

PROJECT MANUAL

# **BUSINESS AND INDUSTRY CENTER ROOF REPLACEMENT**

Project No: 023CPA-012 145 PAVILION LANE YOUNGWOOD, PENNSYLAVANIA 15697 Westmoreland County Community College RFP #992 June 14, 2023

PREPARED FOR:

Westmoreland County Community College 145 Pavilion Lane Youngwood, Pennsylvania 15697

# **TABLE OF CONTENTS**

### **SECTIONS**

**DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS** 

SECTION 00 01 07 - SEALS PAGE SECTION 00 01 15 - LIST OF DRAWINGS SECTION 00 11 13 - ADVERTISEMENT FOR BIDS SECTION 00 21 13 - INSTRUCTIONS TO BIDDERS SECTION 00 31 26.23 - EXISTING ASBESTOS INFORMATION SECTION 00 41 13 - BID FORM SECTION 00 41 13.1 - NON-COLLUSION AFFIDAVIT SECTION 00 41 13.2 - CERTIFICATION OF CONTRACTOR / BIDDER SECTION 00 43 13 - BID BOND FORM SECTION 00 52 13 - STANDARD FORM OF AGREEMENT SECTION 00 60 00 - PROJECT FORMS SECTION 00 61 13.13 - PERFORMANCE BOND FORM SECTION 00 61 13.16 - PAYMENT BOND FORM SECTION 00 63 13 - REQUEST FOR INTERPRETATION SECTION 00 63 25 - SUBSTITUTION REQUEST FORM SECTION 00 65 16 - CERTIFICATE OF SUBSTANTIAL COMPLETION SECTION 00 65 36 - CONTRACTOR'S WARRANTY SECTION 00 65 37 - ASBESTOS FREE WARRANTY SECTION 00 72 13 - GENERAL CONDITIONS OF THE CONTRACT SECTION 00 73 00 - SUPPLEMENTARY CONDITIONS SECTION 00 73 43.01 - WAGE RATE REQUIREMENTS FOR THE STATE OF PENNSYLVANIA

### **DIVISION 01 - GENERAL REQUIREMENTS**

SECTION 01 11 00 - SUMMARY OF WORK
SECTION 01 14 00 - WORK RESTRICTIONS
SECTION 01 21 00 - ALLOWANCES
SECTION 01 22 00 - UNIT PROCES
SECTION 01 25 00 - SUBSTITUTION PROCEDURES
SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES
SECTION 01 29 00 - PAYMENT PROCEDURES
SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION
SECTION 01 33 00 - SUBMITTAL PROCEDURES
SECTION 01 40 00 - QUALITY REQUIREMENTS
SECTION 01 42 00 - REFERENCES
SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS
SECTION 01 73 00 - EXECUTION REQUIREMENTS
SECTION 01 73 29 - CUTTING AND PATCHING
SECTION 01 74 00 - CLEANING AND WASTE MANAGEMENT
SECTION 01 77 00 - CLOSEOUT PROCEDURES

### **DIVISION 04 - MASONRY**

SECTION 04 05 00 - MORTAR AND GROUT SECTION 04 20 00 - UNIT MASONRY

**DIVISION 05 - METALS** 

SECTION 05 01 30 - STEEL ROOF DECK REPAIR AND SECUREMEN

### DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

SECTION 06 10 00 - ROUGH CARPENTRY

**DIVISION 07 - THERMAL AND MOISTURE PROTECTION** 

SECTION 07 01 50 - PREPARATION FOR REROOFING SECTION 07 22 16 - ROOF INSULATION SECTION 07 42 43 - ALUMINUM-FACED COMPOSITE WALL PANELS SECTION 07 53 23 - THERMOSET EPDM ROOFING SECTION 07 62 00 - SHEET METAL FLASHING AND TRIM SECTION 07 65 00 – THROUGH WALL FLASHING SECTION 07 72 00 - ROOF ACCESSORIES SECTION 07 72 23 - RELIEF VENTS SECTION 07 72 33 - ROOF HATCHES SECTION 07 92 00 - JOINT SEALANTS

**DIVISION 22 - PLUMBING** 

SECTION 22 14 26 - ROOF DRAINS

### **SECTION 00 01 07**

### SEALS PAGE

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Design Firm for Business and Industry Center Roof Replacement with Project Manual dated June 14, 2023:
  - 1. REI Engineers, Inc.
  - 2. 503 Cocklin Street, Mechanicsburg, PA 17055



**Professional Engineer** 

### **END OF SECTION**

### SECTION 00 01 15

### LIST OF DRAWINGS

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. The following drawings dated June 14, 2023 are included as part of the Contract Documents:
  - 1. G-001 Cover
  - 2. XR101 Roof Plan
  - 3. XR102 Roof Wind Uplift Plan
  - 4. XR103 Roof Insulation Plan
  - 5. XR301 Roof Systems
  - 6. XR501 Details
  - 7. XR502 Details
  - 8. XR503 Details
  - 9. XR504 Details

### **END OF SECTION**

### **SECTION 00 11 13**

### **ADVERTISEMENT FOR BIDS**

### PART 1 - GENERAL

### **1.1 PROJECT INFORMATION**

- A. Project Name: Business and Industry Center Roof Replacement
- B. Project Address: 145 Pavilion Lane, Youngwood, Pennsylvania 15697
- C. Owner: Westmoreland County Community College
- D. General Scope of Work: Removal and replacement of approximately 12,090 square feet of low slope roof, preparation and recovery of approximately 36,250 square feet of existing low slope roof, installation of new through wall flashing in a brick veneer exterior, repair of an approximate 5,625 square foot exposed fastener metal roof. The work required is specified and detailed in the contract document prepared by REI Engineers, Inc. dated June 14, 2023.

### 1.2 BIDS

A. Sealed bids for the project will be received from bidders by the Owner at 145 Pavilion Lane, Youngwood, Pennsylvania 15697 until 3:00 PM EDT on July 17, 2023, at which time they will be publicly opened and read.

### **1.3 PROJECT DOCUMENTS**

A. Electronic project documents may be obtained from Jill Budny, Director of Purchasing at Westmoreland County Community College, email: budnyj@westmoreland.edu, 145 Pavilion Lane, Youngwood, PA, at no cost.

### **1.4 BIDDING REQUIREMENTS**

- A. All bidders are hereby notified that they shall be properly licensed under the state laws governing their trades.
- B. Refer to Section 00 21 13 "Instructions to Bidders" for bid security and bonding requirements.
- C. Submit questions to Jill Budny Director of Purchasing at Westmoreland County Community College in writing to the email address listed above no later than 2:00 PM EDT on July 10, 2023. Responses to questions will be provided by 4:00 PM EDT on July 11, 2023.

### 1.5 PRE-BID MEETING

A. A Pre-Bid Meeting is scheduled for 10:00 AM EDT on July 6, 2023 at 145 Pavilion Lane, Youngwood, Pennsylvania 15697. Meet at the main building entrance. Attendance is mandatory.

### **END OF SECTION**

### **SECTION 00 21 13**

### **INSTRUCTIONS TO BIDDERS**

### PART 1 - GENERAL

### **1.1 DEFINITIONS**

- A. The Bidding Documents consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Bid Form, and other sample bidding and contract forms.
- B. The proposed Contract Documents consist of the Form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and Addenda issued prior to execution of the Contract.
- C. Definitions set forth in Section 00 72 13 "General Conditions of the Contract" for Construction or in other Contract Documents are applicable to the Bidding Documents.
- D. Addenda are written or graphic instruments issued by the Engineer prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.
- E. 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.
- F. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.
- G. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
- H. 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.
- I. A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.
- J. 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.

### 1.2 BIDS

A. Submit Section 00 41 13 "Bid Form" along with required enclosures in a sealed envelope, with the Bidder's name, license number, and project name written on the outside in the lower left hand corner; place this sealed envelope in another envelope and deliver to the Owner at the address specified inSection 00 11 13 "Advertisement for Bids".

- B. Bids will be received until the date and time specified in Section 00 11 13 "Advertisement for Bids", at which time they will be publicly opened and read.
- C. Fill in and sign the bid form correctly. Bids that show any omission, alterations of form, additions not called for, conditional Bids, or any irregularities of any kind may be rejected. If erasures are necessary and appear on the forms, each such erasure must be initialed by the person signing the proposal. Bid Bond shall be signed by the Bidder and notarized.
- D. Bids that are non-responsive or fail to follow the Instructions to Bidders may be rejected.
- E. No bid may be withdrawn after receipt of Bids for a period of sixty (60) days.

### **1.3** ACCEPTANCE OF BID (AWARD)

- A. It is the Owner's intention to award a contract for work under this project to the lowest responsible Bidder; however, in the interest of suitability to the Owner's need and/or economy, equipment, materials and furnishings other than the lowest in price may be selected.
- B. The Owner reserves the right to reject any or all Bids, to accept any bid submitted, to waive any formalities, and to negotiate with the low Bidder or Bidders any changes considered necessary or desirable. The Owner reserves the right to reject any Bid when such rejection is in the interest of the Owner to reject the bid of the bidder who has previously failed to perform or to complete on time Contracts of a similar nature; and to reject the bid of a bidder who is not, in the opinion of the Engineer, in a position to perform the Contract.
- C. 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 low Bidder on the basis of the sum of the Base Bid and Alternates accepted. Alternates may be accepted at any time during the bid holding period.

### **1.4 PRE-BID MEETING**

- A. Refer to Section 00 11 13 "Advertisement for Bids" for the date, time and location of the mandatory Pre-Bid Meeting.
- B. A Pre-Bid Meeting will be held for purposes of considering questions posed by Bidders. All interpretations and corrections to Contract Documents deriving from this meeting will be documented via Addendum.

### **1.5 DISQUALIFICATION**

A. The Owner reserves the right to disqualify Bids, before or after opening, upon evidence of collusion with intent to defraud or commit other illegal practices upon the part of the Bidder.

### 1.6 CONTRACTOR'S LICENSE

A. All Bidders must have proper licenses for contractors as required by State Law. The Bidder's license number shall be listed on the bid form and on the outside of the inner sealed envelope in which the bid is submitted.

### 1.7 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

- A. Examine Drawings and Specifications and all Addenda or other revisions thereto and thoroughly familiarize himself with the detailed requirements thereof prior to submitting a proposal.
- B. Should a Bidder find discrepancies or ambiguities in, or omissions from the Specifications and Drawings bound herein, or should be in doubt as to their meaning, notify the Engineer in writing immediately. Engineer will issue an interpretation in the form of an addendum. This addendum will be forwarded to all Bidders of record.
- C. Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.
- D. Act promptly and allow sufficient time for a reply to be provided before the date established for submission of Bids.
- E. Acknowledge receipt of all addenda on the Bid Form.
- F. No oral interpretations will be made to any Bidder as to the meaning or intent of the Contract Documents or be effective to modify any of the provisions of the Contract Documents.

### **1.8 SUBSTITUTIONS**

- A. References are made to certain specific products solely to denote the quality standard of the desired product and are not intended to restrict Bidders to a specific brand, make, manufacturer, or name. These products have been noted to assist in establishing material types and acceptable products. Equivalent products will be considered acceptable provided that the approval of the specific product has been given in writing by the Engineer.
- B. Written requests for substitution of equivalent products from prime bidders will be considered if received by the Engineer fourteen (14) calendar days prior to the bid opening.
- C. Submit each request for substitution on the form contained in Section 00 63 25 "Substitution Request Form" for consideration in accordance with procedures required below.
- D. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification sections and drawing number.

- E. Provide complete documentation on both the product specified and the proposed substitution including the following information as appropriate:
  - 1. Comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
  - 2. Samples where applicable or requested.
  - 3. Detailed comparison of significant qualities of the proposed substitution with those of the work specified.
  - 4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.
- F. Certification by the Bidder or manufacturer that the substitution proposed is equal-to or better in every respect to that required by the Contract Documents, and that it will perform equal or superior to product specified in the application indicated. The Bidder waives any right to additional payment or time, which may subsequently become necessary because of the failure of the substitution to perform adequately.
- G. Engineer's Action: The Engineer may request additional information or documentation necessary for evaluation of the request. The Engineer will notify the Bidders of acceptance of the proposed substitution by means of an addendum to the bid documents. If the proposed substitute is accepted through an addendum use the product specified by name. Engineer's Substitution Approval during bidding and subsequent addendums does not void the Bidder's responsibility to submit the required shop drawings and comply with the other contract documents and requirements.

### **1.9 SITE INVESTIGATION**

- A. Examine and thoroughly familiarize itself with existing conditions including applicable laws, ordinances, rules and regulations that will affect the work prior to submitting a proposal. Visit the site, examine the grounds and existing buildings, utilities and roads and ascertain by any reasonable means conditions that will in any manner affect its work. Ask the Engineer for any additional information that he deems necessary for it to be fully informed as to exactly what is to be expected prior to submitting a proposal. The drawings have been prepared on the basis of surveys and inspections of the site and physical conditions at the site. This, however, does not relieve the Bidder of the necessity for fully informing itself as to the existing physical conditions. Each Carefully examine the existing conditions as compared to the Contract Documents.
- B. Secure on-site measurements for quantities upon which proposal is based and has observe existing conditions and limitations.
- C. Upon arrival at the Project Site, immediately proceed to the main entrance/office and advise the administrative personnel of its presence and purpose. Sign the visitor's log, giving his name, his company and the time and date of the visit.
- D. Inspection of the work areas shall occur between the hours of 8:00 AM and 5:00 PM. No inspections will be conducted on Saturdays, Sundays, or holidays.

### **1.10 BID SECURITY**

- A. Each Bidder shall file a bid bond in the amount equal to not less than 5% of the gross amount of the bid. Write bond on form contained in Section 00 43 13. In lieu thereof, each bid may be accompanied by a deposit of cash or a certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation in an amount equal to not less than five percent (5%) of the gross amount of the bid.
- B. If the successful Bidder fails to execute the contract within 10 days after award, the above deposit will be retained by the Owner on the bid bond executed on liquidated damages.

### 1.11 PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

- A. A Performance Bond and Payment Bond in the amount of the contract is required. Include the cost of providing Performance Bond and Payment Bond in the Base Bid.
- B. Deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.
- C. Unless otherwise provided, write bonds on the forms contained in Section 00 61 13.13 "Performance Bond Form" and Section 00 61 13.16 "Payment Bond Form". Write both bonds in the amount of the Contract Sum.
- D. Date bonds on the date of the Contract.
- E. Issued by sureties and executed by an attorney-in-fact, on behalf of the surety, who are authorized to do business in the State of Pennsylvania.
- F. Affix thereto a certified and current copy of the power of attorney.

### **1.12 PRIME CONTRACT**

A. Perform all work under the single prime contract.

### 1.13 PERMITS, FEES AND TAXES

A. Secure and pay the costs of licenses, permits and fees for inspections required by City, County and/or State authorities; Social Security and other applicable Local, State and Federal Government taxes, and sales taxes. Include such costs in its bid.

### **1.14 SUBCONTRACTORS**

- A. Names of subcontractors must be listed on Section 00 41 13 "Bid Form". The Bidder shall identify work by the general, subcontractor or not applicable for each trade; utilize parenthesis (\_) blanks to list trades not provided in the table. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.
- B. A Bidder whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except
  - 1. if the listed subcontractor's bid is later determined by the successful Bidder to be nonresponsible or nonresponsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or
  - 2. with the approval of the awarding authority, the Owner, for good cause shown by the successful Bidder.
- C. The terms, conditions, and requirements of each contract between the successful Bidder and a subcontractor performing work under a subdivision or branch of work listed in this subsection shall incorporate by reference the terms, conditions, and requirements of the contract between the contractor and the Owner.

### 1.15 FORM OF AGREEMENT

A. The form of agreement to be entered into shall be the sample contained in Section 00 52 13 "Standard Form of Agreement" between Owner and Contractor, as revised.

### 1.16 CONTRACTOR QUALIFICATIONS

- A. Bids will be accepted from Bidders who are regularly engaged in, and licensed to perform, the work they are bidding, which represents a significant portion of their total volume and who perform this work with workers regularly employed on their direct payrolls. Before a bid is considered for award, the Bidder may be requested by the Engineer to submit a statement of facts in detail as to its previous experience in performing similar or comparable work and of its business and technical organization and financial resources available to be used in contemplated work. The Bidder may also be required to submit a statement of facts in detail on his proposed subcontractors as to their previous experience and past performance in performing similar work or comparable work.
- B. Bidders shall be required to submit with their bid the following:
  - 1. Bid Form and Bid Bond
  - 2. Non-collusion Affidavit
  - 3. Certification of Contractor/Bidder

### END OF SECTION

### SECTION 00 31 26.23

### EXISTING ASBESTOS INFORMATION

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. The attached Asbestos Sampling Test Results are provided.
    - a. Testing for the presence of asbestos containing materials has been conducted. Results of the testing are for information and bidding purposes only. Contractor is responsible for verification of field conditions affecting performance of this work and for determining the extent or presence of asbestos containing materials.

### **1.2 RELATED DOCUMENTS**

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

# **Asbestos Assessment Form**



Project	Name:	Westmoreland Community College - Roof			Brief Description of Task:					
Site Add	dress:	145 Pavilion Lane B					BrightFields was tasked by Mr. Steve			
City, Sta	ate Zip:	Youngwood, Pennsy	Ivania 1	5967		Hentz (REI Engineers) to conduct a				
Inspecti	Inspection Date: 5/25/2023 NESHAP aspestos assessment of the						nent of the			
BrightFi	ields File:	4261.06.74				Westmore	eland-Fave	tte Wor	kforce	
The follo	owing sus	spect asbestos build	ding cor	nponer	nts were sampled	Investmen	ot Board B	uilding r	of prior to	
as per tl	he buildin	g owner and / or ow	/ner's g	eneral o	contractor's	roofing re	nlacement	unung r		
directio	n during t	he time of the asses	ssment:			rooming re				
NAD = N	lo Asbesto	os Detected, SF = Sq	uare Fee	et, LF =	Linear Feet					
F = Friat	ole, NF = N	Non-friable, D = Dama	aged, G	= Good						
SD = Sig	gnificantly	Damaged, SA = Sam	e As, TE	3D = To	Be Determined					
HA							Fat	Friek	0/	
Area	Mate	rial Description	Color	Cond.	Suspect ACM Lo	cations	Est.	Friab-	%	
No.		•			·		Quantity	ility	Asbestos	
HA01	Roo	fing membrane	Black	G	As roof at main enti front lower roof to	rance and building	TBD	NF	NAD	
HA02		Tar	Black	G	Underneath H	A01	TBD	NF	NAD	
HA03	Roo	fing membrane	Black	G	Underneath HA01/ isofoam)	/02 (over	TBD	NF	NAD	
HA04		Roofing felt	Black	G	Underneath HA03, a with isofoar	Underneath HA03, associated with isofoam		NF	NAD	
HA05		Fiberboard	Brown	G	Between HA03 and on front lower ro located on main e	l isofoam of (not entrance	TBD	F	NAD	
HA06	Roofir	ng edge/seam tar	Black	G	Along edges and s HA01 at front low	eams of ver roof	TBD	NF	NAD	
HA07	Roo	fing membrane	Black	G	As roof over upper	main roof	TBD	NF	NAD	
HA08		Tar	Black	G	Underneath H	A07	TBD	NF	NAD	
HA09	Roo	fing membrane	Black	G	Underneath H	A08	TBD	NF	NAD	
HA10		Fiberboard	Brown	G	Underneath HA0 isofoam)	9 (over	TBD	F	NAD	
HA11		Roofing felt	Black	G	Associated with is (underneath H	sofoam A10)	TBD	NF	NAD	
HA12	Roofir	ng edge/seam tar	Black	G	Associated with ro and HA07 seams (u roof)	of edged pper main	TBD	NF	NAD	

# **Asbestos Assessment Form**



HA Area No.	Material Description	Color	Cond.	Suspect ACM Locations	Est. Quantity	Friab- ility	% Asbestos
HA13	Roofing membrane	Black	G	As roof over upper rear area	TBD	NF	NAD
HA14	Tar	Black	G	Underneath HA13	TBD	NF	NAD
HA15	Roofing membrane	Black	G	Underneath HA14	TBD	NF	NAD
HA16	Fiberboard	Brown	G	Underneath HA15	TBD	F	NAD
HA17	Roofing felt	Black	G	Associated with isofoam (underneath HA16)	TBD	NF	NAD
HA18	Roofing edge/seam tar	Black	G	Along upper rear roof edges and HA13 seams	TBD	NF	NAD
HA19	Poured sealer	Black	G	Associated with NE pitch pocket at rear upper roof	TBD	NF	NAD
HA20	Poured sealer	Black	G	Associated with SW pitch pocket at rear upper roof	TBD	NF	NAD
Asbest	Asbestos-containing material (ACM) was not detected within sampled roofing materials, as reported by the						

laboratory.

No other suspect ACM noted during the time of the assessment.

Please note that the metal a-frame roof located at the rear did not contain any suspect ACM.

END OF SUMMARY

Building Inspector Signature:

` 8. Be

Commonwealth of Pennsylvania Asbestos #: 056849

Attachments: Roof Identification Figure & Laboratory Analytical Data

The purpose of this asbestos assessment was to locate regulated ACM pursuant to the requirements of NESHAP, 40 CFR Part 61.145, which requires removal and disposal of friable asbestos containing building materials, and materials that will become friable as a result of demolition and/or renovation. BrightFields recommends additional component testing when the proposed renovation/demolition activities above change and require additional components to be removed as a part of that change. This intrusive asbestos assessment will aid in the L & I issuance of a renovation or demolition permit.

# Westmoreland Community Westmoreland Fayette Workforce Investment Board Roof Idenfication Youngwood, Pennsylvania



	FMSI Analytical Inc.	EMSL Order:	042313081
		Customer ID:	WIK50
EMSL	200 Route 130 North Cinnaminson, NJ 08077	Customer PO:	18198
	Tel/Fax: (800) 220-3675 / (856) 786-5974	Broke of ID.	
SM	http://www.EMSL.com / cinnasblab@EMSL.com	Project ID:	
			(000) 005 1000
Attention:	Kelli Beeson	Phone:	(302) 985-1890
	BrightFields, Inc.	Fax:	
	801 Industrial Street	Received Date:	06/01/2023 9:50 AM
	Suite 1	Analysis Date:	06/08/2023
	Wilmington, DE 19801	Collected Date:	05/25/2023 - 05/31/2023
Project:	4261.06.74/Westmoreland CC B&I Ctr Roofing Assessment		

			Non-Asbes	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B01A 042313081-0001	As roof at main entrance to building - HA-001 - Roofing membrane / Black/white /Black/white	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
			HA: 001		
B01B 042313081-0002	As roof at main entrance and front lower roof to building - HA-001 - Roofing membrane / Black/white /Black/white	White/Black Fibrous Homogeneous	5% Synthetic 10% Glass	85% Non-fibrous (Other)	None Detected
			HA: 001		
B01C 042313081-0003	As roof at main entrance and front lower roof to building - HA-001 - Roofing membrane / Black/white /Black/white	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
			HA: 001		
B02A 042313081-0004	Underneath HA01 - HA-002 - Tar / Black /Black	Black Non-Fibrous Homogeneous	HA: 002	100% Non-fibrous (Other)	None Detected
B02B 042313081-0005	Underneath HA01 - HA-002 - Tar / Black /Black	Black Non-Fibrous Homogeneous	HA: 002	100% Non-fibrous (Other)	None Detected
B02C 042313081-0006	Underneath HA01 - HA-002 - Tar / Black /Black	Black Non-Fibrous Homogeneous	HA: 002	100% Non-fibrous (Other)	None Detected
B03A 042313081-0007	Underneath HA01/02 (over isofoam) - HA-003 - Roofing membrane / Black /Black	Black Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
			HA: 003		
B03B 042313081-0008	Underneath HA01/02 (over isofoam) - HA-003 - Roofing membrane / Black /Black	Black Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077 Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

			Non-Asbes	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B03C 042313081-0009	Underneath HA01/02 (over isofoam) - HA-003 - Roofing membrane / Black /Black	Black Fibrous Homogeneous	5% Cellulose 10% Glass	85% Non-fibrous (Other)	None Detected
B04A	Underneath HA03,	Black	HA: 003 80% Cellulose	10% Non-fibrous (Other)	None Detected
042313081-0010	associated with isofoam - HA-004 - Roofing felt / Black /Black	Fibrous Homogeneous	10% Glass		
			HA: 004		
B04B 042313081-0011	Underneath HA03, associated with isofoam - HA-004 - Roofing felt / Black /Black	Black Fibrous Homogeneous	80% Cellulose 10% Glass	10% Non-fibrous (Other)	None Detected
			HA: 004		
B05A 042313081-0012	Between HA03 and isofoam on front lower roof (not located on main entrance roof) - HA-005 - Fiberboard / Brown /Brown	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
			HA: 005		
B05B	Between HA03 and isofoam on front lower	Brown Fibrous	95% Cellulose	5% Non-fibrous (Other)	None Detected
042313081-0013	roof (not located on main entrance roof) - HA-005 - Fiberboard / Brown /Brown	Homogeneous	HA: 005		
 B06A	Along edges and	Black	1112 000	100% Non-fibrous (Other)	None Detected
042313081-0014	seams of HA01 at front lower and entry roofs - HA-006 - Roofing edge/seam tar / Black /Black	Non-Fibrous Homogeneous			
			HA: 006		
B06B	Along edges and seams of HA01 at	Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
042313081-0015	front lower and entry roofs - HA-006 - Roofing edge/seam tar / Black /Black	Homogeneous	HA: 006		
B06C	Along edges and	Black		100% Non-fibrous (Other)	None Detected
042313081-0016	seams of HA01 at front lower and entry roofs - HA-006 - Roofing edge/seam tar / Black /Black	Non-Fibrous Homogeneous			
			HA: 006		
B07A 042313081-0017	As roof over upper main roof - HA-007 - Roofing membrane /	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
	Black/white / Rough /Black/white / Rough	3	HA: 007		



