller tubes, hembars, hardware, and accessories.
 - a. Roll Direction: Roll down, closed position is at window sill.
 - b. Mounting: Window jamb mounted - outside, on face of jambs.
 - c. Size: As indicated on drawings.
 2. Brackets and Mounting Hardware: As recommended by manufacturer for mounting indicated and to accommodate shade fabric roll-up size and weight.
 3. Roller Tubes: As required for type of shade operation.
 4. Hembars: Designed to maintain bottom of shade straight and flat.
 5. Manual Operation for Interior Shades:
 - a. Clutch Operator: Manufacturer's standard material and design, permanently lubricated.
 - b. Drive Chain: Continuous loop beaded ball chain, 95 pounds (43 kg) minimum breaking strength. Provide upper and lower limit stops.
 - c. Chain Retainer:
 - 1) Chain tensioning device complying with WCMA A100.1.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine finished openings for deficiencies that may preclude satisfactory installation.
- B. Start of installation shall be considered acceptance of substrates.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions and approved shop drawings, using mounting devices as indicated.
- B. Adjust level, projection, and shade centering from mounting bracket. Verify there is no telescoping of shade fabric. Ensure smooth shade operation.

3.03 CLEANING

- A. Clean soiled shades and exposed components as recommended by manufacturer.
- B. Replace shades that cannot be cleaned to "like new" condition.

3.04 CLOSEOUT ACTIVITIES

- A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

3.05 PROTECTION

- A. Protect installed products from subsequent construction operations.

3.06 MAINTENANCE

- A. See Section 01 7000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

END OF SECTION

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**SECTION 31 3116
TERMITE CONTROL**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Chemical soil treatment.

1.02 REFERENCE STANDARDS

- A. Title 7, United States Code, 136 through 136y - Federal Insecticide, Fungicide and Rodenticide Act; 1947 (Revised 2001).

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Indicate toxicants to be used, composition by percentage, dilution schedule, intended application rate.
- C. Test Reports: Indicate regulatory agency approval reports when required.
- D. Manufacturer's Instructions: Indicate caution requirement.
- E. Manufacturer's Certificate: Certify that toxicants meet or exceed specified requirements.
- F. Record and document moisture content of soil before application.
- G. Maintenance Data: Indicate re-treatment schedule and ____.
- H. Warranty: Submit warranty and ensure that forms have been completed in Owner's name.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing this type of work and:
 - 1. Having minimum of three (3) years documented experience.
 - 2. Approved by manufacturer of treatment materials.
 - 3. Licensed in the State in which the Project is located.

1.05 WARRANTY

- A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
- B. Provide five year installer's warranty against damage to building caused by termites.
 - 1. Include coverage for repairs to building and to contents damaged due to building damage. Repair damage and, if required, re-treat.

PART 2 PRODUCTS

2.01 CHEMICAL SOIL TREATMENT

- A. Toxicant Chemical: EPA Title 7, United States Code, 136 through 136y approved; synthetically color dyed to permit visual identification of treated soil.
- B. Manufacturers:
 - 1. Bayer Environmental Science Corp; ____: www.backedbybayer.com/pest-management/#sle.
 - 2. FMC Professional Solutions; ____: www.fmcprosolutions.com/#sle.
 - 3. Syngenta Professional Products; ____: www.syngentaprofessionalproducts.com/#sle.
 - 4. Substitutions: See Section 01 6000 - Product Requirements.
- C. Toxicant Chemical: EPA (\\rs\\#1}) approved; synthetically color dyed to permit visual identification of treated soil.
- D. Diluent: Recommended by toxicant manufacturer.

2.02 MIXES

- A. Mix toxicant to manufacturer's instructions.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that soil surfaces are unfrozen, sufficiently dry to absorb toxicant, and ready to receive treatment.
- B. Verify final grading is complete.

3.02 APPLICATION - CHEMICAL TREATMENT

- A. Comply with requirements of U.S. EPA and applicable state and local codes.
- B. Spray apply toxicant in accordance with manufacturer's instructions.
- C. Apply toxicant at following locations:
 - 1. Under Slabs-on-Grade.
 - 2. At Both Sides of Foundation Surface.
 - 3. Soil Within 10 feet (3 m) of Building Perimeter For a Depth of ____ feet (____ m).
- D. Under slabs, apply toxicant immediately prior to installation of vapor barrier.
- E. At foundation walls, apply toxicant immediately prior to finish grading work outside foundations.
- F. Apply extra treatment to structure penetration surfaces such as pipe or ducts, and soil penetrations such as grounding rods or posts.
- G. Re-treat disturbed treated soil with same toxicant as original treatment.
- H. If inspection or testing identifies the presence of termites, re-treat soil and re-test.

3.03 PROTECTION

- A. Do not permit soil grading over treated work.

END OF SECTION

**SECTION 32 3119
DECORATIVE METAL FENCES AND GATES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum louver fence systems.
- B. Architectural fence systems.
- C. Cantilever gate systems.
- D. Single swing gate systems.
- E. Double swing gate systems.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 - Cast-in-Place Concrete.
- B. Section 02200 - Earthwork.

1.03 REFERENCE STANDARDS

1.04 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Submit manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
 - 4. Proof of Manufacturer's warranty
- C. Shop Drawings:
 - 1. Indicate plan layout, spacing of components, post foundation dimensions, hardware anchorage, gates, and schedule of components.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.
- B. Installer Qualifications: Experienced with type of construction involved and materials and techniques specified and approved by fence manufacturer.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Store materials in a manner to ensure proper ventilation and drainage. Protect against damage, weather, vandalism and theft.

PART 2 PRODUCTS

2.01 MANUFACTURERS

2.02 FENCES

- A. Fences: Complete factory-fabricated system of posts and panels, accessories, fittings, and fasteners; finished with electrodeposition coating, and having the following performance characteristics:
- B. Electro-Deposition Coating: Multistage pretreatment/wash with zinc phosphate, followed by epoxy primer and acrylic topcoat.
 - 1. Total Coating Thickness: 2 mils (0.058 mm), minimum.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.

- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

3.03 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Set fence posts in accordance with the manufacturer recommended spacing.

3.04 FIELD QUALITY CONTROL

- A. See Section 01 4000 - Quality Requirements, for additional requirements.

3.05 CLEANING

- A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.
- B. Clean fence with mild household detergent and clean water rinse well.

3.06 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION