

PROJECT MANUAL

FOR



COKER LIFE SCIENCES BUILDING ROOF REPLACEMENT 715 SUMTER ST, COLUMBIA, SC 29208

January 28, 2021

REI PROJECT NO. 20CHS-072 USC PROJECT NO. H27-Z422/50003410-2

Engineering solutions for tomorrow $^{\text{\tiny TM}}$

South Carolina Certificate of Authorization 1906

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SE-310

INVITATION FOR DESIGN-BID-BUILD CONSTRUCTION SERVICES

AGENCY: University of South Carolina(USC)			
PROJECT NAME: USC Coker Life Sciences Building Roof R	eplacement		
PROJECT NUMBER: <u>H27-Z422/50003410-2</u> CONSTRUCT	TON COST RANGE: \$ 600,00	00 to \$ 700,000	N/A
PROJECT LOCATION: 715 Sumter St, Columbia, SC 29208			
DESCRIPTION OF PROJECT/SERVICES: Complete roof to	replacement to include new insula	tion and flashings.	Small and
Minority participation is strongly encouraged.			
BID/SUBMITTAL DUE DATE: 4/8/2021 TIM	IE: 2PM NUMB	ER OF COPIES:_	1
PROJECT DELIVERY METHOD: Design-Bid-Build			
AGENCY PROJECT COORDINATOR: Aimee B. Rish			
EMAIL: arish@fmc.sc.edu	TELEPHONE: 80	3.777.2261	
DOCUMENTS MAY BE OBTAINED FROM: http://purchas	ing.sc.edu "Solicitations and Awa	ards/Facilities Proc	urements"
BID SECURITY IS REQUIRED IN AN AMOUNT NOT LE PERFORMANCE AND LABOR & MATERIAL PAYMENT Performance and Labor and Material Payment Bonds, each in the DOCUMENT DEPOSIT AMOUNT: \$ N/A IS	BONDS: The successful Contac	tor will be required	l to provide
Bidders must obtain Bidding Documents/Plans from the above listed source(s) to any other source do so at their own risk. All written communications with official Agency WILL NOT accept Bids sent via email.			obtained from
All questions & correspondence concerning this Invitation shall be addressed to	the A/E.		***************************************
A/E NAME: REI Engineers, Inc			
A/E CONTACT: Keith Parker			
EMAIL: kparker@reiengineers.com	TELEPHONE: 84	13-225-6272 X334	
PRE-BID CONFERENCE: Yes No PRE-BID DATE: 3/16/2021	MANDATORY ATTENDATIME: 10AM		No 🗵
PRE-BID PLACE: Pre Bid Conference via Confere visit at 11AM on 3/16/2021 on site. Use of attendee prefully apply.			
BID OPENING PLACE: Bid Opening will be limited to teleco	onference only. Telephone 800.75	3.1965/Access cod	<u>le 7777162</u>
BID DELIVERY ADDRESSES:			
HAND-DELIVERY:	MAIL SERVICE:		
Attn: Aimee B. Rish"Bid Enclosed H27-Z422/50003410-2"	Attn: Aimee B. Rish "Bid Encl	osed H27-Z422/5000)3410-2"
1600 Hampton Street Suite 606	1600 Hampton Street Suite 606		
Columbia, SC 29208	Columbia, SC 29208		<u> </u>
IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICA		Yes 🛚	No 🗌
APPROVED BY: (OSE Project Manager)	DATI	Ε:	

South Carolina Division of Procurement Services, Office of State Engineer Version of $\stackrel{\text{\tiny M}}{=} AIA^{^{\!\circ}}$ Document A701 $^{\text{\tiny M}}$ — 2018

Instructions to Bidders

This version of AIA Document A701[™]–2018 is modified by the South Carolina Division of Procurement Services, Office of State Engineer ("SCOSE"). Publication of this version of AIA Document A701–2018 does not imply the American Institute of Architects' endorsement of any modification by SCOSE. A comparative version of AIA Document A701–2018 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as "AIA Document A701™ – 2018, Instructions to Bidders — SCOSE Version," or "AIA Document A701™ –2018 — SCOSE Version."

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA Document A701 $^{\text{TM}}$ – 2018

Instructions to Bidders

for the following Project:

(Name, State Project Number, location, and detailed description)
USC Coker Life Sciences Building Roof Replacement
H27-Z422/50003410-2
715 Sumter Street, Columbia, SC 29208

THE OWNER:

(Name, legal status, address, and other information) USC SC Facilities Planning Design and Construction 1300 Pickens Street Columbia, SC 29208

The Owner is a Governmental Body of the State of South Carolina as defined by S.C. Code Ann. § 11-35-310.

THE ARCHITECT:

(Name, legal status, address, and other information)
REI Engineers, Inc.
2090 Executive Hall Road, Suite 115
Charleston, SC 29407

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

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8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

ARTICLE 1 DEFINITIONS

- § 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.
- § 1.1.1 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA Document A101-2017 Standard Form of Agreement Between Owner and Contractor, SCOSE Version. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA Document A201-2017 General Conditions of the Contract for Construction, SCOSE Version.
- § 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.
- § 1.3 Addenda are written or graphic instruments issued by the Architect, which, by additions, deletions, clarifications, or corrections, modify or interpret the Bidding Documents.
- **§ 1.4** A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- § 1.5 The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents, to which Work may be added or deleted by sums stated in Alternate Bids.
- § 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
- § 1.7 A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, as described in the Bidding Documents.
- § 1.8 A Bidder is a person or entity who submits a Bid.
- § 1.9 A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment, or labor for a portion of the Work.

ARTICLE 2 BIDDER'S REPRESENTATIONS

- § 2.1 By submitting a Bid, the Bidder represents that:
 - .1 the Bidder has read and understands the Bidding Documents;
 - .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
 - .3 the Bid complies with the Bidding Documents;
 - .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, has correlated the Bidder's observations with the requirements of the Proposed Contract Documents, and accepts full responsibility for any pre-bid existing conditions that would affect the Bid that could have been ascertained by a site visit. As provided in S.C. Code Ann. Reg. 19-445.2042(B), a bidder's failure to attend an advertised pre-bid conference will not excuse its responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the State;
 - .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception; and
 - .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor.

§ 2.2 Certification of Independent Price Determination

§ 2.2.1 GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SC CODE OF LAWS §16-9-10 AND OTHER APPLICABLE LAWS.

- § 2.2.2 By submitting a Bid, the Bidder certifies that:
 - .1 The prices in this Bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
 - .1 those prices;
 - .2 the intention to submit a Bid: or
 - .3 the methods or factors used to calculate the prices offered.
 - .2 The prices in this Bid have not been and will not be knowingly disclosed by the Bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
 - .3 No attempt has been made or will be made by the Bidder to induce any other concern to submit or not to submit a Bid for the purpose of restricting competition.
- § 2.2.3 Each signature on the Bid is considered to be a certification by the signatory that the signatory:
 - 1 Is the person in the Bidder's organization responsible for determining the prices being offered in this Bid, and that the signatory has not participated and will not participate in any action contrary to Section 2.2.2 of this certification; or
 - .2 Has been authorized, in writing, to act as agent for the Bidder's principals in certifying that those principals have not participated, and will not participate in any action contrary to Section 2.2.2 of this certification [As used in this subdivision, the term "principals" means the person(s) in the Bidder's organization responsible for determining the prices offered in this Bid];
 - .3 As an authorized agent, does certify that the principals referenced in Section 2.2.3.2 of this certification have not participated, and will not participate, in any action contrary to Section 2.2.2 of this certification; and
 - 4 As an agent, has not personally participated, and will not participate, in any action contrary to Section 2.2.2 of this certification.
- **§ 2.2.4** If the Bidder deletes or modifies Section 2.2.2.2 of this certification, the Bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

§ 2.2.5 Drug Free Workplace Certification

By submitting a Bid, the Bidder certifies that, if awarded a contract, Bidder will comply with all applicable provisions of The Drug-free Workplace Act, S.C. Code Ann. 44-107-10, et seq.

§ 2.2.6 Certification Regarding Debarment and Other Responsibility Matters

- § 2.2.6.1 By submitting a Bid, Bidder certifies, to the best of its knowledge and belief, that:
 - .1 Bidder and/or any of its Principals-
 - .1 Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal agency;
 - .2 Have not, within a three-year period preceding this Bid, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
 - .3 Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in Section 2.2.6.1.1.2 of this provision.
 - **.2** Bidder has not, within a three-year period preceding this Bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.
 - "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

§ 2.2.6.2 Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

- § 2.2.6.3 If Bidder is unable to certify the representations stated in Section 2.2.6.1, Bidder must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder's responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder non-responsible.
- § 2.2.6.4 Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by Section 2.2.6.1 of this provision. The knowledge and information of a Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- § 2.2.6.5 The certification in Section 2.2.6.1 of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

§ 2.2.7 Ethics Certificate

By submitting a Bid, the Bidder certifies that the Bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the SC Code of Laws, as amended (Ethics Act). The following statutes require special attention: S.C. Code Ann. §8-13-700, regarding use of official position for financial gain; S.C. Code Ann. §8-13-705, regarding gifts to influence action of public official; S.C. Code Ann. §8-13-720, regarding offering money for advice or assistance of public official; S.C. Code Ann. §8-13-755 and §8-13-760, regarding restrictions on employment by former public official; S.C. Code Ann. §8-13-775, prohibiting public official with economic interests from acting on contracts; S.C. Code Ann. §8-13-790, regarding recovery of kickbacks; S.C. Code Ann. §8-13-1150, regarding statements to be filed by consultants; and S.C. Code Ann. §8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The State may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If the contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, the contractor shall, if required by law to file such a statement, provide the statement required by S.C. Code Ann. §8-13-1150 to the Procurement Officer at the same time the law requires the statement to be filed.

§ 2.2.8 Restrictions Applicable To Bidders & Gifts

Violation of these restrictions may result in disqualification of your Bid, suspension or debarment, and may constitute a violation of the state Ethics Act.

- § 2.2.8.1 After issuance of the solicitation, Bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials. All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed.
- **§ 2.2.8.2** Unless otherwise approved in writing by the Procurement Officer, Bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award.
- § 2.2.8.3 Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. SC Regulation 19-445.2165(C) broadly defines the term donor.

§ 2.2.9 Open Trade Representation

By submitting a Bid, the Bidder represents that Bidder is not currently engaged in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in S.C. Code Ann. §11-35-5300.

ARTICLE 3 BIDDING DOCUMENTS

§ 3.1 Distribution

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

§ 3.1.2 Any required deposit shall be refunded to all plan holders who return the paper Bidding Documents in good condition within ten (10) days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

§ 3.1.3 Reserved

- § 3.1.4 Bidders shall use complete Bidding Documents in preparing Bids. Neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete Bidding Documents.
- § 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.
- § 3.1.6 All persons obtaining Bidding Documents from the issuing office designated in the advertisement shall provide that office with Bidder's contact information to include the Bidder's name, telephone number, mailing address, and email address.

§ 3.2 Modification or Interpretation of Bidding Documents

- § 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2. Failure to do so will be at the Bidder's risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Architect's attention prior to Bid Opening.
- § 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least ten (10) days prior to the date for receipt of Bids.
- § 3.2.3 Modifications, corrections, changes, and interpretations of the Bidding Documents shall be made by Addendum. Modifications, corrections, changes, and interpretations of the Bidding Documents made in any other manner shall not be binding, and Bidders shall not rely upon them.
- § 3.2.4 As provided in S.C. Code Ann. Reg. 19-445.2042(B), nothing stated at the Pre-bid conference shall change the Bidding Documents unless a change is made by Addendum.

§ 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution. Where "brand name or equal" is used in the Bidding Documents, the listing description is not intended to limit or restrict competition.

§ 3.3.2 Substitution Process

- § 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten (10) days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.
- § 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.
- § 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.
- § 3.3.2.4 No request to substitute materials, products, or equipment for materials, products, or equipment described in the Bidding Documents and no request for addition of a manufacturer or supplier to a list of approved manufacturers or suppliers in the Bidding Documents will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten (10) days prior to the date for receipt of Bids established in the invitation to bid.

Any subsequent extension of the date for receipt of Bids by addendum shall not extend the date for receipt of such requests unless the addendum so specifies. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the Work of other contracts that incorporation of the proposed substitution would require, shall be included.

- § 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
- § 3.3.4 If the Architect approves a proposed substitution prior to receipt of Bids, such approval shall be set forth in an Addendum. Approvals made in any other manner shall not be binding, and Bidders shall not rely upon them.
- § 3.3.5 No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.

§ 3.4 Addenda

- § 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.
- § 3.4.2 Addenda will be available where Bidding Documents are on file.
- § 3.4.3 Addenda will be issued at least five (5) business days before the day of the Bid Opening, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids. A business day runs from midnight to midnight and excludes weekends and state and federal holidays.
- § 3.4.4 Prior to submitting a Bid, each Bidder shall ascertain that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.
- § 3.4.5 When the date for receipt of Bids is to be postponed and there is insufficient time to issue an Addendum prior to the original Bid Date, the Owner will notify prospective Bidders by telephone or other appropriate means with immediate follow up with an Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) business day after the date of issuance of the Addendum postponing the original Bid Date.
- § 3.4.6 If an emergency or unanticipated event interrupts normal government processes so that Bids cannot be received at the government office designated for receipt of Bids by the exact time specified in the solicitation, the time specified for receipt of Bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule Bid Opening. If state offices are closed in the county in which Bids are to be received at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference. Bidders shall visit https://www.scemd.org/closings/ for information concerning closings.

ARTICLE 4 BIDDING PROCEDURES

§ 4.1 Preparation of Bids

- § 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.
- § 4.1.2 All blanks on the Bid Form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.
- § 4.1.3 Sums shall be expressed in numbers.
- § 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid. Bidder shall not make stipulations or qualify his Bid in any manner not permitted on the Bid Form. An incomplete Bid or information not requested that is written on or attached to the Bid Form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.
- **§ 4.1.5** All requested Alternates shall be bid. The failure of the Bidder to indicate a price for an Alternate shall render the Bid non-responsive. Indicate the change to the Base Bid by entering the dollar amount and marking, as appropriate, the box for "ADD TO" or "DEDUCT FROM". If no change in the Base Bid is required, enter "ZERO" or "No Change".

- § 4.1.6 Pursuant to S.C. Code Ann. § 11-35-3020(b)(i), as amended, Section 7 of the Bid Form sets forth a list of proposed subcontractors for which the Bidder is required to identify those subcontractors the Bidder will use to perform the work listed. Bidder must follow the instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out Section 7 may result in rejection of Bidder's bid as non-responsive.
- **§ 4.1.7** Contractors and subcontractors listed in Section 7 of the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed as required by law at the time of bidding.
- § 4.1.8 Each copy of the Bid shall state the legal name and legal status of the Bidder. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract.
- § 4.1.9 A Bidder shall incur all costs associated with the preparation of its Bid.

§ 4.2 Bid Security

- § 4.2.1 If required by the invitation to bid, each Bid shall be accompanied by a bid security in an amount of not less than five percent of the Base Bid. The bid security shall be a bid bond or a certified cashier's check.
- § 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.
- § 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310[™], Bid Bond and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bid Bond shall:
 - .1 be issued by a surety company licensed to do business in South Carolina;
 - .2 be issued by a surety company having, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty", which company shows a financial strength rating of at least five (5) times the contract price.
 - .3 be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic bid bonds on behalf the surety.
- § 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and performance and payment bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.
- § 4.2.5 By submitting a Bid Bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the State of South Carolina under the conditions provided in this Section 4.2.

§ 4.3 Submission of Bids

- § 4.3.1 A Bidder shall submit its Bid as indicated below:
- § 4.3.2 All paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall, unless hand delivered by the Bidder, be addressed to the Owner's designated purchasing office as shown in the invitation to bid. The envelope shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, or special delivery service (UPS, Federal Express, etc.), the sealed envelope shall be labelled "SEALED BID ENCLOSED" on the face thereof. Bidders hand delivering their Bids shall deliver Bids to the place of the Bid Opening as shown in the invitation for bids. Whether or not Bidders attend the Bid Opening, they shall give their Bids to the Owner's Procurement Officer or his/her designee as shown in the invitation to bid prior to the time of the Bid Opening.
- § 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

- § 4.3.4 The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.
- **§ 4.3.5** A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted. Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.
- § 4.3.6 The official time for receipt of Bids will be determined by reference to the clock designated by the Owner's Procurement Officer or his/her designee. The Procurement Officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the Procurement Officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the Procurement Officer.

§ 4.4 Modification or Withdrawal of Bid

- § 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.
- § 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

ARTICLE 5 CONSIDERATION OF BIDS

§ 5.1 Opening of Bids

Bids received on time will be publicly opened and read aloud. The Owner will not read aloud Bids that the Owner determines, at the time of opening, to be non-responsive.

- § 5.1.1 At Bid Opening, the Owner will announce the date and location of the posting of the Notice of Intend to Award. If the Owner determines to award the Project, the Owner will, after posting a Notice of Intend to Award, send a copy of the Notice to all Bidders.
- § 5.1.2 The Owner will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the Bid Opening.
- § 5.1.3 If only one Bid is received, the Owner will open and consider the Bid.

§ 5.2 Rejection of Bids

- § 5.2.1 The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.
- § 5.2.2 The reasons for which the Owner will reject Bids include, but are not limited to:
 - .1 Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;
 - .2 Failure to deliver the Bid on time;

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- .3 Failure to comply with Bid Security requirements, except as expressly allowed by law;
- .4 Listing an invalid electronic Bid Bond authorization number on the Bid Form;
- .5 Failure to Bid an Alternate, except as expressly allowed by law;
- **.6** Failure to list qualified subcontractors as required by law;
- .7 Showing any material modification(s) or exception(s) qualifying the Bid;
- .8 Faxing a Bid directly to the Owner or Owner's representative; or
- **.9** Failure to include a properly executed Power-of-Attorney with the Bid Bond.
- § 5.2.3 The Owner may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub-line items. A Bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the Bid

will result in the lowest overall cost to the Owner even though it may be the low evaluated Bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

§ 5.3 Acceptance of Bid (Award)

§ 5.3.1 It is the intent of the Owner to award a Contract to the lowest responsive and responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed available funds. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

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

ARTICLE 6 POST-BID INFORMATION

§ 6.1 Contractor's Responsibility

Owner will make a determination of Bidder's responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Owner to support the Owner's evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Owner, at its option, to determine the Bidder to be non-responsible.

§ 6.2 Reserved

§ 6.3 Submittals

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

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

§ 6.4 Posting of Intent To Award

The Notice of Intent to Award will be posted at the following location:

Room or Area of Posting: Suite 606 Building Where Posted: Purchasing Office

Address of Building: 1600 Hampton St, Columbia, SC 29208 WEB site address (if applicable): purchasing.sc.edu

Posting date will be announced at Bid Opening. In addition to posting the Notice, the Owner will promptly send all responsive Bidders a copy of the Notice of Intent to Award and the final bid tabulation

§ 6.5 Protest of Solicitation or Award

§ 6.5.1 If you are aggrieved in connection with the solicitation or award of a contract, you may be entitled to protest, but only as provided in S.C. Code Ann. § 11-35-4210. To protest a solicitation, you must submit a protest within fifteen (15) days of the date the applicable solicitation document is issued. To protest an award, you must (i) submit notice if your intent to protest within seven (7) business days of the date the award notice is posted, and (ii) submit your actual protest within fifteen (15) days of the date the award notice is posted. Days are calculated as provided in Section 11-35-310(13). Both protests and notices of intent to protest must be in writing and must be received by the State Engineer within the time provided. The grounds of the protest and the relief requested must be set forth with enough particularity to give notice of the issues to be decided.

- § 6.5.2 Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing:
 - .1 by email to protest-ose@mmo.sc.gov,

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- .2 by facsimile at 803-737-0639, or
- 3 by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201.

By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

- § 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid.
- § 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the state of South Carolina.
- § 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of 100% of the Contract Sum.

§ 7.2 Time of Delivery of Contract, Certificates of Insurance, and Form of Bonds

- § 7.2.1 Following expiration of the protest period, the Owner will forward the Contract for Construction to the Bidder for signature. The Bidder shall return the fully executed Contract for Construction to the Owner within seven (7) days. The Bidder shall deliver the required bonds and certificate of insurance to the Owner not later than three (3) days following the date of execution of the Contract. Failure to deliver these documents as required shall entitle the Owner to consider the Bidder's failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder's Bid and to make claim on the Bid Security for re-procurement cost.
- § 7.2.2 Unless otherwise provided, the bonds shall be written on the Performance Bond and Payment Bond forms included in the Bid Documents.
- § 7.2.3 The bonds shall be dated on or after the date of the Contract.

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

ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

- **§ 8.1** Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:
 - .1 AIA Document A101™—2017, Standard Form of Agreement Between Owner and Contractor, SCOSE Version.
 - .2 AIA Document A101TM–2017, Exhibit A, Insurance and Bonds, SCOSE Version.
 - .3 AIA Document A201TM–2017, General Conditions of the Contract for Construction, SCOSE Version.
 - .4 AIA Document E203TM–2013, Building Information Modeling and Digital Data Exhibit
 - .5 Drawings

	Number	Title	Date	
6	Specifications			
	Section	Title	Date	Pages

.7	Addenda:			
	Number	Date	Pages	
.8		that apply and include appropriate info cument E204™–2017, Sustainable Proje	ormation identifying the exhib	
	The Sust	ainability Plan:		
	Supplem	entary and other Conditions of the Conf	tract:	
.9	Other documents (List here any add	listed below: ditional documents that are intended to	form part of the Proposed Co	ontract Documents.)

ARTICLE 9 Miscellaneous

§ 9.1 Nonresident Taxpayer Registration Affidavit Income Tax Withholding Important Tax Notice - Nonresidents Only

§ 9.1.1 Withholding Requirements for Payments to Nonresidents: SC Code of Laws §12-8-550 requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

- § 9.1.2 For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at: www.sctax.org
- **§ 9.1.3** This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898-5383.

PLEASE SEE THE "NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING" FORM (Available through SC Department of Revenue).

§ 9.2 Submitting Confidential Information

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§ 9.2.1 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that the Bidder contends contains

information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged & confidential, as that phrase is used in SC Code of Laws §11-35-410.

- § 9.2.2 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the words "TRADE SECRET" every page, or portion thereof, that the Bidder contends contains a trade secret as that term is defined by SC Code of Laws §39-8-20.
- § 9.2.3 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the word "PROTECTED" every page, or portion thereof, that the Bidder contends is protected by SC Code of Laws §11-35-1810.
- § 9.2.4 All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire Bid as confidential, trade secret, or protected! If your Bid, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page.
- § 9.2.5 By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, & (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure.
- § 9.2.6 In determining whether to release documents, the State will detrimentally rely on the Bidders' marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED".
- § 9.2.7 By submitting a response, the Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Bidder marked as "confidential" or "trade secret" or "PROTECTED".

§ 9.3 Solicitation Information From Sources Other Than Official Source

South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the Bidder's sole risk and is without recourse under the South Carolina Consolidated Procurement Code.

§ 9.4 Builder's Risk Insurance

Bidders are directed to Exhibit A of the AIA Document A101, 2017 SCOSE Version, which, unless provided otherwise in the Bid Documents, requires the contractor to provide builder's risk insurance on the project.

§ 9.5 Tax Credit For Subcontracting With Minority Firms

- § 9.5.1 Pursuant to S.C. Code Ann. §12-6-3350, taxpayers, who utilize certified minority subcontractors, may take a tax credit equal to 4% of the payments they make to said subcontractors. The payments claimed must be based on work performed directly for a South Carolina state contract. The credit is limited to a maximum of fifty thousand dollars annually. The taxpayer is eligible to claim the credit for 10 consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return.
- § 9.5.2 Taxpayers must maintain evidence of work performed for a State contract by the minority subcontractor. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888.

§ 9.5.3 The subcontractor must be certified as to the criteria of a "Minority Firm" by the Governor's Office of Small and Minority Business Assistance (OSMBA). Certificates are issued to subcontractors upon successful completion of the certification process. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. Reference: S.C. Code Ann. §11-35-5010 – Definition for Minority Subcontractor & S.C. Code Ann. §11-35-5230 (B) – Regulations for Negotiating with State Minority Firms.

§ 9.6 Other Special Conditions Of The Work

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AIA 310

Bid Bond (2010 Edition)

Original AIA Document on file at the office of
University of South Carolina
743 Greene Street
Columbia, South Carolina 29208

Bidders shall submit bids on only Bid Form SE-330.

FOR: OFFER \$ 1. In a narr Ag Do cor \$ 2. Put the \$ 3. Bic said (Bic A)	PROJECT NU	thion for Construction	(Agence Life Science 2422/ 500034 tion Services and agreeing Documents, and time frames indicated to the services and agreeing Documents and time frames indicated to the services and agree time frames indicated to the services and agree time frames indicated to the services are the services and agree time frames indicated to the services are the services and agree time frames indicated to the services and agree time frames indicated to the services are the services are the services and agree time frames indicated to the services are the services are the services are the services and agree time frames indicated to the services are the services a	in compliance with the ees, if this Bid is accounted to perform all Work cated in this Bid and	the Instructions cepted, to enter rk as specified of the in accordance	to Bidders for the abo into a Contract with or indicated in the Bidd with the other terms
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§ 3. Bic said (Bid A	_					1
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§ 4. Bio	dder acknowledges thid Addenda into this E	Bid:	-			-
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•	dder accepts all terms		—	_		_
	sposition of Bid Secu thdrawn after the ope ate, or for such longer	rity. Bidder agre	ees that this Bid, shall remain oper	including all Bid A	lternates, if any a period of <u>60</u>	, may not be revoke Days following the
§ 5. Bid	dder herewith offers	to provide all lal	bor, materials, ed	quipment, tools of tr	ades and labor,	, accessories, applian
wa	arranties and guarante	es, and to pay all	royalties, fees, pe	rmits, licenses and a	pplicable taxes r	necessary to complete
fol	llowing items of const	truction work:				
§ 6.1 BA	ASE BID WORK (as	indicated in the Bio	dding Documents a	and generally described	d as follows): <u>Re</u>	oof Areas B, C, D, E,
<u>F:</u>	Remove and dispose	of the existing ro	oof system includ	ing flashings and sh	eet metal down	to the existing struct
dec	ck; Provide a torch	applied vapor	retarder; Prov	ide base layer in	sulation adher	ed in foam adhes
<u>Pro</u>	ovide second layer in	sulation adhered	in foam adhesive	e; Provide overlayme	ent insulation ad	dhered in foam adhes
<u>Pro</u>	ovide a torch applied	two-ply modified	d bitumen roof m	embrane along with	flashings and ac	ccessories; Replace s
<u>me</u>	etal flashings and trim	; Drawings; Prov	ride a comple	ete, watertight, 2	0-year warran	ntable roof assem
<u> </u>				1.1	hereafter called	14 D D'1

BF – 1 SE-330

Bidders shall submit bids on only Bid Form SE-330.

§ 6.2 BID ALTERNATES as indicated in the Bidding Documents and generally described as follows:

ALTERNATE # 1 (Brief Description): Provide new metal wall panels at interior screen walls on Sector C
☐ ADD TO or ☐ DEDUCT FROM BASE BID:_\$
(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)
<u>ALTERNATE # 2</u> (Brief Description): Roof Area A: Remove and dispose of the existing roof/ sheet metal/ flashing system down to the deck; provide specified roof system with flashings and accessories; provide a complete, watertight, 20-year warrantable roof assembly.
☐ ADD TO or ☐ DEDUCT FROM BASE BID: \$
(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)
ALTERNATE # 3 (Brief Description):
☐ ADD TO or ☐ DEDUCT FROM BASE BID: \$
(Bidder to mark appropriate box to clearly indicate the price adjustment offered for each Alternate)

§ 6.3 UNIT PRICES:

BIDDER offers for the Agency's consideration and use, the following UNIT PRICES. The UNIT PRICES offered by BIDDER indicate the amount to be added to or deducted from the CONTRACT SUM for each item-unit combination. UNIT PRICES include all costs to the Agency, including those for materials, labor, equipment, tools of trades and labor, fees, taxes, insurance, bonding, overhead, profit, etc. The Agency reserves the right to include or not to include any of the following UNIT PRICES in the Contract and to negotiate the UNIT PRICES with BIDDER prior to including in the Contract.

<u>No.</u>	ITEM	UNIT OF MEASURE	ADD	DEDUCT
<u>1.</u>	Replace Deteriorated Wood Blocking	BF	\$	\$
2.	Provide Additional Walk Pad Material	SF	\$	\$
3.	Provide 1/8" Steel Plates for Deck Openings	SF	\$	\$
4.			\$	\$
5.			\$	\$
6.			\$	\$

BF – 1A SE-330

§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED

(See Instructions on the following page BF-2A)

Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Classification work listed:

(A) SUBCONTRACTOR LICENSE CLASSIFICATION or SUBCLASSIFICATION NAME (Completed by Agency)	(B) LICENSE CLASSIFICATION or SUBCLASSIFICATION ABBREVIATION (Completed by Agency)	(C) SUBCONTRACTOR and/or PRIME CONTRACTOR (Required - must be completed by Bidder)	(D) SUBCONTRACTOR'S and/or PRIME CONTRACTOR'S SC LICENSE NUMBER (Requested, but not Required)			
(ASE BID	, , , , , , , , , , , , , , , , , , , ,				
	ALTI	ERNATE #1				
ALTERNATE #2						

If a Bid Alternate is accepted, Subcontractors listed for the Bid Alternate shall be used for the work of both the Alternate and the Base Bid work.

BF – 2 SE-330

INSTRUCTIONS FOR SUBCONTRACTOR LISTING

- 1. Section 7 of the Bid Form sets forth an Agency-developed list of subcontractor license classifications or subclassifications for which Bidder is required to identify the entity (subcontractor(s) and/or himself) Bidder will use to perform this work.
 - a. Columns A & B: The Agency fills out these columns to identify the subcontractor license classification/subclassification and related license abbreviation for which the Bidder must list either a subcontractor or himself as the entity that will perform this work. In Column A, the subcontractor license classification/subclassification is identified by name and in Column B, the related contractor license abbreviation (per Title 40 of the SC Code of Laws) is listed. Abbreviations of licenses can be found at: https://llr.sc.gov/clb/PDFFiles/CLBClassificationAbbreviations.pdf. If the Agnecy has not identified a subcontractor license classification/subclassification, the Bidder does not list a subcontractor.
 - b. Columns C and D: In these columns, the Bidder identifies the subcontractors it will use for the work of each license listed by the Agency in Columns A & B. Bidder must identify only the subcontractor(s) who will perform the work and no others. Bidders must make sure that their identification of each subcontractor is clear and unambiguous. A listing that could be any number of different entities may be cause for rejection of the bid as non-responsive. For example, a listing of M&M without additional information may be problematic if there are multiple different licensed contractors in South Carolina whose names start with M&M.
- 2. **Subcontractor Defined:** For purposes of subcontractor listing, a subcontractor is an entity who will perform work or render service to the prime contractor to or about the construction site pursuant to a contract with the prime contractor. Bidder should not identify sub-subcontractors in the spaces provided on the bid form but only those entities with which Bidder will contract directly. Likewise, do not identify material suppliers, manufacturers, and fabricators that will not perform physical work at the site of the project but will only supply materials or equipment to the Bidder or proposed subcontractor(s).
- 3. Subcontractor Qualifications: Bidder must only list subcontractors who possess a South Carolina contractor's license that includes the license classification and/or subclassification identified by the Agency in Columns A & B. The subcontractor license must also be within the appropriate license group for the work. If Bidder lists a subcontractor who is not qualified to perform the work, the Bidder will be rejected as non-responsible.
- 4. Use of Own forces: If, under the terms of the Bidding Documents and SC Contractor Licensing laws, Bidder is qualified to perform the work of a listed subcontractor classification or subclassification and Bidder does not intend to subcontract such work but to use Bidder's own employees to perform such work, the Bidder must insert itself in the space provided.
- 5. Use of Multiple Subcontractors:
 - a. If Bidder intends to use multiple subcontractors to perform the work of a single license classification/subclassification, Bidder must insert the name of each subcontractor Bidder will use, preferably separating the name of each by the word "and". If Bidder intends to use both his own employees to perform a part of the work of a single license classification/subclassification and to use one or more subcontractors to perform the remaining work, Bidder must insert itself and each subcontractor, preferably separating them with the word "and". Bidder must use each entity listed for the work of a single license classification/subclassification in the performance of that work.
 - b. Optional Listing Prohibited: Bidder may not list multiple subcontractors for a license classification/subclassification in a form that provides the Bidder the option, after bid opening or award, to choose one or more but not all the listed subcontractors to perform the work for which they are listed. A listing, which on its face requires subsequent explanation to determine whether it is an optional listing, is non-responsive. If Bidder intends to use multiple entities to perform the work for a single listing, Bidder must clearly set forth on the bid form such intent. Bidder may accomplish this by simply inserting the word "and" between the names of each entity listed. Agency will reject as non-responsive a listing that contains the names of multiple subcontractors separated by a blank space, the word "or", a virgule (that is a /), or any separator that the Agency may reasonably interpret as an optional listing.
- **6.** If Bidder is awarded the contract, Bidder must, except with the approval of the Agency for good cause shown, use the listed entities to perform the work for which they are listed.
- 7. If Bidder is awarded the contract, Bidder will not be allowed to substitute another entity as subcontractor in place of a subcontractor listed in Section 7 of the Bid except for one or more of the reasons allowed by the SC Code of Laws.
- **8.** Bidder's failure to identify an entity (subcontractor or himself) to perform the work of a subcontractor listed in Columns A & B will render the Bid non-responsive.

BF – 2A SE-330

§ 8. LIST OF MANUFACTURERS, MATERIAL SUPPLIERS, AND SUBCONTRACTORS OTHER THAN SUBCONTRACTORS LISTED IN SECTION 7 ABOVE (FOR INFORMATION ONLY):

Pursuant to instructions in the Invitation for Construction Services, if any, Bidder will provide to Agency upon the Agency's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors,

§ 9. T

	this	er than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that s list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements SC Code § 11-35-3020(b)(i).
§ 9.	TI	ME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES
	a)	CONTRACT TIME
		Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued
		by the Agency. Bidder agrees to substantially complete the Work within 120 Calendar Days
		from the Date of Commencement, subject to adjustments as provided in the Contract Documents.
	b)	LIQUIDATED DAMAGES
		Bidder further agrees that from the compensation to be paid, the Agency shall retain as Liquidated Damages the
		amount of \$\ for each Calendar Day the actual construction time required to achieve Substantial
		Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents.
		This amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a
		penalty for nonperformance.
§ 10.	AC	GREEMENTS
	a)	Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.
	b)	Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be
		canceled for the convenience of, and without cost to, the State.
	c)	Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible
		for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled
		for any reason prior to the issuance of the Notice to Proceed.
§ 11.	EL	ECTRONIC BID BOND
	Ву	signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal
	and	Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310,
	Bic	Bond, included in the Bidding Documents.
	EL	ECTRONIC BID BOND NUMBER:
	SIC	GNATURE AND TITLE:

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CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION SC Contractor's License Number(s):_____ Classification(s) & Limits: Subclassification(s) & Limits: By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the SCOSE Version of the AIA Document A701, Instructions to Bidders, is expressly incorporated by reference. BIDDER'S LEGAL NAME: ADDRESS:_____ TELEPHONE: EMAIL: SIGNATURE: DATE: PRINT NAME: TITLE:

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6.4 ALLOWANCES:

BIDDER:

- A. Quantity allowance for the items indicated below shall be included in the base bid. The unit price submitted on the Bid Form shall be used to compute the quantity allowances. The quantities indicated are estimated quantities only for the purpose of comparing bids. The Contractor will be compensated at the unit price bid for the exact quantity of work performed under each unit price item.
 - 1. Replace 750 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00.
 - 2. Provide 250 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 52 16.
 - 3. Provide 250 SF of Steel Plates for Concrete Deck Openings. Refer to Section 07 01 50.

SC DIVISION OF PROCUREMENT SERVICES, OFFICE OF THE STATE ENGINEER VERSION OF AIA DOCUMENT A101-2017 EDITION

STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A101® – 2017

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

This version of AIA Document A101®–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer ("SCOSE"). Publication of this version of AIA Document A101–2017 does not imply the American Institute of Architects' endorsement of any modification by SCOSE. A comparative version of AIA Document A101–2017 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as "AIA Document A101®–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum — SCOSE Version," or "AIA Document A101®–2017 — SCOSE Version."