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077 Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

			Non-Asbes	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B07B 042313081-0018	As roof over upper main roof - HA-007 - Roofing membrane / Black/white / Rough /Black/white / Rough	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
B07C 042313081-0019	As roof over upper main roof - HA-007 - Roofing membrane / Black/white / Rough /Black/white / Rough	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
B08A 042313081-0020	Underneath HA07 - HA-008 - Tar / Black / Rough /Black / Rough	Black Non-Fibrous Homogeneous	HA: 007	100% Non-fibrous (Other)	None Detected
B08B 042313081-0021	Underneath HA07 - HA-008 - Tar / Black / Rough /Black / Rough	Black Non-Fibrous Homogeneous	HA: 008	100% Non-fibrous (Other)	None Detected
B08C 042313081-0022	Underneath HA07 - HA-008 - Tar / Black / Rough /Black / Rough	Black Non-Fibrous Homogeneous	HA- 008	100% Non-fibrous (Other)	None Detected
B09A 042313081-0023	Underneath HA08 - HA-009 - Roofing membrane / Black /	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
	Rough / Black / Rough		HA: 009		
B09B 042313081-0024	Underneath HA08 - HA-009 - Roofing membrane / Black / Rough /Black / Rough	Black Fibrous Homogeneous	20% Glass	80% Non-fibrous (Other)	None Detected
B09C 042313081-0025	Underneath HA08 - HA-009 - Roofing membrane / Black / Rough /Black / Rough	Black Fibrous Homogeneous	HA: 009 10% Glass	90% Non-fibrous (Other)	None Detected
B10A 042313081-0026	Underneath HA09 (over isofoam) - HA-010 - Fiberboard / Brown / Rough /Brown / Rough	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
			HA: 010		
B10B 042313081-0027	Underneath HA09 (over isofoam) - HA-010 - Fiberboard / Brown / Rough /Brown / Rough	Brown Fibrous Homogeneous	90% Cellulose	10% Non-fibrous (Other)	None Detected
B10C 042313081-0028	Underneath HA09 (over isofoam) - HA-010 - Fiberboard / Brown / Rough /Brown / Rough	Brown Fibrous Homogeneous	HA: 010 95% Cellulose	5% Non-fibrous (Other)	None Detected
			HA: 010		



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077 Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com

			Non-Asbes	stos	Asbestos
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B11A 042313081-0029	Associated with isofoam (underneath HA10) - HA-011 - Roofing felt / Black / Smooth /Black / Smooth	Black Fibrous Homogeneous	80% Cellulose 10% Glass	10% Non-fibrous (Other)	None Detected
		Disale	HA: 011		News Detected
BTTB 042313081-0030	isofoam (underneath HA10) - HA-011 - Roofing felt / Black / Smooth /Black / Smooth	Fibrous Fibrous Homogeneous	10% Glass	10% Non-fibrous (Other)	None Detected
	A	Dissis	HA: 011		New Data to I
B11C 042313081-0031	Associated With isofoam (underneath HA10) - HA-011 - Roofing felt / Black / Smooth /Black / Smooth	Black Fibrous Homogeneous	80% Celulose 10% Glass	10% Non-fibrous (Other)	None Detected
<b></b>	A		HA: 011		New Data to I
B12A 042313081-0032	Associated with roor edges and HA07 seams - HA-012 - Roofing edge/seam tar / Black / Rough /Black / Rough	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
	/Black/ Rough		HA: 012		
B12B 042313081-0033	Associated with roof edges and HA07 seams - HA-012 - Roofing edge/seam tar / Black / Rough /Black / Rough	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
	Associated with roof	Black	HA: 012	100% Non fibrous (Other)	None Detected
042313081-0034	edges and HA07 seams - HA-012 - Roofing edge/seam tar / Black / Rough /Black / Rough	Non-Fibrous Homogeneous	HA- 012		
 B13A	As roof over upper	White/Black	15% Synthetic	85% Non-fibrous (Other)	None Detected
042313081-0035	rear area - HA-013 - Roofing membrane / Black/white / Speckled /Black/white / Speckled	Fibrous Homogeneous			
			HA: 013		
B13B 042313081-0036	As roof over upper rear area - HA-013 - Roofing membrane / Black/white / Speckled /Black/white / Speckled	White/Black Fibrous Homogeneous	15% Synthetic	85% Non-fibrous (Other)	None Detected
 B1/A	Inderneath H∆13 -	Black	HA: 013	100% Non-fibrous (Other)	None Detected
042313081-0037	HA-014 - Tar / Black / Lines /Black / Lines	Non-Fibrous Homogeneous	HA: 014		NONE DELECIEU



EMSL Analytical, Inc. 200 Route 130 North Cinnaminson, NJ 08077

Tel/Fax: (800) 220-3675 / (856) 786-5974 http://www.EMSL.com / cinnasblab@EMSL.com 
 EMSL Order:
 042313081

 Customer ID:
 WIK50

 Customer PO:
 18198

 Project ID:

			Non-Asbe	stos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B14B	Underneath HA13 - HA-014 - Tar / Black / Lines /Black / Lines	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
042313001-0030	LINES / DIACK / LINES	riomogeneous	HA: 014		
B15A	Underneath HA14 - HA-015 - Roofing	Black Fibrous	20% Glass	80% Non-fibrous (Other)	None Detected
042313081-0039	membrane / Black / Mottled /Black / Mottled	Homogeneous			
 B15B	Underneath HA14 -	Black	HA: 015 15% Glass	85% Non-fibrous (Other)	None Detected
042313081-0040	HA-015 - Roofing membrane / Black / Mottled /Black / Mottled	Fibrous Homogeneous			
			HA: 015		
B16A	Underneath HA15 - HA-016 - Fiberboard /	Brown Fibrous	90% Cellulose	10% Non-fibrous (Other)	None Detected
042313081-0041	Brown / Mottled /Brown / Mottled	Homogeneous	HA: 016		
B16B	Underneath HA15 -	Brown	95% Cellulose	5% Non-fibrous (Other)	None Detected
042313081-0042	Brown / Mottled /Brown / Mottled	Homogeneous			
			HA: 016		
B17A	Associated with isofoam (underneath	Black Fibrous	80% Cellulose 10% Glass	10% Non-fibrous (Other)	None Detected
042313081-0043	HA16) - HA-017 - Roofing felt / Black / Squares /Black / Squares	Homogeneous			
			HA: 017		
B17B	Associated with isofoam (underneath	Black Fibrous	80% Cellulose 10% Glass	10% Non-fibrous (Other)	None Detected
042313081-0044	HA16) - HA-017 - Roofing felt / Black / Squares /Black / Squares	Homogeneous			
			HA: 017		
B18A	Along upper rear roof edges and HA13	Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
042313081-0045	seams - HA-018 - Roofing edge/seam tar / Black / Shiny /Black / Shiny	Homogeneous	H4· 118		
 B18B	Along upper rear roof	Black	11A. 010	100% Non-fibrous (Other)	None Detected
042313081-0046	edges and HA13 seams - HA-018 - Roofing edge/seam tar / Black / Shiny /Black / Shiny	Non-Fibrous Homogeneous			
	,		HA: 018		
B19A 042313081-0047	Associated with NE pitch pocket at rear upper roof - HA-019 - Poured sealer / Black	Black Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
	/DIAUK		HA: 019		
Initial report from: 0	06/08/2023 13:36:47				



### Test Report: Asbestos Analysis of Bulk Materials via AHERA Method 40CFR 763 Subpart E Appendix E supplemented with EPA 600/R-93/116 using Polarized Light Microscopy

			Non-A	sbestos	<u>Asbestos</u>
Sample	Description	Appearance	% Fibrous	% Non-Fibrous	% Туре
B20A	Associated with SW pitch pocket at rear	Black Non-Fibrous		100% Non-fibrous (Other)	None Detected
042313081-0048	upper roof - HA-020 - Poured sealer / Black / Smooth /Black / Smooth	Homogeneous			
			HA: 020		

Analyst(s)

Andrew Borsos (30) Michelle Quach (18)

Somantha Kunghano

Samantha Rundstrom, 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. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA LAP, LLC-IHLAP Lab 100194, NJ DEP 03036, PA ID# 68-00367, LA #04127

Initial report from: 06/08/2023 13:36:47



### EMSL ANALYTICAL, INC. LABORATORY · PRODUCTS · TRAINING





**Testing Laboratory** EMSL Analytical 200 Route 130 North

Cinnaminson, NJ

AXRT-3F9Q-94FY

**Client Information** BrightFields, Inc. Wilmington, DE

### **Project Overview** PO Number Project Name Project ID Client

Report to Contact

Report to Email

Bill To

18198 Westmoreland CC B&I Ctr Roofing Assessment 4261.06.74 \*\*POSITIVE STOP\*\* Special Instructions **WIK50** Kelli Beeosn kbeeson@brightfieldsinc.com

#### Project Site JUN - 1 AMII: 22 Type Address 1 125 Pavilion Lane Westmoreland-Fayette Address 2 Workforce Investment Board Building City Youngwood

PA

US

State

Country

Date/Time Matrix / Test Method TAT Note Material Location HA Sample Collected ID S May 25, 2023 10:08 Asbestos Bulk / PLM As roof at main entrance to building 00 B01A HA-001 - Roofing membrane / Black/white Week AM **EPA 600** May 25, 2023 10:15 Asbestos Bulk / PLM As roof at main entrance and front lower roof to building 00 **B01B** HA-001 - Roofing membrane / Black/white Week AM **EPA 600** Asbestos Bulk / PLM As roof at main entrance and front lower roof to building May 25, 2023 10:23 00 B01C HA-001 - Roofing membrane / Black/white AM **FPA 600** Week May 25, 2023 10:08 Asbestos Bulk / PLM **B02A** HA-002 - Tar / Black **Underneath HA01** 00 AM EPA 600 Week May 25, 2023 10:16 Asbestos Bulk / PLM Underneath HA01 00 B02B HA-002 - Tar / Black EPA 600 Week AM 2 Asbestos Bulk / PLM May 25, 2023 10:23 00 B02C HA-002 - Tar / Black **Underneath HA01** AM Week **EPA 600** 2 May 25, 2023 10:08 Asbestos Bulk / PLM 00 B03A HA-003 - Roofing membrane / Black Underneath HA01/02 (over isofoam) AM **FPA 600** Week 3 Asbestos Bulk / PLM 00 HA-003 - Roofing membrane / Black Underneath HA01/02 (over isofoam) May 25, 2023 10:16 **B03B** AM EPA 600 Week Underneath HA01/02 (over isofoam) May 25, 2023 10:23 Asbestos Bulk / PLM 00 B03C HA-003 - Roofing membrane / Black 1 AM EPA 600 Week 3 Asbestos Bulk / PLM Underneath HA03, associated with isofoam May 25, 2023 10:15 00 **B04A** HA-004 - Roofing felt / Black AM **EPA 600** Week Underneath HA03, associated with isofoam May 25, 2023 10:16 Asbestos Bulk / PLM 00 B04B HA-004 - Roofing felt / Black 1 EPA 600 Week AM 4

4



Page

 $\sim$ 

Of

4

# EMSL ANALYTICAL, INC.

LABORATORY · PRODUCTS · TRAINING



CINNAMINSON, N.J.



2023 Matrix / Test Method TAT Sample ID Date/Time Note HA Material Location Collected S May 25, 2023 10:19 Asbestos Bulk / PLM 00 B05A HA-005 - Fiberboard / Brown Between HA03 and isofoam on front lower roof (not located on main EPA 600 Week AM 5 entrance roof) 00 HA-005 - Fiberboard / Brown Between HA03 and isofoam on front lower roof (not located on main May 25, 2023 10:24 Asbestos Bulk / PLM **B05B** AM **EPA 600** Week 5 entrance roof) Along edges and seams of HA01 at front lower and entry roofs May 25, 2023 10:26 Asbestos Bulk / PLM 00 **B06A** HA-006 - Roofing edge/seam tar / Black Week AM **EPA 600** 6 May 25, 2023 10:26 Asbestos Bulk / PLM 00 **B06B** HA-006 - Roofing edge/seam tar / Black Along edges and seams of HA01 at front lower and entry roofs Week AM **EPA 600** 6 Asbestos Bulk / PLM B06C Along edges and seams of HA01 at front lower and entry roofs May 25, 2023 10:26 00 HA-006 - Roofing edge/seam tar / Black AM EPA 600 Week 6 Asbestos Bulk / PLM 00 As roof over upper main roof May 25, 2023 10:38 **B07A** HA-007 - Roofing membrane / Black/white / AM **EPA 600** Week Rouah As roof over upper main roof May 25, 2023 10:39 Asbestos Bulk / PLM B07B HA-007 - Roofing membrane / Black/white / 00 Week **EPA 600** AM 7 Rough May 25, 2023 10:39 Asbestos Bulk / PLM 00 B07C HA-007 - Roofing membrane / Black/white / As roof over upper main roof AM **EPA 600** Week Rouah Asbestos Bulk / PLM May 31, 2023 10:39 B08A HA-008 - Tar / Black / Rough Underneath HA07 00 AM **FPA 600** Week 8 May 25, 2023 10:39 **Underneath HA07** Asbestos Bulk / PLM 00 **B08B** HA-008 - Tar / Black / Rough Week AM **EPA 600** 8 May 25, 2023 10:39 Asbestos Bulk / PLM 00 B08C HA-008 - Tar / Black / Rough Underneath HA07 AM EPA 600 Week 8 Asbestos Bulk / PLM HA-009 - Roofing membrane / Black / Underneath HA08 May 25, 2023 10:39 00 **B09A** AM **EPA 600** Week 9 Rough May 25, 2023 10:40 Underneath HA08 Asbestos Bulk / PLM 00 B09B HA-009 - Roofing membrane / Black / Week EPA 600 AM 9 Rough **Underneath HA08** May 25, 2023 10:40 Asbestos Bulk / PLM 00 B09C HA-009 - Roofing membrane / Black / Week **EPA 600** AM 9 Rough Underneath HA09 (over isofoam) Asbestos Bulk / PLM **B10A** May 25, 2023 10:40 01 HA-010 - Fiberboard / Brown / Rough Week AM **EPA 600** 0

6423 3081

Page 2 of 4



RECEIVED

EMSL CINNAMINSON, N.J.



AXRT-3F90-94FY



4

Ы

EMSL ANALYTICAL, INC.

LABORATORY · PRODUCTS · TRAINING

OrderID:

04231308

042313081





AXRT-3F9Q-94FY

2022 HIM -1 AM 11- 22

RECEIVED

CINNAMINSON, N.J.

HA	Sample ID	Material	Location	Date/Time Collected	Matrix / Test Method	TAT	Note s
01 6	B16B	HA-016 - Fiberboard / Brown / Mottled	Underneath HA15	May 31, 2023 10:50 AM	Asbestos Bulk / PLM EPA 600	1 Week	
01 7	B17A	HA-017 - Roofing felt / Black / Squares	Associated with isofoam (underneath HA16)	May 31, 2023 10:50 AM	Asbestos Bulk / PLM EPA 600	1 Week	
01 7	B17B	HA-017 - Roofing felt / Black / Squares	Associated with isofoam (underneath HA16)	May 31, 2023 10:51 AM	Asbestos Bulk / PLM EPA 600	1 Week	
01 8	B18A	HA-018 - Roofing edge/seam tar / Black / Shiny	Along upper rear roof edges and HA13 seams	May 31, 2023 10:51 AM	Asbestos Bulk / PLM EPA 600	1 Week	
01 8	B18B	HA-018 - Roofing edge/seam tar / Black / Shiny	Along upper rear roof edges and HA13 seams	May 31, 2023 10:51 AM	Asbestos Bulk / PLM EPA 600	1 Week	
01 9	B19A	HA-019 - Poured sealer / Black	Associated with NE pitch pocket at rear upper roof	May 31, 2023 10:51 AM	Asbestos Bulk / PLM EPA 600	1 Week	
02 0	B20A	HA-020 - Poured sealer / Black / Smooth	Associated with SW pitch pocket at rear upper roof	May 31, 2023 10:51 AM	Asbestos Bulk / PLM EPA 600	1 Week	

Page

4 Of

Ð

Sampled By / Date

1123 950A

FX

EMSL ANALYTICAL, INC.

LABORATORY · PRODUCTS · TRAINING

May 31, 2023

Relinquished By / Date

Received (Lab) / Date

May 31, 2023

### **SECTION 00 41 13**

### **BID FORM**

To:	Jill Budny, Director of Purchasing
	Westmoreland County Community College
	145 Pavilion Lane
	Youngwood, Pennsylvania 15697
Phone:	724-925-4185

### PART 1 - GENERAL

### 1.1 BASE BID

- A. The undersigned, as bidder, hereby declares that the only person or persons interested in this bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this bid or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The Bidder further declares that he has examined the site of the work and the contract documents relative thereto dated JUNE 14, 2023 as prepared by REI Engineers, Inc., and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees if this bid is accepted to contract with the Owner in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools apparatus, means of transportation and labor necessary to complete the construction of the project with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the Contract Documents.
  - 1. Words: \_\_\_\_\_
  - 2. Figures: \$\_\_\_\_\_.

### **1.2** ALLOWANCES:

- A. Include in the Base Bid the Ten thousand dollar (\$10,000.00) Contingency Allowance specified in Section 01 21 00 "Allowances" of the Project Manual.
- B. Include in the Base Bid the Quantity Allowances specified in Section 01 21 00 "Allowances" of the Project Manual.
  - 1. Repair 3,500 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Repair 150 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 3. Overlay 150 SF of Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 4. Replace 50 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 5. Replace 3,500 BF of Wet or Deteriorated Existing Insulation. Refer to Section 07 22 16 "Roof Insulation"

- 6. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"
- 7. Replace 320 SF of Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry".

### **1.3 UNIT PRICES:**

- A. Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the scope of the work all in accordance with the contract documents. Refer to Section 01 22 00 "Unit Prices".
  - 1. Repair Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
    - a. Cost: \$\_\_\_\_\_ per SF
  - 2. Repair Steel Deck with Steel Plates (Corrosion Degree 2). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
    - a. Cost: \$\_\_\_\_\_ per SF
  - 3. Overlay Deteriorated Steel Deck with Steel Deck (Corrosion Degree 3). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
    - a. Cost: \$\_\_\_\_\_ per SF
  - 4. Replace Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
    - a. Cost: \$\_\_\_\_\_ per SF
  - 5. Replace Wet or Deteriorated Existing Insulation. Unit of Measurement: Board Foot (BF). Refer to Section 07 22 16 "Roof Insulation".
    - a. Cost: \$\_\_\_\_\_per BF
  - 6. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 "Rough Carpentry".
    - a. Cost: \$ per BF
  - 7. Replace Deteriorated Plywood. Unit of Measurement: Square Foot (SF). Refer to Section 06 10 00 "Rough Carpentry".
    - a. Cost: \$\_\_\_\_\_ per SF

### **1.4 SCHEDULE OF COMPLETION:**

- A. The undersigned understands that time is of the essence and agrees to the Contract Time and liquidated damages as indicated in General Conditions of the Contract for Construction and Supplementary Conditions apply to this Work. The undersigned hereby agrees to commence work on this project within thirty (30) days following receipt of an Executed Agreement between Owner and Contractor. Date of commencement will be established in a Notice to Proceed issued to Contractor. Complete work under the Base Bid and all alternates accepted within 130 calendar days from the date of commencement.
- B. Applicable liquidated damages shall be stated in the Section 00 73 00 "Supplementary Conditions".

### 1.5 ADDENDUM:

- A. Addendum received and used in computing bid:
  - 1. Addendum No. 1: \_\_\_\_\_
  - 2. Addendum No. 2: \_\_\_\_\_
  - 3. Addendum No. 3:
  - 4. Addendum No. 4: \_\_\_\_\_

### **1.6 SUBCONTRACTORS:**

A. If subcontractors are to be utilized, the Bidder shall fill out all blanks on the list below. All subcontractors shall be listed. The Bidder shall identify work by the general, subcontractor or not applicable for each trade; utilize parenthesis (\_) to list trades not provided. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

Trade	Company	License #
General (Roofing)		
General (Sheet Metal)		
Mechanical		
Electrical		
Plumbing		
Waste Disposal		
Other ()		
Other ()		
We do not plan to use subcontract forces		

### 1.7 ENCLOSURES:

ollowing enclosures with submitted bid:
ollowing enclosures with submitted bid

- 1. Bid Bond
- 2. Certification of Contractor/Bidder
- 3. Non-Collusion Affidavit

Respectfully submitted this day of	,
Company:	
Printed Name:	
Signature:	
Title:	
(State)	
County of	
I,, a Notary Public (State), do hereby certify that appeared before me this day and acknowledged the due exect	for County, personally ution of the foregoing instrument.
Witness my hand and official seal, this day of	, 20
Notary Public	(OFFICIAL SEAL)
My commission expires, 20	

## **END OF SECTION**

### **INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT**

- 1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this RFP. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. § 1611 et seq., governmental agencies may require Non-Collusion Affidavits to be submitted together with bids.
- 2. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the RFP.
- **3.** RFP rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of proposals are unlawful and may be subject to criminal prosecution. The person who signs the affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the vendor with responsibilities for the preparation, approval or submission of the RFP.
- 4. In the case of an RFP submitted by a joint venture, each party to the venture must be identified in the RFP documents, and an affidavit must be submitted separately on behalf of each party.
- 5. The term "complementary RFP" as used in the affidavit has the meaning commonly associated with that term in the RFP process, and includes the knowing submission of proposals higher than the proposal of another firm, any intentionally high or noncompetitive proposal, and any other form of proposal submitted for the purpose of giving a false appearance of competition.
- **6.** Failure to submit an affidavit with the RFP in compliance with these instructions may result in disqualification of the proposal.

### Westmoreland County Community College Request for Proposal #992 Business and Industry Center Roof Replacement

### NON-COLLUSION AFFIDAVIT

State of	County of
I state that I am	(Name and title) of
hehalf of my fi	(Name of firm) and that I am authorized to make this affidavit on
price(s) and the	amount of this RFP.
I state	that:
(1)	The price(s) and amount(s) of this RFP have been arrived at independently and without consultation, communication or agreement with any other contractor, vendor or potential vendor.
(2)	Neither the price(s) nor the amount(s) of this proposal, and neither the approximate price(s) nor approximate amount(s) of this proposal, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.
(3)	No attempt has been made or will be made to induce any firm or person to refrain from responding to this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or non-competitive proposal or other form of complementary proposal.
(4)	The proposal of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or othe noncompetitive proposal.
(5)	(Name of firm), its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to submitting a proposal on any public contract, except as follows:*
	I state that (Name of firm) understands and acknowledges that the above representations are material and important, and will be relied on by <i>Westmoreland County Community College</i> in awarding the contract(s) for which this proposal is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Purchasing Agency of the true facts relating to the submission of this RFP.

(Name and Company Position)

SWORN TO AND SUBSCRIBED BEFORE ME THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_

\*Note: Such a conviction of liability does not prohibit acceptance of your bid or award of a contract but may be a basis for a determination that you are not a responsible bidder. Please list any convictions or liabilities in an attached pages to this affidavit.

# **CERTIFICATION OF CONTRACTOR/BIDDER**

The below signed contractor/bidder hereby certifies that it is not barred from bidding on this or any other contract due to any violation of Federal or State law.

# NAME OF CONTRACTOR/BIDDER

# SIGNATURE OF CONTRACTOR/BIDDER

# TITLE

# DATE

# THIS FORM **MUST** BE RETURNED WITH YOUR BID TO:

Jill Budny Director of Purchasing Westmoreland County Community College 145 Pavilion Lane Youngwood, PA 15697

### SECTION 00 43 13

### **BID BOND FORM**

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utilize AIA Document A310 2010 Bid Bond Form. Document is incorporated by reference, Contractor is responsible to obtain a properly licensed form for use on the project.

### **1.2 RELATED DOCUMENTS**

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

### END OF SECTION

### SECTION 00 52 13

### STANDARD FORM OF AGREEMENT

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utilize AIA Document A101 2017 Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum.

### **1.2 RELATED DOCUMENTS**

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections apply to this Section.
## RAFT AIA Document A101 - 2017

## Standard Form of Agreement Between Owner and Contractor where

the basis of payment is a Stipulated Sum

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

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

Westmoreland County Community College 145 Pavilion Lane Youngwood, PA 15697

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

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

Westmoreland County Community College Business and Industry Center Roof Replacement 145 Pavilion Lane Youngwood, PA 15697The Architect: (Name, legal status, address and other information)

**REI** Engineers, Inc. 503 Cocklin Street Mechanicsburg, PA 17055

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

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

The parties should complete A101®-2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®-2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.



ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" 1 Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes:

### TABLE OF ARTICLES

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

### EXHIBIT A INSURANCE AND BONDS

### **ARTICLE 1** THE CONTRACT DOCUMENTS

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

### ARTICLE 2 THE WORK OF THIS CONTRACT

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

### DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION ARTICLE 3

§ 3.1 The date of commencement of the Work shall be: (Check one of the following boxes.)

[ **«X** »] The date of this Agreement.

[] A date set forth in a notice to proceed issued by the Owner.

[] Established as follows:

(Insert a date or a means to determine the date of commencement of the Work.)

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

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

### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work: (Check one of the following boxes and complete the necessary information.)

### [X] Not later than one hundred thirty (130) calendar days from the date of commencement of the Work.

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which 2 expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes (1144474733)



[] By the following date:

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

Por	tion of Work	Substantial Completion	Date	
§ 3.3.3 If the any, shall be	e Contractor fails to achieve Substantial Co e assessed as set forth in Section 4.5.	ompletion as provided i	n this Section 3.3, 1	iquidated damages, if
ARTICLE 4 § 4.1 The Ov Contract. Th	<b>CONTRACT SUM</b> wner shall pay the Contractor the Contractor the Contract Sum shall be (\$ ), subject to a	et Sum in current funds dditions and deductions	for the Contractor' as provided in the	s performance of the Contract Documents.
§ 4.2 Alterna § 4.2.1 Alter	<b>Ites</b> nates, if any, included in the Contract Su	m:		
lten	n	Price		
§ 4.2.2 Subjace execution of (Insert below	ect to the conditions noted below, the foll Sthis Agreement. Upon acceptance, the O <i>v</i> each alternate and the conditions that <i>n</i>	owing alternates may b wner shall issue a Mod nust be met for the Own Price	e accepted by the C ification to this Agi er to accept the alt Conditi	owner following reement. ernate.)
§ 4.3 Allowa (Identify eac	ances, if any, included in the Contract Sur in allowance.)	m:		$\sim$
lten	n		Price	
Con Qua 1) 2) 3) 4) 5) 6) 7)	ntingency Allowance: antity Allowances: Repair 3,500 SF of Corroded Steel Dec 1) with Coating Repair 150 SF of Steel Deck (Corrosior Plates Overlay 150 SF of Deteriorated Steel D Degree 3) with Steel Deck Replace 50 SF of Deteriorated Steel De 4) Replace 3,500 BF of Wet or Deteriorated Replace 250 BF of Deteriorated Wood Replace 320 SF of Deteriorated Plywoo	k (Corrosion Degree n Degree 2) with Steel Deck (Corrosion ck (Corrosion Degree ed Existing Insulation Blocking od	\$10,000.00	

### § 4.4 Unit prices, if any:

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

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "American Institute of Architects," "Al," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (1144474733)

ltem		Units and Limitations	Price per Unit (\$0.00)
1)	Repair Corroded Steel Deck (Corrosion	Square Foot	
2)	Repair Steel Deck (Corrosion Degree 2)	Square Foot	
3)	Overlay Deteriorated Steel Deck	Square Foot	_
4)	(Corrosion Degree 3) with Steel Deck Replace Deteriorated Steel Deck (Corrosion Degree 4)	Square Foot	
5)	Replace Wet or Deteriorated Existing	Board Foot	
6)	Replace Deteriorated Wood Blocking	Board Foot	
7)	Replace Deteriorated Plywood	Square Foot	
<b>§ 4.5</b> Liquida (Insert terms)	ted damages, if any: and conditions for liquidated damages, if any	v.)	
If the Contra and no time	actor has not substantially completed the extensions have been granted, the contra	work within the specified cont ct amount shall be reduced by	tract time period
hundred (\$5	00) dollars per day for each day in exces	s of the scheduled date of com	pletion. Deductions
from the orig	ginal contract amount will be documente	d in the form of a Change Ord	er.
If the Contra Owner has the consecutive	actor fails to complete the punch list item he right to impose liquidated damages in day until the items are completed.	s within 15 days of the punch the amount of five hundred (\$5	list inspection, the 500.00) dollars for each
If the Contra	actor fails to properly submit required clo	oseout documents within 30 da	vs of the nunchlist
inspection, t dollars for ea	he Owner has the right to impose liquida ach consecutive day until the items are p	ted damages in the amount of roperly submitted.	five hundred (\$500.00)
§ 4.6 Other:			
(Insert provis	ions for bonus or other incentives, if any, tha	at might result in a change to the (	Contract Sum.)
Not Applicab	le		
ARTICLE 5	PAYMENTS		
§ 5.1 Progres § 5.1.1 Based	s Payments upon Applications for Payment submitted to	the Architect by the Contractor a	and Certificates for
Payment issue	ed by the Architect, the Owner shall make pr	ogress payments on account of th	e Contract Sum to the
	provided below and elsewhere in the Contra	et Documents.	
§ 5.1.2 The permonth, or as f	eriod covered by each Application for Payme follows:	nt shall be one calendar month en	ding on the last day of the
<b>§ 5.1.3</b> Provid the Owner sha month. If an <i>A</i> the amount ce Application for <i>(Federal, stat)</i>	led that an Application for Payment is received all make payment of the amount certified to the Application for Payment is received by the A pertified shall be made by the Owner not later for Payment. The or local laws may require payment within the	ed by the Architect not later than the Contractor not later than the 3 rchitect after the application date than forty five (45) days after th <i>a certain period of time.</i> )	the 15th day of a month, 0th day of the following fixed above, payment of e Architect receives the
§ 5.1.4 Each A in accordance	Application for Payment shall be based on the with the Contract Documents. The schedule	most recent schedule of values su of values shall allocate the entire	bmitted by the Contractor 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 AIA Document Al01 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. INSER Notes: (1144474733) 4 User Notes: (1144474733)

substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

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

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

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

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

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

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

### § 5.1.7 Retainage

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

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

### Five percent (5%)

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

### Not Applicable

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

### Not Applicable

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

(Insert any other conditions for release of retainage upon Substantial Completion.)

### Not Applicable

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (1144474733)

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

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

### § 5.2 Final Payment

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

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

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

### § 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located. *(Insert rate of interest agreed upon, if any.)* 

### ARTICLE 6 DISPUTE RESOLUTION

### § 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker. (If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

### § 6.2 Binding Dispute Resolution

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

[**«X**] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

- [] Litigation in a court of competent jurisdiction
- [] Other (Specify)



6

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

### ARTICLE 7 TERMINATION OR SUSPENSION

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

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

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents® Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. (1144474733)

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

« »

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

### MISCELLANEOUS PROVISIONS **ARTICLE 8**

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

§ 8.2 The Owner's representative: (Name, address, email address, and other information)

Westmoreland County Community College 145 Pavilion Lane Youngwood, PA 15697 Shelley Shaffer shaffershe@westmoreland.edu Phone: 724-925-4093 § 8.3 The Contractor's representative: (Name, address, email address, and other information)

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

### § 8.5 Insurance and Bonds

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

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

§ 8.7 Other provisions:

#### ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

- AIA Document A101<sup>TM</sup>–2017, Standard Form of Agreement Between Owner and Contractor .1
- .2 AIA Document A101<sup>™</sup>–2017, Exhibit A, Insurance and Bonds (NOT APPLICABLE)
- .3 AIA Document A201<sup>TM</sup>-2017, General Conditions of the Contract for Construction
- .4
- .5 Drawings

Number	Title	Date
G001	Cover	June 14, 2023
XR101	Roof Plan	June 14, 2023
AKIUI	KUUI I Iali	June 14, 2023

AIA Document A101 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which 7 expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1144474733)

XR102	<b>Roof Wind Uplift Plan</b>	June 14, 2023
XR103	<b>Roof Insulation Plan</b>	June 14, 2023
XR301	Roof Systems	June 14, 2023
XR501	Roof Details	June 14, 2023
XR502	Roof Details	June 14, 2023
XR503	Roof Details	June 14, 2023
XR504	Roof Details	June 14, 2023

.6 Specifications

Section	Title
SECTION 00 01 07	SEALS PAGE
SECTION 00 01 15	LIST OF DRA
SECTION 00 11 13	ADVERTISEN
SECTION 00 21 13	INSTRUCTIO
SECTION 00 31 26.23	EXISTING AS
SECTION 00 41 13	BID FORM
SECTION 00 41 13.1	NON-COLLUS
SECTION 00 41 13.2	CERTIFICATI
SECTION 00 43 13	BID BOND FO
SECTION 00 52 13	STANDARD I
SECTION 00 60 00	PROJECT FOI
SECTION 00 61 13.13	PERFORMAN

SECTION 00 01 15	LIST OF DRAWINGS	June 14, 2023	1	
SECTION 00 11 13	ADVERTISEMENT FOR BIDS	June 14, 2023	2	
SECTION 00 21 13	INSTRUCTIONS TO BIDDERS	June 14, 2023	6	
SECTION 00 31 26.23	EXISTING ASBESTOS INFORMATION	June 14, 2023	14	
SECTION 00 41 13	BID FORM	June 14, 2023	4	
SECTION 00 41 13.1	NON-COLLUSION AFFIDAVIT	June 14, 2023	2	
SECTION 00 41 13.2	CERTIFICATION OF CONTRACTOR / BIDDER	June 14, 2023	1	
SECTION 00 43 13	BID BOND FORM	June 14, 2023	-1	
SECTION 00 52 13	STANDARD FORM OF AGREEMENT	June 14, 2023	10	
SECTION 00 60 00	PROJECT FORMS	June 14, 2023	1	
SECTION 00 61 13.13	PERFORMANCE BOND FORM	June 14, 2023	1	
SECTION 00 61 13.16	PAYMENT BOND FORM	June 14, 2023	1	
SECTION 00 63 13	REQUEST FOR INTERPRETATION	June 14, 2023	1	
SECTION 00 63 25	SUBSTITUTION REQUEST FORM	June 14, 2023	1	
SECTION 00 65 16	CERTIFICATE OF SUBSTANTIAL COMPLETION	June 14, 2023	1	
SECTION 00 65 36	CONTRACTOR'S WARRANTY	June 14, 2023	1	
SECTION 00 65 37	ASBESTOS FREE WARRANTY	June 14, 2023	1	
SECTION 00 72 13	GENERAL CONDITIONS OF THE CONTRACT	June 14, 2023	40	
SECTION 00 73 00	SUPPLEMENTARY CONDITIONS	June 14, 2023	6	
SECTION 00 73 43.01	WAGE RATE REQ. FOR THE STATE OF PA	June 14, 2023	6	
SECTION 01 11 00	SUMMARY OF WORK	June 14, 2023	3	Ľ
SECTION 01 14 00	WORK RESTRICTIONS	June 14, 2023	5	
SECTION 01 21 00	ALLOWANCES	June 14, 2023	2	
SECTION 01 22 00	UNIT PRICES	June 14, 2023	2	
SECTION 01 25 00	SUBSTITUTION PROCEDURES	June 14, 2023	2	
SECTION 01 26 00	CONTRACT MODIFICATION PROCEDURES	June 14, 2023	3	
SECTION 01 29 00	PAYMENT PROCEDURES	June 14, 2023	4	
SECTION 01 31 00	PROJECT MANAGEMENT AND COORDINATION	June 14, 2023	3	
SECTION 01 33 00	SUBMITTAL PROCEDURES	June 14, 2023	5	
SECTION 01 40 00	QUALITY REQUIREMENTS	June 14, 2023	6	
SECTION 01 42 00	REFERENCES	June 14, 2023	4	
SECTION 01 50 00	TEMPORARY FACILITIES AND CONTROLS	June 14, 2023	5	
SECTION 01 73 00	EXECUTION REQUIREMENTS	June 14, 2023	3	
SECTION 01 73 29	CUTTING AND PATCHING	June 14, 2023	5	
SECTION 01 74 00	CLEANING AND WASTE MANAGEMENT	June 14, 2023	4	
SECTION 01 77 00	CLOSEOUT PROCEDURES	June 14, 2023	4	
SECTION 04 05 00	MORTAR AND GROUT	June 14, 2023	-3	Ľ
SECTION 04 20 00	UNIT MASONRY	June 14, 2023	4	
SECTION 05 01 30	STEEL ROOF DECK REPAIR AND SECUREMENT	June 14, 2023	5	
SECTION 06 10 00	ROUGH CARPENTRY	June 14, 2023	6	
SECTION 07 01 50	PREPARATION FOR REROOFING	June 14, 2023	6	
SECTION 07 22 16	ROOF INSULATION	June 14, 2023	6	
SECTION 07 42 43	ALUMINUM-FACED COMPOSITE WALL PANELS	June 14, 2023	9	
SECTION 07 53 23	THERMOSET EPDM ROOFING	June 14, 2023	10	
SECTION 07 62 00	SHEET METAL FLASHING AND TRIM	June 14, 2023	8	
SECTION 07 65 00	THROUGH WALL FLASHING	June 14, 2923	4	

AIA Document Al01 - 2017. Copyright © 1915, 1918, 1925, 1937, 1951, 1958, 1961, 1963, 1967, 1974, 1977, 1987, 1991, 1997, 2007 and 2017. All rights reserved. "The American Institute of Architects," "American Institute of Architects," "AIA," the AIA Logo, and "AIA Contract Documents" are trademarks of The American Institute of Architects. This draft was produced at 10:37:39 ET on 05/25/2023 under Order No.4104239903 which expires on 02/15/2024, is not for resale, is licensed for one-time use only, and may only be used in accordance with the AIA Contract Documents" Terms of Service. To report copyright violations, e-mail docinfo@aiacontracts.com. User Notes: (1144474733) 8

Pages

1

Date

June 14, 2023

SECTIO SECTIO SECTIO SECTIO SECTIO	ON 07 72 00 ON 07 72 23 ON 07 72 33 ON 07 92 00 ON 22 14 26	ROOF ACCESSORIES RELIEF VENTS ROOF HATCHES JOINT SEALANTS ROOF DRAINS	June 14, 20233June 14, 20233June 14, 20233June 14, 20237June 14, 20233
.7	Addenda, if any:		
	Number	Date	Pages
	Portions of Adden Documents unless	la relating to bidding or proposal requiremer the bidding or proposal requirements are also	nts are not part of the Contract o enumerated in this Article 9.
.8	Other Exhibits: (Check all boxes th required.)	at apply and include appropriate informatio	on identifying the exhibit where
	Title	Date	Pages
	[ <b>«X</b> ] Suppleme	ntary and other Conditions of the Contract:	
	<b>Document</b> 00 73 00	Title Supplementary Conditions	DatePagesJune 14, 20236
.9	Other documents, i (List here any addi Document A201 <sup>TM</sup> sample forms, the requirements, and proposals, are not documents should	f any, listed below: tional documents that are intended to form p -2017 provides that the advertisement or inv Contractor's bid or proposal, portions of Ad- other information furnished by the Owner in part of the Contract Documents unless enum- be listed here only if intended to be part of th	part of the Contract Documents. AIA vitation to bid, Instructions to Bidders, denda relating to bidding or proposal anticipation of receiving bids or herated in this Agreement. Any such the Contract Documents.)
	Contractors Bid Fo	rm	
This Agreem	ent entered into as of	`the day and year first written above.	
OWNER (Sig			
1100000	starlar Dresident	CONTRACTOR	Signature)

### **SECTION 00 60 00**

### **PROJECT FORMS**

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. The following documents are hereby incorporated into the Contract Documents by reference:
  - 1. AIA Documents: Properly licensed forms are available for purchase from the American Institute of Architects at www.aia.org/documents.
    - a. G701, Change Order Form, 2017 Edition
    - b. G702, Application and Certificate for Payment,
    - c. G703, Continuation Sheet, 1992 Edition
    - d. G706, Contractor's Affidavit of Payment of Debts and Claims, 1994 Edition
    - e. G706A, Contractor's Affidavit of Payment of Release of Liens, 1994 Edition
    - f. G707, Consent of Surety to Final Payment, 1994 Edition
    - g. G710 Architect's Supplemental Instruction Form, 2017 Edition
    - h. G714 Construction Change Directive, 2017 Edition
    - i. A310 2010 Bid Bond Form
    - j. A312 2010 Performance Bond
    - k. A312 2010 Payment Bond Form
- B. The following documents are included in the Project Manual:
  - 1. Section 00 63 13 "Request for Interpretation"
  - 2. Section 00 63 25 "Substitution Request Form"
  - 3. Section 00 65 16 "Certificate of Substantial Completion"
  - 4. Section 00 65 36 "Contractor's Warranty"
  - 5. Section 00 65 37 "Asbestos Free Warranty"
  - 6. Section 00 73 43.01 Form LLC-25 "Weekly Payroll Certification Form For Public Works Projects"

### SECTION 00 61 13.13

### PERFORMANCE BOND FORM

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utilize AIA Document A312 2010 Performance Bond. Document is incorporated by reference, Contractor is responsible to obtain a properly licensed form for use on the project.

### **1.2 RELATED DOCUMENTS**

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

### SECTION 00 61 13.16

### PAYMENT BOND FORM

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utilize AIA Document A312 2010 Payment Bond Form. Document is incorporated by reference, Contractor is responsible to obtain a properly licensed form for use on the project.

### **1.2 RELATED DOCUMENTS**

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

## **SECTION 00 63 13**

## **REQUEST FOR INTERPRETATION**

	BUSINESS AND INDUSTRY		
	CENTER ROOF		
Project:	REPLACEMENT	RFI Number:	
From:		Date:	
Engineer:	REI Engineers	REI Project No.:	023CPA-012

Specification Section:	Paragraph:	Drawing Reference:	
Request:			

Signed By:

Response:

Attachments:			
Response From:		Date Rec'd:	Date Ret'd:
Signed By:			Date:
Copies:	Owner	ContractorEngineer	Other
		END OF SECTION	
BUSINESS AND I	INDUSTRY	00 63 13 - 1	REQUEST FOR

### SECTION 00 63 25

### SUBSTITUTION REQUEST FORM

Project Name:	BUSINESS AND INDUSTRY C	ENTER ROOF EPLACEMENT
Date: Product and/or Fabrication		
Method:		
Specification Section:		
Related Drawings:		
Criteria or Specified Product		Included
Product Data		
Fabrication Drawings		
Samples Where Applicable		
List of changes or Modifications Ne	eded to Work as Specified	
Criteria or Specified Product		Included
Product Data		
Fabrication Drawings		
Samples Where Applicable		
List of changes or Modifications Needed to Work as Specified		

The substitution proposed is equal-to or better in every respect to that required by the Contract Documents, and it will perform equal or superior to product specified in the application indicated. The Contractor waives right to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.

Signed:

### SECTION 00 65 16

Project: Owner:	BUSINESS AND INDUSTRY CENTER ROOF REPLACEMENT Westmoreland County Community College	Contractor:	
Engineer:	REI Engineers	REI Project No.:	023CPA-012

### CERTIFICATE OF SUBSTANTIAL COMPLETION

The Work performed under this Contract has been reviewed and found, to the Engineer's best knowledge, information and belief, to be substantially complete. Substantial Completion is the stage in the progress of the Work when the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The date of Substantial Completion of the Project is the date of issuance established by this Certificate, which is also the date of commencement of applicable warranties required by the Contract Documents, except as stated below:

<Insert exceptions or delete paragraph>

 REI Engineers
 By
 Date of Issuance

A list of items to be completed or corrected (Punch List) is attached hereto. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Cost estimate of Work that is incomplete or defective: \$\_\_\_\_\_ (to date as signed above).

The Contractor will complete or correct the Work on items described as defective hereto within fifteen (15) days from the Date of Issuance

By

Date

The Owner accepts the Work as substantially complete and will assume full possession at 12:00 AM on the day immediately following the Date of Issuance.

Westmoreland	County		
Community College			
Owner		Ву	Date

### **SECTION 00 65 36**

### **CONTRACTOR'S WARRANTY**

Know all men by these presents, that we, (Contractor)

having installed roofing system, flashings and sheet metal on the BUSINESS AND INDUSTRY CENTER ROOF REPLACEMENT under contract between Westmoreland County Community College (Owner) and Contractor, warrant to the Owner with respect to said work that for the period specified below, the work shall be watertight and free from defects, provided however the following are excluded from this Warranty:

1) defects or failures resulting from abuse by the Owner

2) damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion

3) defects in design involving failure of structural frame, load bearing walls, and/or foundations

We, Contractor, agree that should any leaks occur in the work we will perform emergency repairs within 24 hours' notice and perform permanent repairs promptly in a manner to restore the work to a watertight condition by methods compatible to the system, acceptable under industry standards and general practice, and accetpable to the Manufacturer, all at no expense to the Owner. We, Contractor, further agree that for the period specified below, we will make repairs at no expense to the Owner to defects which may develop in the work in a manner compatible to the system, acceptable under industry standards and general practice as established by the Engineer and acceptable to the Manufacturer.

Warranty Period: years from date of substant	tial completion of	, 20
Signature:	Title:	
(State), C	County of	
I,, a M (State), do hereb appeared before me this day and acknowledg	Notary Public for by certify that ged the due execution of the foregoing	County, personally g instrument.
Witness my hand and official seal, this	day of, 20	)
Notary Public	OFFICIAL SEA	L)
My commission expires	, 20	

### **END OF SECTION**

20

## **SECTION 00 65 37**

### **ASBESTOS FREE WARRANTY**

Owner:	Westmoreland Count	y Community College					
Project Name:	BUSINESS AND INDUSTRY CENTER ROOF REPLACEMENT						
Project Address:	145 PAVILION LANE YOUNGWOOD, PENNSYLVANIA 15697						
Project Manual Date:	Manual Date: JUNE 14, 2023						
Date of Substantial Cor	npletion:						
Know all men by these (Contractor, Subcontractor), Subcontractor, Subcontractor, Subcontractor, New roof system and referenced Project under said work that no matter knowledge and belief, nowledge a	presents, that we, ctor, Material Supplier , materials, equipment /or miscellaneous roo er contract between the rials containing asbesto no materials containing	or Equipment Manufactu and/or supplies; remove of system components; Owner and Contractor, os fibers were incorporate asbestos remain in or arc	rer) d existing roof system; installed from, to and/or on the above warrant to Owner with respect to ed into the work, and that, to our e covered by the work.				
Title:							
	(State)						
County of							
T	a Nota	ry Public for	County				
·,	(State), do hereby	certify that	personally				
appeared before me th	is day and acknowledg	ed the due execution of t	he foregoing instrument.				
Witness my hand and	official seal, this	day of	, 20				
Notary Public			(OFFICIAL SEAL)				
My commission expire	es	, 20					

### SECTION 00 72 13

### GENERAL CONDITIONS OF THE CONTRACT

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Utilize AIA Document A201 2017 General Conditions of the Contract for Construction

### **1.2 RELATED DOCUMENTS**

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

# AIA Document A201 – 2017

## General Conditions of the Contract for Construction

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

THE OWNER: (Name, legal status and address)

THE ARCHITECT: (Name, legal status and address)

- TABLE OF ARTICLES
- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
- 4 ARCHITECT
- 5 SUBCONTRACTORS
- 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
- 7 CHANGES IN THE WORK
- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

INDEX

(Topics and numbers in bold are Section headings.)