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA Document A101®– 2017

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

day of

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

BETWEEN the Owner:

(Name, legal status, address and other information)

USC SC Facilities Planning Design and Construction 1300 Pickens Street Columbia, SC 29208

The Owner is a Governmental Body of the State of South Carolina as defined in S.C. Code Ann. § 11-35-310.

and the Contractor:

(Name, legal status, address and other information)

for the following Project:
(Name, State Project Number, location and detailed description)
USC Coker Life Sciences Building Roof Replacement
H27-Z422/50003410-2

715 Sumter Street, Columbia, SC 29208

The Architect: (Name, legal status, address and other information)
REI Engineers, Inc.
2090 Executive Hall Road, Suite 115
Charleston, SC 29407

This version of AIA Document A101-2017 is modified by the South Carolina Division of Procurement Services. Office of State Engineer. Publication of this version of AIA Document A101 does not imply the American Institute of Architects' endorsement of any modification by South Carolina Division of Procurement Services, Office of State Engineer. A comparative version of AIA Document A101-2017 showing additions and deletions by the South Carolina Division of Procurement Services, Office of State Engineer is available for review on South Carolina state Web site.

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

The Owner and Contractor agree as follows.

TABLE OF ARTICLES

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

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

§ 1.2 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101-2017 Standard Form of Agreement Between Owner and Contractor, SCOSE Version. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201-2017 General Conditions of the Contract for Construction, SCOSE Version.

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The Date of Commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner. The Owner shall issue the Notice to Proceed to the Contractor in writing, no less than seven (7) days prior to the Date of Commencement. Unless otherwise provided elsewhere in the Contract Documents and provided the Contractor has secured all required insurance and surety bonds, the Contractor may commence work immediately after receipt of the Notice to Proceed.

§ 3.2 The Contract Time as provided in the Notice to Proceed for this project shall be measured from the Date of Commencement of the Work to Substantial Completion.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work within the Contract Time indicated in the Notice to Proceed.

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

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum, including all accepted alternates indicated in the bid documents, in current funds for the Contractor's performance of the Contract. The Contract Sum shall be

(\$), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates that are accepted, if any, included in the Contract Sum: (Insert the accepted Alternates.)

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

§ 4.4 Unit prices, if any:

Item

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

Price

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

§ 4.5 Liquidated damages

§ 4.5.1 Contractor agrees that from the compensation to be paid, the Owner shall retain as liquidated damages the amount indicated in Section 9(b) of the Bid Form for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. The liquidated damages amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty.

§ 4.6 Other:

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

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

- § 5.1.1 Based upon Applications for Payment submitted to the Architect and Owner by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.
- § 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:
- § 5.1.3 The Owner shall make payment of the certified amount to the Contractor not later than twenty-one (21) days after receipt of the Application for Payment.
- § 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.
- § 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.
- § 5.1.6 Subject to S.C. Code Ann. § 12-8-550 (Withholding Requirements for Payments to Non-Residents), in accordance with AIA Document A201®–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:
- § 5.1.6.1 The amount of each progress payment shall first include:
 - .1 That portion of the Contract Sum properly allocable to completed Work;
 - .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
 - .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.
- § 5.1.6.2 The amount of each progress payment shall then be reduced by:
 - .1 The aggregate of any amounts previously paid by the Owner;
 - .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;
 - .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
 - **.4** For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and
 - **.5** Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

- § 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold three and one-half percent (3.5%), as retainage, from the payment otherwise due.
- § 5.1.7.2 When a portion, or division, of Work as listed in the Schedule of Values is 100% complete, that portion of the retained funds which is allocable to the completed division must be released to the Contractor. No later than ten (10) days after receipt of retained funds from the Owner, the Contractor shall pay to the subcontractor responsible for such completed work the full amount of retainage allocable to the subcontractor's work.
- § 5.1.7.3 Upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7.

- § 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.
- § 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

- § 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when
 - .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
 - .2 a final Certificate for Payment has been issued by the Architect.
- § 5.2.2 The Owner's final payment to the Contractor shall be made no later than twenty-one (21) days after the issuance of the Architect's final Certificate for Payment.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Claims and disputes shall be resolved in accordance with Article 15 of AIA Document A201–2017.

ARTICLE 7 TERMINATION OR SUSPENSION

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

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

ARTICLE 8 MISCELLANEOUS PROVISIONS

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

§ 8.2 The Owner's representative:

§ 8.2.1 The Owner designates the individual listed below as its Senior Representative ("Owner's Senior Representative"), which individual has the responsibility for and, subject to Section 7.2.1 of the General Conditions, the authority to resolve disputes under Section 15.6 of the General Conditions:

Name: Tom Opal

Title: Director of Facilities Planning Design and Construction

Address: 1300 Pickens Street, Columbia, SC 29208

Telephone: 803-777-7076 **Email:** tnopal@fmc.sc.edu

§ 8.2.2 The Owner designates the individual listed below as its Owner's Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions:

Name: Pete Fisher, PE

Title: Project Manager, Faciliteis Planning Design and Construction

Address: 1300 Pickens Street, Columbia, SC 29208

Telephone: 803-777-9346 **Email:** pfisher@email.sc.edu

§ 8.3 The Contractor's representative:

§ 8.3.1 The Contractor designates the individual listed below as its Senior Representative ("Contractor's Senior Representative"), which individual has the responsibility for and authority to resolve disputes under Section 15.6 of the General Conditions:

Name:

Title:	
Address:	
Telephone:	
Email:	

§ 8.3.2 The Contractor designates the individual listed below as its Contractor's Representative, which individual has the authority and responsibility set forth in Section 3.1.1 of the General Conditions:

Name: Title: Address: Telephone: Email:

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

§ 8.5 The Architect's representative:

Name: Keith Parker

Title: Senior Project Manager,

Address: 2090 Executive Hall Rd, Suite 115, Charleston, SC 29407

Telephone: 843-225-6272

Email: kparker@reiengineers.com

§ 8.6 Insurance and Bonds

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

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

§ 8.7 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203TM–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

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

§ 8.8 Other Provisions:

§ 8.8.1 Additional requirements, if any, for the Contractor's Construction Schedule are as follows: (Check box if applicable to this Contract)

The Construction Schedule shall be in a detailed precedence-style critical path management (CPM) or primaveratype format satisfactory to the Owner and the Architect that shall also (1) provide a graphic representation of all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; and (3) set forth milestone dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents.

1 Upon review by the Owner and the Architect for conformance with milestone dates and Construction Time given in the Bidding Documents, with associated Substantial Completion date, the Construction Schedule shall be deemed part of the Contract Documents and attached to the Agreement as an Exhibit. If returned for non-conformance, the Construction Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and the Architect and resubmitted.

Init.

- .2 The Contactor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delays or potential delays. Whenever the Construction Schedule no longer reflects actual conditions and progress of the Work or the Contract Time is modified in accordance with the terms of the Contract Documents, the Contractor shall update the Construction Schedule to reflect such conditions.
- .3 In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary.
- .4 In no event shall any progress report constitute an adjustment in the Contract Time, any milestone date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

§ 8.8.2 The Owner's review of the Contractor's schedule is not conducted for the purpose of either determining its accuracy, completeness, or approving the construction means, methods, techniques, sequences or procedures. The Owner's review shall not relieve the Contractor of any obligations.

Title

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- .1 AIA Document A101®–2017, SCOSE Version Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101®–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201®–2017, SCOSE Version General Conditions of the Contract for Construction

Date

- .4 Form SE-390, Notice to Proceed Construction Contract
- .5 Drawings

Number

.6	Specifications			
	Section	Title	Date	Pages
.7	Addenda, if any:			
	Number	Date	Pages	

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

Other Exhibit (Check all bo		clude appropriate inform	nation identifying the ext	hibit where required.				
	AIA Document E204 TM —2017, Sustainable Projects Exhibit, dated as indicated below: (Insert the date of the E204-2017 incorporated into this Agreement.)							
The	Sustainability Plan:							
Title		Date	Pages					
Sup	plementary and other	Conditions of the Contr	act:					
Document		Title	Date	Pages				
(List here any Document A2 sample forms requirements proposals, ar	201®–2017 provides to the Contractor's bide, and other information to not part of the Cond	ts that are intended to for hat the advertisement or d or proposal, portions of on furnished by the Own tract Documents unless of	orm part of the Contract invitation to bid, Instruc of Addenda relating to bid er in anticipation of rece enumerated in this Agree	ctions to Bidders, dding or proposal ziving bids or zment. Any such				
			of the Contract Docume	ents.)				
), Invitation for Con to Bidders (AIA Do	struction Services cument A701-2018 OSI	E Version)					
		(Completed Bid Form)	,					
Form SE-370), Notice of Intent to	Award						

8.

.9

Certificate of Procurement Authority issued by the State Fiscal Accountability Authority

This Agreement entered into as of the day and	d year first written above.
OWNER (Signature)	CONTRACTOR (Signature)
(Printed name and title)	(Printed name and title)

1

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA Document A101® – 2017 Exhibit A

Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the day of in the year (In words, indicate day, month and year.)

for the following **PROJECT**:

(Name, State Project Number, and location or address)

USC Coker Life Sciences Building Roof Replacement H27-Z422/50003410-2

715 Sumter Street, Columbia, SC 29208

THE OWNER:

(Name, legal status and address)

USC SC Facilities Planning Design and Construction 1300 Pickens Street Columbia, SC 29208 This version of AIA Document A101–2017 Exhibit A is modified by the South Carolina Division of Procurement, Office of State Engineer. Publication of this version of AIA Document A101 Exhibit A does not imply the American Institute of Architects' endorsement of any modification by the South Carolina Division of Procurement, Office of State Engineer.

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

The Owner is a Governmental Body of the State of South Carolina as defined by Title 11, Chapter 35 of the South Carolina Code of Laws, as amended.

THE CONTRACTOR:

(Name, legal status and address)

TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201®–2017, General Conditions of the Contract for Construction, SCOSE Version.

ARTICLE A.2 OWNER'S INSURANCE

§ A.2.1 General

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

§ A.2.2 Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual general liability insurance.

§ A.2.3 Reserved § A.2.3.1 Reserved § A.2.3.1.1 Reserved § A.2.3.1.2 Reserved § A.2.3.1.3 Reserved § A.2.3.1.4 Reserved § A.2.3.2 Reserved

§ A.2.3.3 Reserved

§ A.2.4 Optional Insurance.

The Owner shall purchase and maintain any insurance selected below.

§ A.2.4.1 Other Insurance

(List below any other insurance coverage to be provided by the Owner and any applicable limits.)

Coverage

Limits

ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS

Demand - End User License Agreement. To report copyright violations, e-mail copyright@aia.org.

§ A.3.1 General

§ A.3.1.1 Certificates of Insurance. The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

§ A.3.1.2 Deductibles and Self-Insured Retentions. The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

§ A.3.1.3 Additional Insured Obligations. To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the

Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

§ A.3.1.4 A failure by the Owner to either (i) demand a certificate of insurance or written endorsement required by Section A.3, or (ii) reject a certificate or endorsement on the grounds that it fails to comply with Section A.3, shall not be considered a waiver of Contractor's obligations to obtain the required insurance.

§ A.3.2 Contractor's Required Insurance Coverage

§ A.3.2.1 The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, for such other period for maintenance of completed operations coverage as specified in the Contract Documents, or unless a different duration is stated below:

(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.2.2 Commercial General Liability

§ A.3.2.1 Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than \$1,000,000 each occurrence, \$1,000,000 general aggregate, \$1,000,000 aggregate for products-completed operations hazard, \$1,000,000 personal and advertising injury, \$50,000 fire damage (any one fire), and \$5,000 medical expense (any one person) providing coverage for claims including

- damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

§ A.3.2.2.2 The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

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- § A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than \$1,000,000 per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.
- § A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability, Employers Liability, and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers. The umbrella policy limits shall not be less than \$3,000,000.
- § A.3.2.5 Workers' Compensation at statutory limits.
- **§ A.3.2.6** Employers' Liability with policy limits not less than \$100,000 each accident, \$100,000 each employee, and \$500,000 policy limit for claims, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed.
- § A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks.
- § A.3.2.8 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than

 (\$) per claim and

 (\$) in the aggregate.
- § A.3.2.9 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than

 (\$) per claim and

 (\$) in the aggregate.

§ A.3.3 Required Property Insurance

- § A.3.3.1 The Contractor shall purchase and maintain, from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located, property insurance written on a builder's risk "all-risks" completed value or equivalent policy form and sufficient to cover the total value of the entire Project on a replacement cost basis. The Contractor's property insurance coverage shall be no less than the amount of the initial Contract Sum, plus the value of subsequent Modifications and labor performed and materials or equipment supplied by others. The property insurance shall be maintained until Substantial Completion and thereafter as provided in Section A.3.3.1.3, unless otherwise provided in the Contract Documents or otherwise agreed in writing by the parties to this Agreement. This insurance shall include the interests of the Owner, Contractor, Subcontractors, and Sub-subcontractors in the Project as insureds.
- § A.3.3.1.1 Causes of Loss. The insurance required by this Section A.3.3.1 shall provide coverage for direct physical loss or damage and shall include the risks of fire (with extended coverage), explosion, theft, vandalism, malicious mischief, collapse, earthquake, flood, or windstorm. The insurance shall also provide coverage for ensuing loss or resulting damage from error, omission, or deficiency in construction methods, workmanship, or materials. (Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss Sub-Limit

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§ A.3.3.1.2 Specific Required Coverages. The insurance required by this Section A.3.3.1 shall provide coverage for loss or damage to falsework and other temporary structures, and to building systems from testing and startup. The insurance shall also cover debris removal, including demolition occasioned by enforcement of any applicable legal requirements, and reasonable compensation for the Architect's and Contractor's services and expenses required as a result of such insured loss, including claim preparation expenses. (Indicate below the cause of loss and any applicable sub-limit.)

Causes of Loss Sub-Limit

- § A.3.3.1.3 Unless the parties agree otherwise, upon Substantial Completion, the Owner shall replace the insurance policy required under Section A.3.3.1 with property insurance written for the total value of the Project.
- § A.3.3.1.4 Deductibles and Self-Insured Retentions. If the insurance required by this Section A.3.3 is subject to deductibles or self-insured retentions, the Contractor shall be responsible for all loss not covered because of such deductibles or retentions.
- § A.3.3.2 Occupancy or Use Prior to Substantial Completion. The Owner's occupancy or use of any completed or partially completed portion of the Work prior to Substantial Completion shall not commence until the insurance company or companies providing the insurance under Section A.3.3.1 have consented in writing to the continuance of coverage. The Owner and the Contractor shall take no action with respect to partial occupancy or use that would cause cancellation, lapse, or reduction of insurance, unless they agree otherwise in writing.
- § A.3.3.3 If the Owner requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Contractor shall, if possible, include such insurance, and the cost thereof shall be charged to the Owner by appropriate Change Order.
- § A.3.3.4 Before an exposure to loss may occur, the Contractor shall file with the Owner a copy of each policy that includes insurance coverages required by this Section A.3.3. Each policy shall contain all generally applicable conditions, definitions, exclusions and endorsements related to this Project.

§ A.3.4 Contractor's Other Insurance Coverage

§ A.3.4.1 Insurance selected and described in this Section A.3.4 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)

§ A.3.4.2 The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.4.1.

(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)

§ A.3.4.2.1 Reserved
§ A.3.4.2.2 Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.
§ A.3.4.2.3 Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.
§ A.3.4.2.4 Boiler and Machinery Insurance The Contractor shall purchase and maintain boiler and machinery insurance as required, which shall specifically cover such insured objects during installation and until final acceptance by the Owner: this

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insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ A.3.5 Performance Bond and Payment Bond

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows: (Specify type and penal sum of bonds.)

Type Penal Sum (\$0.00)

Payment Bond Performance Bond

§ A.3.5.1 Before commencing any services hereunder, the Contractor shall provide the Owner with Performance and Payment Bonds, each in an amount not less than the Contract Price set forth in Article 4 of the Agreement. The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount. The Performance Bond shall be written on Form SE-355, "Performance Bond" and the Payment Bond shall be written on Form SE-357, "Labor and Material Payment Bond", and both shall be made payable to the Owner.

§ A.3.5.2 The Performance and Labor and Material Payment Bonds shall:

- .1 be issued by a surety company licensed to do business in South Carolina;
- .2 be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and
- .3 remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer.

§ A.3.5.3 Any bonds required by this Contract shall meet the requirements of the South Carolina Code of Laws and Regulations, as amended.

ARTICLE A.4 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

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SECTION 00 72 13

SC DIVISION OF PROCUREMENT SERVICES, OFFICE OF THE STATE ENGINEER VERSION OF AIA DOCUMENT A201-2017 EDITION

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION

South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A201® – 2017

General Conditions of the Contract for Construction

This version of AIA Document A201®–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer ("SCOSE"). Publication of this version of AIA Document A201–2017 does not imply the American Institute of Architects' endorsement of any modification by SCOSE. A comparative version of AIA Document A201–2017 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as "AIA Document A201®–2017, General Conditions of the Contract for Construction—SCOSE Version," or "AIA Document A201®–2017—SCOSE Version."

South Carolina Division of Procurement Services, Office of State Engineer Version of MATA Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:

(Name, State Project Number, and location or address)
USC Coker Life Sciences Building Roof Replacement
H27-Z422/50003410-2
715 Sumter Street, Columbia, SC 29208

THE OWNER:

(Name, legal status, and address)

USC SC Facilities Planning Design and Construction 1300 Pickens Street Columbia, SC 29208

The Owner is a Governmental Body of the State of South Carolina as defined in S.C. Code Ann.§ 11-35-310.

THE ARCHITECT:

(Name, legal status, and address)

REI Engineers, Inc. 2090 Executive Hall Road, Suite 115 Charleston, SC 29407

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- 9 PAYMENTS AND COMPLETION

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

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

- .1 The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract.
- A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Δrehitect
- .3 Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.
- Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101-2017, Standard Form of Agreement Between Owner and Contractor, SCOSE Version.
- .5 Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201-2017, General Conditions of the Contract for Construction, SCOSE Version.

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Reserved

§ 1.1.9 Notice to Proceed

The Notice to Proceed is a document issued by the Owner to the Contractor directing the Contractor to begin prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed shall fix the date on which the Contract Time will commence and establish the initial date of the Substantial Completion.

§ 1.1.10 State Engineer

"State Engineer" means the person holding the position as head of the State Engineer's Office. The State Engineer's Office is created by S.C. Code Ann. § 11-35-830, and is sometimes referred to in the Contract Documents as "Office of State Engineer" or "OSE." The State Engineer is also the Chief Procurement Officer for Construction, sometimes referred to in the Contract Documents as "CPOC".

§ 1.2 Correlation and Intent of the Contract Documents

- § 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. In the event of patent ambiguities within or between parts of the Contract Documents, the Contractor shall 1) provide the better quality or greater quantity of Work, or 2) comply with the more stringent requirement, either or both in accordance with the Architect's interpretation.
- § 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.
- § 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.
- § 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

- § 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as a violation of the Architect's or Architect's consultants' reserved rights.
- § 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to

whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

- § 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.
- § 1.6.3 Notice to Contractor shall be to the address provided in Section 8.3.2 of the Agreement. Notice to Owner shall be to the address provided in Section 8.2.2 of the Agreement. Either party may designate a different address for notice by giving notice in accordance with Section 1.6.1.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation, including in digital form. The parties will use AIA Document E203TM–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203TM–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202TM–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

- § 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, except as provided in Section 7.1.7. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's Representative noted in the Agreement.
- § 2.1.2 The Owner shall furnish to the Contractor, within fifteen (15) days after receipt of a written request, information necessary and relevant for the Contractor to post Notice of Project Commencement pursuant to S.C. Code Ann. § 29-5-23.

§ 2.2 Reserved

§ 2.3 Information and Services Required of the Owner

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- § 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
- § 2.3.2 The Owner shall retain a design professional lawfully licensed to practice, or an entity lawfully practicing, in the jurisdiction where the Project is located. The person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.
- § 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.
- § 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Subject to the Contractor's obligations, including those in Section 3.2, the Contractor shall be entitled to rely on the accuracy of information furnished by the Owner pursuant to this Section but shall exercise proper precautions relating to the safe performance of the Work.

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§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services. However, the Owner does not warrant the accuracy of any such information requested by the Contractor that is not otherwise required of the Owner by the Contract Documents. Neither the Owner nor the Architect shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the area where the Work is to be performed beyond that which is provided in the Contract Documents.

§ 2.3.6 The Owner shall furnish the Contract Documents to the Contractor in digital format.

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

- § 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.
 - .1 The Contractor acknowledges that it has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited to (a) conditions bearing upon transportation, disposal, handling, and storage of materials; (b) the availability of labor, water, electric power, and roads; (c) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (d) the conformation and conditions of the ground; and (e) the character of equipment and facilities needed preliminary to and during work performance.
 - 2 The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

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- reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this Contract.
- Any failure of the Contractor to take the actions described and acknowledged in this Section will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the Owner.
- § 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.
- § 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.
- § 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from latent errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.
- § 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

§ 3.3 Supervision and Construction Procedures

- § 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction and provide its findings to the Owner. Unless the Owner objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.
- § 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.
- § 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

- § 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- § 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.
- § 3.4.2.1 After the Contract has been executed, the Owner and Architect may consider requests for the substitution of products in place of those specified. The Owner and Architect may, but are not obligated to, consider only those substitution requests that are in full compliance with the conditions set forth in the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:
 - .1 represents that it has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to the product specified;
 - 2 represents that it will provide the same warranty for the substitution as it would have provided for the product specified;
 - .3 certifies that the cost data presented is complete and includes all related costs for the substituted product and for Work that must be performed or changes as a result of the substitution, except for the Architect's re-design costs, and waives all claims for additional costs related to the substitution that subsequently become apparent;
 - .4 agrees that it shall, if the substitution is approved, coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects; and
 - .5 represents that the request includes a written representation identifying any potential effect the substitution may have on Project's achievement of a Sustainable Measure or the Sustainable Objective.
- § 3.4.2.2 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.
- § 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

- § 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements shall be considered defective. Unless caused by the Contractor or a subcontractor at any tier, the Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- § 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor shall comply with the requirements of S.C Code Ann. Title 12, Chapter 8, regarding withholding tax for nonresidents, employees, contractors and subcontractors.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

- § 3.7.1 Pursuant to S.C. Code Ann. § 10-1-180, no local general or specialty building permits are required for state buildings. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all other permits, fees, and licenses by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.
- § 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.
- § 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

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

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

§ 3.8 Allowances

- § 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.
- § 3.8.2 Unless otherwise provided in the Contract Documents,
 - .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
 - .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
 - .3 whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect the difference between actual costs, as documented by invoices, and the allowances under Section 3.8.2.1.
- § 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

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

- § 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner may notify the Contractor, stating whether the Owner has reasonable objection to the proposed superintendent. Failure of the Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.
- § 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner has made reasonable and timely objection. The Contractor shall notify the Owner of any proposed change in the superintendent, including the reason therefore, prior to making such change. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

- § 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. Subject to any additional requirements in the Contract Documents, the schedule shall contain detail appropriate for the Project, including at a minimum (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.
- § 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.
- § 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

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

§ 3.12 Shop Drawings, Product Data and Samples

- § 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.
- § 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.
- § 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.
- § 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

- § 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.
 - .1 The fire sprinkler shop drawings shall be prepared by a licensed fire sprinkler contractor and shall accurately reflect actual conditions affecting the required layout of the fire sprinkler system. The fire sprinkler contractor shall certify the accuracy of his shop drawings prior to submitting them for review and approval.
 - .2 The fire sprinkler shop drawings shall be reviewed and approved by the Architect's engineer of record (EOR) prior to submittal to the State Fire Marshal. The EOR will complete the Office of State Fire Marshal (OSFM) form "Request for Fire Sprinkler System Shop Review for State Construction Projects" and submit it to OSE for signature.
 - OSE will sign the form and return it to the Architect's EOR. The EOR will submit a copy of the signed form with the approved shop drawings to OSFM for review and approval; and, forward a copy of each
 - Upon receipt of the OSFM approval letter, the EOR will forward a copy of the letter to the Owner, Contractor, Architect, and OSE.
 - .5 Unless authorized in writing by OSE, neither the Contractor nor subcontractor at any tier shall submit the fire sprinkler shop drawings directly to OSFM.
- § 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.
- § 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.
- § 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.
- § 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.
- § 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.
- § 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, who shall comply with reasonable requirements of the Owner regarding qualifications and insurance and whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to

the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 Use of Site

- § 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.
- § 3.13.2 The Contractor and any entity for which the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

§ 3.14 Cutting and Patching

- § 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.
- § 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

- § 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.
- § 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but

only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

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

ARTICLE 4 ARCHITECT

§ 4.1 General

- § 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.
- § 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

- § 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents. Any reference in the Contract Documents to the Architect taking action or rendering a decision with a "reasonable time" is understood to mean no more than ten (10) days, unless otherwise specified in the Contract Documents or otherwise agreed to by the parties.
- § 4.2.2 The Architect will visit the site as necessary to fulfill its obligation to the Owner for inspection services, if any, and, at a minimum, to assure conformance with the Architect's design as shown in the Contract Documents and to observe the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.
- § 4.2.3 On the basis of the site visits, the Architect will keep the Owner informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) deviations from the Contract Documents, (2) deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

under the terms of AIA Documents on Demand® Order No.

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

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

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- § 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.
- § 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.
- § 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.
- § 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.
- § 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.
- § 4.2.11 The Architect will, in the first instance, interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. Upon receipt of such request, the Architect will promptly provide the other party with a copy of the request. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.
- § 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, and will not show partiality to either. Except in the case of interpretations resulting in omissions, defects, or errors in the Instruments of Service or perpetuating omissions, defects or errors in the Instruments of Service, the Architect will not be liable for results of interpretations or decisions rendered in good faith. If either party disputes the Architect's interpretation or decision, that party may proceed as provided in Article 15. The Architect's interpretations and decisions may be, but need not be, accorded any deference in any review conducted pursuant to law or the Contract Documents.
- **§ 4.2.13** The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.
- § 4.2.14 The Architect will review and respond to requests for information about the Contract Documents so as to avoid delay to the construction of the Project. The Architect's response to such requests will be made in writing with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. Any response to a request for information must be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings.

Unless issued pursuant to a Modification, supplemental Drawings or Specifications will not involve an adjustment to the Contract Sum or Contract Time.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

- § 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, within fourteen (14) days after posting of the Notice of Intent to Award the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Owner may notify the Contractor whether the Owner has reasonable objection to any such proposed person or entity. Failure of the Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.
- § 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection. The Owner shall not direct the Contractor to contract with any specific individual or entity for supplies or services unless such supplies and services are necessary for completion of the Work and the specified individual or entity is the only source of such supply or service.
- § 5.2.3 If the Owner has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.
- § 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner makes reasonable objection to such substitution. The Contractor's request for substitution must be made to the Owner in writing, accompanied by supporting information.
- § 5.2.5 A Subcontractor identified in the Contractor's Bid pursuant to the subcontractor listing requirements of Section 7 of the Bid Form may only be substituted in accordance with and as permitted by the provisions of S.C. Code Ann. § 11-35-3021. A proposed substitute for a listed subcontractor shall also be subject to the Owner's approval as set forth in Section 5.2.3.
- § 5.2.6 A Contractor may substitute one prospective subcontractor for another, with the approval of the Owner as follows:
 - .1 If the Contractor requests the substitution, the Contractor is responsible for all costs associated with the substitution.
 - .2 If the Owner requests the substitution, the Owner is responsible for any resulting increased costs to the Contractor.

§ 5.3 Subcontractual Relations

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not

prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise herein, or in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

- § 5.3.2 Without limitation on the generality of Section 5.3.1, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following Sections of these General Conditions: 3.2, 3.5, 3.18, 5.3, 5.4, 6.2.2, 7.1.6, 7.3.3, 7.5, 13.1, 13.9, 14.3, 14.4, and 15.1.7.
- § 5.3.3 Each Subcontract Agreement and each Sub-subcontract agreement shall exclude, and shall be deemed to exclude, Sections 13.2 and 13.5 and all of Article 15, except Section 15.1.7, of these General Conditions. In the place of these excluded sections of the General Conditions, each Subcontract Agreement and each Sub-subcontract may include Sections 13.2 and 13.5 and all of Article 15, except Section 15.1.7, of AIA Document A201-2007, Conditions of the Contract, as originally issued by the American Institute of Architects.
- § 5.3.4 The Contractor shall assure the Owner that all agreements between the Contractor and its Subcontractor incorporate the provisions of Section 5.3.1 as necessary to preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will not prejudice such rights. The Contractor's assurance shall be in the form of an affidavit or in such other form as the Owner may approve. Upon request, the Contractor shall provide the Owner or Architect with copies of any or all subcontracts or purchase orders.

§ 5.4 Contingent Assignment of Subcontracts

- § 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that
 - assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
 - **.2** assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.
- § 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.
- § 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.
- § 5.4.4 Each subcontract shall specifically provide that the Owner shall only be responsible to the subcontractor for those obligations of the Contractor that accrue subsequent to the Owner's exercise of any rights under this conditional assignment.
- § 5.4.5 Each subcontract shall specifically provide that the Subcontractor agrees to perform portions of the Work assigned to the Owner in accordance with the Contract Documents.
- § 5.4.6 Nothing in this Section 5.4 shall act to reduce or discharge the Contractor's payment bond surety's obligations to claimants for claims arising prior to the Owner's exercise of any rights under this conditional assignment.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

- § 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.
- § 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Reserved

§ 6.2 Mutual Responsibility

- § 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.
- § 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.
- § 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.
- § 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.
- **§ 6.2.5** The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

- § 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.
- § 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

- § 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.
- § 7.1.4 If a change in the Work provides for an adjustment to the Contract Sum, the amount of such adjustment must be computed and documented in writing. In order to facilitate evaluation of proposals or claims for increases and decreases to the Contract Sum, all proposals or claims, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized. Where major cost items are subcontracts, they shall be itemized also. The amount of the adjustment must approximate the actual cost to the Contractor and all costs incurred by the Contractor must be justifiably compared with prevailing industry standards. Except as provided in Section 7.1.5, all adjustments to the Contract Sum shall be limited to job specific costs and shall not include indirect costs, home office overhead or profit.
- § 7.1.5 The combined overhead and profit included in the total cost to the Owner for a change in the Work shall be based on the following schedule:
 - 1 For the Contractor, for Work performed by the Contractor's own forces, seventeen (17%) percent of the Contractor's actual costs.
 - 2 For the Contractor, for Work performed by the Contractor's Subcontractors, ten (10%) percent of each Subcontractor's actual costs (not including the Subcontractor's overhead and profit).
 - **.3** For each Subcontractor involved, for Work performed by that Subcontractor's own forces, seventeen (17%) percent of the Subcontractor's actual costs.
 - .4 Cost to which overhead and profit is to be applied shall be determined in accordance with Section 7.3.4.

The percentages cited above shall be considered to include all indirect costs including, but not limited to field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations.

- § 7.1.6 The procedures described in Sections 7.1.4 and 7.1.5 shall be used to calculate any adjustment in the Contract Sum, including without limitation an adjustment permitted under Articles 7, 9, 14, or 15.
- § 7.1.7 If a change in the Work requires an adjustment to the Contract Sum that exceeds the limits of the Owner's Construction Change Order Certification (reference Section 9.1.9 of the Agreement), then the Owner's agreement is not effective, and Work may not proceed until approved in writing by the OSE.
- § 7.1.8 Any change in the Work initiated after the declaration of Substantial Completion must be approved in writing by the OSE regardless of the amount of the change or the Owner's Construction Change Order Certification.

§ 7.2 Change Orders

- § 7.2.1 A Change Order is a written instrument, using the OSE Construction Change Order form, prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:
 - .1 The change in the Work;
 - .2 The amount of the adjustment, if any, in the Contract Sum; and
 - .3 The extent of the adjustment, if any, in the Contract Time.

Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, any adjustments to the Contract Sum or the Contract Time.

- § 7.2.2 At the Owner's request, the Contractor shall prepare a proposal to perform the work of a proposed Change Order setting forth the amount of the proposed adjustment, if any, in the Contract Sum; and the extent of the proposed adjustment, if any, in the Contract Time. Any proposed adjustment in the Contract Sum shall be prepared in accordance with Section 7.1.4 and 7.1.5. The Owner's request shall include any revisions to the Drawings or Specifications necessary to define any changes in the Work. Within fourteen (14) days of receiving the request, the Contractor shall submit the proposal to the Owner and Architect along with all documentation required by Section 7.5.
- § 7.2.3 If the Contractor requests a Change Order, the request shall set forth the proposed change in the Work and shall be prepared in accordance with Section 7.2.2. If the Contractor requests a change to the Work that involves a revision

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to either the Drawings or Specifications, the Contractor shall reimburse the Owner for any expenditure associated with the Architects' review of the proposed revisions, except to the extent the revisions are accepted by execution of a Change Order.

§ 7.3 Construction Change Directives

- § 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.
- § 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.
- § 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - .1 Mutual acceptance of a lump sum if properly itemized and substantiating data is not available to permit evaluation;
 - 2 Unit prices specified in the Contract Documents or subsequently agreed upon, subject to adjustment if any, as provided in Section 9.1.2;
 - .3 Cost and a percentage fee, calculated as described in Sections 7.1.4 and 7.1.5;
 - .4 in another manner as the parties may agree; or
 - .5 As provided in Section 7.3.4.
- § 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall make an initial determination, consistent with Section 7.3.3, of the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.1.5. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:
 - .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
 - .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
 - .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
 - **.4** Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change.
- § 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.
- § 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.
- § 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
- § 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual cost including overhead and profit as confirmed by the Architect from the Schedule of Values.
- § 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The

Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

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

§ 7.4 Minor Changes in the Work

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

§ 7.5 Pricing Data and Audit

§ 7.5.1 Cost or Pricing Data

Upon request of the Owner or Architect, Contractor shall submit cost or pricing data prior to execution of a Modification which exceeds \$500,000 [Reference S.C. Code Ann. §§ 11-35-1830 and 11-35-2220, and SC Code Ann. Reg 19-445.2120]. Contractor shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of pricing the Modification. Contractor's price, including profit, shall be adjusted to exclude any significant sums by which such price was increased because Contractor furnished cost or pricing data that was inaccurate, incomplete, or not current as of the date specified by the parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment to the Contractor.

§ 7.5.2 Cost or pricing data means all facts that, as of the date specified by the parties, prudent buyers and sellers would reasonably expect to affect price negotiations significantly. Cost or pricing data are factual, not judgmental; and are verifiable. While they do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data forming the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

§ 7.5.3 Records Retention

As used in Section 7.5, the term "Records" means any books or records that relate to cost or pricing data of a Change Order that Contractor is required to submit pursuant to Section 7.5.1. Contractor shall maintain records for three years from the date of final payment, or longer if requested by the chief procurement officer. The Owner may audit Contractor's records at reasonable times and places.

ARTICLE 8 TIME

§ 8.1 Definitions

- **§ 8.1.1** Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.
- § 8.1.2 The date of commencement of the Work is the date established in the Agreement.
- § 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.
- § 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

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

- § 8.2.2 The Contractor shall not knowingly commence the Work prior to the effective date of surety bonds and insurance required to be furnished by the Contractor and Owner.
- § 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

- § 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time, the Contract Time shall be extended for such reasonable time as the Architect may determine, provided the delay:
 - .1 is not caused by the fault or negligence of the Contractor or a subcontractor at any tier, and
 - .2 is not due to unusual delay in the delivery of supplies, machinery, equipment, or services when such supplies, machinery, equipment, or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery.
- § 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.
- § 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

- § 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.
- § 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

- § 9.2.1 The Contractor shall submit a schedule of values to the Architect within ten (10) days of full execution of the Agreement, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.
- § 9.2.2 As requested by the Architect, the Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible. The breakdown, being submitted on a uniform standardized format approved by the Architect and Owner, shall be divided in detail, using convenient units, sufficient to accurately determine the value of completed Work during the course of the Project. The Contractor shall update the schedule of values as required by either the Architect or Owner as necessary to reflect:
 - .1 the description of Work (listing labor and material separately);
 - .2 the total value of the Work;
 - .3 the percent and value of the Work completed to date;
 - .4 the percent and value of previous amounts billed; and
 - .5 the current percent completed, and amount billed.

§ 9.2.3 Any schedule of values or trade breakdown that fails to provide sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work shall be rejected. If a schedule of values or trade breakdown is used as the basis for payment and later determined to be inaccurate, sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

§ 9.3 Applications for Payment

- § 9.3.1 Monthly, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require (such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers), and shall reflect retainage as provided for in the Contract Documents.
- § 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.
- § 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.
- § 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing, provided such materials or equipment will be subsequently incorporated in the Work. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. The Contractor shall 1) protect such materials from diversion, vandalism, theft, destruction, and damage, 2) mark such materials specifically for use on the Project, and 3) segregate such materials from other materials at the storage facility. The Architect and the Owner shall have the right to make inspections of the storage areas at any time.
- § 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

- § 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.
- § 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated in both the Application for Payment and, if required to be submitted, the accompanying current construction schedule, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means,

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methods, techniques, sequences, or procedures; or (3) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect shall withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. The Architect shall withhold a Certificate of Payment if the Application for Payment is not accompanied by the current construction schedule required by Section 3.10.1. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the Owner or a Separate Contractor;
- reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
- .7 repeated failure to carry out the Work in accordance with the Contract Documents.
- § 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.
- § 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.
- § 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

- § 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.
- § 9.6.2 Pursuant to S.C. Ann. §§ 29-6-10 through 29-6-60, the Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.
- § 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.
- § 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

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

- § 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.
- § 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.
- § 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

- § 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.
- § 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive written list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.
- § 9.8.3 Upon receipt of the Contractor's list, the Architect, the Owner, and any other party the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to determine whether the Work or designated portion thereof is substantially complete. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection shall include a demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents.
 - If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.
 - .2 If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of re-inspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.
 - Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be .3 present at the Substantial Completion inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.

- § 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.
- § 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner for its written acceptance of responsibilities assigned in the Certificate and a copy of the signed Certificate shall be delivered to the Contractor. Upon such acceptance, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.
- § 9.8.6 If the Architect and Owner concur in the Contractor's assessment that the Work or a portion of the Work is safe to occupy, the Owner and Contractor may arrange for a Certificate of Occupancy inspection by OSE. The Owner, Architect, and Contractor shall be present at OSE's inspection. Upon verifying that the Work or a portion of the Work is substantially complete and safe to occupy, OSE will issue, as appropriate, a Full or Partial Certificate of Occupancy.
- § 9.8.7 The Owner may not occupy the Work until all required occupancy permits, if any, have been issued and delivered to the Owner.

§ 9.9 Partial Occupancy or Use

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

§ 9.10 Final Completion and Final Payment

- § 9.10.1 Unless the parties agree otherwise in the Certificate of Substantial Completion, the Contractor shall achieve Final Completion within thirty days after Substantial Completion. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect, the Owner, and any other party the Architect or the Owner choose will make an inspection on a date and at a time mutually agreeable. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.
 - .1 If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of re-inspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.
 - .2 If the Contractor does not achieve Final Completion within thirty days after Substantial Completion or the timeframe agreed to by the parties in the Certificate of Substantial Completion, whichever is

- greater, the Contractor shall be responsible for any additional Architectural fees resulting from the delay.
- .3 If OSE has not previously issued a Certificate of Occupancy for the entire Project, the Parties shall arrange for a representative of OSE to participate in the Final Completion inspection.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect:

- an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied,
- .2 a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect,
- a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents,
- .4 consent of surety, if any, to final payment,
- .5 documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties.
- .6 if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner,
- .7 required Training Manuals,
- 8 equipment Operations and Maintenance Manuals,
- **.9** any certificates of testing, inspection or approval required by the Contract Documents and not previously provided, and
- **10.** one copy of the Documents required by Section 3.11.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is delayed 60 days through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

- § 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from
 - .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
 - .2 failure of the Work to comply with the requirements of the Contract Documents;
 - .3 terms of special warranties required by the Contract Documents; or
 - .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

- § 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to
 - .1 employees on the Work and other persons who may be affected thereby;
 - .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- § 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.
- § 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.
- § 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.
- § 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.
- § 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.
- § 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

- § 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance which was not discoverable as provided in Section 3.2.1 and not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or serious loss to real or personal property resulting from such a material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. Hazardous materials or substances are those hazardous, toxic, or radioactive materials or substances subject to regulations by applicable governmental authorities having jurisdiction, such as, but not limited to, the S.C. Department of Health and Environmental Control, the U.S. Environmental Protection Agency, and the U.S. Nuclear Regulatory Commission.
- § 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

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promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up. In the absence of agreement, the Architect will make an interim determination regarding any delay or impact on the Contractor's additional costs. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the rights of either party to disagree and assert a Claim in accordance with Article 15.

- § 10.3.3 The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (a) the Owner causes remedial work to be performed that results in the absence of hazardous materials or substances; (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.
- § 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.
- § 10.3.5 In addition to its obligations under Section 3.18, the Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 Reserved

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. The Contractor shall immediately give the Owner and Architect notice of the emergency. This initial notice may be oral followed within five (5) days by a written notice setting forth the nature and scope of the emergency. Within fourteen (14) days of the start of the emergency, the Contractor shall give the Architect a written estimate of the cost and probable effect of delay on the progress of the Work.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

- § 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.
- § 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.
- § 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.
- § 11.1.4 Failure to Purchase Required Property Insurance. If the Contractor fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the

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

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

§ 11.2 Owner's Insurance

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

§ 11.2.2 Reserved

§ 11.2.3 Reserved

§ 11.3 Waivers of Subrogation

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

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

§ 11.3.3 Limitation on the Owner's Waiver of Subrogation

under the terms of AIA Documents on Demand® Order No.

South Carolina law prohibits the State from indemnifying a private party. Accordingly, and notwithstanding anything in the Agreement to the contrary, including but not limited to Sections 11.3.1, 11.3.2. and 11.4, the Owner cannot and

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does not waive subrogation to the extent any losses are covered by insurance provided by the South Carolina Insurance Reserve Fund.

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

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

§ 11.5 Adjustment and Settlement of Insured Loss

- § 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Contractors as fiduciary and made payable to the Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Contractor shall pay the Architect and Owner their just shares of insurance proceeds received by the Contractor, and by appropriate agreements the Architect and Owner shall make payments to their consultants and separate contractors in similar manner.
- § 11.5.2 Prior to settlement of an insured loss, the Contractor shall notify the Owner of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Owner shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Owner does not object, the Contractor shall settle the loss and the Owner shall be bound by the settlement and allocation. Upon receipt, the Contractor shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Owner timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Contractor may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.
- § 11.5.3 If required in writing by a party in interest, the Contractor as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

- § 12.1.1 If a portion of the Work is covered contrary to the requirements specifically expressed in the Contract Documents, including inspections of work-in-progress required by all authorities having jurisdiction over the Project, it must, upon demand of the Architect or authority having jurisdiction, be uncovered for observation/inspection and be replaced at the Contractor's expense without change in the Contract Time.
- § 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense 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.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

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.1 If the Contractor, a Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

§ 12.2.2 After Substantial Completion

- § 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.
- § 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.
- § 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2 unless otherwise provided in the Contract Documents.
- § 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.
- § 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.
- § 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

- § 13.1.1 The Contract, any dispute, claim, or controversy relating to the Contract, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules.
- § 13.1.2 This Contract is formed pursuant to and governed by the South Carolina Consolidated Procurement Code and is deemed to incorporate all applicable provisions thereof and the ensuing regulations.

§ 13.2 Successors and Assigns

The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts

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to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.3 Rights and Remedies

- § 13.3.1 Unless expressly provided otherwise, duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.
- § 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.
- § 13.3.3 Notwithstanding Section 9.10.4, the rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses:
 - 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service;
 - 3.5
 - 3.17 Royalties, Patents and Copyrights
 - 3.18 Indemnification
 - 7.5 **Pricing Data and Audit**
 - A.3.2.2 Contractor's Liability Insurance (A101, Exhibit A)
 - A.3.5 Performance and Payment Bond (A101, Exhibit A)
 - 15.1.7 Claims for Listed Damages
 - 15.1.8 Waiver of Claims Against the Architect
 - 15.6 **Dispute Resolution**
 - 15.6.5 Service of Process

§ 13.4 Tests and Inspections

- § 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Owner and Architect timely notice of when and where tests and inspections are to be made so that they may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.
 - Inspection, Special Inspections, and testing requirements, if any, as required by the ICC series of Building Codes shall be purchased by the Owner.
 - .2 Contractor shall schedule and request inspections in an orderly and efficient manner and shall notify the Owner whenever the Contractor schedules an inspection. Contractor shall be responsible for the cost of inspections scheduled and conducted without the Owner's knowledge and for any increase in the cost of inspections resulting from the inefficient scheduling of inspections.
- § 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Owner and Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.
- § 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense and shall be deducted from future Applications of Payment.

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- § 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.
- § 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.
- § 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by S.C. Code Ann. §§ 29-6-10 through 29-6-60. Amounts due to the Owner shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

§ 13.6 Procurement of Materials by Owner

The Contractor accepts assignment of all purchase orders and other agreements for procurement of materials and equipment by the Owner that are identified as part of the Contract Documents. The Contractor shall, upon delivery, be responsible for the storage, protection, proper installation, and preservation of such Owner purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. Unless the Contract Documents specifically provide otherwise, all Contractor warranty of workmanship and correction of the Work obligations under the Contract Documents shall apply to the Contractor's installation of and modifications to any Owner purchased items.

§ 13.7 Interpretation of Building Codes

As required by S.C. Code Ann. § 10-1-180, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Owner and OSE for resolution.

§ 13.8 Minority Business Enterprises

Contractor shall notify Owner of each Minority Business Enterprise (MBE) providing labor, materials, equipment, or supplies to the Project under a contract with the Contractor. Contractor's notification shall be via the first monthly status report submitted to the Owner after execution of the contract with the MBE. For each such MBE, the Contractor shall provide the MBE's name, address, and telephone number, the nature of the work to be performed or materials or equipment to be supplied by the MBE, whether the MBE is certified by the South Carolina Office of Small and Minority Business Assistance, and the value of the contract.

§ 13.9 Illegal Immigration

Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractor's language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractor's language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at www.procurement.sc.gov)

§ 13.10 Drug-Free Workplace

The Contractor must comply with the Drug-Free Workplace Act, S.C. Code Ann. §§ 44-107-10, et seq. The Contractor certifies to the Owner that Contractor will provide a Drug-Free Workplace, as defined by S.C. Code Ann. § 44-107-20(1).

§ 13.11 False Claims

According to S.C. Code Ann. § 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime.

§ 13.12 Prohibited Acts

It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations. (§ 11-9-20) It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

§ 13.13 Open Trade (Jun 2015)

During the contract term, including any renewals or extensions, Contractor will not engage in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in S.C. Code Ann. § 11-35-5300.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

- § 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 45 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:
 - 1 Issuance of an order of a court or other public authority having jurisdiction that requires substantially all Work to be stopped; or
 - **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
 - .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents and the Contractor has stopped work in accordance with Section 9.7.
- § 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.
- § 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit, and costs incurred by reason of such termination.
- § 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has persistently failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

- § 14.2.1 The Owner may terminate the Contract if the Contractor
 - 1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials, or otherwise fails to prosecute the Work, or any separable part of the Work, with the diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments;
 - 2 fails to make payment to Subcontractors or suppliers in accordance with the Contract Documents and the respective agreements between the Contractor and the Subcontractors or suppliers;
 - .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
 - .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.
- § 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.
- § 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.
- § 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Architect, upon application, and this obligation for payment shall survive termination of the Contract.
- § 14.2.5 If, after termination for cause, it is determined that the Owner lacked justification to terminate under Section 14.2.1, or that the Contractor's default was excusable, or that the termination for cause was affected by any other error, then Owner and Contractor agree that the termination shall be conclusively deemed to be one for the convenience of the Owner, and the rights and obligations of the parties shall be the same as if the termination had been issued for in Section 14.4.

§ 14.3 Suspension by the Owner for Convenience

- § 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.
- § 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. No adjustment shall be made to the extent
 - .1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or
 - .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

- § 14.4.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause. The Owner shall give notice of the termination to the Contractor specifying the part of the Contract terminated and when termination becomes effective.
- § 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall
 - .1 cease operations as directed by the Owner in the notice;
 - .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;
 - .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
 - .4 complete the performance of the Work not terminated, if any.
- § 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and any other adjustments otherwise set forth in the Agreement.
- § 14.4.4 Contractor's failure to include an appropriate termination for convenience clause in any subcontract shall not (i) affect the Owner's right to require the termination of a subcontract, or (ii) increase the obligation of the Owner beyond what it would have been if the subcontract had contained an appropriate clause.
- § 14.4.5 Upon written consent of the Contractor, the Owner may reinstate the terminated portion of this Contract in whole or in part by amending the notice of termination if it has been determined that:
 - .1 the termination was due to withdrawal of funding by the General Assembly, Governor, or State Fiscal Accountability Authority or the need to divert project funds to respond to an emergency as defined by Regulation 19-445.2110(B) of the South Carolina Code of Regulations, as amended;

- .2 funding for the reinstated portion of the Work has been restored;
- .3 circumstances clearly indicate a requirement for the terminated Work; and
- 4 reinstatement of the terminated work is advantageous to the Owner.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Reserved

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Architect. Such notice shall include sufficient information to advise the Architect and other party of the circumstances giving rise to the Claim, the specific contractual adjustment or relief requested and the basis of such request. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later except as stated for adverse weather days in Section 15.1.6.2. By failing to give written notice of a Claim within the time required by this Section, a party expressly waives its Claim.

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

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, including any administrative review allowed under Section 15.6, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

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

§ 15.1.5 Claims for Additional Cost

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

§ 15.1.6 Claims for Additional Time

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

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

.1 Claims for adverse weather shall be based on actual weather conditions at the job site or other place of performance of the Work, as documented in the Contractor's job site log.

- .2 For the purpose of this Contract, a total of five (5) days per calendar month (non-cumulative) shall be anticipated as "adverse weather" at the job site, and such time will not be considered justification for an extension of time. If, in any month, adverse weather develops beyond the five (5) days, the Contractor shall be allowed to claim additional days to compensate for the excess weather delays only to the extent of the impact on the approved construction schedule and days the Contractor was already scheduled to work. The remedy for this condition is for an extension of time only and is exclusive of all other rights and remedies available under the Contract Documents or imposed or available by law.
- The Contractor shall submit monthly with their pay application all Claims for adverse weather conditions that occurred during the previous month. The Architect shall review each monthly submittal in accordance with Section 15.5 and inform the Contractor and the Owner promptly of its evaluation. Approved days shall be included in the next Change Order issued by the Architect. Adverse weather conditions not claimed within the time limits of this Subparagraph shall be considered to be waived by the Contractor. Claims will not be allowed for adverse weather days that occur after the scheduled (original or adjusted) date of Substantial Completion.
- § 15.1.6.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the work, and the number of days increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.
- § 15.1.6.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

§ 15.1.7 Claims for Listed Damages

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor and Owner waive Claims against each other for listed damages arising out of or relating to this Contract.

- § 15.1.7.1 For the Owner, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) attorney's fees, (vii) any interest, except to the extent allowed by Section 13.5 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency.
- § 15.1.7.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest, except to the extent allowed by Section 13.5 (Interest); (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waive as against the Owner. Without limitation, this mutual waiver is applicable to all damages due to either party's termination in accordance with Article 14.
- § 15.1.7.3 Nothing contained in this Section shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

§ 15.1.8 Waiver of Claims Against the Architect

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor waives all claims against the Architect and any other design professionals who provide design and/or project management services to the Owner, either directly or as independent contractors or subcontractors to the Architect, for listed damages arising out of or relating to this Contract. The listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest; (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waive as against the Owner. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

- § 15.2 Reserved
- § 15.3 Reserved
- § 15.4 Reserved

§ 15.5 Claim and Disputes - Duty of Cooperation, Notice, and Architects Initial Decision

- § 15.5.1 Contractor and Owner are fully committed to working with each other throughout the Project to avoid or minimize Claims. To further this goal, Contractor and Owner agree to communicate regularly with each other and the Architect at all times notifying one another as soon as reasonably possible of any issue that if not addressed may cause loss, delay, and/or disruption of the Work. If Claims do arise, Contractor and Owner each commit to resolving such Claims in an amicable, professional, and expeditious manner to avoid unnecessary losses, delays, and disruptions to the Work.
- § 15.5.2 Claims shall first be referred to the Architect for initial decision. An initial decision shall be required as a condition precedent to resolution pursuant to Section 15.6 of any Claim arising prior to the date of final payment, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered, or after all the Architect's requests for additional supporting data have been answered, whichever is later. The Architect will not address Claims between the Contractor and persons or entities other than the Owner.
- § 15.5.3 The Architect will review Claims and within ten days of the receipt of a Claim (1) request additional supporting data from the claimant or a response with supporting data from the other party or (2) render an initial decision in accordance with Section 15.5.5.
- § 15.5.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Architect when the response or supporting data will be furnished or (3) advise the Architect that all supporting data has already been provided. Upon receipt of the response or supporting data, the Architect will render an initial decision in accordance with Section 15.5.5.
- § 15.5.5 The Architect will render an initial decision in writing; (1) stating the reasons therefor; and (2) notifying the parties of any change in the Contract Sum or Contract Time or both. The Architect will deliver the initial decision to the parties within two weeks of receipt of any response or supporting data requested pursuant to Section 16.4 or within such longer period as may be mutually agreeable to the parties. If the parties accept the initial decision, the Architect shall prepare a Change Order with appropriate supporting documentation for the review and approval of the parties and the Office of State Engineer. If either the Contractor, Owner, or both, disagree with the initial decision, the Contractor and Owner shall proceed with dispute resolution in accordance with the provisions of Section 15.6.
- § 15.5.6 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.6 Dispute Resolution

under the terms of AIA Documents on Demand® Order No.

- § 15.6.1 If a Claim is not resolved pursuant to Section 15.5 to the satisfaction of either party, both parties shall attempt to resolve the dispute at the field level through discussions between Contractor's Representative and Owner's Representative. If a dispute cannot be resolved through Contractor's Representative and Owner's Representative, then the Contractor's Senior Representative and the Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than twenty-one (21) days after such a request is made, to attempt to resolve such dispute. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute. The meetings required by this Section are a condition precedent to resolution pursuant to Section 15.6.2.
- § 15.6.2 If after meeting in accordance with the provisions of Section 15.6.1, the Senior Representatives determine that the dispute cannot be resolved on terms satisfactory to both the Contractor and the Owner, then either party may submit the dispute by written request to South Carolina's Chief Procurement Officer for Construction (CPOC). Except as otherwise provided in Article 15, all Claims, or controversies relating to the Contract shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the

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South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or in the absence of jurisdiction a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United States Constitution.

§ 15.6.3 If any party seeks resolution to a dispute pursuant to Section 15.6.2, the parties shall participate in non-binding mediation to resolve the Claim. If the Claim is governed by Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws as amended and the amount in controversy is \$100,000.00 or less, the CPOC shall appoint a mediator, otherwise, the mediation shall be conducted by an impartial mediator selected by mutual agreement of the parties, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator.

§ 15.6.4 Without relieving any party from the other requirements of Sections 15.5 and 15.6, either party may initiate proceedings in the appropriate forum prior to initiating or completing the procedures required by Sections 15.5 and 15.6 if such action is necessary to preserve a claim by avoiding the application of any applicable statutory period of limitation or repose.

§ 15.6.5 Service of Process

Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any Claims, or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor's Senior Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION

USC SUPPLEMENTAL GENERAL CONDITIONS FOR CONSTRUCTION PROJECTS

WORK AREAS

- 1. The Contractor shall maintain the job site in a safe manner at all times. This includes (but is not limited to) the provision and/or maintenance of lighting, fencing, barricades around obstructions, and safety and directional signage.
- 2. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies, stairs and exterior walks. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the work area. Providing safe, accessible, plywood-shielded pedestrian ways around construction may be required if a suitable alternative route is not available.
- 3. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. The lay-down area will be clearly identified to the contractor by the Project Manager, with a sketch or drawing provided to USC Parking Services. In turn, Parking Services will mark off this area with a sign containing the project name, Project Manager's name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the Project Manager. The area will be maintained in a neat and orderly fashion.
- 4. Work vehicles parked in the lay down area (or designated parking areas) will be clearly marked and display a USC-furnished placard for identification. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site. Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage. Refer to the CAMPUS VEHICLE EXPECTATIONS (below) for additional information.
- 5. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied on a regular basis. Construction waste must not be placed in University dumpsters. The construction site must be thoroughly cleaned with all trash picked up and properly disposed of on a daily basis and the site must be left in a safe and sanitary condition each day. The University will inspect job sites regularly and will fine any contractor found to be in violation of this requirement an amount of up to \$1,000 per violation.
- 6. Where it is necessary to jump curbs, dimensional lumber and plywood must be built up to appropriate curb elevation to protect curbs from damage. Contractor will be responsible for any project related damage.
- 7. The Contractor shall be responsible for erosion and sediment control measures where ground disturbances are made.

PROJECT FENCING

- 8. All construction projects with exterior impacts shall have construction fencing at the perimeter. Fencing shall be 6' chain link with black or green privacy fabric (80-90% blockage). For fence panels with footed stands, sandbag weights shall be placed on the inside of the fence. Ripped sandbags shall be replaced immediately.
- 9. For projects with long fencing runs and/or high profile locations, decorative USC banners shall be used on top of privacy fabric; banners should be used at a ratio of one banner for every five fence

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- panels. USC Project Manager will make arrangements for banner delivery for Contractor to hang.
- 10. The use of plastic safety fencing is discouraged and shall only be used on a temporary basis (less than four weeks) where absolutely necessary. Safety fencing shall be a neon yellow-green, high-visibility fencing equal to 'Kryptonight' by Tenax. Safety fencing shall be erected and maintained in a neat and orderly fashion throughout the project.
- 11. Vehicles and all other equipment shall be contained within a fenced area if they are on site for more than 3 consecutive calendar days.

BEHAVIOR

- 12. Fraternization between Contractor's employees and USC students, faculty or staff is strictly prohibited.
- 13. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
- 14. Contractor's employees must adhere to the University's policy of maintaining a drug-free and tobacco-free campus. Tobacco product trash that is found on the jobsite may result in a \$25/piece fee.

HAZARDOUS MATERIALS & SAFETY COMPLIANCE

- 15. A USC Permit to Work must be signed prior to any work being performed by the general contractor or sub-contractor(s).
- 16. The contractor will comply with all regulations set forth by OSHA, EPA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). Upon request, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.
- 17. Contractor must notify the University immediately upon the discovery of suspect material which may contain asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC Project Manager.
- 18. In the event of an OSHA inspection, the Contractor shall immediately call the Facilities Call Center, 803-777-4217, and report that an OSHA inspector is on site. An employee from USC's Safety Unit will arrive to assist in the inspection.

LANDSCAPE & TREE PROTECTION

- 19. In conjunction with the construction documents, the USC Arborist shall direct methods to minimize damage to campus trees. Tree protection fencing is required to protect existing trees and other landscape features to be affected by a construction project. The location of this fence will be evaluated for each situation with the USC Arborist, Landscape Architect and Project Manager. Tree protection fencing may be required along access routes as well as within the project area itself. Fence locations may have to be reset throughout the course of the project.
- 20. The tree protection fence shall be 6' high chain link fence with 80-90% privacy screening unless otherwise approved by USC Arborist and/or Landscape Architect. If the tree protection fence is completely within a screened jobsite fence perimeter, privacy fabric is not required. In-ground

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fence posts are preferred in most situations for greater protection. If utility or pavement conflicts are present, fence panels in footed stands are acceptable. See attached detail for typical tree protection fencing.

- 21. No entry, vehicle parking, or materials storage will be allowed inside the tree protection zone. A 4" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.
- Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following protective measures shall be taken:
 - a. For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over 4" of mulch.
 - b. For single loads over 9,000 lbs., two layers of 3/4" plywood shall be placed over 4" of mulch.
 - c. Plywood sheets shall be replaced as they deteriorate or delaminate with exposure.
 - d. For projects requiring heavier loads, a construction entry road consisting of 10' X 16' oak logging mats on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep matting structurally functional.
- 23. Damage to any trees during construction shall be assessed by the USC Arborist, who will stipulate what action will be taken for remediation of damage. The cost of any and all remediation will be assumed by the contractor at no additional cost to the project. Compensation for damages may be assessed up to \$500 per caliper inch of tree (up to 8") and \$500 per inch of diameter at breast height (for trees over 8").
- 24. Damage to trunks and limbs, as well as disturbance of the root zone under the dripline of tree, including compaction of soil, cutting or filling, or storage of materials, shall qualify as damage and subject to remediation.
- 25. Any damage to existing pavements or landscaping (including lawn areas and irrigation) will be remediated before final payment is made.

TEMPORARY FACILITIES

- 26. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
- 27. Contractor must provide its own electrical power supply. Water may be available to the extent of existing sources. Any needed or desired taps, connections, or metering devices, shall be at the sole expense of the contractor.
- 28. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.

CAMPUS KEYS

29. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.

WELDING

30. A welding (hot work) permit must be issued by the University Fire Marshall before any welding can begin inside a building. The USC Project Manager will coordinate.

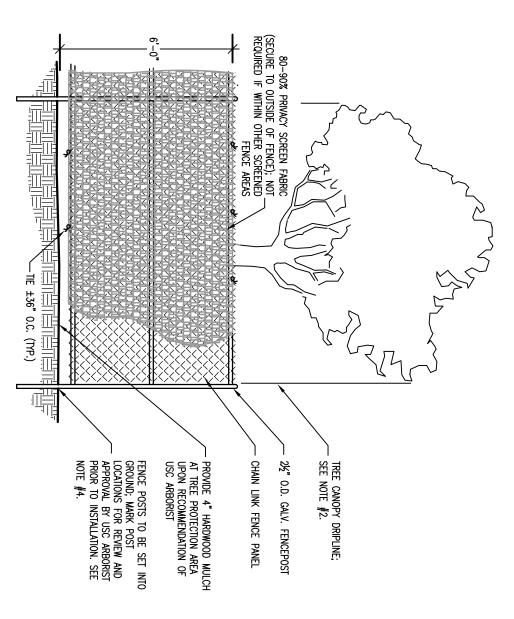
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PROJECT EVALUATION & CLOSE-OUT

- 31. For all projects over \$100,000, including IDCs, a Contractor Performance Evaluation (SE 397) will be reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed by the USC Project Manager and a Construction Performance rating will be established.
- 32. Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.

CAMPUS VEHICLE EXPECTATIONS

- 33. Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage.
- 34. All motorized vehicle traffic on USC walkways and landscape areas must be approved by the USC Project Manager and Parking Division, have a USC parking placard, and be parked within the approved laydown area. Violators may be subject to ticketing, towing and fines.
- 35. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
- 36. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held responsible for damages and restoration expense.
- 37. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
- 38. All drivers of equipment and vehicles shall be respectful of University landscape, equipment, structures, fixtures and signage.
- 39. All incidents of property damage shall be reported to Parking Services or the Work Management Center.



NOTES:

- PROVIDE PROTECTION FENCING FOR ALL TREES WITHIN AREA OF DISTURBANCE AND CONSTRUCTION ACCESS.
- 2. PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION.
- 3. PROTECTION FENCING TO BE PLACED AT THE OUTSIDE OF THE CANOPY DRIPLINE, OR AT A DISTANCE OF ONE FOOT PER ONE INCH OF TREE DIAMETER, MEASURED AT BREAST HEIGHT, WHICHEVER IS LARGER, UNLESS OTHERWISE INDICATED ON LANDSCAPE PLAN OR APPROVED BY UNIVERSITY ARBORIST.
- 4. IN—GROUND POSTS ARE STANDARD. IF EXISTING ROOTS, UTILITIES OR PAVEMENT PRECLUDE USE OF IN—GROUND POSTS, FOOTED STANDS ARE ACCEPTABLE. SAND BAGS SHALL BE PLACED ON THE INSIDE OF FENCE.
- 5. DAMAGE TO ANY TREES DURING CONSTRUCTION SHALL BE ASSESSED BY UNIVERSITY ARBORIST AND THE UNIVERSITY ARBORIST SHALL STIPULATE WHAT ACTION WILL BE TAKEN FOR REMEDIATION OF DAMAGE. THE COST OF ANY AND ALL REMEDIATION WILL BE ASSUMED BY CONTRACTOR AT NO ADDITONAL COST TO THE PROJECT.
- 6. DISTURBANCE OF ROOT ZONE UNDER DRIPLINE OF TREE, INCLUDING COMPACTION OF SOIL, CUTTING OR FILLING OR STORAGE OF MATERIALS SHALL QUALIFY AS DAMAGE AND SUBJECT TO REMEDIATION.

COVID-19 RETURN TO WORK

University of South Carolina Construction site guidelines

- 1. All construction companies mobilizing for a University of South Carolina construction project must submit their regular Health & Safety Plan, as well as a site specific COVID-19 Health & Safety Plan.
- 2. All Architectural or Engineering companies that will be visiting construction sites on campus must also submit a COVID-19 Health & Safety Plan.
- 3. Contractors will be expected to have the following items (at a minimum) in their safety plans;
 - a. Before mobilizing to the project site the General Contractor will work with their U of SC Project Manager to identify one point of entry and one point of exit to the jobsite if at all possible.
 - b. The General Contractor and all Subcontractors will each have one individual from their company assigned as their COVID-19 contact point for related issues.
 - c. The General Contractor will maintain a list of all individuals who access the site each day, this list will be kept for a minimum of four weeks.
 - d. The General Contractor will NOT pass around a communal sign-in sheet to create the daily attendance list when the majority of workers are arriving each day, but will have one individual responsible for creating the list as individuals arrive.
 - e. The General Contractor will ensure that workers who arrive on site each day are healthy and have no symptoms similar to those associated with COVID-19. If a worker is symptomatic, they will immediately leave campus and follow their employer's protocol. Employees should not report to work on the U of SC campus if they have any of the symptoms that are common to those who test positive for Covid-19.
 - f. Depending on the building where the construction work is taking place, the General Contractor will arrange for the start and completion of the work day to work around the times assigned for

- passage between scheduled classes so that workers are not entering or exiting the jobsite as students are rotating classes.
- g. The General Contractor will encourage workers to stay on site for their whole shift, rather than leaving the site for lunch. The General Contractor will provide enough space for workers to take their lunch break without having to break the University mandated physical distancing guidelines or the maximum of 10 individuals together. If this requires allowing the workers to take their breaks and lunch in shifts, the General Contractor will accommodate this.
- h. The General Contractor and all Subcontractors will make every attempt to keep the same employees assigned to the same construction projects for the duration of their required scope of work. Assignments of rotating or random trades, work force personnel is highly discouraged.
- i. If feasible, depending on the jobsite and trade, the General Contractor and Subcontractors will divide their work crews into two separate groups that will work in separate areas and workers will not shift between groups once assigned. This should be done as, if a worker in one group is exposed and must self-quarantine, then the whole group must self-quarantine, however this will leave the separate work group able to continue working on the jobsite without shutting the whole jobsite down. The General Contractor may discuss the potential for achieving this by running two separate time shifts on the project with the U of SC Project Manager.
- j. The General Contractor will limit access to the jobsite trailer or office as required to maintain physical distancing guidelines whenever possible and face coverings will be worn if the 6' distance cannot be maintained.
- k. Architects and Engineers that need to access the construction site for inspections or other related tasks are requested to schedule their site visits for late in the day after construction work has ceased for the day, if at all possible.
- I. The GC will have signage posted on site reminding workers to maintain the minimum 6' physical distancing whenever possible and

- that a face covering must be worn when that distance cannot be maintained.
- m. Workers will wear gloves at all times except when the task at hand cannot be performed safely with gloves on.
- n. Regular PPE guidelines will be maintained.
- o. Face coverings should be worn by workers whenever they are on campus and traveling to or from the job site.
- p. Workers will wash their hands each day when they enter and leave the jobsite. This is the minimum requirement and more frequent hand washing is recommended.
- q. The General Contractor/Subcontractor will provide individual bottles of water for workers on site and NOT a cooler for communal use.
- r. The General Contractor and all subcontractors should avoid having workers share tools wherever possible. If it is not possible to avoid, then tools should be cleaned before and after each individual use.
- s. The General Contractor and all subcontractors should avoid having employees share company vehicles wherever possible. If it is not possible to avoid, then the vehicle should be cleaned before and after each individual use.
- t. The General Contractor and all subcontractors will maintain a clean jobsite and trash will be removed on a daily basis by an individual who is wearing gloves and a face covering.
- u. The GC will ensure that the portable restroom facilities are sanitized daily.
- v. If a worker who has been on a U of SC construction site within the past 14 days is found to test positive for COVID-19, the General Contractor will *immediately* notify the U of SC Project Manager and advise which days the worker was on site and if the exposure appears to be work related on non-work related.
- w. If the GC or any of their subcontractors are advised by one of their employees that they have been potentially exposed to Covid-19 within the previous 14 days and they have been advised to self-quarantine, and that employee has been on a project site at the U of SC campus within that same 14 day period the employer must notify

- the U of SC Project Manager and advise what days their employee was on site.
- x. If any individual who has been on the project jobsite is found to have tested positive for Covid-19, the construction site will be shut down immediately for thorough cleaning by the General Contractor.

Project Name: USC Coker Life Sciences Building Roof Replacement Project Number: H27-Z422/50003410-2

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF
COUNTY OF
WE
as Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;
Defects or failures resulting from abuse by Owner.
Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.
[Name of Contracting Firm]
*By
Title
*Must be executed by an office of the Contracting Firm.
SWORN TO before me this day of, 2 (seal)
State
My commission expires

SECTION 00 61 13.13

PERFORMANCE BOND FORM SE-335

SE-355

PERFORMANCE BOND

KNOW ALL MEN BY THESE PI	RESENTS, that (Insert full	name or legal title and address of Contractor)	
Name:			
Address:			
hereinafter referred to as "Contracto	r", and (Insert full name and a	address of principal place of business of Surety	2)
Name:			
Address:			
hereinafter called the "surety", are jo	ointly and severally held:	and firmly bound unto (Insert full name a	and address of Agency)
Name:			
Address:			
hereinafter referred to as "Agency", of the Bond to which payment to b administrators, successors and assign	e well and truly made, to	ns, the sum of	(\$), being the sum selves, their heirs, executors,
		entered into a contract	with Agency to construct
State Project Name: <u>USC Coker</u>		-	
State Project Number: <u>H27-Z42</u>	2/50003410-2		
Brief Description of Awarded V			
in accordance with Drawings and Sp	pecifications prepared by	(Insert full name and address of A/E)	
Name: <u>REI Engineers, Inc.</u>			
Address: 2090 Executive Hall	Rd., Suite 115		
Charleston, SC 2940	17		
which agreement is by reference ma	de a part hereof, and is he	ereinafter referred to as the Contract.	
		g to be legally bound hereby, subject behalf by its authorized officer, agent	
DATED this day of (shall be no earlier than Date	of Contract), 2	BOND NUMBER	
CONTRACTOR		SURETY	
By:		By:	
	(Seal)		(Seal)
Print Name:		Print Name:	
Print Title:		Print Title:(Attach Power of Attorney)	
W:tnoss.			
Witness:		Witness:	

(Additional Signatures, if any, appear on attached page)

1 of 2 SE-355

PERFORMANCE BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

- 1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency for the full and faithful performance of the contract, which is incorporated herein by reference.
- 2. If the Contractor performs the contract, the Surety and the Contractor have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
- 3. The Surety's obligation under this Bond shall arise after:
- 3.1 The Agency has notified the Contractor and the Surety at the address described in paragraph 10 below, that the Agency is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If the Agency, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Agency's right, if any, subsequently to declare a Contractor Default; or
- **3.2** The Agency has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract.
- **4.** The Surety shall, within 15 days after receipt of notice of the Agency's declaration of a Contractor Default, and at the Surety's sole expense, take one of the following actions:
- **4.1** Arrange for the Contractor, with consent of the Agency, to perform and complete the Contract; or
- **4.2** Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
- 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Agency for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Agency and the contractor selected with the Agency's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the Agency the amount of damages as described in paragraph 7 in excess of the Balance of the Contract Sum incurred by the Agency resulting from the Contractor Default; or
- **4.4** Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and:
 - **4.4.1** After investigation, determine the amount for which it may be liable to the Agency and, within 60 days of waiving its rights under this paragraph, tender payment thereof to the Agency; or
 - **4.4.2** Deny liability in whole or in part and notify the Agency, citing the reasons therefore.
- 5. Provided Surety has proceeded under paragraphs 4.1, 4.2, or
- 4.3, the Agency shall pay the Balance of the Contract Sum to either:
- 5.1 Surety in accordance with the terms of the Contract; or
- **5.2** Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
- **5.3** The balance of the Contract Sum due either the Surety or another contractor shall be reduced by the amount of damages as described in paragraph 7.
- **6.** If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond 15 days after receipt of written notice from the Agency to the Surety demanding that the Surety perform its obligations under this Bond, and the Agency shall be entitled to enforce any remedy available to the Agency.