Acceptance of Nonconforming Work 9.6.6. 9.9.3. 12.3 Acceptance of Work 9.6.6, 9.8.2, 9.9.3, 9.10.1, 9.10.3, 12.3 Access to Work 3.16, 6.2.1, 12.1 Accident Prevention 10 Acts and Omissions 3.2, 3.3.2, 3.12.8, 3.18, 4.2.3, 8.3.1, 9.5.1, 10.2.5, 10.2.8, 13.3.2, 14.1, 15.1.2, 15.2 Addenda 1.1.1 Additional Costs, Claims for 3.7.4, 3.7.5, 10.3.2, 15.1.5 Additional Inspections and Testing 9.4.2, 9.8.3, 12.2.1, 13.4 Additional Time, Claims for 3.2.4, 3.7.4, 3.7.5, 3.10.2, 8.3.2, 15.1.6 Administration of the Contract 3.1.3, 4.2, 9.4, 9.5 Advertisement or Invitation to Bid 111 Aesthetic Effect 4.2.13Allowances 3.8 Applications for Payment 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5.1, 9.5.4, 9.6.3, 9.7, 9.10 Approvals 2.1.1, 2.3.1, 2.5, 3.1.3, 3.10.2, 3.12.8, 3.12.9, 3.12.10.1, 4.2.7, 9.3.2, 13.4.1 Arbitration 8.3.1, 15.3.2, 15.4 ARCHITECT Architect, Definition of 4.1.1Architect, Extent of Authority 2.5, 3.12.7, 4.1.2, 4.2, 5.2, 6.3, 7.1.2, 7.3.4, 7.4, 9.2, 9.3.1, 9.4, 9.5, 9.6.3, 9.8, 9.10.1, 9.10.3, 12.1, 12.2.1, 13.4.1, 13.4.2, 14.2.2, 14.2.4, 15.1.4, 15.2.1 Architect, Limitations of Authority and Responsibility 2.1.1, 3.12.4, 3.12.8, 3.12.10, 4.1.2, 4.2.1, 4.2.2, 4.2.3, 4.2.6, 4.2.7, 4.2.10, 4.2.12, 4.2.13, 5.2.1, 7.4, 9.4.2, 9.5.4, 9.6.4, 15.1.4, 15.2 Architect's Additional Services and Expenses 2.5, 12.2.1, 13.4.2, 13.4.3, 14.2.4 Architect's Administration of the Contract 3.1.3, 3.7.4, 15.2, 9.4.1, 9.5 Architect's Approvals 2.5, 3.1.3, 3.5, 3.10.2, 4.2.7

Architect's Authority to Reject Work 3.5, 4.2.6, 12.1.2, 12.2.1 Architect's Copyright 1.1.7, 1.5 Architect's Decisions 3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 4.2.14, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4.1, 9.5, 9.8.4, 9.9.1, 13.4.2, 15.2 Architect's Inspections 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 13.4 Architect's Instructions 3.2.4, 3.3.1, 4.2.6, 4.2.7, 13.4.2 Architect's Interpretations 4.2.11, 4.2.12 Architect's Project Representative 4.2.10Architect's Relationship with Contractor 1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5, 3.7.4, 3.7.5, 3.9.2, 3.9.3, 3.10, 3.11, 3.12, 3.16, 3.18, 4.1.2, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.3.2, 13.4, 15.2 Architect's Relationship with Subcontractors 1.1.2, 4.2.3, 4.2.4, 4.2.6, 9.6.3, 9.6.4, 11.3 Architect's Representations 9.4.2, 9.5.1, 9.10.1 Architect's Site Visits 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4 Asbestos 10.3.1 Attorneys' Fees 3.18.1, 9.6.8, 9.10.2, 10.3.3 Award of Separate Contracts 6.1.1.6.1.2 Award of Subcontracts and Other Contracts for Portions of the Work 5.2 **Basic Definitions** 1.1 Bidding Requirements 1.1.1Binding Dispute Resolution 8.3.1, 9.7, 11.5, 13.1, 15.1.2, 15.1.3, 15.2.1, 15.2.5, 15.2.6.1, 15.3.1, 15.3.2, 15.3.3, 15.4.1 Bonds, Lien 7.3.4.4, 9.6.8, 9.10.2, 9.10.3 Bonds, Performance, and Payment 7.3.4.4, 9.6.7, 9.10.3, 11.1.2, 11.1.3, 11.5 **Building Information Models Use and Reliance** 1.8 **Building Permit** 3.7.1 Capitalization 1.3 Certificate of Substantial Completion 9.8.3, 9.8.4, 9.8.5

Certificates for Payment 4.2.1, 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4, 15.1.4 Certificates of Inspection, Testing or Approval 13.4.4 Certificates of Insurance 9.10.2 Change Orders 1.1.1, 3.4.2, 3.7.4, 3.8.2.3, 3.11, 3.12.8, 4.2.8, 5.2.3, 7.1.2, 7.1.3, 7.2, 7.3.2, 7.3.7, 7.3.9, 7.3.10, 8.3.1, 9.3.1.1, 9.10.3, 10.3.2, 11.2, 11.5, 12.1.2 Change Orders, Definition of 7.2.1 CHANGES IN THE WORK 2.2.2, 3.11, 4.2.8, 7, 7.2.1, 7.3.1, 7.4, 8.3.1, 9.3.1.1, 11.5 Claims, Definition of 15.1.1 Claims, Notice of 1.6.2. 15.1.3 CLAIMS AND DISPUTES 3.2.4, 6.1.1, 6.3, 7.3.9, 9.3.3, 9.10.4, 10.3.3, 15, 15.4 Claims and Timely Assertion of Claims 15.4.1Claims for Additional Cost 3.2.4, 3.3.1, 3.7.4, 7.3.9, 9.5.2, 10.2.5, 10.3.2, 15.1.5 Claims for Additional Time 3.2.4, 3.3.1, 3.7.4, 6.1.1, 8.3.2, 9.5.2, 10.3.2, 15.1.6 Concealed or Unknown Conditions, Claims for 3.7.4Claims for Damages 3.2.4, 3.18, 8.3.3, 9.5.1, 9.6.7, 10.2.5, 10.3.3, 11.3, 11.3.2, 14.2.4, 15.1.7 Claims Subject to Arbitration 15.4.1 Cleaning Up 3.15, 6.3 Commencement of the Work, Conditions Relating to 2.2.1, 3.2.2, 3.4.1, 3.7.1, 3.10.1, 3.12.6, 5.2.1, 5.2.3, 6.2.2, 8.1.2, 8.2.2, 8.3.1, 11.1, 11.2, 15.1.5 Commencement of the Work, Definition of 8.1.2 Communications 3.9.1. 4.2.4 Completion, Conditions Relating to 3.4.1, 3.11, 3.15, 4.2.2, 4.2.9, 8.2, 9.4.2, 9.8, 9.9.1, 9.10, 12.2, 14.1.2, 15.1.2 COMPLETION, PAYMENTS AND 9 Completion, Substantial 3.10.1, 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2 Compliance with Laws 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14.1.1, 14.2.1.3, 15.2.8, 15.4.2, 15.4.3

Concealed or Unknown Conditions 3.7.4, 4.2.8, 8.3.1, 10.3 Conditions of the Contract 1.1.1.6.1.1.6.1.4 Consent, Written 3.4.2, 3.14.2, 4.1.2, 9.8.5, 9.9.1, 9.10.2, 9.10.3, 13.2, 15.4.4.2 Consolidation or Joinder 15.4.4CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS 1.1.4.6 Construction Change Directive, Definition of 7.3.1 **Construction Change Directives** 1.1.1, 3.4.2, 3.11, 3.12.8, 4.2.8, 7.1.1, 7.1.2, 7.1.3, 7.3, 9.3.1.1 Construction Schedules, Contractor's 3.10, 3.11, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2 Contingent Assignment of Subcontracts 5.4, 14.2.2.2 **Continuing Contract Performance** 15.1.4Contract, Definition of 1.1.2 CONTRACT, TERMINATION OR SUSPENSION OF THE 5.4.1.1, 5.4.2, 11.5, 14 Contract Administration 3.1.3, 4, 9.4, 9.5 Contract Award and Execution, Conditions Relating to 3.7.1, 3.10, 5.2, 6.1 Contract Documents, Copies Furnished and Use of 1.5.2, 2.3.6, 5.3 Contract Documents, Definition of 1.1.1 Contract Sum 2.2.2, 2.2.4, 3.7.4, 3.7.5, 3.8, 3.10.2, 5.2.3, 7.3, 7.4, 9.1, 9.2, 9.4.2, 9.5.1.4, 9.6.7, 9.7, 10.3.2, 11.5, 12.1.2, 12.3, 14.2.4, 14.3.2, 15.1.4.2, 15.1.5, 15.2.5 Contract Sum, Definition of 9.1 Contract Time 1.1.4, 2.2.1, 2.2.2, 3.7.4, 3.7.5, 3.10.2, 5.2.3, 6.1.5, 7.2.1.3, 7.3.1, 7.3.5, 7.3.6, 7, 7, 7.3.10, 7.4, 8.1.1, 8.2.1, 8.2.3, 8.3.1, 9.5.1, 9.7, 10.3.2, 12.1.1, 12.1.2, 14.3.2, 15.1.4.2, 15.1.6.1, 15.2.5 Contract Time, Definition of 8.1.1 CONTRACTOR 3 Contractor, Definition of 3.1.6.1.2 Contractor's Construction and Submittal Schedules 3.10, 3.12.1, 3.12.2, 4.2.3, 6.1.3, 15.1.6.2

Contractor's Employees 2.2.4, 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3, 11.3, 14.1, 14.2, 1,1 Contractor's Liability Insurance 11.1 Contractor's Relationship with Separate Contractors and Owner's Forces 3.12.5, 3.14.2, 4.2.4, 6, 11.3, 12.2.4 Contractor's Relationship with Subcontractors 1.2.2, 2.2.4, 3.3.2, 3.18.1, 3.18.2, 4.2.4, 5, 9.6.2, 9.6.7, 9.10.2, 11.2, 11.3, 11.4 Contractor's Relationship with the Architect 1.1.2, 1.5, 2.3.3, 3.1.3, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.4.2, 3.5.1, 3.7.4, 3.10, 3.11, 3.12, 3.16, 3.18, 4.2, 5.2, 6.2.2, 7, 8.3.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.9, 10.2.6, 10.3, 11.3, 12, 13.4, 15.1.3, 15.2.1 Contractor's Representations 3.2.1, 3.2.2, 3.5, 3.12.6, 6.2.2, 8.2.1, 9.3.3, 9.8.2 Contractor's Responsibility for Those Performing the Work 3.3.2, 3.18, 5.3, 6.1.3, 6.2, 9.5.1, 10.2.8 Contractor's Review of Contract Documents 3.2 Contractor's Right to Stop the Work 2.2.2.9.7 Contractor's Right to Terminate the Contract 14.1 Contractor's Submittals 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 9.2, 9.3, 9.8.2, 9.8.3, 9.9.1, 9.10.2, 9.10.3 Contractor's Superintendent 3.9, 10.2.6 Contractor's Supervision and Construction Procedures 1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 7.3.6, 8.2, 10, 12, 14, 15.1.4 Coordination and Correlation 1.2, 3.2.1, 3.3.1, 3.10, 3.12.6, 6.1.3, 6.2.1 Copies Furnished of Drawings and Specifications 1.5, 2.3.6, 3.11 Copyrights 1.5, 3.17 Correction of Work 2.5, 3.7.3, 9.4.2, 9.8.2, 9.8.3, 9.9.1, 12.1.2, 12.2, 12.3, 15.1.3.1, 15.1.3.2, 15.2.1 Correlation and Intent of the Contract Documents 1.2 Cost, Definition of 7.3.4 Costs 2.5, 3.2.4, 3.7.3, 3.8.2, 3.15.2, 5.4.2, 6.1.1, 6.2.3, 7.3.3.3, 7.3.4, 7.3.8, 7.3.9, 9.10.2, 10.3.2, 10.3.6, 11.2, 12.1.2, 12.2.1, 12.2.4, 13.4, 14 Cutting and Patching 3.14, 6.2.5

Damage to Construction of Owner or Separate Contractors 3.14.2, 6.2.4, 10.2.1.2, 10.2.5, 10.4, 12.2.4 Damage to the Work 3.14.2, 9.9.1, 10.2.1.2, 10.2.5, 10.4, 12.2.4 Damages, Claims for 3.2.4, 3.18, 6.1.1, 8.3.3, 9.5.1, 9.6.7, 10.3.3, 11.3.2, 11.3, 14.2.4, 15.1.7 Damages for Delay 6.2.3, 8.3.3, 9.5.1.6, 9.7, 10.3.2, 14.3.2 Date of Commencement of the Work, Definition of 8.1.2 Date of Substantial Completion, Definition of 8.1.3 Day, Definition of 8.1.4 Decisions of the Architect 3.7.4, 4.2.6, 4.2.7, 4.2.11, 4.2.12, 4.2.13, 6.3, 7.3.4, 7.3.9, 8.1.3, 8.3.1, 9.2, 9.4, 9.5.1, 9.8.4, 9.9.1, 13.4.2, 14.2.2, 14.2.4, 15.1, 15.2 Decisions to Withhold Certification 9.4.1, 9.5, 9.7, 14.1.1.3 Defective or Nonconforming Work, Acceptance, Rejection and Correction of 2.5, 3.5, 4.2.6, 6.2.3, 9.5.1, 9.5.3, 9.6.6, 9.8.2, 9.9.3, 9.10.4, 12.2.1 Definitions 1.1, 2.1.1, 3.1.1, 3.5, 3.12.1, 3.12.2, 3.12.3, 4.1.1, 5.1, 6.1.2, 7.2.1, 7.3.1, 8.1, 9.1, 9.8.1, 15.1.1 Delays and Extensions of Time 3.2, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, 8.3, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5 Digital Data Use and Transmission 1.7 Disputes 6.3, 7.3.9, 15.1, 15.2 Documents and Samples at the Site 3.11 Drawings, Definition of 1.1.5Drawings and Specifications, Use and Ownership of 3.11 Effective Date of Insurance 8.2.2 Emergencies 10.4, 14.1.1.2, 15.1.5 Employees, Contractor's 3.3.2, 3.4.3, 3.8.1, 3.9, 3.18.2, 4.2.3, 4.2.6, 10.2, 10.3.3, 11.3, 14.1, 14.2.1.1 Equipment, Labor, or Materials 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 4.2.6, 4.2.7, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2 Execution and Progress of the Work 1.1.3, 1.2.1, 1.2.2, 2.3.4, 2.3.6, 3.1, 3.3.1, 3.4.1, 3.7.1, 3.10.1, 3.12, 3.14, 4.2, 6.2.2, 7.1.3, 7.3.6, 8.2, 9.5.1, 9.9.1, 10.2, 10.3, 12.1, 12.2, 14.2, 14.3.1, 15.1.4

Extensions of Time 3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3, 7.4, 9.5.1, 9.7, 10.3.2, 10.4, 14.3, 15.1.6, 15.2.5 Failure of Payment 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2 Faulty Work (See Defective or Nonconforming Work) Final Completion and Final Payment 4.2.1, 4.2.9, 9.8.2, 9.10, 12.3, 14.2.4, 14.4.3 Financial Arrangements, Owner's 2.2.1, 13.2.2, 14.1.1.4 GENERAL PROVISIONS 1 Governing Law 13.1 Guarantees (See Warranty) Hazardous Materials and Substances 10.2.4, 10.3 Identification of Subcontractors and Suppliers 5.2.1 Indemnification 3.17, 3.18, 9.6.8, 9.10.2, 10.3.3, 11.3 Information and Services Required of the Owner 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10.1, 6.1.3, 6.1.4, 6.2.5, 9.6.1, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4 Initial Decision 15.2 Initial Decision Maker, Definition of 1.1.8 Initial Decision Maker, Decisions 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5 Initial Decision Maker, Extent of Authority 14.2.4, 15.1.4.2, 15.2.1, 15.2.2, 15.2.3, 15.2.4, 15.2.5 Injury or Damage to Person or Property 10.2.8, 10.4 Inspections 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 12.2.1, 13.4 Instructions to Bidders 1.1.1 Instructions to the Contractor 3.2.4, 3.3.1, 3.8.1, 5.2.1, 7, 8.2.2, 12, 13.4.2 Instruments of Service, Definition of 1.1.7 Insurance 6.1.1, 7.3.4, 8.2.2, 9.3.2, 9.8.4, 9.9.1, 9.10.2, 10.2.5, 11 Insurance, Notice of Cancellation or Expiration 11.1.4, 11.2.3 Insurance, Contractor's Liability 11.1 Insurance, Effective Date of 8.2.2, 14.4.2 Insurance, Owner's Liability 11.2 Insurance, Property 10.2.5, 11.2, 11.4, 11.5

Insurance, Stored Materials 9.3.2 INSURANCE AND BONDS 11 Insurance Companies, Consent to Partial Occupancy 9.9.1 Insured loss, Adjustment and Settlement of 11.5 Intent of the Contract Documents 1.2.1, 4.2.7, 4.2.12, 4.2.13 Interest 13.5 Interpretation 1.1.8, 1.2.3, 1.4, 4.1.1, 5.1, 6.1.2, 15.1.1 Interpretations, Written 4.2.11, 4.2.12 Judgment on Final Award 15.4.2 Labor and Materials, Equipment 1.1.3, 1.1.6, 3.4, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1, 10.2.4, 14.2.1.1, 14.2.1.2 Labor Disputes 8.3.1 Laws and Regulations 1.5, 2.3.2, 3.2.3, 3.2.4, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3.1, 13.4.2, 13.5, 14, 15.2.8, 15.4 Liens 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8 Limitations, Statutes of 12.2.5, 15.1.2, 15.4.1.1 Limitations of Liability 3.2.2, 3.5, 3.12.10, 3.12.10.1, 3.17, 3.18.1, 4.2.6, 4.2.7, 6.2.2, 9.4.2, 9.6.4, 9.6.7, 9.6.8, 10.2.5, 10.3.3, 11.3, 12.2.5, 13.3.1 Limitations of Time 2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2.7, 5.2, 5.3, 5.4.1, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15, 15.1.2, 15.1.3, 15.1.5 Materials, Hazardous 10.2.4, 10.3 Materials, Labor, Equipment and 1.1.3, 1.1.6, 3.4.1, 3.5, 3.8.2, 3.8.3, 3.12, 3.13, 3.15.1, 5.2.1, 6.2.1, 7.3.4, 9.3.2, 9.3.3, 9.5.1.3, 9.10.2, 10.2.1.2, 10.2.4, 14.2.1.1, 14.2.1.2 Means, Methods, Techniques, Sequences and Procedures of Construction 3.3.1, 3.12.10, 4.2.2, 4.2.7, 9.4.2 Mechanic's Lien 2.1.2, 9.3.1, 9.3.3, 9.6.8, 9.10.2, 9.10.4, 15.2.8 Mediation 8.3.1, 15.1.3.2, 15.2.1, 15.2.5, 15.2.6, 15.3, 15.4.1, 15.4.1.1 Minor Changes in the Work 1.1.1, 3.4.2, 3.12.8, 4.2.8, 7.1, 7.4

MISCELLANEOUS PROVISIONS 13 Modifications, Definition of 1.1.1 Modifications to the Contract 1.1.1, 1.1.2, 2.5, 3.11, 4.1.2, 4.2.1, 5.2.3, 7, 8.3.1, 9.7, 10.3.2 Mutual Responsibility 6.2 Nonconforming Work, Acceptance of 9.6.6, 9.9.3, 12.3 Nonconforming Work, Rejection and Correction of 2.4, 2.5, 3.5, 4.2.6, 6.2.4, 9.5.1, 9.8.2, 9.9.3, 9.10.4, 12.2 Notice 1.6, 1.6.1, 1.6.2, 2.1.2, 2.2.2., 2.2.3, 2.2.4, 2.5, 3.2.4, 3.3.1, 3.7.4, 3.7.5, 3.9.2, 3.12.9, 3.12.10, 5.2.1, 7.4, 8.2.2 9.6.8, 9.7, 9.10.1, 10.2.8, 10.3.2, 11.5, 12.2.2.1, 13.4.1, 13.4.2, 14.1, 14.2.2, 14.4.2, 15.1.3, 15.1.5, 15.1.6, 15.4.1 Notice of Cancellation or Expiration of Insurance 11.1.4, 11.2.3 Notice of Claims 1.6.2, 2.1.2, 3.7.4, 9.6.8, 10.2.8, 15.1.3, 15.1.5, 15.1.6, 15.2.8, 15.3.2, 15.4.1 Notice of Testing and Inspections 13.4.1, 13.4.2 Observations, Contractor's 3.2, 3.7.4 Occupancy 2.3.1, 9.6.6, 9.8 Orders, Written 1.1.1, 2.4, 3.9.2, 7, 8.2.2, 11.5, 12.1, 12.2.2.1, 13.4.2, 14.3.1 OWNER 2 **Owner**, Definition of 2.1.1**Owner, Evidence of Financial Arrangements** 2.2, 13.2.2, 14.1.1.4 **Owner, Information and Services Required of the** 2.1.2, 2.2, 2.3, 3.2.2, 3.12.10, 6.1.3, 6.1.4, 6.2.5, 9.3.2, 9.6.1, 9.6.4, 9.9.2, 9.10.3, 10.3.3, 11.2, 13.4.1, 13.4.2, 14.1.1.4, 14.1.4, 15.1.4 Owner's Authority 1.5, 2.1.1, 2.3.32.4, 2.5, 3.4.2, 3.8.1, 3.12.10, 3.14.2, 4.1.2, 4.2.4, 4.2.9, 5.2.1, 5.2.4, 5.4.1, 6.1, 6.3, 7.2.1, 7.3.1, 8.2.2, 8.3.1, 9.3.2, 9.5.1, 9.6.4, 9.9.1, 9.10.2, 10.3.2, 11.4, 11.5, 12.2.2, 12.3, 13.2.2, 14.3, 14.4, 15.2.7 **Owner's Insurance** 11.2 Owner's Relationship with Subcontractors 1.1.2, 5.2, 5.3, 5.4, 9.6.4, 9.10.2, 14.2.2 **Owner's Right to Carry Out the Work** 2.5, 14.2.2

Owner's Right to Clean Up 6.3 Owner's Right to Perform Construction and to Award Separate Contracts 6.1 Owner's Right to Stop the Work 2.4 Owner's Right to Suspend the Work 14.3 Owner's Right to Terminate the Contract 14.2, 14.4 **Ownership and Use of Drawings, Specifications** and Other Instruments of Service 1.1.1, 1.1.6, 1.1.7, 1.5, 2.3.6, 3.2.2, 3.11, 3.17, 4.2.12, 53 Partial Occupancy or Use 9.6.6. 9.9 Patching, Cutting and 3.14. 6.2.5 Patents 3.17 Payment, Applications for 4.2.5, 7.3.9, 9.2, 9.3, 9.4, 9.5, 9.6.3, 9.7, 9.8.5, 9.10.1, 14.2.3, 14.2.4, 14.4.3 Payment, Certificates for 4.2.5, 4.2.9, 9.3.3, 9.4, 9.5, 9.6.1, 9.6.6, 9.7, 9.10.1, 9.10.3, 14.1.1.3, 14.2.4 Payment, Failure of 9.5.1.3, 9.7, 9.10.2, 13.5, 14.1.1.3, 14.2.1.2 Payment, Final 4.2.1, 4.2.9, 9.10, 12.3, 14.2.4, 14.4.3 Payment Bond, Performance Bond and 7.3.4.4, 9.6.7, 9.10.3, 11.1.2 Payments, Progress 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4 PAYMENTS AND COMPLETION Payments to Subcontractors 5.4.2, 9.5.1.3, 9.6.2, 9.6.3, 9.6.4, 9.6.7, 14.2.1.2 PCB 10.3.1 Performance Bond and Payment Bond 7.3.4.4, 9.6.7, 9.10.3, 11.1.2 Permits, Fees, Notices and Compliance with Laws 2.3.1, 3.7, 3.13, 7.3.4.4, 10.2.2 PERSONS AND PROPERTY, PROTECTION OF 10 Polychlorinated Biphenyl 10.3.1 Product Data, Definition of 3.12.2 Product Data and Samples, Shop Drawings 3.11, 3.12, 4.2.7 Progress and Completion 4.2.2, 8.2, 9.8, 9.9.1, 14.1.4, 15.1.4 **Progress Payments** 9.3, 9.6, 9.8.5, 9.10.3, 14.2.3, 15.1.4

Project, Definition of 1.1.4 Project Representatives 4.2.10**Property Insurance** 10.2.5, 11.2 Proposal Requirements 1.1.1 PROTECTION OF PERSONS AND PROPERTY 10 Regulations and Laws 1.5, 2.3.2, 3.2.3, 3.6, 3.7, 3.12.10, 3.13, 9.6.4, 9.9.1, 10.2.2, 13.1, 13.3, 13.4.1, 13.4.2, 13.5, 14, 15.2.8, 15.4 Rejection of Work 4.2.6, 12.2.1 Releases and Waivers of Liens 9.3.1, 9.10.2 Representations 3.2.1, 3.5, 3.12.6, 8.2.1, 9.3.3, 9.4.2, 9.5.1, 9.10.1 Representatives 2.1.1, 3.1.1, 3.9, 4.1.1, 4.2.10, 13.2.1 Responsibility for Those Performing the Work 3.3.2, 3.18, 4.2.2, 4.2.3, 5.3, 6.1.3, 6.2, 6.3, 9.5.1, 10 Retainage 9.3.1. 9.6.2. 9.8.5. 9.9.1. 9.10.2. 9.10.3 **Review of Contract Documents and Field** Conditions by Contractor 3.2, 3.12.7, 6.1.3 Review of Contractor's Submittals by Owner and Architect 3.10.1, 3.10.2, 3.11, 3.12, 4.2, 5.2, 6.1.3, 9.2, 9.8.2 Review of Shop Drawings, Product Data and Samples by Contractor 3.12 **Rights and Remedies** 1.1.2, 2.4, 2.5, 3.5, 3.7.4, 3.15.2, 4.2.6, 5.3, 5.4, 6.1, 6.3, 7.3.1, 8.3, 9.5.1, 9.7, 10.2.5, 10.3, 12.2.1, 12.2.2, 12.2.4, 13.3, 14, 15.4 Royalties, Patents and Copyrights 3.17 Rules and Notices for Arbitration 15.4.1 Safety of Persons and Property 10.2, 10.4 Safety Precautions and Programs 3.3.1, 4.2.2, 4.2.7, 5.3, 10.1, 10.2, 10.4 Samples, Definition of 3.12.3 Samples, Shop Drawings, Product Data and 3.11. 3.12. 4.2.7 Samples at the Site, Documents and 3.11 Schedule of Values 9.2. 9.3.1 Schedules, Construction 3.10, 3.12.1, 3.12.2, 6.1.3, 15.1.6.2

Separate Contracts and Contractors 1.1.4, 3.12.5, 3.14.2, 4.2.4, 4.2.7, 6, 8.3.1, 12.1.2 Separate Contractors, Definition of 6.1.1 Shop Drawings, Definition of 3.12.1 Shop Drawings, Product Data and Samples 3.11. 3.12. 4.2.7 Site, Use of 3.13, 6.1.1, 6.2.1 Site Inspections 3.2.2, 3.3.3, 3.7.1, 3.7.4, 4.2, 9.9.2, 9.4.2, 9.10.1, 13.4 Site Visits, Architect's 3.7.4, 4.2.2, 4.2.9, 9.4.2, 9.5.1, 9.9.2, 9.10.1, 13.4 Special Inspections and Testing 4.2.6, 12.2.1, 13.4 Specifications, Definition of 1.1.6 Specifications 1.1.1, 1.1.6, 1.2.2, 1.5, 3.12.10, 3.17, 4.2.14 Statute of Limitations 15.1.2, 15.4.1.1 Stopping the Work 2.2.2. 2.4. 9.7. 10.3. 14.1 Stored Materials 6.2.1, 9.3.2, 10.2.1.2, 10.2.4 Subcontractor, Definition of 5.1.1SUBCONTRACTORS Subcontractors, Work by 1.2.2, 3.3.2, 3.12.1, 3.18, 4.2.3, 5.2.3, 5.3, 5.4, 9.3.1.2, 9.6.7 Subcontractual Relations 5.3, 5.4, 9.3.1.2, 9.6, 9.10, 10.2.1, 14.1, 14.2.1 Submittals 3.10, 3.11, 3.12, 4.2.7, 5.2.1, 5.2.3, 7.3.4, 9.2, 9.3, 9.8, 9.9.1, 9.10.2, 9.10.3 Submittal Schedule 3.10.2, 3.12.5, 4.2.7 Subrogation, Waivers of 6.1.1, 11.3 Substances, Hazardous 10.3 Substantial Completion 4.2.9, 8.1.1, 8.1.3, 8.2.3, 9.4.2, 9.8, 9.9.1, 9.10.3, 12.2, 15.1.2 Substantial Completion, Definition of 9.8.1 Substitution of Subcontractors 5.2.3. 5.2.4 Substitution of Architect 2.3.3 Substitutions of Materials 3.4.2, 3.5, 7.3.8 Sub-subcontractor, Definition of 5.1.2