- 6.1 If the Surety proceeds as provided in paragraph 4.4 and the Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.
- 6.2 Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution process defined in the Contract Documents and the laws of the State of South Carolina.
- 7. After the Agency has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Agency shall be those of the Contractor under the Contract, and the responsibilities of the Agency to the Surety shall those of the Agency under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Agency of the Balance of the Contract Sum to mitigation of costs and damages on the Contract, the Surety is obligated to the Agency without duplication for:
- 7.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract; and
- 7.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
- 7.3 Damages awarded pursuant to the Dispute Resolution Provisions of the Contract. Surety may join in any Dispute Resolution proceeding brought under the Contract and shall be bound by the results thereof; and
- 7.4 Liquidated Damages, or if no Liquidated Damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- **8.** The Surety shall not be liable to the Agency or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Sum shall not be reduced or set-off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Agency or its heirs, executors, administrators, or successors.
- **9.** The Surety hereby waives notice of any change, including changes of time, to the contract or to related subcontracts, purchase orders and other obligations.
- **10.** Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the address shown on the signature page.
- 11. Definitions
- 11.1 Balance of the Contract Sum: The total amount payable by the Agency to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts to be received by the Agency in settlement of insurance or other Claims for damages to which the Contractor si entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.
- 11.2 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform the Contract or otherwise to comply with the terms of the Contract.

2 of 2 SE-355

SECTION 00 61 13.16

LABOR AND MATERIAL PAYMENT BOND FORM SE-357

SE-357

LABOR & MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that (Insert full	name or legal title and address of Contractor)
Name:	
Address:	
hereinafter referred to as "Contractor", and (Insert full name and	address of principal place of business of Surety)
Name:	
Address:	
hereinafter called the "surety", are jointly and severally held Name:	
Address:	
hereinafter referred to as "Agency", or its successors or assig of the Bond to which payment to be well and truly made, t administrators, successors and assigns, jointly and severally,	ns, the sum of(\$), being the sum the Contractor and Surety bind themselves, their heirs, executors, firmly by these presents.
WHEREAS, Contractor has by written agreement dated	entered into a contract with Agency to construct
State Project Name: USC Coker Life Sciences Building	Roof Replacement
State Project Number: <u>H27-Z422/50003410-2</u>	
Brief Description of Awarded Work: Roof Replacement	
in accordance with Drawings and Specifications prepared by	(Insert full name and address of A/E)
Name: <u>REI Engineers, Inc</u>	
Address: 2090 Executive Hall Rd., Suite 115	
Charleston, SC 29407	
which agreement is by reference made a part hereof, and is he	ereinafter referred to as the Contract.
	ng to be legally bound hereby, subject to the terms stated herein, do ecuted on its behalf by its authorized officer, agent or representative. BOND NUMBER
CONTRACTOR	SURETY
By:	By:
(Seal)	(Seal)
Print Name:	Print Name:
Print Title:	Print Title:
	(Attach Power of Attorney)
Witness:	Witness:

(Additional Signatures, if any, appear on attached page)

1 of 2 SE-357

LABOR & MATERIAL PAYMENT BOND

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

- 1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency to pay for all labor, materials and equipment required for use in the performance of the Contract, which is incorporated herein by reference.
- 2. With respect to the Agency, this obligation shall be null and void if the Contractor:
- 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
- 2.2 Defends, indemnifies and holds harmless the Agency from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract.
- 3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
- 4. With respect to Claimants, and subject to the provisions of Title 29, Chapter 5 and the provisions of §11-35-3030(2)(c) of the SC Code of Laws, as amended, the Surety's obligation under this Bond shall arise as follows:
- 4.1 Every person who has furnished labor, material or rental equipment to the Contractor or its subcontractors for the work specified in the Contract, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the date on which the last of the labor was done or performed by him or material or rental equipment was furnished or supplied by him for which such claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of such suit and to prosecute such action for the sum or sums justly due him.
- **4.2** A remote claimant shall have a right of action on the payment bond upon giving written notice by certified or registered mail to the Contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of the material or rental equipment upon which such claim is made.
- 4.3 Every suit instituted upon a payment bond shall be brought in a court of competent jurisdiction for the county or circuit in which the construction contract was to be performed, but no such suit shall be commenced after the expiration of o ne year after the day on which the last of the labor was performed or material or rental equipment was supplied by the person bringing suit.
- **5.** When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
- 5.1 Send an answer to the Claimant, with a copy to the Agency, within sixty (60) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
- **5.2** Pay or arrange for payment of any undisputed amounts.
- 5.3 The Surety's failure to discharge its obligations under this paragraph 5 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this paragraph 5, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.

- **6.** Amounts owed by the Agency to the Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Contractor furnishing and the Agency accepting this Bond, they agree that all funds earned by the contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Agency's prior right to use the funds for the completion of the Work.
- 7. The Surety shall not be liable to the Agency, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Agency shall not be liable for payment of any costs or expenses of any claimant under this bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
- **8.** The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
- 9. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Agency or the contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
- 10. By the Contractor furnishing and the Agency accepting this Bond, they agree that this Bond has been furnished to comply with the statutory requirements of the South Carolina Code of Laws, as amended, and further, that any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.
- 11. Upon request of any person or entity appearing to be a potential beneficiary of this bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
- 12. Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the laws of the State of South Carolina.

13. DEFINITIONS

- 13.1 Claimant: An individual or entity having a direct contract with the Contractor or with a Subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's lien might otherwise be asserted.
- 13.2 Remote Claimant: A person having a direct contractual relationship with a subcontractor of the Contractor or subcontractor, but no contractual relationship expressed or implied with the Contractor.
- 13.3 Contract: The agreement between the Agency and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

2 of 2 SE-357

SECTION 00 61 13.19

CHANGE ORDER TO CONSTRUCTION CONTRACT FORM SE-380

SE-380

CHANGE ORDER NO.:

	\$ \$ 0.00
	DATE:
CONTRACT	\$
	·
	·
	·
	\$ 0.00
	\$ 0.00
	\$ 0.00
	Days
	Days
	0 Days
Date:	
Date:	
t.	
	Yes No No
DATE.	
1	

SUBMIT THE FOLLOWING TO OSE

- SE-380, fully completed and signed by the Contractor, A/E and Agency;
 Detailed back-up information, with OH&P shown, from the Contractor/Subcontractor(s) that justifies the costs and schedule changes shown.
 If any item exceeds Agency certification, OSE will approved the SE-380 and return to Agency.

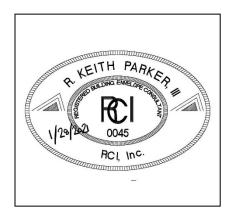
SECTION 00 01 07

SEALS PAGE

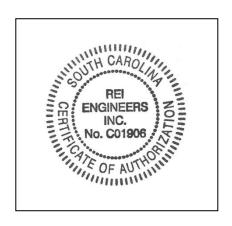
PROFESSIONAL ENGINEER



REGISTERED BUILDING ENVELOPE CONSULTANT



SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION



END OF SECTION 00 01 07

SECTION 00 01 15

LIST OF DRAWINGS

PART 1 GENERAL

The following drawings and details are included as part of the Contract Documents:

Drawing	Description	Date
XR-001	Cover Sheet	1/28/2021
XR-101	Roof Plan	1/28/2021
XR-102	Insulation Attachment Plan	1/28/2021
XR-201	Roof Details	1/28/2021
XR-202	Roof Details	1/28/2021
XR-203	Roof Details	1/28/2021
XR-204	Roof Details	1/28/2021

END OF SECTION 00 01 15



Asbestos Chain of Custody EMSL Order Number (Lab Use Only):

EMSL Analytical, Inc. 706 Gralin Street

Kernersville, NC 27284

PHONE: (336) 992-1025 FAX: (336) 992-4175

FAX: (336) 992-4175							
Company Name : University of South Carolina EMSL Customer ID:							
Street: 743 Greene Street		City: Columbia State/Province: SC					
Zip/Postal Code: 29208			: 8039773963	-777-3990			
Report To (Name): USC HAZMAT G		Please Provide Results: Fax Email					
Email Address: asbestos@mailbox							
Project Name/Number: 100 Co		Purchase Order: EMSL Project ID (Internal Use Only):					
U.S. State Samples Taken: SC	Roof	CT Samples	☐ Commercial/Tax	cable 🗌 Resi	dential/Tax Exempt		
EMSL-E	ill to: Same Different - it Third Party Billing requires writte			ents**			
	Turnaround Time (TAT) (
	24 Hour 🔲 48 Hour	☐ 72 Ho	ur 🔲 96 Hour	1 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.							
PCM - Air Check if samples are from NY NIOSH 7400	TEM - Air 4-4.5hr TAT (A	HERA only)	TEM- Dust	-			
W OSHA 8hr. TWA		,	Wipe - ASTM D				
PLM _Bulk (reporting limit)	EPA Level II		l == '		93/167)		
PLM EPA 600/R-93/116 (<1%)	☐ ISO 10312	Carpet Sonication (EPA 600/J-93/167) Soil/Rock/Vermiculite					
☐PLM EPA NOB (<1%)	TEM_Buik		PLM EPA 600/R-93/116 with milling prep (<1%)				
Point Count	TEM EPA NOB	PLM EPA 600/R-93/116 with milling prep (<0.25%)					
☐ 400 (<0.25%) ☐ 1000 (<0.1%)	able-NY) TEM EPA 600/R-93/116 with milling prep (<0.1%)						
Point Count w/Gravimetric	TEM Qualitative via Filtration Prep 1 600 sec. 2.5 TEM Qualitative via Drop Mount Prep						
	Cincinnati Method EPA 600/R-04/004 – PLM/TEM						
NYS 198.1 (friable in NY)	(BC only)						
NYS 198.6 NOB (non-friable-NY) Fibers >10µm Waste Drinking Other:							
NYS 198.8 SOF-V All Fiber Sizes Waste Drinking NIOSH 9002 (<1%)							
Check For Positive Stop - Clearly Identify Homogenous Group Filter Pore Size (Air Samples): 0.8µm 0.45µm							
Samplers Name: Antonio Thompson Samplers Signature:							
Volume/Area (Air) Date/Tin				Date/Time Sampled			
Odmpie #	Sanple Description	<u>н</u> і		B (Duik)	Garianoa		
<u> </u>							
Client Sample # (9):			Total # 6	of Samples:	6		
Relinquished (Client): Antonia	Thompson Date:	1/11/2	, 2021	Time	: 3:34pm		
Received (Lab):	Date:	1/12	2021	Time	: 1030		
Comments/Special Instructions: BUTO: University of South Coroline, 743 Greene Street, Columbia, SC, 20208, US Attembon: Derryl Washington Phone: 803-917-0291 Email: weshindh@finc.sc.edu Purchase Order. — MSL — MD 1960 372-8 5333							

Page 1 of ____ pages

Controlled Document - Asbestos COC - R10 - 05/09/2016

Print Form



Building #_____100 COKER LIFE SCIENCES

Sample Analysis
Type of Analysis: Lead / Asbestos

1/11/2021

Turn Around Time ____

Licens	,			В	В	œ	>	>	>	Area
GR-00052 License #				6	51	4	ယ	2		Sample ID
FM#FM00636135	-			GRAY PERIMETER CAULK	GRAY PERIMETER CAULK	GRAY PERIMETER CAULK	ROOFING	ROOFING	ROOFING	Material Sampled
		ï	,	TEM of Negative ROOFTOP		77	Ten it Newfire R	73	77	Material Location
Signature missing for				OOFTOP	ROOFTOP	ROOFTOP	ROOFTOP	ROOFTOP	ROOFTOP	
Requestor				NΕ	NE	죾	N F	N F	Z T	F/NF
FISHE				GOOD	GOOD	GOOD	GOOD	GOOD	GOOD	Cond
FISHER PETE				<5000 SQFT	<5000 SQFT	<5000 SQFT	<5000 SQFT	<5000 SQFT	<5000 SQFT	Quantity
•				LOW	LOW	MOT	LOW	LOW	LOW	Pot to Disturb

Building #_____

Sample Analysis
Type of Analysis: Lead / Asbestos Date:

1/11/2021

Turn Around Time ____

	FISHER PETE		Requestor	Signature	FW#_FM00636135	GR-00052	License
LOW	<5000 SQFT	GOOD	돆	ROOFTOP @ FLASHING	GREYISH MASTIC	9	C
LOW	<5000 SQFT	GOOD	짂	ROOFTOP @ FLASHING	GREYISH MASTIC	8	C
LOW	<5000 SQFT	GOOD	Z,	ROOFTOP @ FLASHING	GREYISH MASTIC	7	ი
LOW	<5000 SQFT	GOOD	짂	ROOFTOP	GRAY PERIMETER CAULK	6	œ
LOW	<5000 SQFT	GOOD	짂	ROOFTOP	GRAY PERIMETER CAULK	5	æ
LOW	<5000 SQFT	GOOD	짂	ROOFTOP	GRAY PERIMETER CAULK	4	œ
MOT	<5000 SQFT	GOOD	Z _T	ROOFTOP	ROOFING	ω	>
LOW	<5000 SQFT	GOOD	N Fi	ROOFTOP	ROOFING	2	Þ
LOW	<5000 SQFT	GOOD	NF	ROOFTOP	ROOFING	1	А
Pot to Disturb	Quantity	Cond	F/NF	Material Location	Material Sampled	Sample ID	Arca

Send lab results in PDF and CSV format as soon as possible to: asbestos@mailbox.sc.edu

Page 3 Of

3

Reset Form

Print Form

FM00625926 FM00625926

USC Work Order

Description COKER ROOF HAZMAT SURVEY

Site **COLUMBIA ATHOMPSON** Assigned To Building 100 COKER LIFE SCIENCES HAZMAT

Floor **ROOF** Room: **Start Date** 19-AUG-20 **Priority** 20

Equipment Due date

Request Date 06-JUL-20 LIVINGS6

Crew

Request # FM00625926 Description COKER ROOF HAZMAT SURVEY

Parent WO #

CP Number 50003410-2 COKER LIFE SCIENCES BUILDING ROOF REPLACEMENT

State/Internal Project Number

BRANHAM, DALE Requestor Project Manager FISHER, PETER L.

Telephone 7-1288 Telephone 777-9346 Alternate **Estimated Cost** \$ 0.00

Telephone CHARGEBACK-EXT **Billing**

CL013-57140 (FACILITIES PLANNING - CONSTR) Non-Available Time

Task List

DATE WORK STARTED CAUSE **DATE WORK COMPLETED** CONDITION

EQUIPMENT

CLOSING REMARKS

BENCHSTOCK MATERIALS

Description **Price Per Unit** Qty

Supervisor's Approval

Note Date Title

19-JAN-21 **HAZMAT SURVEY RESULTS**

SURVEY DATE: 1/19/2021

INSPECTOR #: ANTONIO THOMPSON (GR00052)

SCOPE: THE FOLLOWING SURVEY WAS PERFORMED IN PREPARATIONS TO REPLACE THE ROOF AT COKER LIFE SCIENCES.

ASBESTOS SECTION:

GREYISH MASTIC @ FLASHING: POSITIVE FOR ASBESTOS (PLEASE SEE LINE 1 INSPECTOR NOTES).

ROOFING: NEGATIVE FOR ASBESTOS

GRAY PERIMETER CAULK: NEGATIVE FOR ASBESTOS

INSPECTOR NOTES:

1. GREYISH MASTIC @ FLASHING IS POSITIVE FOR ASBESTOS. SCDHEC DOES NOT RECOGNIZE MATERIALS CONTAINING = 1% OF ASBESTOS. HOWEVER, OSHA DOES TAKE PRECEDENCE IN THAT ANY AMOUNT OF ASBESTOS PRESENT HAS TO BE ADDRESSED WITH ADHERENCE TO OSHA REGULATIONS.

- 2. IF A BUILDING MATERIAL IS NOT LISTED, DO NOT ASSUME THAT IT DOES NOT CONTAIN ASBESTOS. IT MIGHT NOT HAVE BEEN TESTED. FOR FURTHER INFORMATION, PLEASE CONTACT THE USC HAZMAT PROGRAM.
- 3. IF YOU ENCOUNTER ANY OTHER MATERIALS IN PLACE AND DEEM THEM SUSPECT FOR ASBESTOS AND/OR LEAD, PLEASE STOP WORK AND CONTACT THE ASBESTOS PROGRAM MANAGER FOR FURTHER TESTING OR ABATEMENT.
- 4. PLEASE NOTE THAT THE MATERIAL QUANTITY PROVIDED ON THE FIELD SHEET IS ONLY AN ESTIMATE FOR SAMPLING PURPOSES. THE QUANTITY SHOULD BE FIELD VERIFIED FOR ALL OTHER PURPOSES INCLUDING ABATEMENT. THIS SURVEY IS ONLY VALID FOR THE DESIGNATED AREA(S)/LOCATION(S) TESTED IE: (COKER LIFE SCIENCES ROOF).

08-SEP-16 ASBESTOS SUMMARY FOR COKER LIFE SCIENCES (100) – SEPTEMBER 2016

ASBESTOS HAS BEEN FOUND IN THIS BUILDING. IF DISTURBED, ASBESTOS MAY BE HARMFUL TO YOUR HEALTH.

PLEASE DO NOT DISTURB THE FOLLOWING MATERIALS IN THIS BUILDING AS THEY HAVE BEEN FOUND TO CONTAIN ASBESTOS.

- FLOOR TILE
- BLACK MASTIC UNDER FLOOR TILE
- BLACK MASTIC ON FIBERGLASS LINES
- BLACK DUCT MASTIC
- OLIVE DUCT MASTIC
- SHEET FLOORING

IF A BUILDING MATERIAL IS NOT LISTED, DO NOT ASSUME THAT IT DOES NOT CONTAIN ASBESTOS. IT MAY NOT HAVE BEEN TESTED.

FOR FURTHER INFORMATION, PLEASE CONTACT THE USC HAZMAT PROGRAM.

SECTION 00 31 26

EXISTING ASBESTOS INFORMATION



743 Greene Street

Columbia, SC 29208

University of South Carolina

EMSL Order: 022100219 **Customer ID:** UNSC62 **Customer PO:** 2000054372

Project ID:

Phone: (803) 777-7000

Fax: (803) 777-3990

Received Date: 01/12/2021 10:30 AM
Analysis Date: 01/12/2021 - 01/18/2021

Collected Date:

Project: 100 Coker life sciences

Attention: USC Hazmat

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbe	<u>stos</u>	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Type
1	Roofing	Brown/Black Fibrous	4% Cellulose 18% Glass	3% Perlite 75% Non-fibrous (Other)	None Detected
022100219-0001		Heterogeneous			
2	Roofing	Black Fibrous Heterogeneous	2% Cellulose 20% Glass	2% Perlite 76% Non-fibrous (Other)	None Detected
3	Roofing	Brown/Gray/Black Fibrous	10% Cellulose 10% Glass	3% Perlite 77% Non-fibrous (Other)	None Detected
022100219-0003		Heterogeneous			
4	Caulk	Gray Non-Fibrous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
022100219-0004		Homogeneous			
5	Caulk	Gray Non-Fibrous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
022100219-0005		Homogeneous			
6	Caulk	Brown/Gray Non-Fibrous	<1% Cellulose	10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
022100219-0006		Homogeneous			
7	Mastic @ flashing	Black Non-Fibrous	10% Cellulose	90% Non-fibrous (Other)	None Detected
022100219-0007		Homogeneous			
8	Mastic @ flashing	Black Non-Fibrous	10% Cellulose	90% Non-fibrous (Other)	None Detected
022100219-0008		Homogeneous			
9	Mastic @ flashing	Black Fibrous	8% Cellulose	92% Non-fibrous (Other)	None Detected
022100219-0009		Homogeneous			

Analyst(s)

Philip Szabo (2) Ryan Rains (4) Scott Combs (3) Stephen Bennett, Laboratory Manager or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis . Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, CA ELAP 2689, Virginia 3333-000228, West Virginia LT000321



University of South Carolina

EMSL Order: 022100219 **Customer ID:** UNSC62 **Customer PO:** 2000054372

Project ID:

Phone: (803) 777-7000

Fax: (803) 777-3990

Received Date: 01/12/2021 10:30 AM **Analysis Date:** 01/13/2021 - 01/19/2021

Collected Date:

Project: 100 Coker life sciences

743 Greene Street

Columbia, SC 29208

Attention: USC Hazmat

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

Sample ID	Description	Appearance	% Matrix Material	% Non-Asbestos Fibers	Asbestos Types
3	Roofing	Brown/Gray/Black	100.0 Other	None	No Asbestos Detected
022100219-0003		Fibrous			
		Heterogeneous			
6	Caulk	Brown/Gray	100.0 Other	None	No Asbestos Detected
022100219-0006		Non-Fibrous			
		Homogeneous			
9	Mastic @ flashing	Black	100.0 Other	None	<0.25% Chrysotile
022100219-0009		Fibrous			
		Homogeneous			

Analyst(s)

Kristie Elliott (2) Stephen Bennett (1) Stephen Bennett, Laboratory Manager or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. EMSL recommends that samples reported as none detected or <1% undergo additional analysis via PLM to avoid the possibility of false negatives.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC

Report amended: 01/19/2021 15:22:32 Replaces initial report from: 01/13/2021 14:00:13 Reason Code: Client-Additional Analysis

SECTION 00 60 00

PROJECT FORMS

PART 1 GENERAL

1.1 GENERAL

- A. The following documents are hereby incorporated into the Contract Documents by reference:
 - 1. AIA Documents: Copies are available for purchase from the American Institute of Architects, 1735 New York Ave. N.W., Washington, DC, 20006, (800) AIA-3837 or visit www.aia.org/documents, or from local authorized distributors.
 - a. G701, Change Order Form
 - b. G702, Application and Certificate for Payment,
 - c. G703, Continuation Sheet
 - d. G704, Certificate of Substantial Completion
 - e. G706, Contractor's Affidavit of Payment of Debts and Claims
 - f. G706A, Contractor's Affidavit of Payment of Release of Liens
 - g. G707, Consent of Surety to Final Payment
 - h. G714 Construction Change Directive
- B. The following documents are included in the Project Manual:
 - 1. Performance Bond Form- SE 335
 - 2. Labor and Material Payment Bond Form SE 357
 - 3. Roof Manufacturer's Acknowledgement Section 00 62 33
 - 4. Continuation Sheet Section 00 62 73
 - 5. Request for Interpretation Section 00 63 13
 - 6. Substitution Request Form Section 00 63 25
 - 7. Change Order to Construction Contract SE 380
 - 8. Contractors Five Year Warranty Section 00 65 36
 - 9. Asbestos Free Warranty Section 00 65 37

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 00 60 00

SECTION 00 62 33

ROOF MANUFACTURER'S ACKNOWLEDGMENT

Owner: University of South Carolina		
Project Name: Coker Life Sciences Building Roo	f Replacement	
Project Address: 715 Sumter St, Columbia, SC 2	9208	
Roofing Contractor:		
Address:		
Telephone:		
This is to advise the Owner that having thoroug within the Project Manual dated January 28, 2021 system(s) and flashing system(s) specified are warranty on this project and have been tested a project specifications. Having reviewed the project written response of exceptions to the Engineer to date or as otherwise outlined in the Instructions warranty requirements and the above listed docuto rejection. The manufacturer also certifies the manufacturer to install the specified roof system warranty. The manufacturer will comply with the	If for the above-titled project, we acknowledge and approved for the wind uplift pressure and approved for the wind uplift pressured requirements in detail, the Manufacthrough the contractor before five (5) to Bidders, if conflicts exist between aments. Exceptions not submitted accut the installer is approved, authorized mand is eligible to provide the speci	wledge that the roofied Manufacturer's ures outlined in the cturer will provide a days of the bid due the Manufacturer's ordingly are subject, or licensed by the fied manufacturer's nical support.
(Print or type name of Liaison)	is hereby designated as our claison	on this project.
Telephone		
Roof Manufacturer's Company Name		
Roof Manufacturer Representative's Signature	Date	
Roof Manufacturer Representative's Name	 Title	
Roof Manufacturer's Address		

END OF SECTION 00 62 33

SECTION 00 62 73

AIA G703 - CONTINUATION SHEET (SAMPLE)

In tabulations below, amounts are stated to the nearest dollar.

Use Column I on Contracts where variable retainage for line items may apply.

APPLICATION NO:

APPLICATION DATE:

PERIOD TO:

ARCHITECT'S PROJECT NO: 20CHS-072

A	В	C	D	Е	F	G		Н	I
ITEM NO.	DESCRIPTION OF WORK	SCHEDULED VALUE	WORK CO FROM PREVIOUS APPLICATION (D + E)	MPLETED THIS PERIOD	MATERIALS PRESENTLY STORED (NOT IN D OR E)	TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G÷C)	BALANCE TO FINISH (C - G)	RETAINAGE (IF VARIABLE RATE)
	Pre-Construction Activities				,	,			
	Mobilization								
	Demolition Insulation and Membrane Material Insulation and Membrane Labor Metal Wall Panels Material Metal Wall Panels Labor Sheet Metal Material Sheet Metal Labor Elastomeric Joint Sealants Material Elastomeric Joint Sealants Labor								
	Demobilization								
	Contingency Allowance								
		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00	

SECTION 00 63 13

REQUEST FOR INTERPRETATION

Project:		RFI Number:					
From:		Date:	Date:				
A/E:		A/E Project N					
Contract For:		Contract Date					
Specification Section:	Paragraph:	Drawing Reference:	Detail:				
Request:							
Signed By:							
Response:							
□ Attachments							
Response From:	To:	_Date Rec'd:	Date Ret'd:				
Signed By:			Date:				
Copies: Owner	□ Contractor	□ A/E	□ Other				

SECTION 00 63 25

SUBSTITUTION REQUEST FORM

Project	
Date:	Bid Opening Date:
Product and / or Fabrication Method:	
Specification Section:	
Related Drawings:	
Criteria or Specified Product Product Data Fabrication Drawings Samples Where Applicable List of changes or Modifications Needed to Work as Noted in Spec	Included
Criteria or Specified Product Product Data Fabrication Drawings Samples Where Applicable List of changes or Modifications Needed to Work as Noted in Spec	Included
Documents, and it will perform equal or superior	ter in every respect to that required by the Contract or to product specified in the application indicated. The time, that may subsequently become necessary because nately.
Signed:	

END OF SECTION 00 63 25

SECTION 00 65 36

CONTRACTOR'S FIVE-YEAR WARRANTY

Know all men by these presents, that we, (Contractor) ______, having installed roofing system, flashings and sheet metal on the Coker Life Sciences Building under contract between University of South Carolina (Owner) and Contractor, warrant to the Owner with respect to said work that for a period of five (5) years from date of substantial completion, the work shall be absolutely watertight and free from any and all leaks, provided however the following are excluded from this Warranty:

- a. Defects or failures resulting from abuse by the Owner.
- b. Defect in design involving failure of (1) structural frame, (2) load bearing walls, and (3) foundations.
- c. Damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion.

We, Contractor, agree that should any leaks occur in the work we will perform emergency repairs within 24 hours' notice and perform permanent repairs within a reasonable time in a manner to restore the work to a watertight condition by methods compatible to the system and acceptable under industry standards and general practice, all at no expense to the Owner.

We, Contractor, further agree that for a period of five (5) years from date of substantial completion referred to above, we will make repairs at no expense to the Owner to any defects which may develop in the work including but not limited to blisters, wrinkles, fish-mouths, ridges, splits and loose flashing in a manner compatible to the system and acceptable under industry standards and general practice as established by the Engineer.

Contractor shall attend two post construction field inspections: the first no earlier than twenty-three (23) months and no later than twenty-four (24) months after the date of Substantial Completion and the second no earlier than fifty-nine (59) months and no later than sixty (60) months after the date of Substantial Completion. Contractor shall complete any corrective action requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.

Performance Bond shall be limited to the first two years of the Contractor's five (5) year warranty period.

Signature: Title:
County of(State) I,
Notary Public (OFFICIAL SEAL)
My commission expires, 20

END OF SECTION 00 65 36

SECTION 00 65 37

ASBESTOS FREE WARRANTY

University of South Carolina

Project Name: Coker Life Sciences Building Roof Replacement Project Address: 715 Sumter St, Columbia, SC 29208 Project Manual Date: January 28, 2021 Date of Substantial Completion: Know all men by these presents, that we, (Contractor, Subcontractor, Material Supplier or Equipment Manufacturer) having furnished labor, materials, equipment and/or supplies; removed existing roof system; installed new roof system and/or miscellaneous roof system components; from, to and/or on the above referenced Project under contract between the Owner and Contractor, warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work. Exceptions: If there are no exceptions, state "No Exceptions" here. Signature: (State) County of _____ I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this day of , 20 . (OFFICIAL SEAL) Notary Public

END OF SECTION 00 65 37

Owner:

SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Name: Coker Life Sciences Building Roof Replacement
- B. Project Address: 715 Sumter St, Columbia, SC 29208
- C. Owner: University of South Carolina
- D. Engineer: The Contract Documents, dated January 28, 2021, were prepared by REI Engineers, Inc.
- E. This work includes the provision of all labor, material, equipment, supervision and administration to integrate the work outlined in these specifications into the total building system such that no leakage into the system occurs. In general, the scope of work will include:

1. B, C, D, E, and F (Approximately 22,348 square feet):

- a. Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural deck
- b. Provide a torch applied vapor retarder
- c. Provide base layer insulation adhered in foam adhesive
- d. Provide second layer insulation adhered in foam adhesive
- e. Provide overlayment insulation adhered in foam adhesive
- f. Provide a torch applied two-ply modified bitumen roof membrane along with flashings and accessories
- g. Replace sheet metal flashings and trim.
- h. Provide a complete, watertight, 20-year warrantable roof assembly.
- 2. Remove the existing lightning protection/grounding system prior to commencement of roof replacement work. Upon completion of flashing and sheet metal installation, all new or existing parts, components or materials will be reinstalled or installed to meet UL requirements at the time of initial installation. Contractor shall provide a "Letter of Findings" from UL.
- 3. **Alternate No. 1:** Provide new metal wall panels at the interior screen walls on Sector C. Refer to the requirements of Section 07 42 13 and Drawing XR-101.
- 4. Alternate No. 2: Roof Area A (Approximately 2,863 square feet):
 - a. Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural deck
 - b. Provide a torch applied vapor retarder
 - c. Provide base layer insulation adhered in foam adhesive
 - d. Provide second layer insulation adhered in foam adhesive
 - e. Provide overlayment insulation adhered in foam adhesive
 - f. Provide a torch applied two-ply modified bitumen roof membrane along with flashings and accessories
 - g. Replace sheet metal flashings and trim.
 - h. Provide new elastomeric sealant joints at parapet walls and stone coping around roof area A and where indicated in Contract Drawings.
 - i. Power wash interior and exterior of parapet wall and stone coping around roof area A and where indicated in Contract Drawings.
 - j. Provide a complete, watertight, 20-year warrantable roof assembly.

- F. Asbestos Containing Roofing Materials (ACRM):
 - The presence of Asbestos Containing Roofing Materials (ACRM) has been detected in test samples of the existing roofing system as indicated under Section 00 31 26. The Contractor shall remove and dispose of all ACRM in a safe and legal manner.
 - 2. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor should determine unanticipated asbestos bearing materials to be present in the existing building components, Contractor is to stop all work in the affected area, notify the Engineer and Owner, and provide temporary protection as required. Costs incurred, if any, due to the presence of hidden and/or unanticipated asbestos bearing materials will be authorized by Change Order to this contract.
- G. The contractor is responsible for all electrical, plumbing, mechanical, and other related trade work necessary to facilitate project operations. Contractor is responsible for relocating any and all conduit, HVAC equipment, curbs, and/or plumbing necessary to comply with the requirements of these documents. All work shall conform to the requirements of the current Building Code approved in the State of the project location.
- H. General requirements and specific recommendations of the material manufacturers are included as part of these specifications. The manufacturers' specifications are the minimum standards required for the completed systems. Specific items listed herein may improve the standards required by the manufacturers and will take precedence where their compliance will not affect the manufacturers' quarantee or warranty provisions.

1.2 RELATED SECTIONS

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

1.3 CONTRACT

A. Project will be constructed under a single prime general construction contract.

1.4 WORK UNDER OTHER CONTRACTS

- A. Separate Contract: Owner may award a separate contract for performance of certain construction operations at Project site.
- B. Contractor shall cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract.

1.5 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC's "MasterFormat" numbering system.
 - 1. Section Identification: The Specifications use section numbers and titles to cross-reference Contract Documents. Sections in the Project Manual are in numeric sequence.; however, the sequence is incomplete. Consult the Table of Contents at the beginning of the Project Manual.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Abbreviated Language: Language used in the Specifications and other Contract

- Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
- 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
- PART 2 PRODUCTS (NOT USED)
- PART 3 EXECUTION (NOT USED)

END OF SECTION 01 11 00

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements for work sequence, work restrictions, occupancy requirements and use of premises.

1.2 RELATED SECTIONS

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

1.3 WORK SEQUENCE

- A. The Work shall be conducted in the following sequences unless construction phases are otherwise specified.
 - 1. Construct Work in phases to accommodate the Owner's use; if applicable, of the premises during the construction period; coordinate the construction schedule and operations with the Owner and Engineer.
 - Construct the Work in phases to provide for public convenience. Do not close off public use of facility until completion of one phase of construction will provide alternative usage.
 - 3. Construction shall be scheduled in such a manner that once work has commenced on one facility, the Contractor's work force shall remain at that facility continuously each workday through final completion at that facility.

1.4 WORK RESTRICTIONS

- A. Work hours shall generally be performed during normal business hours. Should the Contractor elect to work outside of normal business hours, notification to the Owner and Engineer at least 48 hours in advance shall be required. No work shall be scheduled without prior notification and authorization.
- B. Contractor shall coordinate work schedule with School's testing and special events schedule and may not be allowed to be on-site during certain testing days/events.

1.5 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy
 - 1. Owner will occupy the premises during the entire period of construction to conduct his normal operations. Cooperate with Owner in all construction operations to minimize conflict, and to facilitate Owner usage.
 - 2. Contractor shall at all times conduct his operations as to ensure the least inconvenience and the greatest amount of safety and security for the Owner, his staff, and the general public.
 - 3. Control noise from operations so that building occupants are not affected.

1.6 USE OF PREMISES

A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.

- 1. Limits: Confine constructions operations to areas of work being renovated as approved by Engineer and Owner.
- 2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- 3. Move any stored materials and equipment that interfere with operations of the Owner.

B. Use of Existing Building

- Maintain existing building in a weathertight condition throughout construction period.
- 2. Take every precaution against injuries to persons or damage to property.
- 3. Protect building, its contents, and its occupants during construction period.
- 4. The Contractor shall not overload or permit any part of the structure to be loaded with such weights as will endanger its safety or to cause excessive deflection. Materials placed on the roof prior to installation shall be equally distributed over the roof area.
- 5. Protect any existing surface improvements, such as pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.
- 6. Repair to the Owner and Engineer's satisfaction, or to restore to a condition equal to that existing at the time of award of Contract, or to make restitution acceptable to the Owner, any and all damages to the building, its contents, or surface improvements resulting from, or attributable to, the work operation.
- 7. Interior Access:
 - a. Shall be limited to interior stairs when approved in advance by Owner for access. Interior elevator shall not be used.
 - b. Shall be limited to that required for protection of interior during Work, inspection after inclement weather and daily site reporting unless otherwise directed by Owner.
 - c. Protection of Interior Spaces:
 - i. Provide disposable CPE shoe cover with accessing interior. Provide new show cover each time accessing interior.
 - ii. When accepted in advance by the Owner, provide additional set of footwear with clean soles when accessing interior for Work related activities.
 - iii. Temporary floor covering shall be maintained along interior access pathway to roof.
 - d. Provide disposable nitrile or latex gloves when accessing interior. Provide new gloves each time accessing the interior.

C. Transportation Facilities

- 1. Truck and equipment access:
 - a. Avoid traffic conflict with vehicles of the Owner's employees and customers and avoid over-loading of street and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the designated areas.
 - b. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.

2. Contractor's vehicles:

- a. Require contractor's vehicles, vehicles belonging to employees of the contractor, and all other vehicles entering the Owner's property in performance of the work the contract, to use only the designated access route.
- b. Do not permit such vehicles to park on any street or other area of the Owner's property except in the designated area.

1.7 OWNER POLICIES

A. Refer to USC Supplemental Conditions for additional requirements.

B. Conduct Policy

1. The conduct of all contractor employees during any project shall be exemplary; at no time shall profanity, drinking, lewd or suggestive comments or gestures or other acts of this nature be tolerated.

C. Drug Free Policy

 Owner conforms to a drug free policy. Any contractor employee must be tested upon request of Owner and results provided to Owner. If the employee is found to have been under the influence or using drugs, it shall constitute a breach of contract and said contract may be terminated without penalty to the school system.

D. Dress Code Policy

1. Shirts and shoes are required at all times, as well as long pants. Identification of employees, vehicles, uniforms, etc. may be required when indicated.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 14 00

SECTION 01 21 00

ALLOWANCES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements governing allowances.

1.2 RELATED SECTIONS

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

1.3 QUANTITY ALLOWANCES

- A. Quantity allowance for the items indicated below shall be included in the base bid. The unit price submitted on the Bid Form shall be used to compute the quantity allowances. The quantities indicated are estimated quantities only for the purpose of comparing bids. The Contractor will be compensated at the unit price bid for the exact quantity of work performed under each unit price item. Deductive amounts of unit price work included in the Contract Sum will be calculated at 100% of the quoted add unit price.
 - 1. Replace 750 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00.
 - Provide 250 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 52 16.
 - 3. Provide 250 SF of 1/8" Thick Galvanized Steel Plates for Concrete Deck Openings. Refer to Section 07 01 50.

END OF SECTION 01 21 00

SECTION 01 22 00

UNIT PRICES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements for unit prices.

1.2 RELATED SECTIONS

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

1.	Rough Carpentry	Section 06 10 00
2.	Preparation for Reroofing	Section 07 01 50
3.	Roof Insulation	Section 07 22 16

1.3 DEFINITION

A. Unit price is an amount proposed by Bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 UNIT PRICE MEASUREMENT

- A. Prior to performing any work under a unit price as specified herein, the Contractor shall notify the Engineer to allow for measurement of the actual quantities of work. Any work performed under these items without prior approval and measurement shall be at the Contractor's expense.
- B. The Contractor shall maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.
- C. Owner and Engineer reserve the right to reject Contractor's measurement of work-inplace that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

1.5 UNIT PRICE PAYMENT

A. Unit prices shall include all costs associated with performing the unit price work including but not limited to labor, material, equipment, insurance, applicable taxes, overhead and profit, etc.

1.6 UNIT PRICE PERFORMANCE

A. Unit price work shall be installed in accordance with the applicable specification section(s) and Contract Drawings for the project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Unit prices for the items indicated below shall be provided on the Bid Form.

- 1. UP-1: Replace Deteriorated Wood Blocking.
 - a. Unit of Measurement: Board Foot (BF)
- 2. UP-2: Provide Additional Manufacturer's Walk Pad Material.
 - a. Unit of Measurement: Square Foot (SF)
- 3. UP-3: Provide 1/8" Thick Steel Plates For Concrete Deck Openings.
 - a. Unit of Measurement: Square Foot (SF)

END OF SECTION 01 22 00

SECTION 01 23 00

ALTERNATES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements for alternates.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed and/or in the products, materials, equipment, systems or installation methods described in the Contract Documents.

1.4 ALTERNATES

- A. Indicate on the Bid Form whether the alternate bid amount is to be added to from the base bid in the event the alternate bids are accepted.
- B. The Owner reserves the right to accept or reject any or all of the alternate bids.
- C. Each Bidder shall be responsible for determining to his own satisfaction and for his own purposes the limits and extent of the work affected by the alternate bids and to make full and proper allowance therefore in the submission of any alternate bid.
- D. Include the cost of each alternate bid as specified in the technical specification sections and/or as described on the drawings. Work required by the alternate bids shall be performed in accordance with applicable specifications and drawings of the trade section affected.
- E. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate selected alternates into the Work. No other adjustments are made to the Contract Sum.
- F. The Owner reserves the right to delay the acceptance of the alternate bids for a period not to exceed sixty (60) calendar days from the time of accepting the contract without a change in the dollar amount of the alternate bids.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Provide new metal wall panels at interior screen walls on Sector C. Refer to the requirements of Section 07 42 13 and Drawing XR-101.
- B. Alternate No. 2: Roof Area A (Approximately 2,863 square feet):
 - a. Remove and dispose of the existing roof system including flashings and sheet metal down to the existing structural deck

- b. Provide a torch applied vapor retarder
- c. Provide base layer insulation adhered in foam adhesive
- d. Provide second layer insulation adhered in foam adhesive
- e. Provide overlayment insulation adhered in foam adhesive
- f. Provide a torch applied two-ply modified bitumen roof membrane along with flashings and accessories
- g. Replace sheet metal flashings and trim.
- h. Provide new elastomeric sealant joints at parapet walls and stone coping around roof area A and where indicated in Contract Drawings.
- i. Power wash interior and exterior of parapet wall and stone coping around roof area A and where indicated in Contract Drawings.
- j. Provide a complete, watertight, 20-year warrantable roof assembly.

END OF SECTION 01 23 00

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This Section specifies administrative and procedural requirements for handling requests for substitutions after award of Contract.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, and equipment, of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions". The following are not considered substitutions:
 - 1. Revisions to Contract Documents requested by the Owner or Engineer.
 - Specified options of products and construction methods included in Contract Documents.
 - 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

- A. After award, requests for approval of equivalent items shall be submitted in writing to the Engineer during the submittal process. After acceptance of project submittals, no further substitutions will be accepted. Refer to Section 01 33 00.
- B. Substitutions after award are solely for the convenience of the Contractor and will be considered and approved by Change Order which is accompanied by a credit to the Owner. The Contractor shall be required to bear any additional costs related to making the substituted material or system work, such as extra engineering, material or system modifications, or any time considerations relating to material or system installation requirements.
- C. Requests for approval of equivalent items shall be accompanied by information sufficient for the Engineer to make a determination as to the equivalency of a product. The determination of the Engineer of the equivalency of a product shall be final. The Engineer reserves the right to request information or documentation for evaluation including but not limited to the following:
 - 1. Statement indicating why specified product cannot be provided.
 - 2. Coordination of information, including a list of modifications needed to other parts of the work that will be necessary to accommodate proposed substitution.
 - 3. Product data including drawings, descriptions, and fabrication/installation procedures.
 - 4. Samples where applicable.
 - 5. Material test reports from a qualified testing agency indicating the interpreting test results for compliance with requirements.

- 6. Contractor's certification that proposed substitution complies with requirements in the contract documents and is appropriate for applications indicated.
- 7. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- 8. If requesting product substitution after bid award, Contractor shall provide cost information including proposal of change, if any, in the contract sum.
- PART 2 PRODUCTS (NOT USED)
- PART 3 EXECUTION (NOT USED)

END OF SECTION 01 25 00

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements for handling and processing Contract modifications.

1.2 RELATED SECTIONS

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

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Engineer.
 - Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include costs of labor and supervision directly attributable to the change.
 - 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

6. Comply with requirements in Division 1 if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Approval:

- 1. If sufficient contingency allowance funds remain, written approval will be provided by the Engineer in the form of an Allowance Authorization to be signed by the Contractor and Owner.
- 2. The form of Change Order shall be AIA Document G701 submitted by the Engineer to be signed by the Contractor and Owner.
- 3. The Contractor shall not commence work or purchase materials for such change orders until written approval is received from the Owner in the form of an executed Allowance Authorization or Change Order.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 26 00

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SUBMITTALS

- A. Refer to Section 01 33 00.
 - 1. Application for Payment Cover on AIA G702.
 - 2. A schedule of values on AIA G703 Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications shall serve as the format for preparation of the following.

1.5 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Submittals.
 - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
 - a. Application for Payment Forms with Continuation Sheets
 - b. Submittals Schedule
 - c. Contractor's Construction Schedule
 - 2. Submit the Schedule of Values to Engineer along with Submittals.
 - 3. Sub schedules: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the sample Continuation Sheet contained in the Project Manual as a guide to establish line items for the Schedule of Values. Provide one-line item for labor and one-line item for material for each Specification Section.
 - Identification: Include the following Project identification on the Schedule of Values:
 - a. Application for Payment Number.
 - b. Application for Payment Date.

- c. Engineer's project number.
- d. Period to for Schedule of Values.
- 2. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents.
- 3. Provide several line items for principal subcontract amounts, where appropriate.
- 4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
- 6. Differentiate between items stored on-site and items stored off-site. If specified, include evidence of insurance or bonded warehousing.
- 7. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
- 8. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
- 9. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
- 10. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.
- 11. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.6 APPLICATION FOR PAYMENT

- A. The Contractor shall submit three originals of the application for payment on AIA Document G702 and G703, current editions.
 - 1. The date for each progress payment shall be indicated in the Agreement between Owner and Contractor. The period of Work covered by each application is the period indicated in the Agreement
 - 2. All copies shall be on original AIA forms.
 - 3. The application for payment shall be complete, notarized and executed by a person authorized to legally sign documents on behalf of the Contractor.
 - 4. A complete breakdown of the work showing separate labor and material amounts shall be shown on Document G703 in accordance with the approved Schedule of Values.
 - 5. Each application shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
 - 6. Engineer shall return incomplete applications without action.

B. Payment Terms:

1. Within forty-five (45) days of receipt of engineer-approved request, Owner shall make a progress payment to the Contractor on the basis of a duly certified and approved estimate of the work performed during the preceding calendar month under this Contract.

C. Retainage:

1. To ensure the proper performance of this Contract the Owner shall retain three and one-half percent (3.5%) of the amount of each estimate until final completion

and acceptance of all work covered by this Contract.

- D. Entries shall match data on the schedule of values and Contractor's construction schedule. Include amounts of change orders issued before last day of construction period covered by the application.
- E. The Engineer reserves the right to contact material manufacturers directly, without contractor consent, to verify material invoices. Material invoices shall be made available to the Engineer upon his request from the contractor or material manufacturer.
- F. When requesting payment for materials stored on site, the Contractor shall submit with his request an invoice for the materials and a certificate of insurance showing proof of coverage for the materials stored on site. Payment will be made only for stored materials. No payment will be made for anticipated overhead and/or profit.
- G. Prior to initial application for payment, the following items must precede or coincide with submittal:
 - List of subcontractors
 - 2. Schedule of values
- H. With each application for payment, the Contractor shall also submit the following:
 - 1. Unit Price Daily Logs: Copies of any unit price daily logs and appropriate change order forms shall be submitted with each application for payment unless no unit price work was accomplished during the period covered by the application.
 - 2. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
 - 3. AIA Document G706A, Contractor's Affidavit of Release of Liens
- I. At substantial completion, submit an application for payment showing one hundred percent completion for portion of the work claimed as substantially complete. Include documentation supporting claim that the work is substantially complete.
- J. At final completion, submit final application for payment with releases and supporting documentation not previously submitted and accepted, including but not limited to the following. Final payment shall not become due until all required documents have been submitted.
 - 1. Project Closeout Submittals
 - 2. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
 - 3. AIA Document G706A, Contractor's Affidavit of Release of Liens
 - 4. AIA Document G707, Consent of Surety to Final Payment
- PART 2 PRODUCTS (NOT USED)
- PART 3 EXECUTION (NOT USED)

END OF SECTION 01 29 00

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Project Schedule
 - 2. General project coordination procedures.
 - 3. Coordination.
 - 4. Administrative and supervisory personnel.
 - 5. Project meetings.
 - 6. Weekly Reports

1.2 RELATED SECTIONS

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

1.3 SUBMITTALS

- A. Refer to Section 01 33 00.
 - 1. Emergency contact list including mobile and home numbers of key Contractor and Subcontractor personnel, and office and mobile numbers of key Owner and Engineer personnel.
 - Work schedule indicating start date, crew size, production rate, completion date, etc.

1.4 COORDINATION

- A. Coordinate construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. The Contractor shall coordinate its operations with those included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Contact Progress Reporting: The scheduling and sequence of all operations shall be carefully coordinated with the Owner and Engineer.
- C. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- D. Administrative Procedures: Coordinate scheduling and timing of required administrative

procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

- 1. Preparation of Contractor's Construction Schedule.
- 2. Preparation of the Schedule of Values.
- 3. Installation and removal of temporary facilities and controls.
- 4. Delivery and processing of submittals.
- 5. Progress meetings.
- 6. Pre-Construction conference.
- 7. Pre-installation conferences.
- 8. Project closeout activities.

1.5 DAILY SITE REPORTING

A. Upon arrival daily, Contractor's lead employee shall report to the facilities office or department where they are working and shall inform the staff that they have arrived, their reasons for being there, and the number of personnel working. "Log/Sign In" as directed by the staff and show a photo I.D. with company logo.

1.6 PROJECT MEETINGS

A. Pre-Construction Meeting

- A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract. The Engineer's Representative will compile minutes of the meeting and will furnish a copy of the minutes to the Contractor and each person present. The Contractor may make and distribute such other copies as he wishes.
- 2. Attendance: Contractor Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and all other persons concerned with the installation and performance. The Contractor shall also provide three (3) local telephone numbers, which may be used to contact the Contractor or his authorized representative in the event of an emergency after normal business hours.
- 3. Minimum Agenda: Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the Project Manager; channels and procedures for communication; construction schedule, including sequence of critical work; contract documents, including distribution of required copies of Drawings and revisions; processing of Shop Drawings and other data submitted to the Project Manager for review; rules and regulations governing performance of the work and procedures for safety, first aid, security, quality control, housekeeping and related matters.

B. Progress Meetings

- The Contractor shall attend monthly progress meetings for the purpose of informing the Owner and the Engineer regarding the status of the project. The Engineer will compile minutes of the meeting and will furnish a copy of the minutes to the Contractor and each person present. The Contractor may make and distribute such other copies as he wishes.
- 2. Attendance: Owner, Engineer, Contractor, Job Superintendent, material Supplier, and Subcontractors, as appropriate. Each representative shall be thoroughly familiar with the status of the project and shall be prepared to discuss and act upon any situations, which may arise. The time, date and location of these meetings will be established during pre-construction conference. The Contractor shall provide an updated job progress schedule at each weekly meeting.
- 3. Minimum Agenda: Review of work progress; field observations, problems, and decisions; identification of problems which impede planned progress; mainte-

nance of progress schedule; corrective measures to regain projected schedules; planned progress during succeeding work period; coordination of projected progress; maintenance of quality and work standards; processing of field decisions and Change Orders; effect of proposed changes on progress, schedule, and coordination; other business relating to work.

C. Substantial Completion Inspection Meeting

- 1. Scheduled by Owner and Engineer upon written notification of substantial completion of work from the Contractor.
- 2. Attendance: Owner, Engineer, Contractor, material manufacturer.
- 3. Minimum Agenda: Walkover inspection; verification of substantial completion; identification of punch list items; identification of problems, which may impede issuance of warranties.
- 4. Refer to Section 01 77 00 for other requirements.

D. Final Inspection Meeting

- Scheduled by Owner and Engineer upon written notification of final completion of work from the Contractor.
- 2. Attendance: Owner, Engineer, Contractor.
- 3. Minimum Agenda: Verification of final completion including the completion of the punch list items.
- 4. Refer to Section 01 77 00 for other requirements.

1.7 REPORTS

- A. Weekly Construction Reports: Prepare a weekly construction report recording the following information concerning events at Project site and Fax or email a copy to the Engineer by noon on the following Monday:
 - 1. Approximate daily count of personnel at Project Site.
 - 2. Accidents.
 - 3. Unusual events.
 - 4. Stoppages, delays, shortages, and losses.
 - 5. Daily Allowance and Unit Cost usage.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 31 00

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.2 RELATED SECTIONS

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

1.3 SUBMITTAL PROCEDURE

- A. General: The Contractor is responsible for providing the submittals to the Engineer. Each submittal must be accepted in writing prior to commencement of work.
- B. Submission Requirements:
 - Submit all required submittals electronically in pdf format to the Engineer for review. The submittals will then be returned electronically to the Contractor with comments. Final submittals will require written responses to all Construction Document submittal comments.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below. Time for review shall commence on Engineer's receipt of submittal.
 - 1. Initial Review: Allow 10 work days for initial review of submittals.
 - 2. Allow 7 work days for processing each resubmittal.
 - 3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification:

- 1. Submit as one pdf file with bookmarks for each scheduled item.
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals and provide letter describing in detail any proposed changes, substitutions, or deviations from the project or manufacturer's specifications. A written explanation of why substitutions should be considered is required and shall be included under the appropriate tab.
- F. Transmittal: Package submittals appropriately for transmittal. Engineer will discard submittals received from sources other than Contractor. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
- G. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

1.4 SCHEDULE OF SUBMITTALS

A. Refer to the applicable specification section for complete list of submittal requirements for each section.

- B. The following submittal items shall be submitted electronically with a title page and/or pdf bookmark for each submittal item to meet the requirements specified herein:
 - 1. Owner/Contractor Agreement
 - a. Copy of Executed Owner/Contractor Agreement
 - b. Copy of Contractor's Certificate of Insurance
 - c. Copy of Performance and Payment Bonds
 - 2. Roof Manufacturer's Acknowledgment Form (Section 00 62 33)
 - 3. Product Substitutions (Section 01 25 00)
 - a. Letter describing in detail any proposed changes, substitutions, or deviations from the project or manufacturer's specifications. A written explanation of why substitutions should be considered is required. Submit along with required document specified in Section 01 25 00.
 - 4. Payment Procedures (Section 01 29 00)
 - a. Application for Payment Cover on AIA G702.
 - b. A schedule of values on AIA G703 Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications shall serve as the format for preparation of the following.
 - 5. Project Management and Coordination (Section 01 31 00)
 - a. Emergency contact list including mobile and home numbers of key Contractor and Subcontractor personnel, and office and mobile numbers of key Owner and REI personnel.
 - b. Work schedule indicating start date, crew size, production rate, completion date, etc.
 - 6. Hot Work Operations (Section 01 35 00)
 - a. Certified Roofing Torch Applicator (CERTA) credentials from NRCA.
 - 7. Quality Requirements (Section 01 40 00)
 - a. Copy of Construction Permit
 - 8. Closeout Procedures
 - a. Copy of all warranties to meet the requirements of their respective specification section.
 - 9. Rough Carpentry (Section 06 10 00)
 - 10. Preparation for Reroofing (Section 07 01 50)
 - 11. Roof Insulation (Section 07 22 16)
 - 12. Metal Wall Panels (Section 07 42 13)
 - 13. Modified Bitumen Roofing (Section 07 52 16)
 - 14. Sheet Metal Flashing and Trim (Section 07 62 00)
 - 15. Roof Accessories (Section 07 72 00)
 - 16. Elastomeric Joint Sealants (Section 07 92 00)
 - 17. Shop drawings or letter stating that the contractor will install materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
 - 18. Existing Lighting Protection Layout, including UL Letter of Findings.

- 19. Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to; asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates Contractor has discovered no existing damaged components and takes responsibility for any damages caused by operations.
- 20. Complete list of materials with Safety Data Sheets (SDS)

PART 2 PRODUCTS

2.1 SUBMITTALS

- A. General: Prepare and submit Submittals required herein and by individual Specification Sections.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
 - 2. <u>Mark each copy of each submittal to show which products and options are applicable.</u>
 - 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Manufacturer's catalog cuts.
 - e. Wiring diagrams showing factory-installed wiring.
 - f. Printed performance curves.
 - g. Operational range diagrams.
 - h. Compliance with recognized trade association standards.
 - i. Compliance with recognized testing agency standards.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Shopwork manufacturing instructions.
 - f. Templates and patterns.
 - g. Schedules.
 - h. Notation of coordination requirements.
 - i. Notation of dimensions established by field measurement.
 - 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
- D. Samples: Prepare physical units of materials or products, including the following:
 - 1. Submit three sets of Samples.
 - 2. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and

installed.

- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.
- F. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- G. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- H. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- L. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- M. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.
- N. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

PART 3 EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal, check for compliance with the Contract Documents and note corrections and field dimensions prior to submitting to Engineer.

3.2 ENGINEER'S ACTION

A. Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal item with an action stamp and will mark stamp appropriately to indicate action taken.

B. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

SECTION 01 35 00

HOT WORK OPERATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Hot work includes, but is not limited to open flames and spark producing operations, welding, cutting, grinding, torches, etc.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section including but not limited to:
 - Modified Bitumen Roofing

Section 07 52 16

1.3 SUBMITTALS

A. Certified Roofing Torch Applicator (CERTA) credentials from NRCA.

1.4 QUALITY ASSURANCE

A. Torch Training: Torch operators shall be trained in accordance with the current published requirements of the Certified Roofing Torch Applicator (CERTA) Program. The CERTA Training Program may be obtained from NRCA/MRCA, 10255 W. Higgins Rd. Suite 600, Rosemont, IL 60018-5607.

PART 2 PRODUCTS

2.1 EQUIPMENT

- A. Torches shall not have pilot flames. The torch flames shall go out when the trigger is disengaged. Torches shall be of the "dead-man" type "trigger on/trigger off operation."
- B. Equipment, valves, regulators, tanks, hoses and all associated equipment shall be properly stored and handled and maintained as required by the respective equipment manufacturer and other applicable requirements.
- C. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.
- D. Infrared Camera or Infrared Thermometer.

PART 3 EXECUTION

3.1 HOT WORK PERMIT

- A. The Contractor shall be responsible for all hot work and hot work monitoring. The Contractor shall be responsible for coordinating hot work with Owner.
- B. Hot work shall not be initiated until written approval from Owner has been provided to the

Contractor.

- C. The Contractor shall be responsible for complying with the Hot Work Permit program, and ensuring all required precautions are met.
- D. The Contractor shall be responsible for the hot work operations of their subcontractors and shall monitor hot work operations conducted by their subcontractors.
- E. When Hot Work Permits are not provided by Owner, the Contractor shall utilize their own "in-house" hot work permit program to record and monitor hot work operations, including providing monitoring the area after hot work is completed.

3.2 WORK AREA

- A. The Contractor shall inspect conditions listed on the Hot Work Permit.
- B. The Contractor shall be responsible for inspecting the work area prior to beginning work. The Contractor shall notify the Owner of unsatisfactory conditions, and ensure conditions are satisfactory to proceed with work.
- C. Where torch application is specified, and fire safe conditions cannot be assured by the Contractor, the Contractor shall notify the Owner, the Engineer and Manufacturer immediately to develop alternate methods of material application to ensure fire prevention. Operations shall not proceed when unsafe conditions are found.
- D. The Contractor shall seal all building openings to prevent flames or burning debris from entering concealed spaces and building interior. All openings, roof deck joints, curbs, ducts, etc. shall be stripped or otherwise sealed and protected. Wood materials shall be protected as required to eliminate direct flame exposure from torch. Alternate methods of application are encouraged where fire prevention measures cannot be fully assured by the Contractor.
- E. The Contractor shall disconnect air handling equipment in the hot work area as required to prevent smoke and flames from being pulled into the building and equipment. This shall be coordinated 48 hours in advance with the Owner before disconnecting equipment.
- F. The Contractor shall remove all other combustibles from the hot work area. Remove all solvents, roofing adhesives, roofing cement, and all other flammable liquids from the hot work area.
- G. Contractor shall take all necessary measures to prevent fire exposure at roof tie-ins between new and existing roofing, at wood curbs, expansion joints and at rooftop equipment. All necessary materials and methods shall be provided by the Contractor to prevent fire at these locations.

3.3 FIRE WATCH

- A. The Contractor shall provide fire watch personnel to closely monitor and inspect the work area and adjacent areas for fires, smoldering materials, hot surfaces and smoke.
- B. The Contractor shall inspect and monitor the area between the roof deck and ceiling during and after hot work.
- C. The Contractor shall monitor conditions for the period of time specified by the Hot Work Permit, and as conditions dictate. The work area and adjacent areas shall be monitored no less than one hour after hot work has ceased. The time period shall be recorded by the Contractor.

- D. The Contractor shall scan the area of work with an Infrared Camera or Infrared Thermometer once work is complete prior to departing the work area.
- E. The Contractor shall provide designated fire watch personnel to monitor interior conditions and exterior conditions during, and after, hot work operations.
- F. The Contractor shall be responsible for properly training and instructing fire watch personnel of their responsibilities and duties.
- G. Fire watch shall meet the Owner's requirements as dictated by the Hot Work Permit Program.
- H. Contractor shall monitor the work area and building interior, and coordinate monitoring process with the Engineer and Owner 48 hours in advance of hot work. Contractor shall ensure proper hot work procedures are maintained in all curbs, ducts, concealed spaces and building interior.

3.4 FIRE PREVENTION AND FIRE SAFETY

- A. Fire prevention and fire safety shall be the Contractor's responsibility. Contractor shall be responsible for developing a pre-fire emergency plan, coordinated with the Engineer and Owner to plan for fire emergencies.
- B. It is the responsibility of the Contractor to enforce fire safety precautions and to ensure safety measures are followed at all times by the Contractor's and Subcontractor's personnel.
- C. Contractor shall be responsible for maintaining sufficient fire suppression equipment, including fire extinguishers and a charged water hose.

END OF SECTION 01 35 00

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Contractor shall secure and pay costs of all licenses and permits required by City, County and/or State authorities.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- D. Authority Having Jurisdiction: AHJ

1.4 SUBMITTALS

- A. Refer to Section 01 33 00.
 - 1. Provide copy of construction permits along with any required licenses or certifications required by the AHJ.

1.5 QUALITY ASSURANCE

- A. It is the intent under this contract that workmanship shall be of the best quality consistent with the materials and construction methods specified. The presence or absence of the Owner's or Engineer's representative shall in no way relieve the Contractor of his responsibility to furnish materials and construction in full compliance with the drawings and specifications. The Owner and Engineer shall have the authority to judge the quality and require replacement of unacceptable work or personnel at any time.
- B. All contractors shall cooperate in the execution of their work and shall plan their work in such manners as to avoid conflicting schedules or delay of work. If any part of a Contractor's work depends upon the work of another Contractor, defects, which may affect that work, shall be reported to the Engineer in order that prompt inspection may be made, and defects corrected. Commencement of work by a Contractor where such condition exists will constitute acceptance of the other Contractor's work as being satisfactory in all respects to receive the work commenced, except defects, which may later develop. Work of all trades under this contract shall be closely coordinated in such a manner as to ob-

tain the best possible workmanship for the entire project. All components of the work shall be installed in accordance with the best practices of the particular trade. The General Contractor is responsible to advise the Owner sufficiently in advance of operations to allow for assignment of personnel.

- C. Materials or methods described by words which, when applied, have a well-known technical or trade meaning will be held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, shall be of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.
- D. All materials shall be new, all materials and workmanship shall be in every respect in accordance with the best modern practice.
- E. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, such materials shall be delivered to the site in original packages or containers with seals unbroken and labels intact and shall not be opened until inspected and approved by the Engineer. Contractor shall notify the Engineer prior to such material's delivery.
- F. Contractor to maintain one complete set of the contract documents and approved submittals on the job site.
- G. Contractor shall be responsible to correct deficiencies identified by Engineer and non-conforming work within 24 hours of receipt of notification, either verbally or written, and submit a plan of action for addressing the deficiencies and non-conforming work. Further tear-off or commencement of other work shall not occur until all deficiencies and non-conforming work are properly addressed.
- H. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
 - 1. Acceptable Contractor:
 - a. Be certified in writing for a minimum of two years by the roofing materials manufacturer to install the primary roofing products.
 - b. Have a minimum of five (5) years' experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Also, all crew workers on site are to be experienced and have a working knowledge of the system being installed.
 - c. Principals of the firm to have a minimum of ten (10) years' experience in the estimating, supervision, management and administration of a contracting firm engaged in the application of building envelope involving removal of the existing building envelope systems.
 - d. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.
 - e. Never filed bankruptcy or filed for protection from creditors.
 - f. At any time during the construction and completion of work covered by these Specifications, if the conduct of any workman of the various crafts be determined unsuitable or a nuisance to the Owner or Engineer, or if the workman be considered incompetent or detrimental to the work, the Contractor shall order such party removed immediately from the grounds with the person not returning at any time during the course of work on the project.
 - g. During the performance of any work by the Contractor or subcontractors, the Contractor shall provide for the entire length of the project a full-time onsite superintendent/representative meeting the following requirements:

- For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site at all times while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.
- ii. The superintendent shall be in attendance at the project site at all times during the progress of the work and his duties as super-intendent shall be limited to this project only. The superintendent shall supervise and instruct workmen without engaging in the work process. Should the superintendent be absent temporarily from the project at any time, he shall designate a competent foreman to assume duties. During the superintendent's absence the foreman shall not engage in the work process but shall supervise and instruct only. Likewise, any communications given to the foreman shall be as binding as if given to the Contractor.
- iii. It shall be the superintendent's responsibility to communicate all matters pertaining to the Work with the Owner and/or Engineer. In case of emergency or safety, superintendent shall communicate directly with the Owner and/or Engineer. No decisions regarding changes in the Work will be made without the Owner's knowledge.
- iv. Decision making authority and ability.
- v. Able to demonstrate knowledge of work being installed.
- vi. Fluent in the English language (i.e. reading, writing and speaking).
- vii. In possession of mobile telephone at all times.
- viii. Employed by the Contractor at least six months prior to project commencement.
- ix. Owner and Engineer approval.
- x. Once approved, the superintendent will not be changed except with the consent of the Owner unless either prove to be unsatisfactory to the Owner or Contractor or cease to be in the Contractor's employment.
- xi. The superintendent shall have had a minimum of five (5) years continuous experience as a job superintendent.
- h. No later than ten days prior to the pre-construction conference, Contractor shall provide the Owner, in writing, the names of the proposed project manager, superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the preconstruction conference.
- Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
- J. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- K. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- L. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of

manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6 QUALITY CONTROL

- A. The authorized representatives and agents of Owner shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.
- B. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 - 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

C. Contractor's Responsibilities:

- 1. Repair and protection of work and materials are Contractor's responsibility.
- 2. Should any work or materials not conform with requirements of the Specifications or become damaged during the progress of the work, such work or materials shall be removed and replaced, together with any work disarranged by such alterations, at any time before completion and acceptance of the project. All such work shall be done at the expense of the Contractor.
- 3. Contractor will coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.
- 4. Inclement Weather
 - a. In the event of temporary suspension of work as during inclement weather, or whenever the Engineer shall direct, the Contractor will protect carefully its work and materials against damage or injury from weather. If, in the opinion of the Engineer, any work or materials have been damaged or injured by reason of failure of the Contractor to protect its work, such materials shall be removed and replaced at the expense of the Contractor.
 - b. During inclement weather and temporary suspension of work, the Contractor shall inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Inspections shall be made daily during extended periods of inclement weather. Upon arrival at the facility, Superintendent shall immediately inform the Owner of his presence and purpose.
 - c. If Contractor does not inspect the facility by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner shall exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. The Contractor shall reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, the outside contractor shall be reimbursed the fixed amount of \$500.00, each occasion, for mobilization and/or travel expenses.
 - d. Should inclement weather occur after normal business hours Friday, Saturday, and Sunday or holidays, Contractor shall make arrangements with the Owner to provide access to the building to inspect for leaks.

The Owner shall be compensated for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

- D. Manufacturer's Field Services: During construction and until substantial completion, manufacturer's representative shall perform quality assurance site visits every ten working days to ensure materials are being properly installed and as required to obtain the specified warranty.
 - 1. The first site visit shall be performed within the first three (3) days of operations.
 - Coordinate all site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
 - 3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel will not be acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
 - 4. Manufacturer's final inspections shall be performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Any manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
 - 5. Any violation of this requirement will result in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.
- E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
- F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 42 00

REFERENCES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Requirements relating to Referenced Standards.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.
- J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

K. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.
 - Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.5 ABBREVIATIONS AND ACRONYMS

- A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. Names, telephone numbers, and Web site addresses are subject to change and are believed to be accurate and up to date as of the date of the Contract Documents.
- B. Federal Governmental Agencies and Standards:

ADA	Accessibility Guidelines for Buildings and Facilities
	Available from Access Board
	www.access-board.gov
CFR	Code of Federal Regulations
	www.ecfr.gov
CPSC	Consumer Product Safety Commission
	www.cpsc.gov
EPA	Environmental Protection Agency
	www.epa.gov
FS	Federal Specification
	www.gsa.gov
NIBS	National Institute of Building Sciences
	www.nibs.org
OSHA	Occupational Safety & Health Administration
	www.osha.gov

A. Code Agencies:

BOCA	BOCA International, Inc. www.bocai.org
IAPMO	International Association of Plumbing and Mechanical Officials (The) www.iapmo.org

ICBO	International Conference of Building Officials
	www.icbo.org
ICC	International Code Council
	(Formerly: CABO - Council of American Building Officials) www.intlcode.org
SBCCI	Southern Building Code Congress International, Inc.
	www.sbcci.org

B. Industry Organizations:

AA	Aluminum Association, Inc. (The)
	www.aluminum.org
ACI	American Concrete Institute/ACI International
	www.aci-int.org
ACPA	American Concrete Pipe Association
	www.concrete-pipe.org
AGC	Associated General Contractors of America (The)
	www.agc.org
AHA	American Hardboard Association
	www.ahardbd.org
Al	Asphalt Institute
	www.asphaltinstitute.org
AIA	American Institute of Architects (The)
	www.aia.org
AIE	American Institute of Engineers
	www.aieonline.org
AISC	American Institute of Steel Construction
	www.aisc.org
AISI	American Iron and Steel Institute
	www.steel.org
AITC	American Institute of Timber Construction
	www.aitc-glulam.org
ALCA	Associated Landscape Contractors of America
	www.alca.org
ALSC	American Lumber Standard Committee
	www.alsc.org
ANLA	American Nursery & Landscape Association
	www.anla.org
ANSI	American National Standards Institute
	www.ansi.org
APA	APA - The Engineered Wood Association
	www.apawood.org
APA	Architectural Precast Association
	www.archprecast.org
ASCE	American Society of Civil Engineers
4011545	www.asce.org
ASHRAE	American Society of Heating, Refrigerating & Air-Conditioning Engineers
	www.ashrae.org
ASME	ASME International (The American Society of
	Mechanical Engineers International)
	www.asme.org
ASTM	ASTM International
A \ A / I	www.astm.org
AWI	Architectural Woodwork Institute
	www.awinet.org
AWPA	American Wood-Preservers' Association
A)A/O	www.awpa.com
AWS	American Welding Society

	www.aws.org	
ВНМА	Builders Hardware Manufacturers Association	
	www.buildershardware.com	
BIA	Brick Industry Association (The)	
	www.bia.org	
CCFSS	Center for Cold-Formed Steel Structures	
	www.umr.edu/~ccfss	
CDA	Copper Development Association Inc.	
	www.copper.org	
CIMA	Cellulose Insulation Manufacturers Association	
	www.cellulose.org	
CISCA	Ceilings & Interior Systems Construction Association	
	www.cisca.org	
CISPI	Cast Iron Soil Pipe Institute	
	www.cispi.org	
CLFMI	Chain Link Fence Manufacturers Institute	
	www.chainlinkinfo.org	
CPA	Composite Panel Association	
	www.pbmdf.com	
CPPA	Corrugated Polyethylene Pipe Association	
	www.cppa-info.org	
CRSI	Concrete Reinforcing Steel Institute	
	www.crsi.org	
CSI	Construction Specifications Institute (The)	
	www.csinet.org	
DHI	Door and Hardware Institute	
	www.dhi.org	
EIMA	EIFS Industry Members Association	
	www.eifsfacts.com	
EJMA	Expansion Joint Manufacturers Association, Inc.	
E14	www.ejma.org	
FM	FM Global	
<u> </u>	www.fmglobal.com	
GA	Gypsum Association	
GANA	www.gypsum.org Glass Association of North America	
GANA		
HPVA	www.glasswebsite.com/gana Hardwood Plywood & Veneer Association	
пгун	The state of the s	
IGCC	www.hpva.org Insulating Glass Certification Council	
IGCC		
LGSI	www.igcc.org Light Gage Structural Institute	
LGGI	www.loseke.com	
MBMA	Metal Building Manufacturers Association	
MDINA	www.mbma.com	
MCA	Metal Construction Association	
WOA	www.metalconstruction.org	
MFMA	Metal Framing Manufacturers Association	
MIA	Marble Institute of America	
	www.marble-institute.com	
NAAMM	National Association of Architectural Metal Manufacturers	
	www.naamm.org	
NAIMA	North American Insulation Manufacturers Association (The)	
	www.naima.org	
NCMA	National Concrete Masonry Association	
	www.ncma.org	
NCPI	National Clay Pipe Institute	
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	www.ncpi.org
NECA	National Electrical Contractors Association
<u> </u>	www.necanet.org
NEMA	National Electrical Manufacturers Association
	www.nema.org
NETA	International Electrical Testing Association
	www.netaworld.org
NFPA	National Fire Protection Association
NEDO	www.nfpa.org
NFRC	National Fenestration Rating Council
NICA	www.nfrc.org National Glass Association
NGA	
NHLA	www.glass.org National Hardwood Lumber Association
MILA	www.natlhardwood.org
NLGA	National Lumber Grades Authority
NEOA	www.nlga.org
NRCA	National Roofing Contractors Association
	www.nrca.net
NRMCA	National Ready Mixed Concrete Association
	www.nrmca.org
NSA	National Stone Association
	www.aggregates.org
NTMA	National Terrazzo and Mosaic Association, Inc.
	www.ntma.com
PCI	Precast/Prestressed Concrete Institute
	www.pci.org
PDCA	Painting and Decorating Contractors of America
	www.pdca.com
PDI	Plumbing & Drainage Institute
	www.pdionline.org
RCSC	Research Council on Structural Connections
D144	www.boltcouncil.org
RMA	Rubber Manufacturers Association
SDI	www.rma.org Steel Deck Institute
וטפ	www.sdi.org
SDI	Steel Door Institute
301	www.steeldoor.org
SGCC	Safety Glazing Certification Council
0000	www.sgcc.org
SIGMA	Sealed Insulating Glass Manufacturers Association
0.0	www.sigmaonline.org/sigma
SJI	Steel Joist Institute
	www.steeljoist.org
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
	www.smacna.org
SPFA	Spray Polyurethane Foam Alliance
	www.sprayfoam.org
SPI	The Society of the Plastics Industry
	www.plasticsindustry.org
SPIB	Southern Pine Inspection Bureau (The)
	www.spib.org
SPRI	SPRI (Single Ply Roofing Institute)
	www.spri.org
SSINA	Specialty Steel Industry of North America
001::	www.ssina.com
SSMA	Steel Stud Manufacturers Association

	www.ssma.com
SSPC	SSPC: The Society for Protective Coatings
	www.sspc.org
SWI	Steel Window Institute
	www.steelwindows.com
TCA	Tile Council of America, Inc.
	www.tileusa.com
UL	Underwriters Laboratories Inc.
	www.ul.com
WDMA	Window & Door Manufacturers Association
	www.wdma.com
WMMPA	Wood Molding & Millwork Producers Association
	www.wmmpa.com
WWPA	Western Wood Products Association
	www.wwpa.org

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 01 42 00

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.