Subsurface Conditions 3.7.4 Successors and Assigns 13.2 Superintendent 3.9, 10.2.6 Supervision and Construction Procedures 1.2.2, 3.3, 3.4, 3.12.10, 4.2.2, 4.2.7, 6.1.3, 6.2.4, 7.1.3, 7.3.4, 8.2, 8.3.1, 9.4.2, 10, 12, 14, 15.1.4 Suppliers 1.5, 3.12.1, 4.2.4, 4.2.6, 5.2.1, 9.3, 9.4.2, 9.5.4, 9.6, 9.10.5, 14.2.1 Surety 5.4.1.2, 9.6.8, 9.8.5, 9.10.2, 9.10.3, 11.1.2, 14.2.2, 15.2.7 Surety, Consent of 9.8.5, 9.10.2, 9.10.3 Surveys 1.1.7, 2.3.4 Suspension by the Owner for Convenience 14.3 Suspension of the Work 3.7.5, 5.4.2, 14.3 Suspension or Termination of the Contract 5.4.1.1, 14 Taxes 3.6, 3.8.2.1, 7.3.4.4 Termination by the Contractor 14.1, 15.1.7 Termination by the Owner for Cause 5.4.1.1, 14.2, 15.1.7 Termination by the Owner for Convenience 14.4 Termination of the Architect 2.3.3 Termination of the Contractor Employment 14.2.2

TERMINATION OR SUSPENSION OF THE CONTRACT 14

Tests and Inspections 3.1.3, 3.3.3, 3.7.1, 4.2.2, 4.2.6, 4.2.9, 9.4.2, 9.8.3, 9.9.2, 9.10.1, 10.3.2, 12.2.1, 13.4 TIME 8 Time, Delays and Extensions of

3.2.4, 3.7.4, 5.2.3, 7.2.1, 7.3.1, 7.4, **8.3**, 9.5.1, 9.7, 10.3.2, 10.4, 14.3.2, 15.1.6, 15.2.5

Time Limits 2.1.2, 2.2, 2.5, 3.2.2, 3.10, 3.11, 3.12.5, 3.15.1, 4.2, 5.2, 5.3, 5.4, 6.2.4, 7.3, 7.4, 8.2, 9.2, 9.3.1, 9.3.3, 9.4.1, 9.5, 9.6, 9.7, 9.8, 9.9, 9.10, 12.2, 13.4, 14, 15.1.2, 15.1.3, 15.4 Time Limits on Claims 3.7.4, 10.2.8, 15.1.2, 15.1.3 Title to Work 9.3.2. 9.3.3 UNCOVERING AND CORRECTION OF WORK 12 Uncovering of Work 12.1 Unforeseen Conditions, Concealed or Unknown 3.7.4, 8.3.1, 10.3 Unit Prices 7.3.3.2, 9.1.2 Use of Documents 1.1.1, 1.5, 2.3.6, 3.12.6, 5.3 Use of Site 3.13, 6.1.1, 6.2.1 Values, Schedule of 9.2. 9.3.1 Waiver of Claims by the Architect 13.3.2 Waiver of Claims by the Contractor 9.10.5, 13.3.2, 15.1.7 Waiver of Claims by the Owner 9.9.3, 9.10.3, 9.10.4, 12.2.2.1, 13.3.2, 14.2.4, 15.1.7 Waiver of Consequential Damages 14.2.4, 15.1.7 Waiver of Liens 9.3, 9.10.2, 9.10.4 Waivers of Subrogation 6.1.1, 11.3 Warranty 3.5, 4.2.9, 9.3.3, 9.8.4, 9.9.1, 9.10.2, 9.10.4, 12.2.2, 15.1.2 Weather Delays 8.3, 15.1.6.2 Work, Definition of 1.1.3 Written Consent 1.5.2, 3.4.2, 3.7.4, 3.12.8, 3.14.2, 4.1.2, 9.3.2, 9.10.3, 13.2, 13.3.2, 15.4.4.2 Written Interpretations 4.2.11, 4.2.12 Written Orders 1.1.1, 2.4, 3.9, 7, 8.2.2, 12.1, 12.2, 13.4.2, 14.3.1

### ARTICLE 1 GENERAL PROVISIONS

### § 1.1 Basic Definitions

### § 1.1.1 The Contract Documents

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

### § 1.1.2 The Contract

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

### § 1.1.3 The Work

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

### § 1.1.4 The Project

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

### § 1.1.5 The Drawings

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

### § 1.1.6 The Specifications

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

### § 1.1.7 Instruments of Service

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

### § 1.1.8 Initial Decision Maker

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

### § 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. § 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

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

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

### § 1.3 Capitalization

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

### § 1.4 Interpretation

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

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

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

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

### § 1.6 Notice

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

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

### § 1.7 Digital Data Use and Transmission

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

### § 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203<sup>TM</sup>-2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202<sup>™</sup>-2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

### ARTICLE 2 OWNER

### § 2.1 General

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

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

### § 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

### § 2.3 Information and Services Required of the Owner

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

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number. § 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

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

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

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

### § 2.4 Owner's Right to Stop the Work

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

### § 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such 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 may file a Claim pursuant to Article 15.

### ARTICLE 3 CONTRACTOR

### § 3.1 General

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

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

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

### § 3.2 Review of Contract Documents and Field Conditions by Contractor

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

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

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

### § 3.3 Supervision and Construction Procedures

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

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

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

### § 3.4 Labor and Materials

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

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

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

### § 3.5 Warranty

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

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

### § 3.6 Taxes

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

### § 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

### § 3.7.4 Concealed or Unknown Conditions

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

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

### § 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

### § 3.9 Superintendent

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

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

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

### § 3.10 Contractor's Construction and Submittal Schedules

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

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

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

### § 3.11 Documents and Samples at the Site

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

### § 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

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

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

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

### § 3.13 Use of Site

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

### § 3.14 Cutting and Patching

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

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

### § 3.15 Cleaning Up

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

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

### § 3.16 Access to Work

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

### § 3.17 Royalties, Patents and Copyrights

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

### § 3.18 Indemnification

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

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

### ARTICLE 4 ARCHITECT

### § 4.1 General

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

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

### § 4.2 Administration of the Contract

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

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

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

### § 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.
§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

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

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

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

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

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

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

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

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

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

## ARTICLE 5 SUBCONTRACTORS

## § 5.1 Definitions

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

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

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

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

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

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

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

## § 5.3 Subcontractual Relations

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

## § 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

#### ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

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

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

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

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

## § 6.2 Mutual Responsibility

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

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

## § 7.2 Change Orders

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

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

## § 7.3 Construction Change Directives

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

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

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

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

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

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

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

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

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

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

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

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

## § 7.4 Minor Changes in the Work

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

## ARTICLE 8 TIME

## § 8.1 Definitions

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

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

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

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

#### § 8.2 Progress and Completion

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

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

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

#### § 8.3 Delays and Extensions of Time

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

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

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

## ARTICLE 9 PAYMENTS AND COMPLETION

## § 9.1 Contract Sum

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

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

#### § 9.2 Schedule of Values

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

#### § 9.3 Applications for Payment

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

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders. § 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

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

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

#### § 9.4 Certificates for Payment

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

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

#### § 9.5 Decisions to Withhold Certification

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

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

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

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

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

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

## § 9.6 Progress Payments

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

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

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

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

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

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

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

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

## § 9.7 Failure of Payment

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

## § 9.8 Substantial Completion

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

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

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

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

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

## § 9.9 Partial Occupancy or Use

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

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work. § 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

#### § 9.10 Final Completion and Final Payment

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

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

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

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

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

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

## ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

#### § 10.1 Safety Precautions and Programs

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

#### § 10.2 Safety of Persons and Property

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

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

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

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

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

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

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

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

## § 10.2.8 Injury or Damage to Person or Property

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

## § 10.3 Hazardous Materials and Substances

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

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

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

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

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

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

## § 10.4 Emergencies

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

## ARTICLE 11 INSURANCE AND BONDS

## § 11.1 Contractor's Insurance and Bonds

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

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

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

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

## § 11.2 Owner's Insurance

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

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

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

## § 11.3 Waivers of Subrogation

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

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

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

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

## §11.5 Adjustment and Settlement of Insured Loss

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

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

## ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

#### § 12.1 Uncovering of Work

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

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

## § 12.2 Correction of Work

#### § 12.2.1 Before Substantial Completion

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

## § 12.2.2 After Substantial Completion

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

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

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

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

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

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

#### § 12.3 Acceptance of Nonconforming Work

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

#### ARTICLE 13 MISCELLANEOUS PROVISIONS

#### § 13.1 Governing Law

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

#### § 13.2 Successors and Assigns

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

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

#### § 13.3 Rights and Remedies

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

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

## § 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

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

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

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

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

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

## § 13.5 Interest

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

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

## § 14.1 Termination by the Contractor

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

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

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

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination. § 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

## § 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

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

## § 14.3 Suspension by the Owner for Convenience

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

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

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

## § 14.4 Termination by the Owner for Convenience

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

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

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

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

## ARTICLE 15 CLAIMS AND DISPUTES

## § 15.1 Claims

## § 15.1.1 Definition

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

## § 15.1.2 Time Limits on Claims

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

## § 15.1.3 Notice of Claims

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

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

## § 15.1.4 Continuing Contract Performance

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

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

## § 15.1.5 Claims for Additional Cost

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

## § 15.1.6 Claims for Additional Time

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

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

#### § 15.1.7 Waiver of Claims for Consequential Damages

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

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

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

## § 15.2 Initial Decision

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

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

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

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

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

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

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision. § 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

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

## § 15.3 Mediation

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

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

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

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

## § 15.4 Arbitration

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

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

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

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

#### § 15.4.4 Consolidation or Joinder

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

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

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

## SECTION 00 73 00

## SUPPLEMENTARY CONDITIONS

The following supplements modify, change, delete from or add to the "General Conditions of the Contract for Construction", AIA Document A201, 2017 edition. All unaltered provisions shall remain in effect.

Substitute "Engineer" for "Architect" in all sections of this "Project Manual" such that the Engineer will perform those duties and responsibilities of the Architect with respect to this Contract with the express exclusion of the practice of architecture.

Change to read: "for the following PROJECT: BUSINESS AND INDUSTRY CENTER ROOF REPLACEMENT

THE OWNER: Westmoreland County Community College THE ENGINEER: REI Engineers, Inc.

ARTICLE 1 - GENERAL PROVISIONS

Add:

"1.2.4 All work shall conform to Contract Documents. No change there from shall be made without a review by the Engineer. Where more detailed information or an interpretation of the Contract Documents is needed, the Contractor, before proceeding with the work, shall refer the matter to the Engineer who will furnish information or interpretation in the form of a Field Order or other written forms or drawings. Where only part of the work is indicated, similar parts shall be considered repetition. Where any detail is shown and the components therefore are fully described, similar details shall be construed to require equal materials and construction."

ARTICLE 3 - CONTRACTOR

3.2.2: First sentence: add the words "conceptual and" between "are" and "complimentary".

3.2.3: Change "such form as the Architect may require" to read "writing to the Engineer".

Add:

"3.2.5 The Owner is entitled to reimbursement (in the form of reduced contract amount) from the Contractor for amounts paid to the Engineer 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.

3.2.6 Should a difference occur in or between the drawings or specifications, between divisions or sections or between details on the drawings, the Contractor shall be deemed to have estimated the more expensive product or method indicated, unless he shall have asked for and obtained a decision in writing from the Engineer for submission of proposals as to which product or method shall be required."

3.7.4: First Sentence: change "14 days" to read "48 hours".

3.8.1: Second sentence: add the words "and Engineer" between "Owner" and "may".

3.12.9: Delete the word "approval" in the second sentence and substitute the word "acceptance".

# ARTICLE 4 - ARCHITECT

4.2.2: Add the following: "The Contractor shall reimburse (in the form of reduced contract amount) the Owner for compensation paid to the Engineer for additional site visits made necessary by the fault, neglect, or request of the Contractor or by defects or deficiencies in the work."

## Add:

"4.2.4.1 Instructions issued by the Engineer to the Contractor shall be adjudged an interpretation of the Contract requirements and not an act of supervision. The Engineer has no authority, nor accepts any responsibility, either directly or implied, to direct and superintend the construction operations."

## ARTICLE 5 - SUBCONTRACTORS

5.2.1: Delete the words, "as soon as practicable," and substitute the words, "within seven (7) days" in the first sentence and, add to the end of the paragraph, "An additional purpose of this submission is to verify the list of subcontractors with the list submitted at the bid opening."

5.4.3: In the second sentence, change "nevertheless remain" to read "not be".

# ARTICLE 7 - CHANGES IN THE WORK

Add:

"7.2.2 The allowance for overhead and profit combined, included in the total cost to the Owner, shall be based on the following schedule:

7.2.2.1 For the Contractor, for any work performed by the Contractor's own forces, 15 percent of the cost.

7.2.2.2 For the Contractor, for work performed by his Subcontractor, 6 percent of the amount due the Subcontractor.

7.2.2.3 For each Subcontractor or Sub-subcontractor involved, for any work performed by that Contractor's own forces, 15 percent of the cost.

7.2.2.4 For each Subcontractor, for work performed by his sub-subcontractors 6 percent of the amount due the sub-subcontractor.

7.2.2.5 Cost shall be limited to the following: Cost of materials, including sales tax and cost of delivery, cost of labor, including Social Security, Old Age and Unemployment Insurance (labor cost may include a pro rata share of Foreman's time only in case an extension of Contract Time is granted on account of the change): Workmen's Compensation Insurance; Rental Value of power tools and equipment.

7.2.2.6 Overhead shall include the following: Bond premiums, supervision, superintendence, wages of timekeepers, watchmen and clerks, small tools, incidentals, general office expense and all other expenses not included in Cost.

7.2.2.7 In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also."

7.3.9: Change the first sentence to read "Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment in a non-disputed amount or an interim amount determined by the Engineer for Work completed under the Construction Change Directive in Applications for Payment"

# ARTICLE 8 - TIME

Add:

"8.3.1.1 Adverse weather conditions shall be defined as weather extremes in precipitation, temperature, and/or winds: 1) Temperature less than 39 degrees and falling, 2) Percent chance of rain or actual rain event greater than 30% for more than four hours of the work day (forecast utilized shall be no sooner than the day before), 3) Wind speed greater than 15 MPH. For this purpose, the anticipated adverse weather days allowed per month, non-cumulative, are as follows:

January 10	April 8	July 11	October 6
February 9	May 9	August 9	November 7
March 11	June 9	September 7	December 9

8.3.1.2 The Owner will be flexible when considering adverse weather days which will not permit the Contractor to pursue the work. For the Owner's consideration, a letter documenting the number of days of inclement weather that occurred during the preceding month shall be submitted by the Contractor with his monthly application for payment. Failure to submit the request with the monthly application will result in rejection of any consideration for the number of days the preceding month."

Add: "8.4 Liquidated Damages

8.4.1 If the Contractor has not substantially completed the work within the specified contract time period and no time extensions have been granted, the contract amount shall be reduced by the sum of five hundred (\$500) dollars per day for each day in excess of the scheduled date of completion. Deductions from the original contract amount will be documented in the form of a Change Order.

8.4.2 Refer to Specification Section 01 77 00 "Closeout Procedures" for liquidated damages for punch list items and closeout documents."

# ARTICLE 9 - PAYMENTS AND COMPLETION

9.7: Delete in its entirety.

9.8.1: Replace with: "Substantial Completion shall be defined as a finished job where all phases of construction, installation, and clean-up are fully completed and ready for substantial completion inspection so that the Owner can occupy or utilize the work for its intended use"

9.8.3: Add to the end of the paragraph: "The Engineer will perform no more than one (1) inspection to determine whether the Work has attained Substantial Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement (in the form of a deductive change order) from the Contractor for amounts paid to the Engineer for any additional inspections."

9.9.1: Replace with: "The Owner may occupy premises and maintain normal building functions during the contract period. Contractor will cooperate with Owner to minimize conflict and facilitate Owner's

operations. Safety of building occupants is of primary importance. Any areas subject to hazard and/or falling material/debris to be barricaded to prevent access."

9.9.2: Delete in its entirety.

9.9.3: Delete in its entirety.

9.10.1: Add to the end of the paragraph: "The Engineer will perform no more than one (1) inspection to determine whether the Work has attained Final Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement (in the form of a deductive change order) from the Contractor for amounts paid to the Engineer for any additional inspections."

Add:

"9.10.2.1The final payment of retained amount due the Contractor shall not become due until the Contractor has furnished to Owner through the Engineer an affidavit signed, sworn and notarized to the effect that all payments for materials, services, or any other reason in connection with the Contract have been satisfied and no claims or liens exist against the Contractor in connection with this Contract. If the Contractor and Owner form possible liens or claims against the sub-contractor, the Contractor shall state in an affidavit that no claim or liens exist against any subcontractor to the best of the Contractor's knowledge, and if any appear afterwards the Contractor shall save the Owner harmless on account thereof. The forms to be used shall be AIA Document G706 and G706A, current editions. Other closeout requirements before final payment shall become due are listed in Division Section 01 77 00 "Closeout Procedures"."

# ARTICLE 11 - INSURANCE AND BONDS Add:

"11.1.1.1 Contractor shall maintain worker compensation insurance as required by Pennsylvania Statutes for all employees engaged in the Work. Contractor shal maintain commercial liability, bodily injury and property damage insurance against any claim(s), which might occur in carrying out the services, referenced in this RFP. Minimum coverage will be TWO MILLION DOLLARS (\$2,000,000) liability for bodily injury and property damage including product liability and completed operations. Contractor shall provide motor vehicle insurance for all owned, non-owned and hired vehicles that are used in carrying out the services described in this RFP. Minimum coverage shall be TWO MILLION DOLLARS (\$2,000,000) per occurrence combined single limit for automobile liability and property damage. Add:

"11.1.5 The Contractor shall not commence work under this contract until obtaining all insurance required under the conditions of the contract, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained. The Contractor shall furnish the Owner with satisfactory evidence that he has secured and will maintain the required insurance coverage until final acceptance of the Project."

"11.4.3 The Contractor shall furnish a Performance and Payment Bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the faithful performance of the contract and the payment of all persons performing labor on the project under the contract and furnishing materials, equipment or supplies in connection with the contract, including security for the payment of all unemployment contributions which become due and payable under Pennsylvania Law. The Performance and Payment Bond (AIA Document A312) shall be executed by a Surety Company authorized to do business in the State of Pennsylvania and the contract instrument of bonds must be countersigned by a duly appointed and licensed agent resident of Pennsylvania. Cost of said bond shall be included in the contract sum."

"Add:

"11.6 Indemnity Agreement: Contractor agrees to indemnify and hold harmless the Owner from and against claims, losses, liabilities, costs, expenses, charges, damages or judgment arising from, or relating to, this agreement, including but not limited to attorney's fees, with respect to any cause arising out of, resulting from, or in connection with (a) any breach by Contractor of any clause, condition or provision of this Agreement; (b) any breach or violation by Contractor of any Indemnity Agreement applicable criminal or civil law; (c) any bodily injuries, including death at any time resulting therefrom, and/or property damage from any cause whatsoever, arising out of, incidental to, or in connection with the on-going or completed work, whether or not due to any act of omission or commission including negligence, excluding the sole negligence of The Owner, its employees or agents; and (d) any other cause resulting from any act or failure to act by Contractor in accordance with this Agreement. Contractor shall promptly assume the defense of any claim, suit or action within the scope of this indemnification at its expense, upon being notified thereof.

Contractor shall release The Owner from and indemnify and hold harmless The Owner from and against any claims for injuries, including death arising out of the use of equipment, tools, or facilities, whether or not based upon the condition thereof, or any alleged negligence of The Owner in permitting the use thereof of tools, equipment or facilities owned by The Owner. Contractor understands and agrees that such permitted use of any of The Owner's tools, equipment or facilities does not stop The Owner from limiting or denying such use as The Owner so decides.

11.6.1 The following paragraphs shall apply and must be stated on your Public Liability Insurance Certificates: "Contractor agrees to indemnify and hold harmless the Owner from and against claims, losses, liabilities, costs, expenses, charges, damages or judgments, resulting from, or in connection with any bodily injury, including death at any time resulting therefrom, and/or property damage, arising out of, incidental to, or in connection with the on-going or completed work, including negligence, committed in whole or in part by the indemnitor, but excluding the sole negligence of The Owner, its employees or agents.""

# ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

12.2.2.1: In every instance, add the words "or Engineer" after "Owner".

12.2.2.1: In the third sentence, delete the words "one year".

12.2.2.2: Delete the words "one year".

12.2.2.3: Delete in its entirety.

12.2.5: In the second sentence, delete the words "one year".

12.3: Change to read: "If the Owner and Engineer prefer to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner and Engineer 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

13.6: Payments due and unpaid under the Contract Documents shall not bear interest.

# ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

14.1.3: Change to read: "If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Engineer, terminate the Contract and recover from

the Owner payment for Work executed, including reasonable overhead and profit, costs incurred that are documented, actually verifiable and proven as legitimate expenses up to the date of termination as allowed in the contract and acceptable to the Engineer for the reason of such termination and damages."

# ARTICLE 15 - CLAIMS AND DISPUTES

15.1.6.2: Change "scheduled construction" to read "Critical Path schedule".

# **END OF SECTION**

# SECTION 00 73 43.01 - WAGE RATE REQUIREMENTS FOR THE STATE OF PENNSYLVANIA

# PART 1 - GENERAL

# 1.1 PENNSYLVANIA PREVAILING MINIMUM WAGE ACT

A. The Contractor is hereby notified that this Contract is subject to the provisions, duties, obligations, remedies and penalties of the Pennsylvania Prevailing Wage Act, 43 P.S. §165-1 et seq., as amended, which is incorporated herein by reference as if fully set forth herein. In compliance with said Pennsylvania Prevailing Wage Act, the Prevailing Minimum Wage Predetermination is hereto attached and made part hereof as approved by the Secretary of Labor and Industry. If a job classification is not covered by the Prevailing Wage Predetermination, the Contractor may not pay individuals in that classification less than the lowest rate for laborers, as set out in the predetermination.

# **1.2 DEFINITIONS**

- A. The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:
  - 1. Act The Pennsylvania Prevailing Wage Act (43 P. S. §§ 165-1 165-17).
  - 2. Apprentice A person employed and working under a bona fide apprenticeship program, directly related to the particular craft involved in the construction industry and registered with an approved by the Pennsylvania Apprenticeship and Training Council and whose training and employment are in full compliance with the provisions of The Apprenticeship and Training Act (43 P. S. §§ 90.1 90.10), approved July 14, 1961.
  - 3. Authorized deduction Those deductions which are authorized by the Wage Payment and Collection Law (43 P. S. §§ 260.1 - 260.45), approved July 14, 1961 and the Regulations of the Department of Labor and Industry issued pursuant thereto.
  - 4. Bona fide collective bargaining agreement The agreement negotiated between the historically established and recognized bargaining representatives for the employers and of the workmen for the particular crafts or classifications involved providing for applicable wage rates, hours of work, working conditions and contributions for employee benefits as defined in "contributions for employee benefits" in this section.
  - 5. Classification Specific categories of jobs which are performed within a "craft" as defined in this section. The term includes those specific categories of jobs which are performed by a "workman," as defined in section 2(7) of the act (43 P. S. § 165-2(17)) and this section, and "apprentice," as defined in this section.
  - 6. Contributions for employee benefits "Fringe benefits" paid or to be paid, including payment made whether directly or indirectly, to the workmen for sick, disability, death, other than Workmen's Compensation, medical, surgical, hospital, vacation, travel expense, retirement and pension benefits.
  - 7. Craft Special skills and trades which are recognized as such by custom and usage in the building and construction industry.
  - 8. Department The Department of Labor and Industry of the Commonwealth of Pennsylvania.

00 73 43.01 - 1

- 9. General prevailing minimum wage rates, prevailing wage rates, minimum wage rates and wage rates Rates as determined by the Secretary, as payable in the locality in which the public work is to be performed, for the respective crafts and classifications, including the amount of contributions for employee benefits as required by the act.
- 10. Locality A political subdivision, or combination of the same, within the county in which the public work is to be performed. When no workmen for which a prevailing minimum wage is to be determined hereunder are employed in the locality, the locality may be extended to include adjoining political subdivisions where the workmen are employed in those crafts or trades for which there are no workmen employed in the locality as otherwise herein defined.
- 11. Maintenance work The repair of existing facilities when the size, type or extent of the facilities is not thereby changed or increased.
- 12. Public body The Commonwealth of Pennsylvania, its political subdivisions, authorities created by the General Assembly of the Commonwealth and instrumentalities or agencies of the Commonwealth.
- 13. Public work Construction, reconstruction, demolition, alteration or repair work other than maintenance work, done under contract and paid for in whole or in part out of the funds of a public body where the estimated cost of the total project is in excess of \$25,000. The term does not include work performed under a rehabilitation or manpower training program.
- 14. Secretary The Secretary of Labor and Industry or his authorized deputy or representative.
- 15. Workman Includes laborer, mechanic, skilled and semiskilled laborer and apprentices employed by a Contractor or Subcontractor and engaged in the performance of services directly upon the public work project, regardless of whether their work becomes a component part thereof. The term does not include material suppliers or their employees who do not perform services at the job site.