1.2 RELATED SECTIONS

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

PART 2 PRODUCTS

2.1 MATERIALS

- A. Refer to USC Supplementary Conditions for additional requirements.
- B. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Engineer. Provide materials suitable for use intended.
- C. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide non-permanent bases for support.
- D. Safety Fence: Safety orange high density polyethylene fabric with a minimum of 4' in height, 15lbs per 100' linear feet. Painted steel fence posts with ground anchors and metal tabs stationed often enough to hold the fabric at a minimum height of 3' 8" tall.
- E. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- F. Water: Potable.
- G. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- H. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110-to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.
- Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
 - Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.
- J. Lamps and Light Fixtures: Provide GFCI protected general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures where exposed to breakage. Provide exterior fixtures where exposed to

moisture.

K. Scaffolds: Scaffolds should be built in their entirety and not left unfinished or in an unsafe condition. All scaffolds must be tagged to indicate the latest inspection. Scaffolds should be tied into the structure as close to a 3:1 ratio as possible and repeated tie-ins shall follow OSHA guidelines. All scaffolds shall have safe access with stairs being the first choice over a ladder. Scaffolds should include netting on upper levels if there is any possibility for materials to fall over the toe boards, per OSHA guidelines.

PART 3 EXECUTION

3.1 TEMPORARY UTILITIES

- A. Water Service:
 - 1. Water for construction purposes will be available from the Owner at no charge.
 - Contractor shall operate exterior hose bibs only with properly fitted handles which shall be removed at the end of each workday. Any damage to hose bibs or hose bib stems shall be repaired by Contractor. Hose bibs shall not be operated with pliers.
- B. Electrical Power Service: Contractor shall provide portable generators for all electrical power requirements.
- C. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

3.2 CONSTRUCTION FACILITIES

- A. Temporary construction facilities shall include the following:
 - 1. Field Office (if appropriate): prefabricated, mobile units or job-built construction with lockable entrances and serviceable finishes including lights and utilities.
 - Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Facilities will be located at sites approved by Owner.
 - a. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 - b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
 - c. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
 - 3. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations at a location approved by the Owner. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements. Use of Owner's waste disposal facilities is not acceptable.
 - a. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.

3.3 TEMPORARY BARRIERS AND ENCLOSURES

- A. Contractor shall provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Contractor is responsible for protecting buildings and grounds from damages during construction.
- B. Contractor shall provide environmental protection by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Contractor shall provide storm water controls sufficient to prevent flooding from heavy rain.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- E. Contractor shall provide 6' chain link fencing with lockable gates and green mesh to completely enclose the materials storage and staging area.

3.4 TEMPORARY CONTROLS

A. Contractor shall provide security controls to protect work and materials at the project site.

3.5 PROJECT SIGNS

A. Contractor shall provide temporary signs to provide information to building occupants directing them away for construction operations.

3.6 VEHICULAR ACCESS AND PARKING

- A. Parking for Contractor vehicles may be available only in the approved Set-up and Staging area. No other vehicle parking on site will be allowed.
- B. All Owner Personnel vehicles are to be removed from the construction area prior to the start of construction.

3.7 TRAFFIC CONTROLS

A. Contractor shall be responsible for obtaining and erecting street/parking lot signage as necessary to divert traffic away from staging areas, etc. Contractor is to coordinate signage requirements with the Owner and Engineer. All associated costs are to be borne by the Contractor.

END OF SECTION 01 50 00

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. This Section includes procedural requirements for cutting and patching.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

- A. Engineer's Approval: Obtain approval of cutting and patching before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.
- B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations sealed by a licensed Engineer in the state of the project showing integration of reinforcement with original structure.
- C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
- D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.
- E. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- F. Cutting and Patching Conference: If extensive cutting and patching is required, before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or

damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily

- cover openings when not in use.
- 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
- 3. Concrete or Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
- 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
- 5. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Floors and Walls: Where walls or partitions that are removed extend from one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.
 - 4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.
 - 5. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty and similar materials.

END OF SECTION 01 73 29

SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Administrative and Procedural requirements for progress cleaning and construction waste management.
- B. The Owner has established that this Project shall include proactive measures for waste management participation by all parties to the contract.
 - 1. The purpose of this program is to ensure that during the course of the Project all diligent means are employed to pursue practical and economically feasible waste management and recycling options.
 - 2. Waste disposal to landfills shall be minimized.

1.2 RELATED SECTIONS

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

1.3 DEFINITIONS

- A. Waste: Any material that has reached the end of its intended use. Waste includes salvageable, returnable, recyclable and reusable material.
- B. Construction waste: Solid wastes including, but not limited to, building materials, packaging materials, debris and trash resulting from construction operations.
- C. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.
- D. Hazardous waste: Any material or byproduct of construction that is regulated by the Environmental Protection Agency and that may not be disposed in any landfill or other waste end-source without adherence to applicable laws.
- E. Trash: Any product or material unable to be returned, reused, recycled or salvaged.
- F. Landfill: Any public or private business involved in the practice of trash disposal.
- G. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site.

1.4 SUBMITTALS

A. Refer to Section 01 33 00.

1.5 CLOSEOUT SUBMITTALS

- A. Refer to Section 01 77 00.
- B. Landfill charge tickets
- C. Summary of Construction Waste/Recycling

PART 2 PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 EXECUTION

3.1 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials in a legal manner.
 - Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Acceptance.
- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable

components to ensure operability without damaging effects.

K. Limiting Exposures: Supervise construction operations to assure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.2 CONSTRUCTION WASTE MANAGEMENT

- A. The Contractor shall provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse and return methods to be used by all parties at appropriate stages of the Work.
- B. Separation facilities:
 - 1. Contractor shall define specific areas to facilitate separation of materials for recycling, salvage, re-use or return.
 - 2. Recycle and waste bin areas are to be maintained in an orderly manner and clearly marked to avoid contamination of materials.
 - 3. Do not mix recyclable materials.
 - 4. Store hazardous wastes in secure areas.
- C. Program profits: All profits from recycling of construction waste shall be granted to the Contractor.

3.3 DISPOSAL OFWASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials from Owner's property and legally dispose of them.
- D. Hazardous wastes shall be separated, stored and disposed of in accordance with local and EPA regulations and additional criteria listed below:
 - 1. Building products manufactured with PVC or containing chlorinated compounds shall not be incinerated.
 - 2. Disposal of fluorescent tubes to open containers is not permitted.
 - 3. Unused fertilizers shall not be co-mingled with construction waste.

3.4 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for

certification of Final Acceptance.

- a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.
- b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
- c. Remove tools, construction equipment, machinery, and surplus material from Project site.
- d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
- e. Remove debris and surface dust from roofs and walls.
- f. Clean transparent materials and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
- g. Remove labels that are not permanent.
- h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
- i. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.
- j. Replace parts subject to unusual operating conditions.
- k. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 74 00

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Inspection Procedures.
 - 2. Project Record Documents.
 - Warranties.

1.2 RELATED SECTIONS

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

1.3 SUBMITTALS

- A. Refer to Specification Section 01 33 00.
- B. Submit copy of all warranties to meet the requirements of their respective specification section.

1.4 SUBSTANTIAL COMPLETION

- A. The Contractor shall submit written certification to the Engineer that the Project is substantially complete along with the following:
 - 1. Prepare a list of items to be completed and corrected (Contractor's punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Advise Owner of pending insurance changeover requirements.
 - Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 5. Advise Owner of changeover in heat and other utilities.
 - 6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 - 7. Complete final cleaning requirements, including touchup painting.
 - 8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Substantial Completion Inspection: On receipt of written substantial completion certification, the Engineer will make a substantial completion inspection within seven (7) days after receipt of certification.
 - Should the Engineer consider the Work not substantially complete, he will immediately notify the Contractor, in writing, stating the reasons. The Contractor shall complete the Work and send a second written notice to the Engineer, certifying the Project is substantially complete, at which time the Engineer will re-inspect the work.
 - 2. Should the Engineer consider the Work substantially complete, he will prepare and issue a Certificate of Substantial Completion (AIA G704) accompanied by

- the list of items to be completed or corrected (Punch List).
- 3. A punch list of items will be prepared for correction and completion before the Final Inspection. The Contractor shall complete the punch list items within fifteen (15) days of the punch list inspection. If the Contractor fails to complete the punch list within this period, the Owner will have the right to impose liquidated damages in the amount of five hundred (\$500.00) dollars for each consecutive day until all of the items are completed.

1.5 FINAL COMPLETION

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
 - 1. Submit a final Application for Payment according to Division 01.
 - 2. Submit signed copy of Engineer's inspection list of items to be completed or corrected (punch list). The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 - 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 - 4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Final Inspection: The submission of the signed punch list constitutes as written request for final inspection for acceptance. On receipt of request, Engineer along with the Owner's Representative will conduct a final inspection within seven (7) days of receipt of certification.
 - 1. Should the Engineer consider that the Work is finally complete in accordance with requirements of the Contract Documents, he will request the Contractor to make Project Closeout Submittals.
 - 2. Should the Engineer consider that the Work is not finally complete, he will notify the Contractor, in writing, stating the reasons.
 - 3. The Contractor shall take immediate steps to remedy the stated deficiencies and send a second written notice to the Engineer certifying that the Work is complete, at which time the Engineer will re-inspect the Work.

1.6 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.
 - 1. The Contractor shall submit all required record documents and warranties within thirty (30) days of the punch list inspection. If the Contractor fails to properly submit all required items within this period, the Owner will have the right to impose liquidated damages in the amount of five hundred (\$500.00) dollars for each consecutive day until all of the items are properly submitted.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
 - 1. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
 - b. Record data as soon as possible after obtaining it. Record and check

the markup before enclosing concealed installations.

- 2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
- 3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
- 4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Note related Change Orders and Record Drawings, where applicable.
- D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference. The following items shall be submitted, not limited to:
 - 1. Completed and signed Engineer's Punch List
 - 2. Copy of Manufacturer's Final Inspection Report
 - 3. Landfill Charge Tickets
 - 4. Asbestos Disposal Manifests
 - 5. UL Letter of Findings for Lightning Protection

1.7 WARRANTIES

- A. Metal Wall Panel finish warranty as outlined in Section 07 42 13.
- B. Modified Bitumen Roofing System warranty as outlined in Section 07 52 16.
- C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00.
- D. Elastomeric Joint Sealant Warranty as outlined in Section 07 92 00.
- E. Contractor's five (5)-year warranty using sample contained in the Project Manual.
 - Contractor shall attend two post construction field inspections: the first no earlier than twenty -three (23) months and no later than twenty-four (24) months after the date of Substantial Completion and the second no earlier than fifty-nine (59) months and no later than sixty (60) months after the date of Substantial Completion. Contractor shall complete any corrective action requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.
- F. Contractor's Asbestos-Free Warranty using sample contained in the Project Manual.
- PART 2 PRODUCTS (NOT USED)
- PART 3 EXECUTION (NOT USED)

END OF SECTION 01 77 00

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Rough Carpentry work required to facilitate installation of new roof assembly including:
 - 1. Provide pressure treated wood blocking and plywood sheathing.
 - 2. Re-securement of existing rough carpentry to remain in place.
 - 3. Removal and replacement of damaged, rotted or deteriorated rough carpentry with pressure treated rough carpentry to match existing.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

1.	Preparation for Rerooting	Section 07 01 50
2.	Roof Insulation	Section 07 22 16
3.	Metal Wall Panels	Section 07 42 13
4.	Modified Bitumen Roofing	Section 07 52 16
5.	Sheet Metal Flashing and Trim	Section 07 62 00

1.3 REFERENCES

- A. Refer to the following references, current edition for specification compliance:
 - 1. 2018 International Building Codes with SC Modifications
 - 2. American Society for Testing and Materials (ASTM)
 - 3. American Wood-Protection Association (AWPA)
 - a. AWPA E12 Standard Method of Determining the Corrosion of Metal in Contact with Wood.
 - b. AWPA M4 Standard for the Care of Preservative Treated Wood Products.
 - c. AWPA P5 Standard for Waterborne Preservatives.
 - d. AWPA P23 Standard for Chromated Copper Arsenate Type C (CCA-C).
 - e. AWPA P25 Standard for Inorganic Boron (SBX).
 - f. AWPA P26 Standard for Alkaline Copper Quat Type A (ACQ-A).
 - g. AWPA P27 Standard for Alkaline Copper Quat Type B (ACQ-B).
 - h. AWPA P28 Standard for Alkaline Copper Quat Type C (ACQ-C).
 - i. AWPA P29 Standard for Alkaline Copper Quat Type D (ACQ-D).
 - j. AWPA P47 Standard for DCOI/Imidacloprid/Stabilizer, Waterborne (EL2).
 - k. AWPA P48 Standard for Copper Azole Type C (CA-C).
 - I. AWPA T1 Use Category System: Processing and Treatment Standard.
 - m. AWPA U1 Use Category System: User Specification for Treated Wood.
 - 4. American Plywood Association (APA)
 - 5. American National Standard
 - a. ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems
 - 6. Underwriters Laboratories, Inc. (UL)

7. FM Global/Factory Mutual Research (FM)

1.4 DEFINITIONS

- A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.
- B. KDAT: Kiln Dried After Treatment.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.

1.6 QUALITY ASSURANCE

- A. Contractor shall inspect wood to be installed for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Materials that do not comply shall be rejected.
- B. Rough carpentry installation shall present a smooth, consistent substrate for roof system and flashing installation.
- C. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors who shall be present at all times during execution of this portion of the work, and who shall be thoroughly familiar with type of construction involved in this section and related work and techniques specified.

D. Moisture Content:

- 1. Treated wood products shall be KDAT.
- 2. Treated lumber used in the roofing assembly shall not be stored or installed in a manner exposing it to rain.
- 3. Moisture content of treated lumber shall be 19 percent or less before being covered/enclosed into roofing assembly.
- 4. Contractor shall be responsible for ensuring lumber is delivered, stored and installed at 19% or less moisture content.
- 5. Plywood shall be 18% or less before being covered/enclosed into roofing assembly.
- E. Each piece of treated lumber and plywood shall bear the stamp of the AWPA Quality Mark, indicating compliance with the requirements of the AWPA Quality Control Program.
- F. Lumber Standards: Comply with PS 20 and applicable rules of respective grading and inspecting agencies for species and products indicated.
- G. Plywood Product Standards: Comply with PS 1 (ANSI A 199.1) or, for products not manufactured under PS 1 provisions, with applicable APA Performance Standard for type of panel indicated.
- H. Installation of all required new rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.
- I. Rough carpentry installation shall ensure roof membrane flashing transitions are smooth for complete roof drainage and appearance.

J. Installation of all fasteners and associated materials to secure rough carpentry as detailed and specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation
- B. Exposure to precipitation during shipping, storage or installation shall be avoided. If material does become wet, it shall be replaced or permitted to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).
- C. Immediately upon delivery to job site, place materials in area protected from weather.
- D. Do not store seasoned materials in wet or damp portions of building.
- E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Lumber: Shall Be No. 2 or better spruce or southern yellow pine. Shall be sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing. Dimensions shall be determined by job conditions or as indicated in detail drawings.
- B. Plywood Sheathing: Shall be structural 1 rated. Plywood shall be stamped APA RATED SHEATHING grade-C or better and shall be manufactured with exterior glue (exposure 1). Plywood shall have a minimum thickness of 3/4 inch or as required to match existing.
- C. Preservative Treatment:
 - 1. Treatment: ACQ as manufactured for Viance in accordance with AWPA U1 and P5, P26, P27, P28, P29 as appropriate. Use 0.15 lb/cu ft (2.4 kg/m3) of ACQ in accordance with AWPA U1: (UC3B) as appropriate.
 - 2. Treatment: Ecolife or EL2 as manufactured by Viance. Use 0.019 lb/cu ft (0.3 kg/m3) of Ecolife or EL2 (+ 0.2 lb/cu ft MCS) in accordance with AWPA U1 (UC3B) as appropriate.
 - 3. Engineers accepted equivalent.

2.2 FASTENERS

A. General:

- 1. All fasteners shall be stainless steel or as approved by Engineer.
- 2. Fasteners securing pressure treated lumber shall be manufactured for corrosion resistance and exposures associated with pressure treated wood applications.
- 3. Nails shall not be used at roof edges to fasten rough carpentry, lumber, plywood, etc. Screws, anchors, and/or machine bolts shall be used to secure rough carpentry at roof perimeter edges.
- 4. Masonry screws, spikes, and drive-pins shall not be used to fasten edge/perimeter nailers to concrete decks. Minimum ½" diameter anchors or bolts shall be used to secure roof edge nailers to concrete substrates.

- B. Wood to steel deck and light gage steel framing (16-ga. or less):
 - 1. Shall be #14-13 DP1, pancake or panhead, corrosion resistant, ASTM A153, FM Approved, self-drilling and self-tapping screw, length to provide minimum 3 pitches of thread through metal thicknesses. Acceptable manufacturers include:
 - a. ITW Buildex Teks
 - b. Concealor®
 - c. Blazer
 - d. SFS Intec
 - e. Engineers accepted equivalent.

C. Wood to wood:

- 1. Screws: No. 10 or greater, stainless steel wood screws with flat head, or insulation screws. Length to embed into base substrate a minimum of 1-1/2".
- 2. Nails: 8, 10 or 16 penny, stainless steel, ring shank nails. Length to embed into base substrate a minimum 1-1/2". Acceptable manufacturers include:
 - a. Maze Nails
 - b. Anchor Staple and Nail
 - c. Swan Secure Products
 - d. Manasquan Premium Fasteners
 - e. Engineers accepted equivalent.
- D. Wood to brick, concrete block, other masonry units, and solid concrete substrates:
 - Epoxy adhesive anchoring system: Minimum 1/2-inch diameter, corrosion resistant threaded rods supplied by the anchoring system manufacturer, length as required to provided minimum embedment as required by fastener manufacturer based upon substrate being secured. Screen for substrate provided by fastener manufacturer. Corrosion resistant nut and 1-1/2" diameter flat washer. Acceptable manufacturers include:
 - a. Hilti Hit Hy-10 Plus
 - b. Powers Fasteners, Inc. AC100 Anchoring System
 - c. ITW Ramset Epcon C6 Fast Curing Epoxy
 - d. Engineers accepted equivalent
- E. Wood to solid concrete substrates:
 - 1. Masonry screws, 1/4 inch minimum diameter, Type 410 stainless steel with flat head. Length to provide minimum 1" embedment into substrate. Acceptable manufacturers include:
 - a. Tapcon by ITW Buildex,
 - b. KWIK-CON II by Hilti
 - c. Powers Fasteners Tapper +
 - d. Engineers accepted equivalent.
 - 2. Sleeve-Type, or Wedge-Type, Expansion Anchor: Minimum 1/2 inch diameter, Type 304 or 316 Stainless Steel, Expansion Anchor Bolt Assembly of length as required to provided minimum embedment as required by fastener manufacturer based upon substrate being secured. Acceptable manufacturers include:
 - a. Lok/Bolt, Power Bolt or Power-Stud by Powers Fasteners
 - b. Redi-Bolt, Dynabolt or Trubolt by Red Head Anchoring Systems
 - c. Kwik Bolt by Hilti

- d. Engineers accepted equivalent.
- F. Wood to structural steel (greater than 12-GA.):
 - 1. #12-24 DP5 (for steel thickness up to 1/2") or DP4 (for steel thickness from 1/8" to 3/8"), flat or hex head, corrosion resistant, self-drilling/self-tapping fastener of length to provide minimum 3 pitches of thread through metal thicknesses. Acceptable manufacturers include:
 - a. ITW Buildex Teks
 - b. SFS Intec
 - c. Blazer
 - d. Engineers accepted equivalent
- G. Wood to Grouted Cavity:
 - Grout: High strength, non-metallic, non-shrink grout for precision grouting and general construction Conform to ASTM C476 and ASTM C 1107. Acceptable manufacturers include Commercial Grade Quikrete, Precision Grout, Kauffman SureGrout or Engineers accepted equivalent. Grout type proportioned by volume as follows:
 - a. Portland cement or blended hydraulic cement: one part.
 - b. Hydrated lime: 0 to 1/10 part.
 - c. Fine aggregate: 2-1/4 to three times sum of volumes of cement and lime used.
 - d. Coarse aggregate: one to two times sum of volumes of cement and lime
 - e. Sum of volumes of fine and coarse aggregates: Do not exceed four times sum of volumes of cement and lime used.
 - 2. Bolt: corrosion resistant threaded J bolt meeting ASTM A 307, Grade A with ASTM A 563 hex nuts and flat washers, diameter of 1/2".
- H. Toggle Bolt: Shall be ¼" diameter toggle bolt consisting of machine screw and spring wing toggle with flat mushroom head, length as required by conditions.
- I. Washers: Fasteners heads for screws, anchors and bolts terminating at the surface of nailers shall be provided with a minimum 5/8 inch diameter, stainless steel or similar corrosion resistance flat washer provided by fastener manufacturer, unless washer is provided from factory as part of the fastener assembly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Contractor shall inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.
- B. Contractor shall inspect all new and existing rough carpentry including fasteners for material condition before proceeding with installation. Deteriorated, rotted, damaged, split, warped, twisted or wet materials shall be removed and replaced with specified materials. Refer to Section 01 22 00-Unit Prices.
- C. Contractor shall remove old cants, tapered edge strips, debris, old fasteners, etc. that interfere with the installation of new rough carpentry.
- D. Contractor shall notify Engineer in writing of unsatisfactory conditions.

E. Commencement of work signifies Contractor's acceptance of substrates. Any defects in roofing work resulting from such accepted substrates shall be corrected at no additional expense to the Owner.

3.2 PREPARATION

A. Steel/Metal Substrates:

1. Any pressure treated wood to contact steel or metal shall have the steel/metal coated with a heavy coating of asphalt primer.

B. Roof Deck and Structure:

- 1. Roof deck and structure shall be dried and broomed and/or vacuumed clean of debris and foreign matter prior to installation of the new rough carpentry.
- 2. Contractor shall adjust substrates to receive rough carpentry to ensure completed rough carpentry installation is acceptable for roofing and sheet metal flashings.
- 3. Steel decking shall be coated with a uniform, heavy application of asphalt primer, or separated by membrane or other acceptable means to prevent contact between steel and treated wood products.
- 4. Treated lumber shall not make direct contact with light gage steel decking.

3.3 INSTALLATION

- A. Remove existing damaged or deteriorated wood blocking, nailers, and curbs and replace with new material of same dimensions.
- B. Re-secure all existing wood nailers at roof edges that are to remain. Fastener type and spacing shall comply with this specification.
- C. Install new wood blocking, nailers, and curbs to achieve a minimum eight inch flashing height above the roof membrane. Wood nailers at perimeter roof edges and expansion joints shall be installed to match insulation height. Maintain constant nailer height at perimeter edges.
- D. Wood blocking and nailers shall be installed concurrently with roof system installation. Removal of insulation and/or folding back of roof membrane to install wood blocking and nailers at a later date is not acceptable.
- E. Set rough carpentry to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove any obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.
- F. Fit rough carpentry to other construction; scribe and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction. All joints between wood shall be installed for a smooth transition.

G. Attachment:

- 1. The Contractor shall consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing, substrate preparation and substrate embedment where not specified.
- 2. Securely attach rough carpentry work to substrate with fasteners. Anchor to resist a minimum force of 300 lbs/lineal foot in any direction.
- 3. Rough carpentry attachment shall meet the requirements herein and that of the current FM Loss Prevention Data Sheet 1-49, Perimeter Flashing.

- 4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten upper nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed.
- 5. Install fasteners without splitting wood. Pre-drill where necessary. Split or damaged wood shall be removed, or repaired and/or re-secured to provide acceptable conditions.
- 6. For anchors, pre-drill concrete and masonry units to prevent damage or cracking of the masonry. Consult fastener manufacturer's published guides. Damaged masonry shall be repaired, and fasteners shall be removed and re-installed in an acceptable location.
- 7. Fastener spacing: Fasteners shall be staggered 1/3 the board width and installed within 6" of each end.
 - a. Bolts, adhesive anchors, wedge and sleeve anchors, and machine bolts securing nailers shall be spaced 48 inches on center, staggered and an additional fastener within 6 inches of each end of nailer to prevent boards from twisting at board joints. Secure at 24" on center in corners (Zone 3) of the roof area.
 - b. Screws and 1/4 inch diameter anchors securing wood to concrete or masonry units shall be spaced 12 inches on center maximum, staggered, with fasteners installed at each end of nailer lengths to prevent wood from twisting at board joints.
 - c. Screws securing wood to wood shall be installed 12 inches apart, staggered, with two screws installed within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.
 - d. Screws securing wood to steel decking shall be 12 inches apart.
 - e. Self-drilling, and/or pre-drilled self-tapping screws securing wood to structural steel shall be spaced 12 inches apart, staggered, with one screw within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.
 - f. Nails securing wood to wood shall be spaced 12 inches apart, staggered, with two nails installed within 6 inches of each end of nailer lengths to prevent wood from twisting at board joints.

Select fasteners of size and length that will not be exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

- H. Thickness of wood nailers shall be flush with adjacent insulation and other materials. Additional fasteners shall be installed to ensure nailers are flush.
- I. Unless otherwise detailed, plywood used as blocking or shim shall be installed below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.
- J. Wood nailers at roof perimeters, expansion joints, roof area dividers, etc. shall not be less than 3 feet long.
- K. When multiple nailers are installed stacked two high or more, offset nailers no less than 12" such that joints at nailer end do not line-up vertically.
- L. Each end of nailers shall be fastened with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.

M. Shims:

- 1. The Contractor shall add plywood and lumber shims as required for the specified height and thickness.
- 2. Shims shall make full contact with stacked rough carpentry. Partial shim contact, and small shim pieces spaced apart are not acceptable.

3. Plywood used as blocking or shim shall be installed below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.

N. Curbs:

- 1. Adjust wood curbs to support rooftop piping, ducts, equipment, etc.
- 2. Raise equipment to provide required flashing height for roofing.

3.4 CLEANING

- A. The Contractor shall ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.
- B. The site and building shall be free of saw dust from pressure treated lumber, fasteners and other debris.
- C. Damages to the building, grounds, equipment and site shall be repaired or replaced by the Contractor to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION 06 10 00

SECTION 07 01 50

PREPARATION FOR REROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Preparatory work to be completed prior to roof installation including but not limited to:
 - 1. Removal of existing roof assemblies down to the structural deck.
 - 2. Repairs to structural deck.
 - 3. Soil pipe extensions.
 - 4. Raising of mechanical units/HVAC units to meet the required minimum flashing height.
 - 5. Installation and/or modification of through wall overflow scuppers.
 - 6. Documentation of existing lighting protection.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

1.	Rough Carpentry	Section 06 10 00
2.	Roof Insulation	Section 07 22 16
3.	Metal Wall Panels	Section 07 42 13
4.	Modified Bitumen Roofing	Section 07 52 16

1.3 DEFINITIONS

- A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.
- B. Existing to remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.
- C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished materials shall become the Contractor's property and shall be removed from the site.

1.4 EXISTING ROOF ASSEMBLIES*

- A. Roof Area A
 - 1. Gravel Built Up Roof over
 - 2. 1/2 inch Perlite insulation over
 - 3. 1-1/2 inch Polyisocyanurate Insulation over
 - 4. Concrete Roof Deck
- B. Roof Area B, C, D, E and F
 - 1. Gravel Built Up Roof over
 - 2. 1-1/2 inch Perlite insulation over
 - 3. Concrete Roof Deck

*Roof system composition is based on random sampling. Contractor is responsible for verification of roof system composition.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Submit drawing indicating locations of existing lightning protection system including cables, connectors, anchors, straps and clamps.

1.6 QUALITY ASSURANCE

- A. Qualifications: Previous experience removing existing roof systems.
- B. Requirements: Contractor to comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.

1.7 SCHEDULING

A. Conduct demolition so that Owner's operations will not be disrupted. Provide 72 hours notification to Owner of activities that will affect Owner's operations.

1.8 WARRANTIES

A. Any damage to existing items under warranty shall be repaired/replaced with materials acceptable to the Warrantor.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Galvanized Steel Plates for Concrete Deck Openings of size to extend a minimum of 6" beyond opening on each side of thickness as indicated in Contract Drawings.
 - 1. Deck opening up to 8" in any one direction: 18 gauge
 - 2. Deck opening from 8" to 13" in any one direction: 16 gauge
 - 3. Deck opening from 13" to 24" in any one direction: 1/8" thick
 - 4. Deck opening greater than 24" in any one direction: Steel deck or plate as determined by Engineer
- B. Soil Pipe Extensions (Tubos):
 - 1. Acceptable Manufacturer:
 - a. Tubos, Inc. www.tubos.biz
 - b. Engineers accepted equivalent
 - 2. Soil Pipe Extension: Solid-wall PVC fitting consisting of pipe and splice sleeve inserts, configured for insertion and sealing to existing plumbing vent piping, sized to fit inside diameter of plumbing vent piping, enabling extension of piping to field-determined height:
 - a. Material: Solid-wall PVC, white.
 - b. Splice Sleeve Insert:

- i. 6 inches Length at both ends of precut extension.
- ii. Outside Diameter to be 1/4" less than outside diameter of soil pipe.

c. Length:

- i. Overall Length: 28 inches.
- ii. Net Usable Length: 16 inches excluding Splice Sleeve Inserts.
- d. Sealant: Single-Component, Nonsag, Urethane Joint Sealant: ASTM C
 920, Type S, Grade NS, Class 25, for Use NT, and acceptable to roofing membrane manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Survey existing conditions to determine extent of demolition.
- B. Record the conditions of items to be removed/reinstalled and items to be removed/sal-vaged.
- C. Contractor shall not remove any element that may result in structural deficiency or collapse of any part of the structure or adjacent structures during demolition.
- D. Contractor to inspect substrate for soundness and notify Engineer in writing of any deficiencies. Commencement of work signifies Contractor's acceptance of site conditions.

3.2 PREPARATION

- A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.
- B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.
- C. Provide safe conditions for pedestrians. Erect temporary protection such as walkways, fences, railings and canopies as required by OSHA and other governing authorities.
- D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.
- E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

3.3 UTILITIES/SERVICES

- A. Maintain existing utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.
 - Locate all conduits and equipment attached to the underside of the decking prior to reroofing. Insulation fastener locations are not to disturb existing conduits or interior components/equipment.
 - 2. If utilities serving occupied portions of the site must be shut down, temporary services shall be provided.
 - 3. Provide 72 hours notice to Owner if shut down is required.
 - 4. Where services are to be removed, relocated or abandoned, provide necessary

bypass connections to remaining occupied buildings and areas.

3.4 POLLUTION CONTROLS

- A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.
 - 1. Do not use water where damage may occur or where hazardous conditions would be created such as ice or flooding.

3.5 REMOVALS

- A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the new roof system and such that varying heights between new and existing roof assemblies does not adversely affect roof drainage.
- B. Demolish and remove existing construction only to the extent required by new construction.
- C. Remove all existing roofing, roof insulation, membrane and sheet metal and discard.
- D. Remove or correct any obstruction which might interfere with the proper application of new materials.
- E. Lift or remove all existing equipment so that existing flashings can be totally removed and new flashings installed.
- F. Lift existing sheet metal flashings to remain to remove all existing materials. After installation of new materials, neatly bend flashing back into place.
- G. Remove debris from existing materials to provide clean, dry substrate.
- H. Demolish asphalt, concrete and masonry in small sections. Cut concrete and masonry at juncture with construction to remain using powered masonry saw, core drill or hand tools. Do not use powered impact tools.
- I. Remove and transport debris in a manner that will prevent damage/spills to adjacent buildings and areas.
- J. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.
- K. Transport demolished materials off-site and dispose of materials in a legal manner.
- L. Perform progress inspections to detect hazards resulting from demolition activities.

3.6 FLASHING HEIGHTS

- A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.
- B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8" flashing height.
- C. Extend all existing sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system.
 - 1. Preparation (Tubos)
 - a. Remove existing flashing from plumbing vent piping to extent required to

- enable installation of new plumbing vent pipe extensions and completion of flashings.
- b. Clean plumbing vent piping to ensure that joint surfaces are clean, dry, and free from contamination including dirt, oils, grease, tar, wax, rust, and other substances that may inhibit adhesive or sealant performance.

2. Installation

- a. Insert end of plumbing vent pipe extension into existing plumbing vent piping.
 - Verify circumference of existing plumbing vent piping and plumbing vent pipe extension is appropriate to achieve secure, rigid installation.
 - ii. Mark plumbing vent pipe extension at required height above finished roof surface level, and cut to required length.
 - iii. Apply adhesive or sealant to plumbing vent piping as appropriate to existing pipe material and plumbing vent pipe extension, and mate plumbing vent pipe extension to existing piping. Apply adequate adhesive or sealant to achieve secure, rigid installation.

3.7 STEEL PLATE INSTALLATION

A. Mechanically attach deck repair plates to concrete deck with approved fasteners 6" on center or a minimum of 2 fasteners per side.

3.8 COUNTERFLASHING PREPARATION

- A. Counterflashing to Remain: Neatly bend existing counterflashing up at walls as required to completely remove existing base flashings and to install new base flashings. After installation of new base flashings, neatly bend counterflashing back in place using sufficient care to prevent deformation to the finished counterflashing.
- B. Receiver Flashing to Remain: Neatly bend existing receiver up at walls as required to completely remove existing base flashings and counterflashings and to install new base flashings and counterflashings. After installation of new base flashings and counterflashings, neatly bend counterflashing receiver back in place using sufficient care to prevent deformation to the finished counterflashing.
- C. Saw reglet to a maximum depth of 1-1/4 inches in a straight line to allow proper installation of new counterflashings. Utilize all procedures necessary including, but not limited to, saw guides to ensure straight, clean reglets.

3.9 SCUPPER INSTALLATION

- A. Locate bottom of overflow scupper 2 inches above surface of the roof system adjacent to the nearest roof drain (excluding sump).
- B. Remove existing masonry and store for reuse if in good condition. Reinstall masonry units to extent possible. Provide new brick or concrete masonry units to match existing.
- C. Extend opening through entire thickness of parapet. Take precautions to avoid damaging adjacent wall surfaces.
- D. Provide finished openings as indicated.
- E. Install veneer materials of same type, size and finish to match existing. Set units in full beds of mortar to match adjacent joints in thickness. Tool joints to match.

F. Repair exterior finish to match adjacent surfaces.

3.10 CLEANING

- A. Inspect the site daily and clean up debris and hazards at the end of each day. Adjacent roads, drives and walkways shall remain in operation and free from construction materials debris.
- B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

END OF SECTION 07 01 50

SECTION 07 22 16

ROOF INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roof Section A, B, C, D, E, F and G:
 - 1. Provide vapor barrier torch applied.
 - 2. Provide 2 inch base layer insulation adhered in foam adhesive
 - 3. Provide 1-1/2 inch second layer insulation adhered in foam adhesive
 - 4. Provide overlayment insulation adhered in foam adhesive

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

1.	Rough Carpentry	Section 06 10 00
2.	Preparation for Reroofing	Section 07 01 50
3.	Modified Bitumen Roofing	Section 07 52 16

1.3 REFERENCES

- A. Refer to the following references for specification compliance:
 - 1. 2018 International Building Codes with SC Modifications
 - 2. National Roofing Contractors Association NRCA
 - 3. FM Global
 - 4. Underwriters Laboratories, Inc. UL
 - 5. ASHRAE Standard 90.1

1.4 PERFORMANCE REQUIREMENTS

- A. R Value
 - The minimum continuous "R-value" for the above deck insulation system shall be 20 and in accordance with the current Energy Conservation Code and ASHRAE 90.1.
 - R value to be based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for all other insulation components, as tested in accordance with ASTM C177, C236, C518 or C976
- B. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Section 07 52 16.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Latest edition of the Manufacturer's current material specifications and installation instructions.

1.6 QUALITY ASSURANCE

- A. Insulation to be installed in accordance with their respective manufacturer's requirements.
- B. Insulation(s) not bearing UL label at point of delivery shall be rejected.
- C. Insulation damaged or wetted before, during, or after installation shall be removed from the job site no later than the next working day from the day such damage or moisture contamination is noted.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturer's original sealed and labeled shrouds and in quantities to allow continuity application.
- B. Storage: Materials shall be stored out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at site location acceptable to Owner.
 - 1. Utilize tarps that will completely cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
 - 2. Install vapor retarders under material storage areas located on the ground.
 - 3. Remove damaged or deteriorated materials from the job site.
- C. Handling: Material shall be handled in such a manner to preclude damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

- A. Insulation shall not be applied during precipitation. Contractor assumes all responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Contractor will take necessary action to restrict dust, asphalt, and debris from entering the structure.
- C. No more roofing will be removed than can be replaced with insulation, membrane and base flashings in the same day to create a watertight installation.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Insulation Boards:
 - Roof Insulation: Shall be rigid polyisocyanurate roof insulation board with factory applied glass fiber reinforced cellulosic felt facers on the top and bottom. Boards to comply with ASTM C1289 Type II, Class 1, Grade 2 and meet the following requirements:
 - a. Curing time shall be 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
 - b. Dimensional stability shall be 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
 - c. Maximum permissible insulation board size for foam adhesive and hot asphalt attachment is 4' x 4'. Field cutting of larger boards is not

- acceptable.
- d. Thickness shall be as specified in Part 1.
- 2. Tapered Insulation System: Crickets and Saddles
 - a. Shall be rigid polyisocyanurate roof insulation board with factory applied glass fiber reinforced cellulosic felt facers on the top and bottom. Boards to comply with ASTM C1289 Type II, Class 1, Grade 2 and meet the following requirements:
 - b. Curing time shall be 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
 - c. Dimensional stability shall be 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
 - d. Board size shall be 4 foot by 4 foot.
 - e. Crickets and Saddles: Shall be rigid polyisocyanurate meeting the above requirements with a board size of 4 foot by 4 foot and 1/2" per foot slope.
- 3. Overlayment Insulation: Shall be cover board approved by roof system manufacturer. Board Size shall be 4' by 4' and minimum thickness shall be as listed below or as required by roof system manufacturer. Acceptable products include:
 - a. Georgia Pacific 1/4" DensDeck Prime Roof Board
 - b. Soprema 1/8" Sopraboard
 - c. DEXcell Glass Mat Roof Board

B. Insulation Accessories

- 1. Vapor Barrier
 - a. Refer to Section 07 52 16- Modified Bitumen Roofing.
- 2. Asphalt impregnated perlite tapered edge strips and cant strips to be the sizes detailed or required by field conditions meeting ASTM C 728.
 - a. Tapered Edge Strips
 - i. Shall be installed at edges to make transitions as detailed in Contract Drawings.
 - ii. Use 1.5" by 18" tapered edge strips to form crickets in front of curbs wider than 12" and to provide slope transition at the outside of drainage sumps.
 - iii. Use 1/2" by 6" tapered edge strips in front of tapered insulation crickets to provide smooth transition.
 - b. Walls and vertical terminations to receive 4" vertical leg cant strip with 5-5/8" face unless height restrictions dictate smaller sizes.
- C. Insulation Attachment Materials:
 - 1. Foam Adhesive: Shall be a one or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Contractor to inspect substrate for soundness and notify Engineer in writing of any deficiencies.
- B. Commencement of work signifies Contractor's acceptance of substrate. Any defects in roofing work resulting from such accepted substrates shall be corrected to Owner's satisfaction at no additional expense.

3.2 PREPARATION

A. General

1. Roof deck to be dry and broomed clean of debris and foreign matter prior to installation of insulation system.

3.3 APPLICATION

A. General

- 1. Application shall be in accordance with the insulation/membrane manufacturer's instructions and these specifications.
- 2. All insulation to be in full sheets, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch will not be accepted.
- 3. Insulation and overlayment boards that must be cut to fit shall be saw cut or knifecut in a straight line, not broken. Chalk lines shall be used to cut insulation. Uneven or broken edges are not acceptable.
- 4. Remove insulation dust and debris that develops during insulation cutting operations.
- 5. Joints between successive and adjacent layers of insulation to be offset a minimum of six (6") inches.
- 6. Stagger joints of gypsum overlayment/overlayment insulation one (1') foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.
- 7. Prime concrete decks prior to vapor barrier attachment with a uniform coating of asphalt primer per manufacturer's standard application rates.
- 8. For torch application, continue coverboard over combustible substrates.
- Crickets, saddles and tapered edge strips shall be installed before the overlayment insulation.
- 10. Adhere cant strips and tapered edge strips at transitions, terminations and/or penetrations as detailed or required in ribbons of foam adhesive to ensure smooth transitions are provided for the roof membrane and flashings.
- 11. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.
- 12. Field modifications of insulation, tapered insulation, tapered edge strips and cants shall be made by the Contractor where required to accommodate roof and flashing conditions, prevent water dams and ponding water. Ponding water at scuppers and cricket valleys shall not be accepted.
- 13. Provide necessary modifications to prevent standing water which is defined as 1/4" of water in a 4-square foot or larger area 24 hours or more after precipitation.

B. Vapor Barrier

- a. Refer to Section 07 52 16- Modified Bitumen Roofing.
- C. Tapered Insulation

- 1. Install tapered insulation system to provide positive slope for complete roof drainage.
- Crickets shall be sized as shown in the Contract Drawings. Modifications shall be provided to ensure positive slope and prevent standing water along the cricket valley.
 - a. Minimum length to width ratio shall be 2:1. Fabricate partial crickets with dimensions which would result in a minimum length to width ratio of 2:1 if they were extended to full size.
 - b. Unless otherwise noted, fabricate all crickets from tapered stock as required to provide the specified minimum slope. For example, when roof slope is indicated as 1/4" per foot minimum, fabricate crickets with slope of 1/2" per foot minimum.
 - c. Construct crickets on up slope side of all curbs to ensure positive drainage.
 - d. Install tapered edge strips at cricket edges to provide a smooth transition between the cricket and insulation system below.
- 3. Insulation boards may require mechanical fasteners and stress plates at slope transition of crickets to minimize bridging.

D. Roof Drainage:

- 1. Drainage sumps shall be installed as detailed.
- 2. The Contractor shall be responsible for carefully laying out the tapered insulation, sumps, drain bowls and scuppers to ensure the finished roof provides complete drainage with no standing water.
- 3. Contractor shall fabricate miter-cut sumps at scuppers to provide smooth transitions between the insulation system and the drains/scuppers.
- 4. Sumps shall ensure complete roof drainage and prevent water dams.
- 5. Contractor shall adjust insulation, drains and scuppers to ensure complete roof drainage and satisfactory substrates for membrane and flashings.
- 6. Drain sump components shall be fastened to the deck using specified insulation fasteners or adhesives.
- 7. Circular sumps and sumps that do not provide smooth transition or that create standing water at the drains shall be rejected and shall require removal and replacement.

E. Foam Adhesive Application

- 1. Adhesive beads shall be positioned and spaced at a minimum as indicated in the Contract Drawings. Comply with the requirements of the membrane manufacturer's tested assembly for adhesive spacing and positioning.
- 2. Adhesive beads shall be sized in accordance with the adhesive manufacturer's guidelines.
- 3. Insulation boards shall be placed onto the beads and immediately "walked" and/or "weighted" into place. Insulation boards must be placed into the adhesive in strict accordance with the adhesive manufacturer's guidelines.
- 4. Ensure full adhesion of all layers of insulation and take whatever steps necessary to achieve full adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

END OF SECTION 07 22 16

SECTION 07 42 13

METAL WALL PANELS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Provide prefinished, prefabricated nonstructural exposed fastener wall panel providing cladding protection of a weather barrier substrate where indicated.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:
 - 1. Rough Carpentry

Section 06 10 00

2. Sheet Metal Flashing and Trim

Section 07 62 00

1.3 REFERENCES

A. ASTM International

- 1. A750/A 750 M Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil Coating Process for Exterior Exposed Building Products.
- 2. A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- 3. A792 Standard Specification for Steel Sheet, 50 percent Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- 4. B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- 5. D523 Standard Test Method for Specular Gloss.
- 6. D659 Standard Guide for Testing Industrial Water-Reducible Coatings.
- 7. D822 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.
- 8. D2244 Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates.
- B. American Architectural Manufacturer's Association (AAMA) 605.2 Voluntary Specification for High Performance Organic Coatings.
- C. National Roofing Contractors Association (NRCA) Roofing Manual.
- D. Sheet Metal and Air Conditioning Contractors National Association, 1nc. (SMACNA) -Architectural Sheet Metal Manual.
- E. Underwriters Laboratories (UL) Building Materials Directory.

1.4 PERFORMANCE REQUIREMENTS

- A. Design Requirements:
 - 1. Provide factory preformed wall panel system that has been pretested and certified by the manufacturer to comply with specified requirements under installed conditions.
 - 2. Provide one-piece, single length wall panels.
 - 3. Provide continuous interlocking seams with open hem male legs that inherently

increases load span capability, stiffness, and flexural stress handling.

- B. Attachment of Panels shall be as determined in accordance with ASTM E 1592 along with holding strength of fasteners to existing structure in accordance with submitted test data, provided by fastener manufacturer, based on length of embedment and properties of materials.
 - Maximum fastener spacing for attachment of panels shall not exceed 2' on center.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Shop drawings showing all details, trim pieces, transitions and closures necessary to install wall panels.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - 1. Manufacturer shall have a minimum of 10 years' experience supplying metal siding to the region where the work is to be done.
- B. Installer Qualifications:
 - 1. Acceptable to, licensed or certified by manufacturer.
 - 2. Not less than 3 years' experience with systems.
- C. Regulatory Requirements:
 - 1. Comply with local Building Code requirements if more restrictive than those specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Protect against damage and discoloration.
- B. Handle panels with non-marring slings.
- C. Do not bend panels.
- D. Store panels above ground, with one end elevated for drainage.
- E. Protect panels against standing water and condensation between adjacent surfaces.
- F. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and allow to air dry.
- G. Remove any strippable film coating prior to installation and do not allow it to remain on the panels in extreme cold, heat or in direct sunlight.

H. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.8 WARRANTY

- A. Finish Warranty: Provide manufacturer's written panel finish warranty against deterioration of factory applied finishes.
 - 1. Warranty Period: Minimum period of thirty (30) years from date of Substantial Completion.
 - 2. Prorated Conditions: None.
 - 3. Limitations of liability: Not less than value of material and labor to replace.
 - 4. Include weather tight performance of curbs, equipment supports, pipe portals and provided as part of this work.
 - 5. The Manufacturer's warranty shall not include "hold harmless" clause, nor limit liability of Contractor.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
 - 1. Construction Metal Products (CMP)
 - 2. DMI
 - 3. Fabral
 - 4. Firestone Building Products
 - 5. IMETCO
 - 6. MBCI
 - 7. McElroy
 - 8. Merchant & Evans
 - 9. Metal Roofing Systems
 - 10. Metal Sales
 - 11. Morin
 - 12. Ultra Seam

2.2 PRODUCTS

- A. Exposed Fastener Wall Panel
 - 1. Base Metal: 24-gauge, zinc-coated steel, structural quality ASTM A446, Grade A, G90 hot-dip galvanized conforming to ASTM A525.
 - 2. Profile: Shall be exposed fastener "R" panel.
 - 3. Panel size: 36 inches in width
 - 4. Nominal 1-1/4-inch depth
 - 5. Color shall match adjacent sheet metal, specified in Section 07 62 00- Sheet Metal Flashing and Trim.

2.3 RELATED MATERIALS

A. Fasteners

- 1. Exposed Fastener Screws:
 - a. For metal: Manufacturer's standard #10-16 x 1" long self-drilling, self-tapping pancake head Phillips drive screws with EPDM or PVC washer under heads of fasteners bearing on weather side of metal wall panels. Screw heads to match color of wall panel by means of plastic caps or

- factory applied coating.
- b. For wood: Manufacturer's standard #10-12 x 1" long A-point fastener, pancake head Phillips drive screws with EPDM or PVC washer under heads of fasteners bearing on weather side of metal wall panels. Screw heads to match color of wall panel by means of plastic caps or factory applied coating.
- 2. Blind Rivets: Solid-threaded, sealed stem type with EPDM washer under head.
 - a. Exposed rivets shall match color finish of panel.

B. Accessories:

- 1. Provide manufacturer's standard accessories and other items essential to completeness of roof installation including anchor clips, trim, ridge and hip caps, closures, flashing, and fascia.
- 2. Form flashings, closure, and trim from same gauge and finish as roof panels.
- C. Metal Wall Panel Underlayment: Self-adhered, air barrier membrane with an engineered film specifically designed to be water resistant and vapor permeable. Acceptable products include:
 - 1. Grace Perm-A-Barrier VPS
 - 2. VaproShield WrapShield SA
 - 3. Henry Blueskin VP 160
- D. Hat Channel Sub Framing:
 - 1. 5/8" x 5-1/2", 16-gauge, galvanized steel hat channel.
- E. Hat Channel Anchors: 1/4" diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2".
- F. Sealant: Refer to Section 07 62 00-Sheet Metal Flashing and Trim. Sealant color to match wall panel.
- G. Metal Wall Panel Closures: Refer to Section 07 62 00-Sheet Metal Flashing and Trim.

2.4 FABRICATION

- A. All steel to be correctively leveled and handled to minimize stress and waviness of sheet steel.
- B. Form and fabricate sheets, seams, strips, clips, valleys, ridges, edge treatments, integral flashings, and other components of the metal roofing to the profiles, patterns, and drainage arrangements as determined by Engineer, to provide permanent leakproof construction, with no oil canning or panel distortion.
 - 1. Fabricate panels in full lengths with no end laps.
 - 2. Fabricate exposed items of prefinished sheet metal, color to match panels.
 - 3. Hem exposed edges on underside 1/2-inch (12 mm) miter and seam corners.
 - 4. Provide for thermal expansion and contraction of the Work.
 - Seal joints to achieve leak proof construction per manufacturer's detail.
- C. Fabricate vertical faces with bottom edge formed outward 1/4 inch and hemmed to form drip.
- D. Unless otherwise shown on drawings or specified herein, panels shall be full length.

Fabricate flashings and accessories in longest practical lengths.

E. Wall panels shall be factory formed. Field formed panels are not acceptable.

2.5 FINISH

A. Exterior Finish:

1. Full 70 percent Kynar 500/Hylar 5000 for a total 1.0 mil dry film thickness with a specular gloss of 10-15 percent when tested in accordance with ASTM D523 at 60 degrees.

B. Interior Finish:

- Primer Coat Material: Corrosion-resistant primer; primer coat dry film thickness: 0.15 mils; finish coat material: polyester paint, finish coat dry film thickness: 0.35 mils.
- 2. Total Interior Dry Film Thickness: 0.50 mils.
- 3. Color: Off-White.

PART 3 EXECUTION

3.1 EXAMINATION

A. Substrate:

- 1. Examine substrate to ensure that is properly secured and prepared to receive metal wall panels.
- 2. Ensure substrate is installed flat, free from objectionable warp, wave, and buckle.

3.2 INSTALLATION

A. Hat Channel Sub-Framing

1. Secure to wall submit with specified fasteners in accordance with fastener manufacturer's installation instructions.

B. Metal Wall Panels:

- 1. Follow panel manufacturer's directions.
- 2. Install panel seams vertically.
- 3. Lap panels away from prevailing wind direction.
- 4. Do not stretch or compress panel side-laps.
- 5. Secure panels without warp or deflection.
- 6. Clean and dry surfaces prior to applying sealant.
- 7. Exposed fasteners are not allowed, except to fasten flashings, at fixed points, or as indicated on Drawings.
- 8. Field apply sealant to penetrations, transitions, and other locations necessary to prevent water infiltration.
- 9. Leave 1/4" space between bottom of metal wall panels and receiver flashing.

C. Flashing:

- 1. Follow manufacturer's directions and architect approved Shop Drawings.
- 2. Install flashings to allow for thermal movement.
- 3. Remove strippable protective film, if used, immediately preceding flashing installation.
- 4. Make end cuts and install sealant and flashings to achieve weathertight

installation.

D. Cutting and Fitting:

- 1. Neat, square and true. Torch cutting, electric saws and grinders with abrasive wheels are prohibited where cut is exposed to final view.
- 2. Openings 6 inches (153 mm) and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.
- 3. Where necessary to saw-cut panels, debur cut edges.

E. Dissimilar Metals:

- 1. Where sheet metal is in contact with dissimilar metals, execute juncture to facilitate drainage and minimize possibility of galvanic action.
- 2. At point of contact with dissimilar metal, coat metal with protective paint or tape which can be placed between metals.

3.3 PROTECTION

A. Protect work as required to ensure metal wall panel system will be without damage at time of final completion.

END OF SECTION 07 42 13

SECTION 07 52 16

MODIFIED BITUMEN ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Prime concrete deck and provide torch applied vapor barrier.
- B. Provide a torch applied SBS modified bituminous membrane system consisting of two plies of asphalt elastomeric membrane reinforced with polyester and/or fiberglass mat.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

1.	Rough Carpentry	Section 06 10 00
2.	Preparation for Reroofing	Section 07 01 50
3.	Roof Insulation	Section 07 22 16
4.	Sheet Metal Flashing and Trim	Section 07 62 00
5.	Roof Accessories	Section 07 72 00

1.3 REFERENCES

- A. Refer to the following references, current edition for specification compliance:
 - 1. 2018 International Building Codes with SC Modifications
 - 2. National Roofing Contractors Association NRCA
 - a. NRCA Roofing and Waterproofing Manual
 - ASTM International
 - a. ASTM D 41 Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
 - b. ASTM E 108 Standard Test Methods for Fire Tests of Roof Coverings
 - c. ASTM E 119 Standard Test Methods for Fire Tests of Building Construction Materials.
 - d. ASTM D 3019 Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos Fibered and Non-Asbestos Fibered.
 - e. ASTM D 3409 Standard Test Method for Adhesion of Asphalt-Roof Cement to Damp, Wet, or Underwater Surfaces.
 - f. ASTM D 4479 Standard Specification for Asphalt Roof Coatings Asbestos Free.
 - g. ASTM D 4586 Specification for Asphalt Roofing Cement, Asbestos Free.
 - h. ASTM D 6162 Specification for SBS Modified Bitumen Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
 - i. ASTM D 6163 Specification for SBS Modified Bitumen Sheet Materials Using Glass Fiber Reinforcements.
 - j. ASTM D 6164 Specification for SBS Modified Bitumen Sheet Materials Using Polyester Reinforcements.
 - 4. Asphalt Roofing Manufacturers Association ARMA
 - 5. FM Global
 - a. FM 4450 Approval Standard for Class 1 Insulated Steel Deck Roofs

- b. FM 4470 Approval Standard for Class 1 Roof Coverings
- 6. Underwriters Laboratories, Inc. UL
 - a. UL 580 Test for Uplift Resistance of Roof Assemblies
 - b. UL 790 Tests for Fire Resistance of Roof Covering Materials
 - c. UL 1897 Uplift Resistance for Roof Covering Systems

1.4 PERFORMANCE REQUIREMENTS

- A. Install roofing system to meet UL 790 Class A/ASTM E 108 Class A Fire Rating.
- B. Wind Design: Install roofing system to meet or exceed the requirements of the current adopted version of ASCE-7, and shall be an approved assembly tested to the wind uplift pressures listed below:
 - 1. Field of Roof: -48.5psf.
 - 2. Perimeter of Roof: -76.1psf.
 - 3. Corner of Roof: -103.7psf.

1.5 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures for Submittals.
- B. Latest edition of the Manufacturer's current material specifications and installation instructions.
- C. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- D. Submit documentation of approved, tested roof system to meet the specified requirements for the following:
 - 1. Wind uplift pressures
 - UL Fire Resistance Rating

1.6 QUALITY ASSURANCE

- A. Roofing applicator shall be approved by the material manufacturer. Additionally, roofing applicator shall have the experience of 5 similar roof projects. Verification shall be provided to the Engineer upon request.
- B. Manufacturer shall have been producing modified bitumen products in the United States for a minimum of 10 years. The primary roofing products shall have maintained a consistent composition for a minimum of five years without a change in the basic product design or SBS modified bitumen blend (e.g. no substantive changes in product composition, polymer specification, asphalt or filler formulation).
- C. The base ply and flashing reinforcing ply shall be fully inspected by the Contractor and Manufacturer's technical representative and repaired and prepared to meet the Manufacturer's requirements prior to installing the surface ply.
- D. The base ply shall not be exposed for longer than the manufacturer's maximum requirement for exposure and shall be acceptable for surface ply applications. Any base ply exposed longer than the maximum requirement will be subject to rejection or additional remedial requirements prior to application of the surface ply.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Delivery. Materials shall be delivered in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. Storage: Store materials out of direct exposure to the elements on pallets at least 4 inches above ground level at site location acceptable to the Owner.
 - 1. Storage trailers are acceptable provided they are equipped with a lock and located at a site location acceptable to the Owner.
 - 2. Utilize tarps that will completely cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
 - 3. Install vapor retarders under material storage areas located on the ground.
 - 4. Store roll goods on end on a clean flat surface.
 - 5. Remove damaged or deteriorated materials from the job site.
- C. Handling. Material shall be handled in such manner as to preclude damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

A. Environmental Requirements

- 1. Roofing shall not be applied during precipitation and shall not be started in the event there is a probability of precipitation during applications.
- 2. The membrane shall not be applied at or below the dew point temperature.
- 3. When conditions are damp and where adjacent roof areas have moisture or dew, the roof shall be fully dried to prevent tracking water over the membrane substrates.
- 4. At ambient temperatures of 40°F and below, including wind chill, take all precautions to ensure all adhesives and other materials maintain the minimum acceptable temperature at the point of roofing application as recommended by the membrane manufacturer.

B. Protection

- 1. Protect against staining and mechanical damage of adjacent surfaces and work areas during application. Staining, mechanical damage, or discoloration of the membrane shall be cause for rejection.
- 2. Prevent smoke and other fumes/odors from entering facility by coordinating with Facility representative and by temporary intake shut down and/or covering intake.
- 3. Protect materials being installed and storage of materials against wind related damage.

C. Torch Operation and Safety

Refer to Section 01 35 00-Hot Work Operations for torch operation and safety.

1.9 WARRANTY

- A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility). Warranty to remain in effect for wind speeds up to 72 mph. Warranties requiring the Owner's signature will not be acceptable.
 - 1. Warranty to include but not be limited to membrane, insulation, vapor barrier,

- mastics, adhesives, fasteners, sealants, base flashings, etc.
- 2. Warranty Period: Twenty years from date of Substantial Completion
- 3. Manufacturer's Representative shall attend two post construction field inspections: the first no earlier than twenty -three (23) months and no later than twenty-four (24) months after the date of Substantial Completion and the second no earlier than fifty-nine (59) months and no later than sixty (60) months. Submit a written report within seven (7) days of the site visits to the Engineer listing observations, conditions and any recommended repairs or remedial action.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements herein, the following manufacturers are approved:
 - 1. Johns Manville (JM)
 - 2. Siplast
 - 3. Soprema, Inc.

2.2 MEMBRANE MATERIALS

- A. Vapor Barrier: Glass fiber and/or polyester reinforced ply sheet manufactured for torch application, meeting or exceeding requirements of ASTM D 6163 or D 6164, Type I or II, Grade S.
 - 1. JM Dynaweld Base
 - 2. Siplast Paradiene 20 TG
 - 3. Soprema Elastophene SP 3.0
- B. Roof Membrane Assembly:
 - A dimensionally stable roof membrane assembly consisting of 2 plies of a prefabricated, reinforced, homogeneous Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane secured to a prepared substrate. Both reinforcement mats shall be impregnated and coated each side with a high-quality SBS modified bitumen blend.
 - 2. The roof system shall pass ASTM D 5849, Resistance to Cyclic Joint Displacement at 14°F. Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles as manufactured and 200 cycles after heat conditioning according to ASTM D 5147.
 - 3. Base Ply Membrane (Torch Applied): Glass fiber and/or polyester reinforced ply sheet manufactured for torch application, meeting or exceeding requirements of ASTM D 6163, D 6164, Type I or II, Grade S.
 - a. JM Dynaweld Base
 - b. Siplast Paradiene 20 TG
 - c. Soprema Elastophene Flam
 - Base Ply Membrane (Self-Adhering)- At Cants: Self adhering, glass fiber and/or polyester reinforced ply sheet, meeting or exceeding requirements of ASTM D 6163 or ASTM D 6164, Type I or II, Grade S.
 - a. JM Dynagrip SD/SA
 - b. Siplast Paradiene 20 SA
 - c. Soprema Sopralene Stick
 - 5. Surface Ply Membrane (Torch Application): Glass fiber and/or polyester reinforced ply sheet manufactured for torch application, meeting or exceeding requirements

of ASTM D 6163, D6164, Type I or II, Grade G. Granules to be white.

- a. JM Dynaweld Cap FR
- b. Siplast Paradiene 30 FR TG
- c. Soprema Elastophene Flam FR GR
- C. Flashing shall consist of:
 - 1. Reinforcing/Stripping Ply (Torch Application):
 - a. JM Dynabase HW
 - b. Siplast Paradiene 20 TG
 - c. Soprema Sopralene Flam 180
 - 2. Flashing/Target Ply (Torch Application):
 - a. JM Dyanweld Cap 180 FR
 - b. Siplast Parafor 50 LT
 - c. Soprema 180 Flam GR
- D. Fluid Applied Flashing System: Shall be membrane manufacturer's polyurethane or PMMA based resin with polyester fleece flashing system.
 - 1. JM SeamFree PMMA Liquid Membrane
 - 2. Siplast Parapro
 - 3. Soprema Alsan RS

2.3 RELATED MATERIALS

- A. Asphalt primer: Shall meet ASTM D-41 requirements and be approved for intended use by membrane manufacturer.
- B. Utility Roof Cement: An asphalt cutback general utility mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges and temporary seals conforming to ASTM D 4586 Type II requirements.
- C. Sealant: An SBS polymer modified asphaltic flashing cement in a 10.4-ounce cartridge conforming to ASTM 4586 requirements approved by the roofing membrane manufacturer for use in conjunction with the roofing membrane materials.
- D. Ceramic granules: Shall be of color scheme matching the granule surfacing of the cap sheet comparable to No. 11 granules.
- E. Walk Pad Material: Shall be a prefabricated (by the membrane manufacturer), puncture resistant polyester core reinforced, polymer modified bitumen sheet material topped with a ceramic granule wearing surface.

2.4 FASTENERS

- A. Base Flashing Fasteners (Wood): Shall be galvanized ring shank nail with one-inch diameter cap, such as Regular Round Head Fasteners as manufactured by Simplex Nails. Fastener length shall be one inch minimum and must be approved by the membrane manufacturer for inclusion in warranty.
- B. Base Flashing Fasteners (Concrete/Masonry): Shall be 1/4" diameter metal-based expansion anchor for use in concrete or masonry substrates with length to penetrate substrate a minimum of 1-1/2".

C. Termination Bar: 1/8" X 1" aluminum or stainless-steel flat bar with pre-drilled oversized or slotted holes 8" on center.

PART 3 EXECUTION

3.1 EXAMINATION

- A. A pre-job conference including the Engineer, Contractor, and the membrane manufacturer's representative shall be conducted prior to the application of the roofing.
- B. Contractor shall verify that work penetrating the roof deck or work which may otherwise affect the roofing has been properly completed.
- C. Contractor shall inspect insulation system substrate prior to application of membrane. Commencement of work signifies Contractor's acceptance of substrate. Any defects in roofing work resulting from such accepted substrates shall be corrected to Owner's satisfaction at no additional expense.

3.2 PREPARATION

- A. General. All surfaces shall be swept or vacuumed prior to commencement of roofing.
- B. Contractor shall coordinate closure of air intakes prior to application of primer and cold adhesives.
- C. All membranes shall be unrolled and allowed to relax in accordance with membrane manufacturer's recommendations or a minimum of thirty minutes, whichever is greater.
- D. Where walls, curbs, expansion joints, etc. present an unacceptable substrate for flashing and where flashings substrates are combustible, a layer of non-combustible overlayment insulation shall be fastened to provide a suitable substrate for flashing.

3.3 APPLICATION

A. General:

- 1. Apply roofing in accordance with roofing system manufacturer's instructions and the following requirements. Application of the roofing membrane base ply shall immediately follow application of vapor retarder/insulation system as a continuous operation.
- 2. Aesthetic Considerations: An aesthetically pleasing overall appearance of the finished roof application is a standard requirement for this project. Make necessary preparations, utilize recommended application techniques, apply the specified materials (i.e. granules, etc.), and exercise care in ensuring that the finished application is acceptable to the Owner. Excessive footprints or impressions in the surface ply will be grounds for rejection thereby requiring complete membrane tear-off and replacement.
- 3. Priming:
 - a. Prime metal flanges, concrete and masonry surfaces with a uniform coating of asphalt primer.
 - b. Primer shall provide full coverage to ensure surfaces are dark brown to black. No less than 1 to 1-1/4 gallons per square will be accepted.
 - c. Allow primer to fully dry prior to application of asphalt/adhesive.
- 4. Inspect membrane and flashing application each day. Repair all deficiencies daily prior to beginning or resuming other work.

- a. Membrane deficiencies shall be cut open and removed as necessary.
- b. Repairs shall extend from lap to lap.

B. Vapor Barrier:

- 1. Apply membrane in accordance with the manufacturer's instructions and the following requirements.
- 2. Apply all layers of roofing free of wrinkles, creases or fishmouths.
- 3. Exert sufficient pressure by use of roller or broom on the roll during application to ensure prevention of air pockets.
- 4. Apply all layers of roofing perpendicular to the slope of the deck.
- 5. Fully bond to the prepared substrate, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the torch applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.

C. Roof Membrane:

- 1. Apply membrane in accordance with the manufacturer's instructions and the following requirements.
- 2. Apply all layers of roofing free of wrinkles, creases or fishmouths.
- 3. Exert sufficient pressure by use of roller or broom on the roll during application to ensure prevention of air pockets.
- 4. Stagger the lap seams between the base ply layer and the finish ply layer.
- 5. Apply all layers of roofing perpendicular to the slope of the deck.
- 6. Fully bond the base ply to the prepared substrate, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the torch applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
- 7. Fully bond the surface ply to the base ply, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the torch applicator. Stagger end laps of the surface ply a minimum 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger side laps of the surface ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the surface ply a minimum 3 feet from end laps in the underlying base ply.
- 8. Follow membrane manufacturer's recommendations if hot air welding of laps is required.

D. Torch Application:

- 1. Utilize heat welders experienced in torch application.
- 2. Warm the surface to which the membrane is being applied, preheat portions of the roll which are about to be applied and melt the modified asphalt on the back of the sheet which will be used to adhere the membrane. The area of the roll where the modified asphalt is being melted is the most critical. Roll must be heated evenly across the entire width of the sheet being heat welded.
- 3. Ensure a small bead of asphalt precedes the roll as it is laid down. Bead of asphalt shall be visible to the applicator and should flow out on both sides of the sheet.
- 4. Granule Embedment: Embed granules at all locations where membrane material will be installed over a granulated surface and a selvage edge is not present. Using a torch or embedment tool, heat the area and push the granules down into the heated bitumen. Do not scrape or remove the granules from the surface.
- E. Water cut-off: At end of day's work, or when precipitation is imminent, construct a water cut-off at all open edges. Cut-offs can be built using asphalt or plastic cement and roofing felts, constructed to withstand protracted periods of service. Cut-offs must be completely

removed prior to the resumption of roofing.

- F. Flashings: Shall be installed concurrently with the membrane installation.
 - 1. Prior to installing flashings over plywood substrates, install a layer of rosin paper and base sheet. Secure materials to plywood with approved fasteners at 6" on center staggered in all directions.
 - 2. Prior to torch application along cant strips, provide self-adhered flashing ply in accordance with the below requirements.
 - 3. Base flashing shall be accomplished using a reinforcing ply and flashing ply. The reinforcing sheet shall be lapped a minimum of three (3) inches to itself and shall extend a minimum of four (4) inches onto the base ply surface from the base of the cant and a minimum of three (3) inches up the vertical termination above the toe of the cant. The flashing sheet shall be lapped a minimum of three (3) inches to itself and shall extend a minimum of six (6) inches from the toe of the cant onto the surface ply surface and a minimum of three (3) inches up the vertical termination above the toe of the cant or as noted in the detail drawings. Lap seams in the reinforcing layer shall never coincide with the laps of the flashing layer. The reinforcing sheet and flashing sheet shall be adhered by cold adhesive (in accordance with the manufacturer's guidelines). All flashing sheets shall be cut off the end of the roll and be applied vertically, always working to a selvage edge.
 - 4. Base flashing shall be mechanically terminated a minimum of eight (8) inches above the finished roof surface.
 - a. Wood Substrate: Base flashing shall be mechanically terminated using approved fasteners eight (8) inches on center. Fastener heads shall be covered with a three-course roof cement and fabric.
 - b. Concrete/Masonry Substrate: Base flashing shall be mechanically terminated using approved fasteners and termination bar.
 - 5. Base flashing shall be terminated at all roof edges by extending the base flashing at least two inches beyond the edge of the roof and mechanically attaching a termination bar vertically with appropriate fasteners eight inches on center. Provide a continuous bead of sealant along outside edge of termination bar.
 - 6. Sheet metal incorporated into the roofing system shall be sealed off with stripping ply. Stripping plies shall be installed in roof cement and fit tight to the edge of the sheet metal. The stripping ply shall extend four inches beyond sheet metal onto roof membrane. Stripping ply shall be installed prior to application of surface ply.
 - 7. Provide sealant installed to fill void between edge of sheet metal and surface ply edge (i.e. at metal edge, pipe penetrations, etc.) properly tooled to ensure adhesion and slope to shed water. Broadcast granules into properly installed sealant.