# **1.3 REQUIREMENTS**

- A. The general prevailing minimum wage rates including contributions for employee benefits as determined by the Secretary of Labor and Industry shall be paid to the workmen employed in the performance of the contract.
- B. The Contractor shall pay at least the wage rates as determined in the decision of the Secretary of Labor and Industry and shall comply with the conditions of the act approved August 15, 1961, and the regulations issued thereto, to assure the full and proper payment of the rates.
- C. The prevailing minimum wage rate requirements apply to work performed on the contract by the Contractor and to work performed on the contract by Subcontractors.
- D. The Contractor shall insert in each of his subcontracts the stipulations contained in these required provisions and other stipulations as may be required.
- E. No workmen may be employed on the public work except in accordance with the classifications in the decision of the Secretary. If additional or different classifications are necessary the procedure in § 9.107 (relating to petition for review of rates and hearings) shall be followed.

- F. Workmen employed or working on the project shall be paid unconditionally, regardless of whether a contractual relationship exists or the nature of a contractual relationship which may be alleged to exist between a Contractor, Subcontractor and workmen, at least once a week, without deduction or rebate, on any account, either directly or indirectly except authorized deductions, the full amounts due at the time of payment, computed at the rates applicable to the time worked in the appropriate classification. Nothing in the contract, the act or this title prohibits the payment of more than the general prevailing minimum wage rates as determined by the Secretary to a workman on public work.
- G. The Contractor and each Subcontractor shall post for the entire period of construction the wage determination decisions of the Secretary, including the effective date of changes thereof, in a prominent and easily accessible place or places at the site of the work and at the places used by them to pay workmen their wages. The posted notice of wage rates shall contain the following information:
  - 1. The name of project.
  - 2. The name of the public body for which it is being constructed.
  - 3. The crafts and classifications of workmen listed in the Secretary's general prevailing minimum wage rate determination for the particular project.
  - 4. The general prevailing minimum wage rates determined for each craft and classification and the effective date of changes.
  - 5. A statement advising workmen that if they have been paid less than the general prevailing minimum wage rate for their job classification or that the Contractor or Subcontractor are not complying with the act or this title, they may file a protest in writing with the Secretary within 3 months of the date of the occurrence, objecting to the payment to a Contractor to the extent of the amount due or to become due to them as wages for work performed on the public work project. A workmen paid less than the rate specified in the contract shall have a civil right of action for the difference between the wage paid and the wages stipulated in the contract, which right of action shall be exercised within 6 months from the occurrence of the event creating the right.
- H. The Contractor and Subcontractors shall keep an accurate record showing the name, craft or classification, number of hours worked per day and the actual hourly rate of wage paid, including employee benefits, to each workman employed by him in connection with the public work. The record shall include deductions from each workman. The record shall be preserved for 2 years from the date of payment and shall be open at reasonable hours to the inspection of the public body awarding the contract and to the Secretary or his authorized representatives.
- I. Apprentices shall be limited to numbers in accordance with a bona fide apprenticeship program registered with and approved by The Pennsylvania Apprenticeship and Training Council and only apprentices whose training and employment are in full compliance with The Apprenticeship and Training Act (43 P. S. §§ 90.1 90.10), approved July 14, 1961, and the regulations issued thereto shall be employed on the public work project. A workman using the tools of a craft who does not qualify as an apprentice within this subsection shall be paid the rate predetermined for journeymen in that particular craft or classification.

- J. Wages shall be paid without deductions except authorized deductions. Employers not parties to a contract requiring contributions for employee benefits which the Secretary has determined to be included in the general prevailing minimum wage rate shall pay the monetary equivalent thereof directly to the workmen.
- K. Payment of compensation to workmen for work performed on public work on a lump sum basis, or a piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the act and this subchapter, regardless of the average hourly earnings resulting therefrom.
- L. Each Contractor and each Subcontractor shall file a statement each week and a final statement at the conclusion of the work on the contract with the contracting agency, under oath, and in form satisfactory to the Secretary, certifying that workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by this section or if wages remain unpaid to set forth the amount of wages due and owing to each workman respectively. The statement shall be submitted on Form LLC-25 which is attached.
- M. The provisions of the Prevailing Wage Act and the PA Department of Labor and Industry regulations shall be incorporated by reference in the contract.
- N. Before final payment is made, a final wage certification must be submitted by all Contractors and Subcontractors.

# **1.4 REMEDIES AND PENALTIES**

- A. For an unintentional failure to pay prevailing wages, the Contractor will pay the difference or provide adequate security for the payment of the amounts required to be paid as prevailing wages to the affected workers.
- B. For an intentional failure, the Contractor shall not be awarded any public contracts for three years, and the Contractor shall be liable to the Commonwealth for liquidated damages, in addition to damages for any other breach of the contract, in the amount of the underpayment of wages.

# PART 2 - PRODUCTS (NOT USED)

# PART 3 - EXECUTION

3.1 Submit the attached Pennsylvania Department of Labor and Industry Form LLC-25 "Weekly Payroll Certification Form For Public Works Projects" weekly.

# WEEKLY PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

Contractor or	Subco	ontractor	r (Please che	eck one)		AL	LIN	FOR	MAT	TION	MU	ST B	SE COMPLE	ETED				
CONTRACTOR							SUE	BCON	TRAC	CTOR								
ADDRESS							ADI	DRES	S								LABOR & INDUSTRY	
PAYROLL NUMBER	WEEK	ENDIN	G DATE	PROJ	ECT	AND	LOCA	ATION	1							BUREA PR 7	U OF LABOR LAW COMP EVAILING WAGE DIVISI 'TH & FORSTER STREET HARRISBURG, PA 1712(	LIANCE ON 'S )
				PROJ	ECT	SERI	AL #						PROJECT #	•			1-800-932-0665	
		APPR.	WOD	V			DAY	DAY AND DATE				- S-	BASE	TOTAL FRINGE			GROSS PAY	
EMPLOYEE NAM	ИE	RATE	CLASSIFIC	K ATION								TIME 0-	HOURLY	BENEFITS (C=Cash) DI	DEI	EDUCTIONS	FOR PREVAILING RATE JOB(S)	CHECK #
		(70)				HOU	RS WO	RKED	EACH	DAY		TIME	KAIE	(FB=Contributions)*				
														C:				
														FB:				
														C:				
														FB:				
														C:				
														FB:				
														C:				
														FB:				
														C:				
														FB:				
											*SEE	E REVE	ERSE SIDE	PAGE NUMBER		OF		

# THE NOTARIZATION MUST BE COMPLETED ON FIRST AND LAST SUBMISSIONS ONLY. ALL OTHER INFORMATION MUST BE COMPLETED WEEKLY.

\*FRINGE BENEFITS EXPLANATION (FB): Bona fide benefits contribution, except those required by Federal or State Law (unemployment tax, workers' compensation, income taxes, etc.)

Please specify the type of benefits provided and contributions per hour:

# **CERTIFIED STATEMENT OF COMPLIANCE**

1.	The undersigned,	having executed	a contract with	
	0,	0		_

(AWARDING AGENCY, CONTRACTOR OR SUBCONTRACTOR)

\_\_\_\_\_\_ for the construction of the above-identified project, acknowledges that:

- (a) The prevailing wage requirements and the predetermined rates are included in the aforesaid contract.
- (b) Correction of any infractions of the aforesaid conditions is the contractor's or subcontractor's responsibility.
- (c) It is the contractor's responsibility to include the Prevailing Wage requirements and the predetermined rates in any subcontract or lower tier subcontract for this project.
- 2. The undersigned certifies that:
  - (a) Neither he nor his firm, nor any firm, corporation or partnership in which he or his firm has an interest is debarred by the Secretary of Labor and Industry pursuant to Section 11(e) of the PA Prevailing Wage Act, Act of August 15, 1961, P.L. 987 as amended, 43 P.S.§ 165-11(e).
  - (b) No part of this contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation or partnership in which such subcontractor has an interest is debarred pursuant to the aforementioned statute.
- 3. The undersigned certifies that:
  - (a) the legal name and the business address of the contractor or subcontractor are:

  - (c) The name, title and address of the owner, partners or officers of the contractor/subcontractor are:

ADDRESS

The willful falsification of any of the above statements may subject the contractor to civil or criminal prosecution, provided in the PA Prevailing Wage Act of August 15, 1961, P.L. 987, as amended, August 9, 1963, 43 P.S. § 165.1 through 165.17.

(DATE)

(SIGNATURE)

(TITLE)

Taken, sworn and subscribed before me this \_\_\_\_\_ Day

## **SECTION 01 11 00**

# **SUMMARY OF WORK**

# PART 1 - GENERAL

# 1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Name: Business and Industry Center Roof Replacement
- B. Project Address: 145 Pavilion Lane, Youngwood, Pennsylvania 15697
- C. Owner: Westmoreland County Community College
- D. Westmoreland County Community College RFP Number 992
- E. Engineer: The Contract Documents, dated June 14, 2023, were prepared by REI Engineers, Inc.
- F. This work includes the provision of 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 in the Base Bid includes:
  - 1. Roof Area A, C and D:
    - a. Remove and dispose of the roof system including flashings and sheet metal down to the steel deck.
    - b. Remove and dispose of abandoned curbs indicated and repair the metal roof deck as specified in Section 05 01 30 "Steel Deck Repair and Securement.
    - c. Secure the steel deck to structural framing members as specified in Section 05 01 30 "Steel Roof Deck Repair and Securement".
    - d. Provide tapered roof insulation system and cover board as specified in Section 07 22 16 "Roof Insulation". Cover board not required at Roof Area D.
    - e. Adhere a fleece back thermoset (EDPM) single ply membrane along with flashings and accessories as specified in Section 07 53 23 "Thermoset EPDM Roofing".
    - f. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
    - g. Provide a new Roof Hatch on Roof Area A.
    - h. Remove existing brick veneer and provide new receiver and through wall flashing above the roof on Roof Area C.
    - i. Provide new aluminum faced composite metal wall panels over the existing vertical accents above Roof Area C.
    - j. Provide a complete, watertight, 20-year warrantable roof assembly.

- 2. Roof Area B:
  - a. Remove and dispose of the existing areas of wet insulation and infill areas flush with surrounding roof surfaces.
  - b. Remove and dispose of abandoned curbs, pipes and equipment supports indicated and repair the metal roof deck as specified in Section 05 01 30 "Steel Deck Repair and Securement.
  - c. Remove and dispose of edge metal, striping plies, membrane flashing at curbs, penetrations, walls and dividers, prepare surfaces to receive new flashing.
  - d. Remove and dispose of the roof system at each drain to allow new tapered insulation sumps to be installed at each drain.
  - e. Properly prepare the existing modified bitumen roof membrane cap sheet to receive new roof membrane.
  - f. Adhere a fleece back thermoset (EDPM) single ply membrane along with flashings and accessories as specified in Section 07 53 23 "Thermoset EPDM Roofing".
  - g. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
  - h. Provide a complete, watertight, 20-year warrantable roof assembly.
- 3. Roof Area E:
  - a. Remove and dispose of the existing screws securing the metal roof panels and flashing. Provide new color matching oversized screws with washers.
  - b. Replace the deteriorated sealant along the wall mounted counterflashing.
  - c. Resecure the foam closure at the ridge cap and set in sealant.
- 4. On Roof Areas A, B and C, remove the lightning protection/grounding system prior to commencement of roof replacement work. Upon completion of flashing and sheet metal installation, reinstall or provide parts, components or materials to meet UL requirements at the time of initial installation. Provide a "Letter of Findings" from UL.
- G. Asbestos Containing Roofing Materials (ACRM):
  - 1. Sample Testing Results:
    - a. No Asbestos Containing Roofing Materials (ACRM) have been detected in test samples of roof areas included in Contract.
  - 2. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor determines unanticipated asbestos bearing materials present in the building components, stop work in the affected area, notify the Engineer and Owner, and provide temporary protection as required. Costs incurred due to the presence of hidden or unanticipated asbestos bearing materials will be authorized by Change Order to this contract.

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. Where specific items listed herein improve the standards required by the manufacturers, they take precedence where their compliance does not affect the manufacturers' guarantee or warranty provisions.

# **1.2 RELATED DOCUMENTS**

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

# **1.3 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. Interpret words and meanings as appropriate. Infer words implied, but not stated, as the sense requires. Interpret singular words as plural and plural words as singular where applicable as the context of the Contract Documents indicates.
  - 2. Imperative mood and streamlined language are generally used in the Specifications. Perform requirements expressed in the imperative mood. 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.

# END OF SECTION
#### **SECTION 01 14 00**

# WORK RESTRICTIONS

# PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and procedural requirements for work sequence, work restrictions, occupancy requirements and use of premises.

# **1.2 RELATED DOCUMENTS**

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 "Submittal Procedures".

## 1.4 WORK SEQUENCE

- A. Conduct work 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.
  - 2. 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 provides alternative usage.
  - 3. Schedule construction in such a manner that once work has commenced on one facility, the work force to remain at that facility continuously each workday through final completion at that facility.
  - 4. Keep areas at the facility, except areas under construction, safely accessible to vehicles.
  - 5. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility.

## **1.5 WORK RESTRICTIONS**

- A. Work hours generally performed during normal business hours. Provide notification to the Owner and Engineer 48 hours in advance of work outside of normal business hours. No work allowed without prior notification and authorization.
- B. University Work Restrictions:

1. Coordinate work schedule with University's testing and events schedule and may not be allowed on-site during certain days/events.

# **1.6 OCCUPANCY REQUIREMENTS**

- A. Owner Occupancy:
  - 1. Owner occupies the premises during construction to conduct his normal operations. Cooperate with Owner in construction operations to minimize conflict, and to facilitate Owner usage.
  - 2. Conduct operations as to ensure the least inconvenience and the greatest amount of safety and security for the Owner, building occupants, and the general public.
  - 3. Control noise from operations so that building occupants are not affected.

# 1.7 SECURITY

- A. Restrict the access of persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the site of the work.
- B. Maintain an accurate record of the names and identification of visitors entering upon the Owner's property in connection with the work of this contract, including times of entering and times of leaving, and submit a copy of the record to the Owner weekly.

# **1.8 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. 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 stored materials and equipment that interfere with operations of the Owner.
  - 4. Protect surface improvements including pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.
  - 5. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to surface improvements resulting from, or attributable to, the work operation.
    - a. Repair damaged concrete by replacing full sections of concrete between control/expansion joints.
    - b. Fill ruts in grass areas and grade to original conditions. Provide grass seed and straw.
    - c. Replace disturbed landscaping in mulched or natural areas.

# B. Use of Building

- 1. Maintain building in a weathertight condition throughout construction period.
- 2. Take precaution against injuries to persons or damage to property.
- 3. Protect building, its contents, and its occupants during construction period.
- 4. Do not overload or permit the structure to be loaded with such weights that endanger its safety or to cause excessive deflection. Equally distribute materials placed on the roof.
- 5. Properly secure materials or equipment placed on roof to prevent blow off during wind events. Ensure materials or equipment on roof does not interfere with roof drainage.
- 6. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to the building and its contents resulting from, or attributable to, the work operation.
- 7. Indoor Air Quality:
  - a. Coordinate with the facility personnel to identify the area where roof work is performed daily and what HVAC equipment and personnel in the building may be affected by the work.
  - b. Work with facility personnel to prevent odors or fumes from entering the building or where found to not be practical due to the work area, HVAC equipment limitations or other reasons; coordinate with facility personnel to have occupants relocated to an area of the building not affected by the work.
  - c. When possible to safely shut down and seal HVAC equipment; as determined by the facility personnel, coordinate with facility personnel to have mechanical units affected by the planned work area and air intakes properly closed and sealed. After closing of mechanical units and air intakes, cover units and intakes with 6-mil polyethylene sheeting taped secure. Remove polyethylene sheeting before coordinating restart of units and intakes.
  - d. Provide box carriage fans on rooftop during roof application to move and circulate air away from intakes and units.
  - e. Where HVAC equipment is required to remain operational during roof work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work.
  - f. When starting roof work using materials which have odors or emit fumes, communicate with facility personnel within the building in the area of the work to determine if fumes or odors are being experienced. If fumes or odors are experienced, stop work until the cause is determined and remediated or occupants can be moved to an area not affected by the work.
- 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 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 street or other area of the Owner's property except in the designated area.

# **1.9 OWNER POLICIES**

- A. Tobacco Policy
  - 1. The Owner has adopted a Tobacco Free Policy which applies to school property. This is a total ban on tobacco products including cigarettes, cigars, pipes, chewing tobacco, snuff, etc. Contractor is responsible for employee's actions while they are on school property. Failure to follow this policy constitutes a breach of contract and said contract may be terminated without penalty to the school system.
- B. Weapons and Explosives Policy
  - 1. Excluding law enforcement, persons are prohibited from possessing, carrying, using or threatening to use, or encouraging another person to possess, carry, use or threaten to use, weapons or explosives on school property or while attending curricular or extracurricular activities sponsored by the school. This policy applies to weapons or explosives carried openly or concealed. For purposes of this policy, a weapon includes, but is not limited to gun, rifle, pistol or other firearm; or BB gun, stun gun, air rifle, air pistol, bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, blackjack, metallic knuckles, razors and razor blades (except solely for personal shaving), fireworks, or sharp-pointed or edged instrument except instructional supplies, unaltered nail files and clips and tools used solely for preparation of food, instruction and/or maintenance on educational property.
- C. Conduct Policy
  - 1. The conduct of contractor employees to be exemplary; profanity, drinking, lewd or suggestive comments or gestures or other acts of this nature are not tolerated.

# **1.10 CONTRACTOR CONDUCT**

- A. The possession and/or use of drugs and alcohol on district property are prohibited.
- B. No improper language or fraternization by Contractor's employees with student and staff are prohibited.
- C. Contract personnel required to wear long pants and sleeved shirts while on Owner's property.

#### SECTION 01 21 00

## ALLOWANCES

## PART 1 - GENERAL

# 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and procedural requirements governing allowances.

## **1.2 RELATED DOCUMENTS**

- 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. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 06 10 00 "Rough Carpentry"
  - 3. Section 07 01 50 "Preparation for Reroofing"
  - 4. Section 07 22 16 "Roof Insulation"

#### **1.3 ABBREVIATIONS**

- A. Abbreviations for typical units of measurement:
  - 1. Square Foot (SF)
  - 2. Square Yard (SY)
  - 3. Cubic Foot (CF)
  - 4. Board Foot (BF)
  - 5. Linear Foot (LF)
  - 6. Each (EA)
  - 7. Tonnage (TON)

# 1.4 CONTINGENCY ALLOWANCE

- A. Include the specified contingency allowance in the base bid.
- B. Credit unused portion remaining at the completion of the contract back to the Owner.
- C. The Owner reserves the right to modify the contingency allowance prior to award of Contract.

# **1.5 QUANTITY ALLOWANCES**

A. Include the specified quantity allowances in the base bid. Use the unit price submitted on the Bid Form to compute the quantity allowances. The quantities indicated on the Bid Form are estimated quantities only for the purpose of comparing bids. Compensation for the unit price bid made for the exact quantity of work performed under the unit price item. Deductive amounts of unit price work included in the Contract Sum are calculated at 100% of the quoted add unit price.

# PART 2 - PRODUCTS (NOT USED)

# PART 3 - EXECUTION

# 3.1 SCHEDULE OF ALLOWANCES

- A. Contingency Allowance:
  - 1. Include a Ten thousand dollar (\$10,000.00) contingency allowance in the base bid.
- B. Quantity Allowances:
  - 1. Repair 3,500 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 2. Repair 150 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 3. Overlay 150 SF of Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 4. Replace 50 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 5. Replace 3,500 BF of Wet or Deteriorated Existing Insulation. Refer to Section 07 22 16 "Roof Insulation".
  - 6. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry".
  - 7. Replace 320 SF of Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry".

### SECTION 01 22 00

## UNIT PRICES

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and procedural requirements for unit prices.

## **1.2 RELATED DOCUMENTS**

- 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. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 06 10 00 "Rough Carpentry"
  - 3. Section 07 01 50 "Preparation for Reroofing"
  - 4. Section 07 22 16 "Roof Insulation"

#### **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 ABBREVIATIONS**

- A. Abbreviations for typical units of measurement:
  - 1. Square Foot (SF)
  - 2. Square Yard (SY)
  - 3. Cubic Foot (CF)
  - 4. Board Foot (BF)
  - 5. Linear Foot (LF)
  - 6. Each (EA)
  - 7. Tonnage (TON)

## **1.5 UNIT PRICE MEASUREMENT**

- A. Prior to performing work under a unit price as specified herein, notify the Engineer to allow for measurement of the actual quantities of work. Work performed under these items without prior approval and measurement is at the Contractor's expense.
- B. 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-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

# **1.6 UNIT PRICE PAYMENT**

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

# **1.7 UNIT PRICE PERFORMANCE**

A. Install unit price work in accordance with the applicable specification sections and Contract Drawings.

# PART 2 - PRODUCTS (NOT USED)

# PART 3 - EXECUTION

## 3.1 SCHEDULE OF UNIT PRICES

- A. Provide a unit price for:
  - 1. Repair Corroded Steel Deck (Corrosion Degree 1) with Coating. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 2. Repair Steel Deck (Corrosion Degree 2) with Steel Plates. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 3. Overlay Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 4. Replace Deteriorated Steel Deck (Corrosion Degree 4). Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
  - 5. Replace Wet or Deteriorated Existing Insulation. Unit of Measurement: Board Foot (BF). Refer to Section 07 22 16 "Roof Insulation".
  - 6. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 "Rough Carpentry".
  - 7. Replace Deteriorated Plywood. Unit of Measurement: Square Foot (SF). Refer to Section 06 10 00 "Rough Carpentry".

### **SECTION 01 25 00**

### SUBSTITUTION PROCEDURES

# PART 1 - GENERAL

### 1.1 SUMMARY

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

#### **1.2 RELATED DOCUMENTS**

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

## **1.3 DEFINITIONS**

- A. 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.
  - 2. Specified options of products and construction methods included in Contract Documents.
  - 3. Determination of and compliance with governing regulations and orders issued by governing authorities.

# **1.4 SUBMITTALS**

- A. Submit requests for acceptance of equivalent items in writing to the Engineer during the submittal process. No substitutions considered after acceptance of project submittals. Refer to Section 01 33 00 "Submittal Requirements".
- B. Substitutions after award are considered solely for convenience and approved by Change Order in form of credit to the Owner. Bear additional costs related to making the substituted material or system work including additional engineering, material or system modifications, and time considerations relating to material or system installation requirements.
- C. Provide information sufficient for the Engineer to make a determination of equivalent items. Engineer's determination of the equivalency of a product is final. The Engineer reserves the right to request information or documentation for evaluation including but not limited to the following:
  - 1. Provide a letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturer's specifications.
  - 2. A written explanation of why substitutions should be considered is required.

- 3. Statement indicating why specified product cannot be provided.
- 4. Coordination of information, including a list of modifications needed to other parts of the work necessary to accommodate proposed substitution.
- 5. Product data including drawings, descriptions, and fabrication/installation procedures.
- 6. Samples where applicable.
- 7. Material test reports from a qualified testing agency indicating the interpreting test results for compliance with requirements.
- 8. Contractor's certification that proposed substitution complies with requirements in the contract documents and is appropriate for applications indicated.
- 9. 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.
- 10. If requesting product substitution after bid award, provide cost information including proposal of change in the contract sum.

#### SECTION 01 26 00

## **CONTRACT MODIFICATION PROCEDURES**

## PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and procedural requirements for handling and processing Contract modifications.

#### **1.2 RELATED DOCUMENTS**

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: A detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time will be issued by the Engineer along with 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. 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 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.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a 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. 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 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 signed by the Engineer, Contractor and Owner.
  - 2. If contingency allowance funds are not available; upon Owner's approval, written approval will be provided by the Engineer in the form of a Change Order as provided in the Conditions of the Contract.
    - a. Form of Change Order: AIA Document G701 or Owner or Engineer Standard Form submitted by the Engineer signed by the Contractor and Owner.
    - b. Do 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.
    - c. An executed Change Order is the only legal document which can change the Contract Sum or Time.

# **1.4 SUPPLEMENTAL INSTRUCTIONS**

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Engineer on or Engineer's Supplemental Instructions form.

## **1.5 CONSTRUCTION CHANGE DIRECTIVE**

- A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Proposal Request; the Engineer may issue a Construction Change Directive on AIA G714 or Engineer's Standard Form, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
  - 1. The Construction Change Directive will contain a description of the change in the Work and designate the method followed to determine the change in the Contract Sum or Contract Time.
  - 2. Submit unit costs, equipment rates and labor rates as requested by the Engineer and agree upon submitted rates before the work progresses unless the Contractor is directed to proceed in the absences of an agreement or in an emergency.

- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Provide a copy of those records the Engineer.
  - 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

#### SECTION 01 29 00

### **PAYMENT PROCEDURES**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and procedural requirements necessary to prepare and process Applications for Payment.

#### **1.2 RELATED DOCUMENTS**

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 "Submittal Procedures".
- B. Application for Payment Cover on AIA G702.
- C. Schedule of Values: 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 serve as the format for preparation.

### **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 provided in Section 00 62 73 "Schedule of Values". Provide one line item for labor and one line item for material for each Specification Section.
  - 1. 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 to 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. Complete each item in the Schedule of Values and Applications for Payment. Include total cost and proportionate share of general overhead and profit for each item.
  - 10. Show temporary facilities and other major cost items that are not direct cost of work in place 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. Submit one electronic pdf of the application for payment on AIA Document G702 and G703, current editions.
  - 1. Indicate the date for each progress payment. The period of Work covered by each application is the period indicated in the Agreement
  - 2. Provide on original AIA forms.