G. Fluid Applied Flashing Application

- Using masking tape, mask the perimeter of the area to receive the flashing system. Apply resin primer to substrates requiring additional preparation and allow primer to set.
- 2. Pre-cut fleece to ensure a proper fit at transitions and corners prior to membrane application.
- 3. Refer to manufacturer's installation instructions for application rates and additional installation information.
- 4. Broadcast granules into horizontal surface of fluid to match adjacent surface ply.

H. Roof Drain

- 1. Provide roof drain flashings as indicated in detail drawing. Refer to the above requirements for fluid applied flashings.
- 2. Replace clamping ring and strainer dome to match existing roof manufacturer and

model with cast iron clamping ring and strainer dome with stainless steel clamping ring bolts.

I. Walk Pad Material

- Apply walk pad material to a clean, dry surface.
- 2. Prior to application, cut walk pad material into maximum 5' lengths and allow to relax until flat. A straight edge or chalk line should be used to ensure straight square cuts. Do not cut the walk pad material directly on the roof surface.
- 3. Position walk pad material so as to leave minimum 2" gaps between panels to allow for proper drainage.
- 4. Adhere walk pad panels to surface ply with roof cement applied to the back of the panels in spots approximately 5" square. Use a notched trowel to keep the cement 3/8" thick.
- 5. Walk-in each panel to ensure complete contact with the membrane surface.
- 6. Provide walk pads where indicated in Contract Drawings and at the following locations:
 - a. At base and top of fixed wall access ladders.
 - b. Around HVAC units.
 - c. At door access to roof areas.
- J. Ponding Water: The ponding of any water on the roof surface after installation of the roofing system is not acceptable and will be grounds for rejection of the roof. Ponding is herein defined as precipitation remaining in a four square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation. Contractor shall not apply surface ply until verification of proper drainage has been determined. Contractor shall be responsible for modifications to roof system to ensure proper drainage including but not limited to reinstallation of roof system, installation of additional tapered insulation and/or installation of additional base plies.

3.4 CLEANING

- A. Remove all debris and excess material from the roof area. Pick-up all loose fasteners and sheet metal scraps.
- B. The Contractor shall clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.

END OF SECTION 07 52 16

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fabrication and installation of new sheet metal flashings and trim to provide a permanently watertight condition.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:

1.	Rough Carpentry	Section 06 10 00
2.	Metal Wall Panels	Section 07 42 13
3.	Modified Bitumen Roofing	Section 07 52 16

1.3 REFERENCES

- A. Refer to the following references for specification compliance:
 - 1. 2018 International Building Codes with SC Modifications
 - 2. ASTM International
 - 3. National Roofing Contractors Association (NRCA)
 - 4. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - a. Architectural Sheet Metal Manual, Seventh Edition January 2012
 - 5. ANSI/SPRI ES-1

1.4 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Pre-finished sheet metal and sealant color chart.
- D. Shop Drawings for any transitions and/or terminations not depicted in Contract Drawings.

1.5 QUALITY ASSURANCE

- A. Installation shall comply with the Contract Drawings. References to figures are from SMACNA Architectural Sheet Metal Manual, Seventh Edition January 2012.
- B. Ensure work is free of leaks in all weather conditions.
- C. Fabricate metal edge (where no gutter is present) and coping in accordance with ANSI/SPRI ES-1 requirements.
- D. Workmanship shall be first-class in every respect. The sheet metal work shall be assembled and secured in accordance with these specifications, the manufacturer's requirements and referenced standards.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
- B. Storage: Store materials within areas designated or approved by the Owner. Ensure materials remain dry, covered and not in contact with the ground.
- C. Handling: Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.7 PROJECT CONDITIONS

- A. Environmental: Protect building and its components from the elements at all times during the project.
- B. Coordination and Scheduling: Coordinate all phases of work to allow continuity of work without delays.

1.8 WARRANTY

- A. Contractor to provide the pre-finished sheet metal manufacturer's thirty (30) year finish warranty from the date of substantial completion.
- B. Provide certification of air-dried kynar paint or powder coating for specified materials.

PART 2 PRODUCTS

2.1 PRE-FINISHED STEEL

- A. Galvalume coated steel meeting or exceeding AZ50 per ASTM A792. Manufacturer's smooth finish, pre-finished color coatings consisting of full strength 70% Kynar 500 fluorocarbon (Polyvinylidene Fluoride PVF2) coating over a urethane primer on the finish side, with primer and a wash coat on the reverse. All measurements per NCCA Technical Bulletin II-4 or ASTM D1005. A strippable plastic film should protect the finish during fabrication and installation. Manufacturer's standard color to be selected by Owner.
 - 1. 24 gauge
 - a. Slip Flashing
 - b. Receiver Flashing
 - c. Counterflashing
 - d. Fascia Cover
 - e. Metal Edge
 - f. Scupper Face Plate

2.2 GALVALUME

- A. Galvalume coated steel meeting or exceeding AZ50 per ASTM A792
 - 1. 22 gauge
 - a. Continuous Cleat
- B. Pre-manufactured Coping System
 - 1. Pre-Manufactured Coping System consisting of formed-metal coping cap, concealed anchorage; corner units, end cap units, and concealed splice plates

with same finish as coping caps; tested to meet the required wind uplift pressures indicated in Section 07 52 16. Subject to compliance with requirements, provide products by one of the following:

- a. Architectural Products Company
- b. Cheney Flashing Company
- c. Hickman Company, W.P.
- d. Johns Manville
- e. Metal-Era, Inc.
- f. Metal-Fab Manufacturing, LLC
- g. MM Systems Corporation

2.3 STAINLESS STEEL

- A. 26 gauge, Type 304 as tested in accordance with ASTM A 167.
 - 1. Scupper Liner
 - 2. Flange/Sleeve
 - 3. Watertight Umbrella
 - 4. Support Curb Cap
 - 5. Multiple Pipe Enclosure Components
 - a. Pipe Enclosure Flashing
 - b. Closure Cap
 - 6. Splash Pan
- B. Compression Bar: 1/4" X 1.5" stainless steel flat bar.

2.4 COPPER

- A. 16 ounce, soft rolled complying with ASTM B 370
 - 1. Counterflashing

2.5 LEAD

- A. Four pound soft lead:
 - 1. Roof Drain Flashing utilize 30" x 30" sheet
 - 2. Lead Wedges

2.6 FASTENERS

- A. Roofing Nails: 11 or 12 gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8" diameter head and length as required to penetrate substrate a minimum of 1-1/4".
- B. Screws:
 - 1. Sheet metal to wood attachment (exposed): #12 stainless steel, 5/16 HWH with length to penetrate substrate a minimum of 1-1/2". Provide with bonded EPDM washer or washer specified below.
 - 2. Sheet metal to wood attachment (concealed): #10 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1-1/2".
 - 3. Sheet metal to light gauge steel attachment: #14-13 DP1 stainless steel low profile pancake head of length as required for three threads to penetrate metal substrate or min. 1" penetration though wood substrates.

- 4. Sheet metal to sheet metal attachment (exposed): 1/4" x 7/8" carbon steel, self-drilling point, self-tapping, zinc alloy hex head screws with bonded EPDM tubular washer under head of fastener; screw heads to match color of wall panel by means of factory applied coating.
- C. Concrete and Masonry Anchors: 1/4" diameter metal based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2".
- D. Washers: Shall be stainless steel with neoprene gasket backing. Shall be 9/16" diameter for use with #12 screws and 5/8" diameter for use with 1/4" diameter concrete and masonry anchors.
- E. Rivets: #44 stainless steel rivets with stainless steel mandrel. Length of rivet to properly fasten particular sheet metal components. Rivets shall be factory painted to match adjacent sheet metal.

2.7 RELATED MATERIALS

- A. Sheet Metal Underlayment: 40-mil minimum thickness sheet; slip-resistant surfacing, polyethylene-film-reinforced top surface laminated to SBS-modified asphalt adhesive, with release paper backing; suitable for high temperature applications up to 250 degrees. Acceptable products include:
 - 1. Mid-States Asphalt Quik-Stick HT
 - 2. Grace Ice and Water Shield HT
 - 3. Carlisle WIP 300 HT
- B. PVC Flashing: 20 mil corrosion resistant, waterproof PVC flashing.
- C. Compressible Insulation: Un-faced friction-fit fiberglass building insulation, cut to fit from 3-1/2"x 15"x48" batts.
- D. Polyurethane Sealant: One-component elastomeric gun grade polyurethane sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, and use NT, M, A, G, or O as required by substrate conditions. Color to match adjacent materials.
- E. Silicone Sealant: Shall be a one-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant. Shall meet ASTM C 920, Type S, Grade NS, Class 100, Use M, G, A or O. Color to match adjacent materials.
- F. Sealant Tape: Minimum ½" wide non-skinning butyl sealant tape.
- G. Butyl Sealant: Shall be gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.
- H. Aluminum Tape: Pressure-sensitive, 2" wide aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as bond breaker under the metal edge cover plates.
- I. Backer Rod: Closed-cell polyethylene or polyurethane rods sized approximately 25% larger than joint opening.
- J. Solder: 80-20 lead-TIN alloy conforming to ASTM B32.
- K. Flux: Muriatic acid killed with zinc or an accepted brand of commercial soldering flux designed for use with 80-20 solder.
- L. Pourable Sealer: Two part pourable polyurethane sealant conforming to ASTM D 429, and

designed to seal around penetrations.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Coordinate with other work for correct sequencing of items which make up the entire system.
- B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.
- C. Deficiencies associated with the sheet metal substrates shall be reported to Engineer before beginning sheet metal work. All such deficiencies shall be corrected before installing sheet metal flashings.

3.2 INSTALLATION

A. General:

- 1. All joints to be locked and sealed or soldered.
- Provide for thermal movement (expansion and contraction) of all exposed sheet metal.
- 3. Where dissimilar metals contact, galvanic action shall be prevented by means of heavy coat of asphalt paint.
- 4. Where existing copper through wall is to remain in use, install new copper counterflashing.
- 5. Prime all metal surfaces (top and bottom) to receive bituminous materials. Allow primer to dry thoroughly before application of bituminous materials.
- 6. All metal flanges shall be installed on top of membrane and adhered as indicated in detail drawings. Metal flanges connected to the roof shall be installed per membrane manufacturer's specifications and the requirements herein.
- 7. Various sheet metal sections shall be uniform with corners, joints and angles mitered, sealed and secured.
- 8. Exposed edges shall be returned (hemmed); both for strength and appearance, and sheet metal shall be fitted closely and neatly.
- 9. Provide cleats or stiffeners and other reinforcements to make all sections rigid and substantial.
- 10. Sheet metal shall be fabricated, supported, cleated, fastened and joined to prevent warping, "oil canning", and buckling.
- 11. All sheet metal details shall provide for redundancy including but not limited to sheet metal underlayment and/or sealants. This secondary protection shall be installed, sealed and lapped to ensure a redundant layer of protection will shed moisture infiltration in the sheet metal fails.

B. Sheet Metal Underlayment:

- 1. Fully adhere to substrates where indicated in Contract Drawings.
- 2. Lap adjoining sections a minimum of 3" and fully adhere.
- Shall extend beyond wood blocking a minimum of 1" at roof edges and parapet walls.
- 4. At roof edges and parapet walls, sheet metal underlayment shall be installed concurrently with roof membrane and flashing installation. Temporary weather protection utilizing other materials is not acceptable when sheet metal underlayment is specified.
- C. Fasteners: Shall be size and type required.

- 1. All fasteners to be rust resistant and compatible with materials to be joined.
- 2. All exposed fasteners shall be stainless steel screws with washers fastened through 5/16" predrilled oversized holes.
- 3. All exposed fasteners into concrete or masonry shall be metal based expansion anchor with stainless steel pin with washers fastened through 11/32" predrilled oversized holes.
- 4. All exposed fasteners shall have factory painted heads to match the sheet metal color.
- 5. Exposed horizontal surface fasteners are not acceptable.

D. Roof Drain

1. Provide roof drain flashings as indicated in detail drawing. Install lead flashing in full bed of roof cement over built-up roof membrane. Form flashing with a rubber mallet to conform to substrate and extend a minimum of 1" beyond clamping ring. Strip-in flashing as specified.

E. Overflow Roof Drain

1. Provide overflow roof drain flashings as indicated in detail drawing. Install lead flashing in full bed of roof cement over built-up roof membrane. Form flashing with a rubber mallet to conform to substrate and extend a minimum of 1" beyond clamping ring. Strip-in flashing as specified.

F. Slip Flashing for Curbs

- 1. Fabricate slip flashing at curbs as shown in detail drawings in 10' lengths.
- 2. Slip flashing shall extend a minimum of 2 inches below base flashing termination and shall fit tightly against curb.
- 3. Secure slip flashing 12" on center of a minimum of two fasteners per side of the curb.
- 4. Notch and lap ends of adjoining sections not less than 4"; apply sealant tape between sections.
- 5. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2" on center.

G. Equipment Support

- 1. Wrap top of equipment support with sheet metal underlayment to extend two inches below base flashing termination.
- 2. Fabricate equipment support cap at curbs as shown in detail drawings in one continuous piece of sheet metal and secure at eighteen inches on center.

H. Reglet Mounted Two-Piece Receiver and Counterflashing

- 1. Fabricate receiver and counterflashing as shown in detail drawings in 10' lengths.
- 2. Install receiver flashing into saw-cut reglet and secure with soft metal wedges at 18" on center set deep into joint or surface mount at 12" on center.
- 3. Install sealant properly tooled to ensure adhesion and slope to shed water in sawcut reglet. Sealant shall completely cover soft metal wedges.
- 4. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. Stagger receiver anchors/wedges with counterflashing fasteners.
- 5. Counterflashing shall extend a minimum of 1.5 inches below base flashing termination.
- 6. Notch and lap ends of adjoining sheet metal sections not less than 4"; apply sealant tape between sections.
- 7. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2" on center.

I. Surface Mounted Two-Piece Receiver and Counterflashing

- 1. Fabricate receiver and counterflashing as shown in detail drawings in 10' lengths.
- 2. Install receiver flashing surface mounted at 12" on center.
- 3. Install sealant in kick-out and manually tool concave to ensure proper adhesion and slope to shed water as indicated in detail drawings.
- 4. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. Stagger receiver anchors with counter flashing fasteners.
- 5. Counterflashing shall extend a minimum of 1.5 inches below base flashing termination.
- 6. Notch and lap ends of adjoining sheet metal sections not less than 4"; apply sealant between sections.
- 7. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2" on center.

J. Fascia Cover

- 1. Provide fascia cover secured to wood blocking 12" on center where indicated in detail drawings.
- 2. Notch and lap ends of adjoining fascia cover sheet metal sections not less than 4"; apply sealant tape or two beads of butyl sealant between sections.

K. Pre-Manufactured Coping

- 1. Provide where indicated in Contract Drawings.
- 2. Provide continuous sheet metal underlayment up and over parapet extending a minimum of 1" below wood blocking.
- 3. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections.
- 4. When ambient temperature at time of installation is between 40 and 70 degrees Fahrenheit, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- 5. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 degrees Fahrenheit.
- 6. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.
- 7. Secure fascia in accordance with manufacturer's written instructions and recommendations.
- 8. Anchor coping to meet performance requirements:
 - a. Interlock face leg drip edge into continuous cleat anchored to substrate at manufacturer's required spacing that meets performance requirements and not less than with fasteners spaced 6 inches on center.
 - b. Anchor back leg of coping with screw fasteners and elastomeric washers at manufacturer's required spacing that meets performance requirements and not less than with fasteners spaced 24 inches on center.

L. Through-Wall Overflow Scupper

- 1. Fabricate thru-wall scupper flange, liner, and faceplate as shown in detail drawings. Scuppers dimensions shall be as indicated in the Contract Drawings.
- 2. Clean and solder all seams of the flange and liner.
- 3. Install sheet metal underlayment through scupper opening prior to installing new scupper to seal wall cavity.
- 4. Provide flange which extends a minimum of 4" on top and sides of scupper, and extends a minimum of 4" out onto the horizontal membrane. Set all flanges in a full bead of roof cement.
- 5. Strip-in flange as specified in Contract Drawings.

- 6. Provide faceplate which extends 1.5" around the entire scupper and secure to wall substrate with four fasteners. Set faceplate in a bead of sealant.
- 7. Scupper Liner shall extend 1" beyond the exterior wall face and lock onto faceplate.

M. Splash Pans

- 1. Where downspouts discharge onto adjacent roof; provide splash pans on 18" by 30" walk pads.
- 2. Splash pan shall be fabricated to meet SMACNA Architectural Sheet Metal Manual Figure 1-36, Alternate Section with 2 v-grooves.

N. Multiple Pipe Penetration

- 1. Fabricate pitch pan, pipe enclosure flashing, and closure cap as shown in detail drawings. Refer to SMACNA Architectural Sheet Metal Manual Figure 8-8B or 8-9A depending upon direction of pipes.
- 2. Size pitch pan minimum 2" larger than the penetration on all sides. Provide a 4" minimum flange and double walls with minimum depth of 6".
- 3. Set flange of pitch pan in full bead of roof cement and strip-in flange of metal edge as specified.
- 4. Strip-in flange of pitch pan as indicated in the Contract Drawings.
- 5. Install 2" wide aluminum tape around all sides of pitch pan extending 1/2" above top edge.
- 6. Fill pitch pan with non-shrink grout to a depth of 2" from the top of the tape.
- 7. Fill pitch pan with pourable sealer to the top of the tape. Slope to shed water.
- 8. Secure pipe enclosure flashing and cap as indicated in detail drawings.
- 9. Clean and solder all seams.

O. Base Flashing Closure

- 1. Install new closures where base flashings abruptly end.
- 2. Completely solder or seal all joints to be watertight.
- 3. Install closures over membrane and under finish ply of base flashing.
- 4. Extend closures up under counterflashings or copings.
- 5. Install closures to completely seal ends of base flashings, membrane and cants as well as end joints of edge metal.

3.3 CLEANING AND PROTECTION

- A. All sheet metal work shall be thoroughly cleaned of all asphalt, flux, scrapes and dust.
- B. Scratches through the metal finish shall be replaced to the Owner's satisfaction.

END OF SECTION 07 62 00

SECTION 07 72 00

ROOF ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Provide roof accessory assemblies as indicated and required by the Contract Drawings:
 - 1. Provide pipe supports for all rooftop conduit, gas lines, electrical lines, condensation lines, etc.
 - 2. Provide PVC pipe to route condensation from HVAC p-traps to nearest drainage point.
 - 3. Alternate Two: Provide fixed wall access ladder where indicated in Contract Drawings.
 - Provide fixed wall access ladder where indicated in Contract Drawings, from Sector C to E.
 - 5. Provide guy wire supports where indicated in Contract Drawings.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section, including but not limited to:
 - 1. Modified Bitumen Roofing

Section 07 52 16

2. Sheet Metal Flashing and Trim

Section 07 62 00

1.3 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Latest edition of the Manufacturer's current material specifications and installation instructions.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Deliver materials to site in Manufacturer's original unopened packaging with labels intact.
- B. Storage: Adequately protect against damage while stored at the site.
- C. Handling: Comply with Manufacturer's instructions.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify all dimensions required.

1.6 WARRANTIES

A. All roof accessories provided through roof system manufacturer shall be included in the specified roof system manufacturer's warranty.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Pipe Support: Smooth EPDM rubber pipe support sized to fit the diameter of the pipe being supported and height adjustable. Acceptable products include:
 - 1. Olympic Olyflow PipeGuard
 - 2. Erico Caddy Pyramid EZ Series
 - 3. Portable Pipe Hangers
 - Miro Industries
- B. Over Parapet Access Ladder
 - 1. Fixed Steel Ladder: Fixed ladder of appropriate length with walk-thru hand rails, welded one-piece construction, gray powder coat finish such as:
 - a. Cotterman Model FW
 - b. O'Keefe's Inc. 502 Tubular Rail Low Parapet Access Ladder with Roofover Rail Extensions
 - c. Gillis Fixed Access Ladder
 - 2. Fixed Steel Ladder Anchors: Minimum 1/2 inch diameter, corrosion resistant threaded rods supplied by the anchoring system manufacturer. Screen for hollow masonry provided by fastener manufacturer. Corrosion resistant nut and 1-1/2" diameter flat washer. Acceptable manufacturers include:
 - a. Powers Fasteners, Inc. Chem-Fast Anchoring System
 - b. Powers Fasteners, Inc. AC100 Anchoring System
 - c. ITW Ramset Epcon System
- C. Guy Wire Supports: Standard 14" high epoxy coated, urethane insulated hollow steel supports including appropriate hardware for fastening to structural roof deck, and stainless steel cap with galvanized eye for affixing guy wire; manufacturer's standard urethane insulated 22 gauge Type 304 stainless steel flashing with EPDM Base Seal and PVC coated deck flange or bituminous painted deck flange.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine subsurfaces to receive Work and report detrimental conditions in writing to Architect. Commencement of Work will be construed as acceptance of subsurfaces.
- B. Coordination: Coordinate with other Work which affects, connects with, or will be concealed by this Work

3.2 INSTALLATION

- A. Pipe Supports
 - 1. Provide pipe supports at all rooftop gas, electrical conduit and condensation lines with a 5' maximum spacing.
 - 2. Provide new PVC condensation lines with integral P-trap on HVAC units.
 - 3. Route condensation lines to nearest drainage point (i.e. roof drain, gutter, or scupper).
- B. Ladder:

- Install ladder in accordance with manufacturer requirements and recommendations
- 2. Drill 5/8" diameter hole a minimum of 2-1/2" into masonry wall using the appropriate drill bit.
- 3. Use brush and/or compressed air to remove all dust and debris from hole.
- 4. Insert HIT-S Screen tube into hole and fill to front edge of screen with HY 20 adhesive (minimum 1 pump for S12 screen tube).
- 5. Insert HIT-A Rod into adhesive-filled screen, twisting slightly. Fastener may be adjusted during specified gel time. Do not disturb fastener between specified gel and cure time.
- 6. Install fixed steel ladder and secure to HIT-A Rods with washers and nuts. Do not exceed maximum torque on anchors.

C. Guy Wire Supports:

- Install guy wire support in accordance with manufacturer's installation instructions
- 2. Flash penetration as indicated in the Contract Drawings.

3.3 CLEANING

A. During the course of the Work and on completion, remove and dispose of excess materials, equipment and debris away from premises.

END OF SECTION 07 72 00

SECTION 07 92 00

ELASTOMERIC JOINT SEALANTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. The Contractor shall re-seal all construction joints using the specified sealant where indicated in the Contract Drawings including removal of old materials, preparation of joints, priming of substrate as determined from sample adhesion tests, installation of backer-rod or tape to prevent 3-sided adhesion, and providing specified sealant properly tooled to ensure adhesion.

1.2 RELATED SECTIONS

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

1.3 REFERENCES

- A. Refer to the following references for specification compliance:
 - 1. Federal Specification TTS-00230C Elastomeric type, cold-applied single-component for caulking, sealing and glazing in building areas, and other structures.
 - ASTM International
 - a. ASTM C 719
 - b. ASTM C 794
 - c. ASTM C 920
 - d. ASTM C 1193
 - e. ASTM C 1248
 - f. ASTM D 412
 - g. ASTM D 624
 - 3. Underwriters Laboratories, Inc. UL

1.4 SUBMITTALS

- A. Refer to Section 01 33 00-Submittal Procedures.
- B. Manufacturer's Product Data Sheets for all materials specified certifying material complies with all specified requirements.
- C. Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Samples for Verification: Contractor shall provide Manufacturer's standard color selection for Owner's approval. Physical sample of pre-selected color(s) shall be required for submittal for final approval of color by Owner before installation.
- E. Compatibility and Adhesion Test Reports: Contractor shall submit Manufacturer's letters indicating actual substrate samples have been tested for adhesion and compatibility. Surface preparation methods shall be included along with primer requirements for the substrates tested.
- F. Non-Stain Testing: Contractor shall provide certification for silicone joint sealants indicating completion of stain testing in compliance with ASTM C-1248 for non-fluid-staining results

on porous surfaces such as Concrete, Granite and Marble where applicable.

1.5 QUALITY ASSURANCE

A. Source Limitations: Contractor shall obtain each type of joint sealant, related structural glazing sealant or related elastomeric coatings and joint sealant primers through one source from a single Manufacturer.

B. Field Mock-up:

- 1. Before caulking work begins, the successful contractor shall prepare for caulking three (3) joints, each approximately forty-eight (48") inches long, in each type material to be caulked. The joints shall be treated as hereinafter specified as to preparation. After the joint preparation has been observed by the Engineer, and the Contractor, the joints shall be caulked and allowed to reach final cure.
- 2. Work on the project may not begin until approved field tests have been accepted by the Engineer.
- C. During the progress of the work, after material has received final cure, hand pull test in accordance with procedures as published by SWRI, shall be performed by the Contractor in the presence of the Engineer. Tests shall be performed at random times in random areas selected by the Engineer. Contractor shall repair all test areas at no additional charge to the owner.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Material shall be delivered in the manufacturer's original sealed and labeled containers and cartons.
- B. Storage. Materials shall be stored out of direct exposure to the elements, located above standing water at least 4 inches above ground level. Non-sweating tarpaulins will be placed to prevent moisture contamination.
- C. Sealants are heat and moisture sensitive and shall be protected from excessive heat exposure and moisture exposure.
- D. Sealants shall not be exposed to prolonged freezing temperatures.
- E. Shelf Life: Products over 9 months old shall not be used unless Manufacturer's published literature allow. Contractor shall document product self-life information, and check expiration date before use.
- F. Handling: Material shall be handled in such a manner to prevent exposure to moisture. During cold temperatures (less than 40°F) store containers at room temperature for 24 hours.

1.7 PROJECT CONDITIONS

- A. Sealant shall not be applied during precipitation or started in the event there is a probability of precipitation during the application. Conditions shall be forecast to be dry for no less than 24 hours after application
- B. Contractor shall ensure all of the sealant Manufacturer's published requirements are followed, including the following general limitations for polyurethane sealants:
 - 1. Do not apply polyurethane sealants to un-cured silicone sealants, or install adjacent to un-cured silicone.
 - 2. Do not allow un-cured polyurethane sealant to come in contact with alcohol-based

- sealants, butyl sealants, acrylic sealants or any other incompatible materials.
- Do not allow un-cured polyurethane sealant to come in contact with oil-based caulking/sealants, oil, asphalt, polysulfides, or fillers impregnated with oil, asphalt or tar.
- 4. Do not install sealant on damp substrates.
- 5. Do not install where sealant will be continually immersed in water.
- 6. Do not apply sealant to new "green" treated lumber.
- 7. Contractor shall prime masonry, stainless steel, copper, galvanized steel and prefinished metal with sealant Manufacturer's approved primer. Refer to specified primers.
- 8. Contractor shall follow all of the Manufacturer's published precautions.
- C. No more sealant shall be installed than can cure for 24 hours before precipitation.

1.8 WARRANTY

- A. Material Manufacturer's Warranty:
 - The Sealant manufacture shall guarantee their material to have or to exceed the properties specified within this section of the specifications and shall agree to replace all products proved to be defective.
 - 2. Silicone Sealant Warranty shall be for a Twenty (20) year period beginning at date of substantial completion of the work.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Silicone Sealant Components:
 - Silicone Sealant: Shall be a one-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant for high movement expansions and control joints. Shall meet ASTM C 920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to be chosen by Owner from manufacturer's standard color chart and approved by Owner in advance of application. Acceptable Manufacturers include:
 - a. Dow 790 Building Sealant
 - b. Pecora 890 NST Silicone
 - c. Sikasil-WS 290
 - 2. Primer: Primer manufactured and recommended by Sealant Manufacturer. Contractor shall consult sealant Manufacturer's published literature for specific substrate and primer types.
 - 3. Backer Rod: Open-cell polyurethane backer-rod or soft polyethylene backer-rod as recommended by sealant Manufacturer. Backer rod shall be 25% greater than joint for tight fitting compression in the joint.
 - 4. Bond-breaker Tape: Polyethylene strip or tape, as recommended by or supplied by the sealant Manufacturer to prevent 3-sided bond in joints.

PART 3 EXECUTION

3.1 EXAMINATION

A. Site Verification of Conditions: Contractor shall inspect joints indicated for restoration with joint sealants and verify joint substrate conditions are acceptable for installation in accordance with sealant Manufacturer's instructions. Contractor shall correct unsatisfactory conditions before installing sealants.

- 1. General: Contractor shall determine acceptable removal techniques for contaminants harmful to joint sealant performance such as dust, dirt, grease, oils, curing compounds, form release agents, laitance and waterproofing film or overspray coatings. All surfaces shall be cleaned and totally dry, frost-free and dust-free before sealant application to ensure optimum results.
- 2. Surface Defects and Repairs: Contractor shall identify contaminants in substrates that are harmful to system performance. Contractor shall remove and legally dispose of existing joint sealants or contaminated materials. New substrates or newly repaired surface defects shall be allowed to cure to full, load-bearing capacity per manufacturer's recommendations. Porous surfaces shall be cleaned using heavy-duty brushing or light abrasive cleaning methods followed by oil-free, compressed air blast.
- B. Commencement of work signifies Contractor's acceptance of substrate. Any defects in sealant work resulting from such accepted substrates shall be corrected by the Contractor at no additional expense to the Owner.

3.2 PREPARATION

- A. General: Prior to installation, the Contractor shall remove existing joint sealant materials and clean substrates of substances that could impair the bond of joint sealants. The Contractor shall remove any existing joint sealant residue. The Contractor shall clean and prepare joint surfaces immediately before installing joint sealants. The Contractor shall protect adjacent work areas and finished surfaces from damage during joint sealant installation.
- B. The Contractor shall clean porous joint surfaces by using heavy-duty brushing, light abrasive, mechanical abrading or combination of these methods to produce a clean, sound surface for optimum bond with joint sealants per manufacturer's recommendations. Provide a dry, dust-free and cleaned substrate for optimum results.
- C. Non-porous surfaces shall be cleaned using the two-cloth solvent wipe method as referenced in ASTM C-1193 and outlined by joint sealant manufacturer's instruction. IPA (isopropyl alcohol) is not a degreasing solvent yet may be used in new construction for non-porous joint cleaning and preparation. Use xylene, toluene or MEK for degreasing solvent and general cleaning of non-porous surfaces. The Contractor shall follow all applicable precautions associated with solvents.
- D. The Contractor shall coordinate cleaning, priming and installation to avoid contamination of wet, freshly coated or on adjacent finished surfaces. Rusting or scaling surfaces shall be removed using abrasive cleaning methods as recommended by joint sealant Manufacturer prior to joint sealant installation.
- E. Efflorescence, mold, mildew and algae shall be removed and neutralized by the Contractor prior to joint sealant installation. Prepare finish-coated surfaces in accordance with joint sealant Manufacturer's specific recommendations.

3.3 INSTALLATION

- A. General: The Contractor shall comply with joint sealant Manufacturer's written installation instructions for products, primers and applications.
- B. Contractor shall apply joint sealants for continuous waterproof sealant joint protection. Vertical joints should be lapped over horizontal joints as recommended by sealant Manufacturer. Contractor shall comply with installation recommendations in ASTM C-1193 for use of joint sealants as applicable to each specific sealant installation.
- C. Contractor shall install sealant primers when recommended by sealant Manufacturer and demonstrated at pre-construction tests after joint surface preparation has been completed

and when surfaces are verified as clean and dry.

- 1. Apply sealant Manufacturer's primer per Manufacturer's instructions.
- 2. Contractor shall follow Manufacturer's specific safety, health and environmental recommendations per most recent Material Safety Data Sheets, technical bulletins and instructions. Handle all solvents in compliance with applicable EPA, OSHA and VOC requirements regarding health/safety standards.
- 3. Contractor shall allow any primer installation to completely dry or cure prior to installation of backing or joint sealants.
- D. Contractor shall install joint sealant backings of type and size required.
 - 1. Avoid gaps, twisting, stretching or puncturing joint sealant backing materials. Place backing materials into joint opening using a gauge or roller-tool designed to provide the appropriate uniform depth allowing optimum sealant profile, sealant coverage and long-term joint sealant performance.
 - 2. Install bond-breaker tape behind sealant joints where sealant backings are not feasible and to avoid 3-sided adhesion at backside of sealant joint.
 - Use masking tape to protect adjacent finished surfaces prior to joint sealant installation.
- E. Contractor shall install joint sealants in accordance with joint sealant Manufacturer's instructions using proven techniques that comply with the following and in proper sequence with installation of joint backings.
 - 1. Using proper joint sealant dispensing equipment, place sealants by pushing sealant beads into opening to fully wet-out joint sealant substrates. Fill sealant joint opening to full and proper configuration.
 - 2. Install, providing uniform cross-sectional shapes and depths in relation to joint width for optimum sealant movement capability per joint sealant manufacturer's instructions.
- F. Contractor shall tool all non-sag joint sealant installations. Immediately after placing fresh sealants and before skinning or curing begins, tool sealants using metal spatulas designed for this purpose in accordance with sealant Manufacturer's recommendation. Tooling process should form a smooth, uniform sealant finish, eliminating air pockets and ensuring good contact for optimum joint sealant adhesion within each side of the joint opening.
 - Provide concave joint configuration as indicated per figure 8-A in ASTM C-1193 unless otherwise indicated for the project. Wet tooling of joint sealants is not permitted.
 - 2. Remove excess sealant from surfaces adjacent to joint openings using metal spatula, promptly cleaning any sealant residue from adjacent finished surfaces. Remove masking after joint sealant is installed.
- G. The Contractor shall allow joint sealants to cure for a minimum of 7days before adhesion testing is performed as recommended by joint sealant Manufacturer for field-testing.
- H. The Contractor shall match approved sealant mock-up for color, finish and overall aesthetics. The Contractor shall remove, refinish or re-install work not in compliance with the Contract Documents.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: The Contractor shall keep daily log of sealant installation recording self-performed field-adhesion testing at each elevation of the project and as follows:
 - 1. The Contractor shall document and perform field-adhesion testing in accordance

- with Manufacturer's recommended field-adhesion testing to qualify for joint sealant Manufacturer's Warranty.
- 2. The Contractor shall field test joint sealants in accordance with Method A, Field-Applied Sealant Joint Hand-Pull Tab, in Appendix X-1 in ASTM C-1193 and in compliance with Manufacturer's specific recommendations.
- 3. Evaluation: In compliance with joint sealant manufacturer, joint sealants tested and not indicating adhesive failure within the substrates are considered satisfactory results. For joint sealants that fail to adhere to the substrate, clean, re-install and then re-test until satisfactory results are obtained.
- B. The Engineer and Owner reserves the right to complete recommended testing required by the Manufacturer at completion of work to ensure warranty requirements and contract compliance are met.

3.5 PROTECTION

A. The Contractor shall protect installed sealants during and after final curing from damage resulting during construction. The Contractor shall remove and replace damaged joint sealants.

3.6 CLEANING

- A. The Contractor shall clean off/remove excess sealant or sealant residue adjacent to joint sealant installations as the work progresses by methods approved by joint sealant Manufacturer. The Contractor shall not damage adjacent surfaces with harmful removal techniques and protect finished surfaces beyond those that have been masked.
- B. The Contractor shall remove temporary coverings and masking protection from adjacent work areas upon completion. Remove construction debris from the project site on a planned and regular basis.

END OF SECTION 07 92 00