- 3. Complete, notarize and execute each Application for Payment by a person authorized to legally sign documents.
- 4. Show breakdown of the work with separate labor and material amounts on Document G703 in accordance with the accepted Schedule of Values.
- 5. Make each application consistent with previous applications and payments as certified by Engineer and paid for by Owner.
- 6. Engineer will 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 5% of the amount of each estimate until final completion and acceptance of work covered by this Contract.
- D. Match data of entries on the schedule of values and 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. Make material invoices available to the Engineer upon his request from the contractor or material manufacturer.
- F. When requesting payment for materials stored on site, submit with 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, include the following items with submittals:
  - 1. List of subcontractors
  - 2. Schedule of values
- H. With each application for payment, also submit the following:
  - 1. Unit Price Daily Logs: Submit copies of unit price daily logs and appropriate change order forms 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 100% 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 not due until 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

### SECTION 01 31 00

## PROJECT MANAGEMENT AND COORDINATION

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
    - a. Project Schedule
    - b. General project coordination procedures.
    - c. Coordination.
    - d. Administrative and supervisory personnel
    - e. Project meetings

# **1.2 RELATED DOCUMENTS**

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 "Submittal Procedures".
- B. Emergency contact list: Key personnel including home, office and mobile numbers, for the following:
  - 1. Owner
  - 2. Contractor
  - 3. Subcontractor(s)
  - 4. Engineer
- C. Work schedule:
  - 1. Indicate start date, crew size, production rate, completion date, etc.
  - 2. Provide illustrated schedule on an aerial map.

## 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. 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: Coordinate the scheduling and sequence of operations 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 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 PROJECT MEETINGS**

- A. Pre-Construction Meeting
  - 1. 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 each person present.
  - 2. Attendance: Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and other persons concerned with the installation and performance.
    - a. Provide 3 telephone numbers 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:
  - 1. 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 each person present.
  - 2. Attendance: Owner, Engineer, Contractor, Job Superintendent, material Supplier, and Subcontractors, as appropriate. Provide an updated job progress schedule at each weekly meeting. Be thoroughly familiar with the status of the project and be prepared to discuss and act upon situations that arise. The time, date and location of these meetings will be established during pre-construction conference.
  - 3. Minimum Agenda: Review of work progress; field observations, problems, and decisions; identification of problems which impede planned progress; maintenance 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 and identification of problems potentially impeding issuance of warranties.
  - 4. Refer to Section 01 77 00 "Closeout Procedures" for other requirements.
- D. Final Inspection Meeting
  - 1. 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 "Closeout Procedures" for other requirements.

#### SECTION 01 33 00

#### SUBMITTAL PROCEDURES

## PART 1 - GENERAL

#### 1.1 SUMMARY

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

#### **1.2 RELATED DOCUMENTS**

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 is required to be accepted in writing prior to commencement of work.
- B. Submission Requirements:
  - 1. Submit 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 require written responses to submittal comments.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineer's receipt of submittal.
  - 1. Initial Review: Allow 7 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 proposed changes, substitutions, or deviations from the project or manufacturer's specifications. Include a written explanation of why substitutions should be considered 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 list of submittal requirements for each section.
- B. Submit the following submittal items 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
      - 1) Section 00 61 13.13 "Performance Bond Form"
      - 2) Section 00 61 13.16 "Payment Bond Form"
  - 2. Section 00 73 43.01 "Wage Rate Requirements for the State of Pennsylvania"
  - 3. Section 01 25 00 "Substitution Procedures"
  - 4. Section 01 29 00 "Payment Procedures"
  - 5. Section 01 31 00 "Project Management and Coordination"
  - 6. Section 01 40 00 "Quality Requirements"
  - 7. Section 01 73 00 "Execution Requirements"
  - 8. Section 01 77 00 "Closeout Procedures"
  - 9. Section 04 05 00 "Mortar and Grout"
  - 10. Section 04 20 00 "Unit Masonry"
  - 11. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 12. Section 07 01 50 "Preparation for Reroofing"
  - 13. Section 07 22 16 "Roof Insulation"
  - 14. Section 07 42 43 "Aluminum-Faced Composite Wall Panels"
  - 15. Section 07 53 23 "Thermoset EPDM Roofing"
  - 16. Section 07 62 00 "Sheet Metal Flashing and Trim"
  - 17. Section 07 65 00 "Through Wall Flashing"
  - 18. Section 07 72 00 "Roof Accessories"
  - 19. Section 07 72 23 "Relief Vents"
  - 20. Section 07 72 33 "Roof Hatches"
  - 21. Section 07 92 00 "Joint Sealants"
  - 22. Section 22 14 26 "Roof Drains"
  - 23. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
  - 24. Existing Damage Documentation: 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 no existing damaged components and Contractor takes responsibility for damages caused by operations.
  - 25. Physical color samples as specified in the applicable specification section.

# 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 is specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's 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. Schedules.
    - g. Notation of coordination requirements.
    - h. 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. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
- 2. Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned.
- 3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineer's sample where so indicated. Attach label on unexposed side.
- 4. 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 component as delivered and installed.
- 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity and used to determine final acceptance of construction associated with each set.
- 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 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, 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.

#### **SECTION 01 40 00**

## **QUALITY REQUIREMENTS**

# PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. This Section includes administrative and procedural requirements for quality assurance and quality control.
  - 2. Secure and pay costs of licenses and permits required by City, County and/or State authorities.

## **1.2 RELATED DOCUMENTS**

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. Authority Having Jurisdiction: AHJ

## **1.4 SUBMITTALS**

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Permit: Provide copy of construction permits along with required licenses or certifications required by the AHJ.
- C. Manufacturer Report Release: Provide copy of request from Contractor to Manufacturer requesting REI Engineers be added to the manufacturer's report distribution list.

# 1.5 QUALITY ASSURANCE

A. Perform quality assurance in accordance with governing Codes, referenced standards, established standards, or industry standards.

- B. Solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise necessary to perform the Work in accordance with the Contract. Solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating portions of the Work under the Contract, except where otherwise specified in the Contract Documents. Solely responsible to the Owner that the finished Work complies with the Contract Documents.
- C. It is the intent under this contract that workmanship 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 in no way relieves the Contractor of his responsibility to furnish materials and construction in compliance with the drawings and specifications. The Owner and Engineer have the authority to judge the quality and require replacement of unacceptable work or personnel.
- D. Cooperate in the execution of work and plan work in such manners as to avoid conflicting schedules or delay of work. If the work depends upon the work of another Contractor, report defects affecting the work to the Engineer. Commencement of work where such condition exists constitute acceptance of the other Contractor's work as being satisfactory to receive the work commenced. Coordinate work of trades under this contract in such a manner to obtain the best possible workmanship for the project. Install components of the work in accordance with the best practices of the particular trade. Notify the Owner sufficiently in advance of operations to allow for assignment of personnel.
- E. Solely responsible for health and safety precautions and programs for workers and others in connection with the Work. No inspection by, knowledge on the part of, or acquiescence by the Engineer, the Owner, the Owner's employees and agents, or other entity whatever relieves the Contractor from its sole responsibility for compliance with the requirements of the Contract or its sole responsibility for health and safety programs and precautions.
- F. Materials or methods described by words which, when applied, have a well-known technical or trade meaning are held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, are of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.
- G. Provide new materials unless otherwise indicated.
- H. Provide workmanship in accordance with the best modern practice.
- I. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, deliver materials to the site in original packages or containers with seals unbroken and labels intact and do not open until reviewed and accepted by the Engineer. Notify the Engineer prior to such material's delivery.
- J. Verify dimensions and conditions at the site prior to starting work and notify the Engineer immediately of any errors or inconsistencies.
- K. Maintain one set of the contract documents and accepted submittals at the job site.

- L. 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. Do not proceed with further tear-off or commencement of other work until deficiencies and non-conforming work are properly addressed.
- M. Control of Installation
  - 1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
  - 2. Comply with manufacturers' instructions, including each step in the sequence
  - 3. Request clarification from Engineer before proceeding in the event manufacturers' instructions conflict with Contract Documents.
  - 4. Comply with specified standards as the minimum quality for the Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
  - 5. Only allow Work performed by person qualified to produce workmanship of specified quality.
  - 6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.
- N. Tolerances:
  - 1. Monitor tolerance control of installed products to produce acceptable work. Do not permit tolerances to accumulate.
  - 2. Comply with manufacturers' tolerances. Request clarification from Engineer in the event manufacturers' tolerances conflict with Contract Documents.
  - 3. Adjust products to appropriate dimensions; position before securing products in place.
- O. 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. Maintain applicable federal, state and municipal licenses.
  - 2. Be certified in writing for a minimum of two years by the roofing materials manufacturer to install the primary roofing products.
  - 3. Firm shall 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. Crew workers on site are experienced and have a working knowledge of the system being installed.
  - 4. 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 work similar to work as specified.
  - 5. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.
  - 6. Never filed bankruptcy or filed for protection from creditors.

- 7. During the construction and completion of work covered by these Specifications, if the conduct of workers of the various crafts is determined unsuitable or a nuisance to the Owner or Engineer, or if the workman is considered incompetent or detrimental to the work, order such party removed from the grounds with the person not returning during the course of work on the project.
- 8. Superintendent: During the performance of work by the Contractor or subcontractors, provide a full-time onsite superintendent/representative meeting the following requirements:
  - a. For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.
  - b. Be in attendance at the project site during the progress of the work and duties as superintendent limited to this project only. Supervise and instruct workmen without engaging in the work process.
    - 1) If superintendent is absent temporarily from the project, designate a competent foreman to assume duties. During the superintendent's absence, foreman cannot engage in the work process; supervise and instruct only. Likewise, communications given to the foreman are binding as if given to the Contractor.
  - c. Communicate matters pertaining to the Work with the Owner and Engineer. Do not make decisions regarding changes in the Work without the Owner and Engineer's knowledge.
  - d. Decision making authority and ability.
  - e. Able to demonstrate knowledge of work being installed.
  - f. Fluent in the English language (i.e. reading, writing and speaking).
  - g. In possession of mobile telephone.
  - h. Employed by the Contractor at least six months prior to project commencement.
  - i. Owner approval and Engineer acceptance.
  - j. Once approved, do not change the superintendent except with the consent of the Owner unless he proves unsatisfactory to the Owner or Contractor or is no longer employed.
  - k. Minimum of five (5) years continuous experience as a job superintendent.
- 9. No later than ten days prior to the pre-construction conference, 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 pre-construction conference.
- P. Specialists: Certain sections of the Specifications require that specific construction activities sbe performed by entities who are recognized experts in those operations. Specialists satisfy qualification requirements indicated and be engaged for the activities indicated.

- Q. 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.
- R. 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 permitted to inspect work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.
- B. Contractor's Responsibilities:
  - 1. Repair and protection of work and materials.
  - 2. Replace work or materials not conforming with requirements of the Specifications or damaged during the progress of the work before completion and acceptance of the project.
  - 3. 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 during inclement weather, or whenever the Engineer recommends, protect carefully its work and materials against damage or injury from weather. If work or materials have been damaged by reason of failure to protect the work, replace such materials.
    - b. During inclement weather and temporary suspension of work, inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Make inspections daily during extended periods of inclement weather. Upon arrival at the facility, inform the Owner of his presence and purpose.
    - c. If inspection of the facility does not occur 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 can 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. Reimburse the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of \$500.00, each occasion, for mobilization and/or travel expenses.
    - d. In the event inclement weather occurs after normal business hours, Saturday, Sunday or holidays, make arrangements with the Owner to provide access to the building to inspect for leaks. Compensate Owner for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

- C. Manufacturer's Field Services: During construction and until substantial completion, perform quality assurance site visits monthly by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.
  - 1. The first site visit performed within the first three (3) days of operations.
  - 2. Coordinate site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
    - a. If required by manufacturer, Contractor shall request REI Engineers be added to the report distribution list.
  - 3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel are not acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
  - 4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
  - 5. Violation of these requirements results in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

# 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.

#### **SECTION 01 42 00**

#### REFERENCES

# PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Requirements relating to Referenced Standards.
  - 2. Building Code

#### **1.2 RELATED DOCUMENTS**

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, finished 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 the term "carpentry" does not imply that certain construction activities are required to be performed by accredited or unionized individuals of a corresponding generic name like "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.
  - 1. Minimum Quantity or Quality Levels: Meet minimum quantity or quality level shown or specified. Comply 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 REFERENCED CODES**

- A. Building Code in effect at time of project design unless otherwise indicated in project manual.
  - 1. 2018 International Building Code with Pennsylvania Amendments
- B. Energy Conservation Code and ASHRAE 90.1 Energy Standard for Buildings in effect at time of project design unless otherwise indicated in project manual.
  - 1. 2018 International **Energy Conservation** Code with Pennsylvania Amendments
  - 2. ASHRAE 90.1, edition referenced by Building Code referenced above in effect at time of project design.

# **1.6 ABBREVIATIONS AND ACRONYMS**

- A. Where abbreviations and acronyms are used in Specifications or other Contract Documents, they 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 accurate and up to date as of the date of the Contract Documents.
- B. Federal Governmental Agencies and Standards:
  - 1. ADA, Accessibility Guidelines for Buildings and Facilities, www.access-board.gov
  - 2. CFR, Code of Federal Regulations, www.ecfr.gov
  - 3. CPSC, Consumer Product Safety Commission, www.cpsc.gov
  - 4. EPA, Environmental Protection Agency, www.epa.gov
  - 5. FS, Federal Specification, www.gsa.gov
  - 6. NIBS, National Institute of Building Sciences, www.nibs.org
  - 7. OSHA, Occupational Safety & Health Administration, www.osha.gov
  - 8. USDA, US Department of Agriculture
- C. Local Governmental Agencies and Standards:
  - 1. State Department of Transportation
- D. Code Agencies:
  - 1. IAPMO, International Association of Plumbing and Mechanical Officials
  - 2. ICC, International Code Council, www.iccsafe.org
- E. Industry Organizations:
  - 1. AA, The Aluminum Association, Inc., www.aluminum.org
  - 2. AAMA, American Architectural Manufacturer's Association
  - 3. AASHTO, American Association of State Highway and Transportation Officials
  - 4. AATCC, American Association of Textile Chemists and Colorists
  - 5. ACI, American Concrete Institute/ACI International, www.concrete.org
  - 6. AGC, The Associated General Contractors of America, www.agc.org
  - 7. AI, Asphalt Institute, www.asphaltinstitute.org
  - 8. AIA, The American Institute of Architects, www.aia.org
  - 9. AISC, American Institute of Steel Construction, www.aisc.org
  - 10. AISI, American Iron and Steel Institute, www.steel.org
  - 11. ALSC, American Lumber Standard Committee, www.alsc.org
  - 12. ANLA, American Nursery & Landscape Association, www.anla.org
  - 13. ANSI, American National Standards Institute, www.ansi.org
  - 14. APA, The Engineered Wood Association, www.apawood.org
  - 15. APA, Architectural Precast Association, www.archprecast.org
  - 16. ARMA, Asphalt Roofing Manufacturers Association
  - 17. ASCE, American Society of Civil Engineers, www.asce.org
  - 18. ASHRAE, American Society of Heating, Refrigerating & Air-Conditioning Engineers, www.ashrae.org
  - 19. ASME International, The American Society of Mechanical Engineers International, www.asme.org

- 20. ASTM, ASTM International, www.astm.org
- 21. AWPA, American Wood-Preservers' Association, www.awpa.com
- 22. AWS, American Welding Society, www.aws.org
- 23. CISPI, Cast Iron Soil Pipe Institute, www.cispi.org
- 24. CLFMI, Chain Link Fence Manufacturers Institute, www.chainlinkinfo.org
- 25. CSI, Construction Specifications Institute, www.csinet.org
- 26. EJMA, Expansion Joint Manufacturers Association, Inc., www.ejma.org
- 27. FM, FM Global, www.fmglobal.com
- 28. FRSSA/TRI
- 29. GA, Gypsum Association, www.gypsum.org
- 30. IMI, International Masonry Institute
- 31. LGSI, Light Gage Structural Institute, www.loseke.com
- 32. NECA, National Electrical Contractors Association, www.necanet.org
- 33. NEMA, National Electrical Manufacturers Association, www.nema.org
- 34. NETA, International Electrical Testing Association, www.netaworld.org
- 35. NFPA, National Fire Protection Association, www.nfpa.org
- 36. NFRC, National Fenestration Rating Council, www.nfrc.org
- 37. NHLA, National Hardwood Lumber Association, www.natlhardwood.org
- 38. NLGA, National Lumber Grades Authority, www.nlga.org
- 39. NRCA, National Roofing Contractors Association, www.nrca.net
- 40. NRDCA, National Roof Deck Construction Association, www.nrdca.org
- 41. PIMA, Polyisocyanurate Manufacturer's Association
- 42. PDI, Plumbing & Drainage Institute, www.pdionline.org
- 43. RCSC, Research Council on Structural Connections, www.boltcouncil.org
- 44. RMA, Rubber Manufacturers Association, www.rma.org
- 45. SDI, Steel Deck Institute, www.sdi.org
- 46. SDI, Steel Door Institute, www.steeldoor.org
- 47. SGCC, Safety Glazing Certification Council, www.sgcc.org
- 48. SJI, Steel Joist Institute, www.steeljoist.org
- 49. SMACNA, Sheet Metal and Air Conditioning Contractors' National Association, www.smacna.org
- 50. SPFA, Spray Polyurethane Foam Alliance, www.sprayfoam.org
- 51. SPI, The Society of the Plastics Industry, www.plasticsindustry.org
- 52. SPIB, Southern Pine Inspection Bureau, www.spib.org
- 53. SPRI, Single Ply Roofing Institute. www.spri.org
- 54. SSMA, Steel Stud Manufacturers Association, www.ssma.com
- 55. SSPC, The Society for Protective Coatings, www.sspc.org
- 56. SWI, Steel Window Institute, www.steelwindows.com
- 57. SWRI Institute Sealant, Waterproofing and Restoration Institute
- 58. TAPPI, The American Pulp and Paper Association, www.tappi.org
- 59. UL, Underwriters Laboratories, Inc., www.ul.com
- 60. WDMA, Window & Door Manufacturers Association, www.wdma.com
- 61. WWPA, Western Wood Products Association, www.wwpa.org
#### SECTION 01 50 00

### **TEMPORARY FACILITIES AND CONTROLS**

### PART 1 - GENERAL

#### 1.1 SUMMARY

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

#### **1.2 RELATED DOCUMENTS**

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

## **1.3 USE CHARGES**

A. Include in Contract, cost or use charges for temporary facilities which are not chargeable to Owner. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, occupants of testing and inspecting agencies and personnel of authorities having jurisdiction.

#### **1.4 QUALITY ASSURANCE**

- A. Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
- B. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- C. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.
- D. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures. Instruct personnel in methods and procedures. Post warnings and information.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

A. General: Provide new materials or utilize undamaged, previously used materials in serviceable condition if accepted by Engineer. Provide materials suitable for use intended.

- B. Fencing:
  - 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.
- C. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- D. Water: Potable.
- E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material with a self-contained or standalone exterior handwashing station.
- F. 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.
- G. 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.
  - 1. 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.

# PART 3 - EXECUTION

# 3.1 TEMPORARY UTILITIES

- A. Water Service:
  - 1. Water for construction purposes is available from the Owner at no charge.
    - a. Operate exterior hose bids only with properly fitted handles. Remove at the end of each workday. Repair damage to hose bids or hose bib stems. Do not operate hose bibs with pliers.
- B. Electrical Power Service: Provide portable generators for 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 do reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

# 3.2 CONSTRUCTION FACILITIES

A. Temporary construction facilities include the following:

- 1. 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. Located facilities at sites approved by Owner. Access inside the facility is not available.
  - 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. Wash Facilities: Provide adequate hand washing stations.
  - d. Drinking-Water Facilities: Provide bottled-water, drinking-water units.
- 2. 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. 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.
  - b. Comply with Section 01 74 00 "Cleaning and Waste Management" for progress cleaning requirements.

# **3.3 TEMPORARY BARRIERS AND ENCLOSURES**

- A. Provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Protect buildings and grounds from damages during construction.
- B. 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.
- C. Provide chain link fencing with lockable gates and green mesh to enclose the materials storage and staging area.
- D. Protection of adjacent roof areas: Provide protection to adjacent roof systems in the form of 3/4 inch CDX plywood over 1.5 inch rigid insulation with warning flags on both sides. Limit foot and equipment traffic to protected walkways.

# 3.4 **PROTECTION FACILITIES INSTALLATION**

- A. 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.
- B. Provide storm water controls sufficient to prevent flooding from heavy rain.

# 3.5 CRANES, HOISTS AND LIFTING

- A. Where cranes and other lifting equipment are required, develop and maintain a plan to execute the work in a safe manner including the following items at a minimum:
  - 1. Erection, climbing and dismantling process
  - 2. Inspection process for equipment and rigging
  - 3. Exclusion zones
  - 4. Maintenance processes
  - 5. Identification of Qualified/Competent persons
  - 6. Lifting plan
  - 7. Process for identifying and working around aerial hazards
  - 8. Signalmen communication
  - 9. Working around energized lines
  - 10. Ground conditions and underground hazards
- B. Ensure that cranes and lifting equipment are certified for use by a Qualified/Competent person prior to first use and annually (at a minimum).
- C. Ensure that cranes and lifting equipment are inspected as required by a third party Qualified/Competent person.
- D. Provide ground protection mats over landscaped areas beneath lifts.
- E. Do not operate or travel lifts over curbs or sidewalks. Where necessary to travel equipment over curbs or sidewalks, provide adequate protection to prevent damage.

## **3.6 TEMPORARY CONTROLS**

A. Provide security controls to protect work and materials at the project site.

## 3.7 PROJECT SIGNAGE

- A. Provide temporary signs to provide information to building occupants directing them away from construction operations.
- B. Provide signage inside adjacent buildings alerting occupants of the Work Area.

## 3.8 VEHICULAR ACCESS AND PARKING

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

# **3.9 TRAFFIC CONTROLS**

- A. Obtain and erect street/parking lot signage as necessary to divert traffic away from staging areas, work area, etc. Coordinate signage requirements with the Owner and Engineer.
- B. Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

### SECTION 01 73 00

### **EXECUTION REQUIREMENTS**

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. General procedural requirements governing execution of the Work.

## **1.2 RELATED DOCUMENTS**

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 "Submittal Procedures".
- B. Safety Data Sheets (SDS):
  - 1. List of Materials including manufacturer name and product name.
  - 2. Safety Data Sheets (SDS) for materials/products anticipated for use and stored or brought to the site for completion of this project.
  - 3. Maintain on site with the Superintendent a set of SDS for products/materials on site.

# PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Material storage area designated by the Owner at the Pre-Bid and Pre-Construction Meetings and/or indicated in Contract Drawings.
  - 1. Store materials as required by the manufacturer and indicated in their installation instructions.
  - 2. Store materials as required by their respective specification section.
  - 3. Properly secure materials to resist wind events.
- B. Deliver and transport materials to project in accordance with the Owner's requirements and coordinate material deliveries with Owner.
- C. Delivery, scheduling, loading/off loading, storing and protecting of the materials and equipment is the responsibility of the Contractor. The Owner will not be responsible for delivery, scheduling, loading, off loading, storing or protecting materials or equipment.
- D. Hazardous Materials:

- 1. Use products, cleaners, and installation materials that are not considered hazardous.
- 2. Store chemicals in a fireproof cabinet. Store only like materials together in a cabinet. Ensure labels are intact or to place labels on chemicals prior to delivery to site.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Existing Conditions:
  - 1. The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of construction affecting the Work.
- B. Existing Utilities:
  - 1. The existence and location of utilities and construction indicated as existing are not guaranteed.
  - 2. Before construction, verify the location and points of connection of utility services.
  - 3. Before beginning work, investigate and verify the existence and location of utilities and other construction affecting the Work.
- C. Acceptance of Conditions:
  - 1. Examine areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
  - 2. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
    - a. Description of the Work.
    - b. List of detrimental conditions.
    - c. List of unacceptable installation tolerances.
    - d. Recommended corrections.
  - 3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### **3.2 PREPARATION**

A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each material. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Upon discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

## 3.3 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
- B. Install products at the time and under conditions that ensure the best possible results. Maintain conditions required for product performance until Final Acceptance.
- C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- D. Tools and Equipment:
  - 1. Do not use tools or equipment that produces harmful noise levels.
  - 2. Restrict use of noisemaking tools and equipment to hours that minimize complaints from persons or firms near Project Site.

## 3.4 STARTING AND ADJUSTING

A. Test equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

## 3.5 **PROTECTION OF INSTALLED CONSTRUCTION**

A. Provide protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion and Final Acceptance.

#### **3.6 CORRECTION OF THE WORK**

- A. Restore permanent facilities used during construction to their specified condition.
- B. Replace components that are not up to specification standards.

### SECTION 01 73 29

### **CUTTING AND PATCHING**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. This Section includes procedural requirements for cutting and patching.

### **1.2 RELATED DOCUMENTS**

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 Acceptance: Obtain acceptance of cutting and patching before cutting and patching. Acceptance does not waive right to later require replacement of unsatisfactory work.
- B. Structural Elements: Do not cut and patch structural elements in a manner that changes 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 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, in the Engineer's opinion, reduces 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.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, match the visual and functional performance of existing materials.

# PART 3 - EXECUTION

# 3.1 EXAMINATION

- A. Examine surfaces and conditions under which cutting and patching are 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 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 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.
  - 1. 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 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 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. Provide an even surface of uniform finish, color, texture, and appearance. Replace floor and wall coverings, 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 unbroken surface containing the patch to the nearest joint or delineation between materials. 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. Renovation Project Procedures
  - 1. Materials: As specified in technical sections, match existing products and Work.
  - 2. Employ skilled and experienced installer to perform cutting and patching.
  - 3. Remove, cut and patch materials in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
  - 4. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.
  - 5. Where work abuts or aligns with existing construction, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
  - 6. When a smooth transition with Work is not possible, submit recommendation to Engineer for review. Terminate existing surface along a straight line at a natural line of division when possible.
  - 7. Patch or replace portions of surfaces, which are damaged, lifted, discolored or showing other imperfections.
  - 8. Finish surfaces as specified in individual Product sessions.
  - 9. Cutting and patching completed in a manner such that the patched surfaces are compatible with the surfaces in which the repairs were made, both structurally and aesthetically as deemed appropriate by the Project Engineer.
- E. Restoration: Restore existing work, including concealed work not indicated or specified to be modified, and which is damaged or otherwise affected by construction operations, to a condition which existed before the work was commenced. Use workers skilled in reconstruction and alteration work where construction adjoins, connects to, or abuts existing work. Join Work in such a manner as to make the joining as inconspicuous as possible. Obvious patching of damaged Work is not acceptable. At the completion, ensure that the buildings and grounds are in first-class condition within the intent of these specifications, with parts well joined as required, connections completed, and facilities in working condition.

# 3.4 CLEANING

- A. Clean areas and spaces where cutting and patching is performed where required for construction or used as access.
- B. Remove paint, mortar, oils, putty and similar materials.
- C. Leave work in an acceptable completed condition.

#### SECTION 01 74 00

### CLEANING AND WASTE MANAGEMENT

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Administrative and Procedural requirements for progress cleaning and construction waste management.

#### **1.2 RELATED DOCUMENTS**

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: 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: Material or byproduct of construction that is regulated by the Environmental Protection Agency and cannot be disposed in a landfill or other waste end-source without adherence to applicable laws.
- E. Trash: Product or material unable to be returned, reused, recycled or salvaged.
- F. Landfill: 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 CLOSEOUT SUBMITTALS

A. Refer to Section 01 77 00 "Closeout Procedures".

# 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 cause damage to 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.
  - 1. 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.
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site:
  - 1. Maintain Project site free of waste materials and debris.
  - 2. Keep site free of nails, screws, fasteners and scrap metal. Utilize magnets as necessary to sweep parking lots, driveways and sidewalks. Responsible for repair or replacement of punctured tires of site occupants.
- 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 impairs proper execution of the Work, broom-clean or vacuum the work area, as appropriate.
  - 3. If necessary, have a heavy-duty vacuum on site to remove small, loose debris from work area.
- 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 do 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. 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 is not permitted. Washing waste materials down sewers or into waterways is not 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 ensure that no part of the construction completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

# 3.2 DISPOSAL OF WASTE

- 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.
  - 1. Except as otherwise specified, do not allow waste materials to accumulate on-site.
  - 2. Remove and transport debris in a manner that prevents 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. Separate, store and dispose of hazardous wastes in accordance with local and EPA regulations and additional criteria listed below:
  - 1. Do not incinerate building products manufactured with PVC or containing chlorinated compounds.
  - 2. Disposal of fluorescent tubes to open containers is not permitted.
  - 3. Do not co-mingle unused fertilizers with construction waste.

# 3.3 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.
  - 2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.
  - 3. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
  - 4. Remove tools, construction equipment, machinery, and surplus material from Project site. Properly dispose of unwanted surplus material.
  - 5. 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.
  - 6. Remove debris and surface dust from roofs and walls.
  - 7. 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.
  - 8. Remove labels that are not permanent.
  - 9. 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.
  - 10. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.
  - 11. Replace parts subject to unusual operating conditions.
  - 12. 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.

### SECTION 01 77 00

## **CLOSEOUT PROCEDURES**

## PART 1 - GENERAL

## 1.1 SUMMARY

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

## **1.2 RELATED DOCUMENTS**

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 "Submittal Procedures".
- B. Warranties: Submit copy of warranties to meet the requirements of their respective specification section.

### **1.4 SUBSTANTIAL COMPLETION**

- A. 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. Notify Owner of pending insurance changeover requirements.
  - 3. 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. Notify 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.
  - 1. Should the Engineer consider the Work not substantially complete, he will notify the Contractor, in writing, stating the reasons. 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. 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 has the right to impose liquidated damages in the amount of five hundred (\$500.00) dollars for each consecutive day until 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) certifying 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, Project Closeout Submittals will be requested.
  - 2. Should the Engineer consider that the Work is not finally complete, notification to the Contractor, in writing, stating the reasons will be made.
  - 3. Take 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. Submit required record documents and warranties within thirty (30) days of the punch list inspection. If the Contractor fails to properly submit required items within this period, the Owner has the right to impose liquidated damages in the amount of five hundred (\$500.00) dollars for each consecutive day until 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 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 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 performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
  - 1. Completed and signed Engineer's Punch List
  - 2. Copy of Manufacturer's Final Inspection Report
  - 3. UL Letter of Findings for Lightning Protection

# 1.7 WARRANTIES

A. Warranties to commence on the date of Substantial Completion of the project.

- B. Thermoset EPDM Roofing System warranty as outlined in Section 07 53 23 "Thermoset EPDM Roofing".
- C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00 "Sheet Metal Flashing and Trim".
- D. Roof Hatch warranty as outlined in Section 07 72 33 "Roof Hatches".
- E. Section 00 65 36 "Contractor's Warranty"
  - 1. Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.
- F. Section 00 65 37 "Asbestos Free Warranty"

#### SECTION 04 05 00

### MORTAR AND GROUT

## PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes
  - 1. Provide mortar for replacement masonry.

## **1.2 RELATED DOCUMENTS**

- 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. Section 04 20 00 "Unit Masonry"
  - 2. Section 07 65 00 "Through Wall Flashing"

## **1.3 REFERENCES**

- A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.
- B. Refer to the following references for specification compliance:
  - 1. ASTM International
    - a. C40 Organic Impurities in Fine Aggregates for Concrete
    - b. C91 Masonry Cement
    - c. C109 Compressive Strength of Hydraulic Cement Mortars
    - d. C144 Aggregate for Masonry Mortar
    - e. C150 Portland Cement
    - f. C207 Hydrated Lime for Masonry Purposes
    - g. C270 Mortar for Unit Masonry
    - h. C307 Tensile Strength of Chemical Resistant Mortar, Grouts, and Monolithic Surfacing
    - i. C321 Bond Strength of Chemical Resistant Mortars
    - j. C348 Flexural Strength of Hydraulic Cement Mortars
    - k. C404 Aggregate for Masonry Grout
    - 1. C476 Grout for Masonry
    - m. C595 Blended Hydraulic Cement
    - n. C780 Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
    - o. C979 Pigments for Integrally Colored Concrete
    - p. C1019 Sampling and Testing Grout
    - q. C1329 Mortar Cement
  - 2. International Masonry Institute (IMI)

3. Brick Industry Association (BIA)

# 1.4 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Samples: Furnish mortar color samples to match existing mortar for acceptance by Engineer and Owner.

# 1.5 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver masonry materials in original sealed containers marked with name of manufacturer and identification of contents.
- B. Store masonry materials under waterproof covers on planking clear of ground, and protect damage from handling, dirt, stain, water and wind.

### 1.6 MORTAR SAMPLING AND TESTING

A. Sample and submit mortar for testing and analysis by a qualified testing firm to determine mortar mix requirements prior to work.

# PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Portland Cement: ASTM C 150, Type I
- B. Hydrated Lime: ASTM C 207 S
- C. Masonry Cements: ASTM C 91, Type N
- D. |Sand: ASTM C 144
  - 1. Light colored sand for mortar for laying face brick.
  - 2. White plastering sand meeting sieve analysis for mortar joints for pointing and laying of structural facing tile units except that 100 percent passes No. 8 sieve and not more than 5 percent retained on No. 16 sieve.
  - 3. Test sand for color value in accordance with ASTM C40. Sand producing color darker than specified standard is unacceptable.
- E. Admixtures:
  - 1. No air-entraining admixtures or material containing air-entraining admixtures.
  - 2. No antifreeze compounds added.

- 3. No admixtures containing added.
- F. Water: Clean and potable.
- G. Mortar Cement: ASTM C1329, Type N.

# 2.2 MORTAR AND GROUT MIXES

A. Masonry Mortar: Conform to ASTM C270.

# PART 3 - EXECUTION

# 3.1 MIXING

- A. Mix in a mechanically operated mortar mixer for at least three minutes but not more than five minutes.
- B. Measure ingredients by volume using a container with a known capacity.
- C. Mix water with dry mortar ingredients in sufficient amount to provide a workable mixture which adheres to vertical surfaces of masonry units.
- D. Mix water with grout dry ingredients in sufficient amount to bring grout mixture to a pouring consistency.
- E. Mortar that has stiffened because of loss of water through evaporations:
  - 1. Re-tempered by adding water to restore to proper consistency and workability.
  - 2. Discard mortar that has reached its initial set or has not been used within two hours.

#### SECTION 04 20 00

## UNIT MASONRY

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Provide brick masonry for the following:
    - a. Removal and replacement of brick required to provide new through wall flashing above Roof Area C.

### **1.2 RELATED DOCUMENTS**

- 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. Section 04 05 00 "Mortar and Grout"
  - 2. Section 07 65 00 "Through Wall Flashing"

### **1.3 SUBMITTALS**

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Samples: Review Owners existing veneer and match new veneer to existing for Owner approval.

## **PART 2 - PRODUCTS**

#### 2.1 BRICK

- A. General: Provide shapes indicated and as follows for each form of brick.
  - 1. Provide units without cores or frogs and with exposed surfaces finished for ends of sills and caps and for similar applications that otherwise expose unfinished brick surfaces.
- B. Provide special shapes for applications requiring brick of size, form, color and texture on exposed surfaces that cannot be produced by sawing.
  - 1. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes and lintels.

- 2. Provide special shapes for applications where shapes produced by sawing result in sawed surfaces being exposed to view.
- C. Face Brick: ASTM C 216 and as follows:
  - 1. Grade: SW
  - 2. Initial Rate of Absorption: Between 5 and 20 g/30 sq in per minute when tested per ASTM C 67.
  - 3. Surface Coloring: Brick with surface coloring, other than flashing or sand-finished brick, withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet.
  - 4. Type: FBS
  - 5. Where shown to "match existing", provide face brick matching color, texture, and size of existing adjacent brickwork.

# 2.2 MORTAR AND GROUT MATERIALS

A. Refer to Section 04 05 00 "Mortar and Grout".

# 2.3 MASONRY CLEANER

A. Submit brick and mortar manufacturer's written acceptance of proposed cleaner.

# 2.4 MASONRY ACCESSORIES

A. Weep Vent: One-piece, flexible extrusion manufactured from ultraviolet-resistant polypropylene copolymer, designed to weep moisture in masonry cavity to exterior, sized to fill head joints with outside face held back 1/8 inch from exterior face of masonry, in color selected from manufacturer's standard.

# PART 3 - EXECUTION

# 3.1 EXAMINATION

- A. Examine conditions for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Prepare written report the listing conditions detrimental to performance.
- C. Verify that foundations are within tolerances specified.
- D. Verify that reinforcing dowels are properly placed.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

# 3.2 INSTALLATION

- A. Build cavity and composite walls and other masonry construction to the thickness shown.
- B. Build single-wythe walls to the widths of masonry units, using units of widths indicated.

- C. Cut masonry units with motor-driven saws to provide clean, sharp, unchipped edges. Cut units to provide a continuous pattern and to fit adjoining construction. Where possible, use full-size units without cutting. Install cut units with cut surfaces and, where possible, cut edges concealed.
- D. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- E. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- F. Wetting of Brick: Wet brick before laying if the initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at the time of laying.

# **3.3 REPLACEMENT OF MASONRY UNITS**

- A. Cut out mortar joints surrounding masonry units being replaced.
  - 1. Units can be broken and removed provided surrounding units to remain are not damaged.
  - 2. Once the units are removed, carefully chisel out the old mortar and remove dust and debris.
  - 3. If units are located in exterior wythe of a cavity or veneer wall, exercise care to prevent debris falling into cavity.
  - 4. Provide support for masonry above the area being removed and to remain.
- B. Dampen surfaces of the surrounding units before units are placed.
  - 1. Allow masonry to absorb surface moisture prior to starting installation of the replacement units.
  - 2. Butter contact surfaces of existing masonry and replacement masonry units with mortar.
  - 3. Center replacement masonry units in opening and press into position.
  - 4. Remove excess mortar with a trowel.
  - 5. Point around replacement masonry units to ensure full head and bed joints.
  - 6. When mortar becomes "thumbprint hard", tool joints.

# **3.4 CONSTRUCTION TOLERANCES**

- A. Comply with tolerances in ACI 530.1/ASCE 6/TMS 602 and the following:
- B. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet, nor 1/2 inch maximum.
- C. For exposed bed and head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.

## 3.5 CAVITIES

A. Keep cavities clean of mortar droppings and other materials during construction. Strike joints facing cavities flush.

## **3.6 REPAIR**

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application.

## 3.7 CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
  - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
  - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Engineer's acceptance of sample cleaning before proceeding with cleaning of masonry.
  - 3. Clean brick by the bucket-and-brush hand-cleaning method described in BIA Technical Notes No. 20, using job-mixed detergent solution.
  - 4. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2 applicable to type of stain on exposed surfaces.

### 3.8 DISPOSAL

A. Remove masonry waste and legally dispose.

#### SECTION 05 01 30

### STEEL ROOF DECK REPAIR AND SECUREMENT

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes
  - 1. Steel Deck Repair: Inspect, evaluate and remediate steel roof deck as follows:
    - a. Repair of surface rust in steel decking.
    - b. Repair of through holes in steel decking.
    - c. Overlay of damaged or deteriorated steel decking.
    - d. Replacement of damaged or deteriorated steel decking.
  - 2. Steel Deck Securement: Provide mechanical fasteners to secure steel decking to steel framing and to secure deck side and end laps.

## **1.2 RELATED DOCUMENTS**

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

## **1.3 SUBMITTALS**

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

### **1.4 QUALITY ASSURANCE**

A. Provide meticulous attention to the detail of installation and workmanship to ensure the assemblage of products in the highest grade of excellence by skilled craftsmen of the trade.

## **PART 2 - PRODUCTS**

### 2.1 MATERIALS

- A. Steel Deck Repair:
  - 1. Steel Deck: FM Approved or UL listed 22 gauge minimum; galvanized steel profile to conform to existing deck profile at end and side laps.
  - 2. Deck Repair Plates: 16 gauge, galvanized steel plates sized to extend a min. 8" beyond the through hole in existing decking with plate edges resting on a rib.
  - 3. Deck Repair Coating: High solids, low VOC, self-priming epoxy coating for use on steel structures.
    - a. PPG Amerlock 400
    - b. Devoe Bar-Rust 231
    - c. Kryon Industrial High Build Epoxy Mastic 100
    - d. Benjamin Moore & Co. Surface Tolerant Epoxy Mastic Coating V160
- B. Steel Deck Securement:
  - 1. Deck-to-structural steel fasteners: FM Approved, self-drilling deck fasteners of length and type as required by fastener manufacturer for thickness of structural steel.
    - a. ITW Buildex Corp. 12-24 Tek 5
    - b. SFS Intec Impax 12-24 SD5
    - c. Blazer 1/4-20 DP5
  - 2. Deck-to-deck side lap fasteners: FM Approved self-drilling deck side lap fasteners of length and type as required by fastener manufacturer for thickness of steel deck.
    - a. ITW Buildex Corp. 10-16 Tek 3
    - b. SFS Intec #10-16 SD3
    - c. Blazer #10-16 DP3
  - 3. Washers: 3/4 inch diameter of same material as fastener or integral 1/2 inch diameter washer.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

A. Inspect roof deck in work areas where insulation will be removed down to the roof deck and where abandoned equipment will be removed exposing the surrounding roof deck. Notify engineer of additional damaged decking, or damaged structural elements.

- B. Before removing decking, cutting decking or fastening decking, inspect interior conditions under the deck to prevent cutting or damaging the joists, electrical conduit, sprinkler piping, fixtures and utilities. Ensure conditions are satisfactory before proceeding with the work, and continuously monitor interior and exterior work conditions during demolition and construction operations.
- C. Commencement of work signifies acceptance of conditions. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.
- D. The following descriptions indicate roof deck corrosion levels by degree. Inspect roof deck areas and assess corrosion level of 1 through 5. Following the assessment, conduct the appropriate Remediation Method in accordance with the deck corrosion level descriptions. Refer to Section 01 22 00 "Unit Prices"
  - 1. Corrosion Degree 1
    - a. Red rust or dark brown rust scaling on top flange only.
    - b. Dark brown rust scale removed by scraping/wire brushing to indicate minor pitting of the metal surface.
    - c. Deck flutes discolored.
  - 2. Corrosion Degree 2
    - a. Red rust or dark brown rust scale present on the deck surface.
    - b. Deck sections (flanges and flutes) have been or can be readily removed during examination or areas of decking are missing, up to 13" in any one direction.
  - 3. Corrosion Degree 3
    - a. Red rust or dark brown rust scale present on the deck surface.
    - b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, from 13" to 24" in one dimension.
  - 4. Corrosion Degree 4
    - a. Red rust or dark brown rust scale present on the deck surface.
    - b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, 24" or greater in one dimension.

# **3.2 PREPARATION**

- A. Remove and vacuum debris from deck surface and ribs to allow for inspection of deck, and to fasten decking.
- B. Remove and properly dispose of damaged decking (Corrosion Degree Level 4) and remove deck fasteners in the repair area.
- C. Take necessary precautions to prevent debris from entering building space, and coordinate operations with Engineer and Owner.

05 01 30 - 3

D. Provide temporary protection of building interior and contents to prevent damage.

# 3.3 STEEL DECK REMEDIATION

- A. General:
  - 1. Remove loose dirt, rust, moisture, grease or other contaminants from the surface with a power wire brush.
  - 2. Vacuum the roof deck surface clean.
- B. Corrosion Degree 1:
  - 1. Properly mix deck repair coating according to manufacturer's recommendations.
  - 2. Do not mix more material than can be used in the materials expected pot life.
  - 3. Apply material at temperatures from 50Ú? F to 90Ú? F for optimum application.
  - 4. Brush or roller apply deck repair coating as recommended by manufacturer.
  - 5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.
- C. Corrosion Degree 2:
  - 1. Properly mix deck repair coating according to manufacturer's recommendations.
  - 2. Do not mix more material than can be used in the materials expected pot life.
  - 3. Apply material at temperatures from  $50^{\circ}$  F to  $90^{\circ}$  F for optimum application.
  - 4. Brush or roller apply deck repair coating as recommended by manufacturer.
  - 5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.
  - 6. Mechanically attach deck repair plate to deck ribs with deck to side lap fasteners 6 inches on center maximum or a minimum of 2 screws per side.
- D. Corrosion Degree 3:
  - 1. Properly mix deck repair coating according to manufacturer's recommendations.
  - 2. Do not mix more material than can be used in the materials expected pot life.
  - 3. Apply material at temperatures from 50° F to 90° F for optimum application.
  - 4. Brush or roller apply deck repair coating as recommended by manufacturer.
  - 5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.
  - 6. Overlay steel deck to match existing profile extending a minimum of 6 inches beyond the deficient area.
  - 7. Mechanically attach perimeter of overlay deck to existing deck ribs with deck to side lap fasteners 6 inches on center.
    - a. Where structural support is present, secure overlay deck to structural framing in accordance with the steel deck securement pattern.
    - b. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.
    - c. Follow deck Manufacturer's instructions and the latest edition of the Steel Deck Institute (SDI) Specifications and Commentary.
- E. Corrosion Degree 4:

- 1. Examine underside of steel deck for conduit located directly below the deck surface, anything suspended or fastened to the deck surface, etc. If necessary, detach objects from the bottom side of the deck being removed.
- 2. Remove deck meeting Corrosion Degree 4.
- 3. Provide roof deck where existing is removed.
- 4. Overlap deck end laps no less than 6 inches and as required to secure through both panels and into the structural steel. Lap ends only over structural framing. Deck fasteners to penetrate deck panels no less than 2 inches from the edge of the panel.
- 5. Overlap deck side laps to nest flush into neighboring deck panel. Install a minimum of two deck side lap fasteners between framing members.
- 6. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.
- 7. Follow deck Manufacturer's instructions and the latest edition of the Steel Deck Institute (SDI) Specifications and Commentary.

## 3.4 STEEL DECK SECUREMENT

- A. Fasten steel deck panels to steel framing and steel deck side laps as indicated in the contract drawings.
- B. Fastener position/location:
  - 1. Drive deck fasteners in the center of the bottom of the deck rib. Drive the fasteners within +/-1/4 inch of the center of the structural steel bearing surface. Drive fasteners along the center of the structural steel member, not near the edge of the structural steel.
  - 2. Drive deck side lap fasteners into the deck rib such that both panels are penetrated. Locate the side lap fasteners along the center of the bottom of the rib.
- C. Utilize fastener with integral washer or provide washer for fasteners in Zone 2 (perimeter) and Zone 3 (corner).
- D. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.

### 3.5 FIELD QUALITY CONTROL

- A. Monitor the inside of the building during removal and replacement of damaged steel decking to prevent damage to building, equipment and occupancy.
- B. Monitor hot work operations in strict accordance with the Owners requirements and local Code. These operations include, but are not limited to, cutting, welding, soldering, brazing, grinding, etc. and other spark or flame producing operations.

#### SECTION 06 10 00

## **ROUGH CARPENTRY**

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section Includes:
  - 1. Rough Carpentry work required to facilitate installation of roof assembly including:
    - a. Provide wood nailers/blocking.
    - b. Resecure rough carpentry to remain in place.
    - c. Replace damaged, rotted or deteriorated rough carpentry with rough carpentry.

### **1.2 RELATED DOCUMENTS**

- 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. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 05 31 23 "Steel Roof Deck"
  - 3. Section 07 01 50 "Preparation for Reroofing"
  - 4. Section 07 22 16 "Roof Insulation"

### **1.3 DEFINITIONS**

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

#### 1.4 SUBMITTALS

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

#### **1.5 QUALITY ASSURANCE**

- A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.
- B. Rough carpentry to 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 present during execution of the work. Be thoroughly familiar with type of construction involved and related work and techniques specified.
- D. Moisture Content:
  - 1. Kiln Dry After Treatment (KDAT).
  - 2. Do not store or install treated lumber used in the roofing assembly in a manner exposing it to rain.
  - 3. Plywood: 18% or less before being covered/enclosed into roofing assembly.
- E. Label: 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 rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.
- I. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.
- J. Installation of fasteners and associated materials to secure rough carpentry as detailed and specified.

# 1.6 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. Avoid exposure to precipitation during shipping, storage or installation. If material does become wet, replace or permit to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).
- C. 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. Wood Nailers or Blocking:
  - 1. No. 2 or better spruce or southern yellow pine lumber.
  - 2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.
  - 3. Dimensions determined by job conditions or as indicated in detail drawings.
- B. Plywood Sheathing:
  - 1. Structural 1 rated.
  - 2. APA RATED SHEATHING grade-C or better and manufactured with exterior glue (exposure 1).

## 2.2 FASTENERS

- A. General:
  - 1. Stainless steel or as accepted by Engineer.
  - 2. Do not use nails at roof edges to fasten rough carpentry, lumber, plywood, etc. Use screws, anchors, and/or machine bolts to secure rough carpentry at roof perimeter edges.
  - 3. Do not use masonry screws, spikes, and drive-pins to fasten edge/perimeter nailers to concrete. Utilize minimum 1/2 inch diameter anchors or bolts to secure roof edge nailers to concrete.
  - 4. Do not secure or fasten edge/perimeter wood nailers to hollow core concrete masonry; grout concrete masonry units and provide minimum embedment of fasteners to meet anchor manufacturer's installation instructions.
  - 5. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.
- B. Nails: 8, 10 or 16 penny, stainless steel, ring shank nails. Length to embed into base substrate a minimum 1-1/2 inches.
  - 1. Maze Nails
  - 2. Anchor Staple and Nail
  - 3. Simpson Strong Tie
  - 4. Manasquan Premium Fasteners
  - 5. Engineers accepted equivalent.
- C. 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 inches.
- D. Self-Drilling Screws:
  - 1. For steel deck and light gauge steel framing (16-ga. or less): #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 or 3/4 inch through top flange of steel deck.
- a. ITW Buildex Teks
- b. Triangle Fasteners
- c. SFS Intec
- d. Engineers accepted equivalent.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.
- B. Inspect rough carpentry including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted or wet materials.
  - 1. Refer to Section 01 22 00 "Unit Prices".
- C. Remove cants, tapered edge strips, debris, fasteners, etc. that interfere with the installation of rough carpentry.
- D. Notify Engineer in writing of unsatisfactory conditions.
- E. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

## **3.2 PREPARATION**

- A. Roof Deck and Structure:
  - 1. Adjust substrates to receive rough carpentry to ensure completed rough carpentry installation is acceptable for roofing and sheet metal flashings.
  - 2. Coat steel decking with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel and treated wood products.
  - 3. Do not allow treated lumber to make direct contact with steel decking.

## 3.3 INSTALLATION

- A. Replace damaged or deteriorated wood blocking, nailers, and curbs.
- B. Re-secure wood nailers at roof edges that are to remain with fastener type and spacing to comply wiht this section.
- C. Install wood blocking, nailers, and curbs to achieve a minimum 8 inch flashing height above the roof membrane.
- D. Install wood nailers at perimeter roof edges and low profile expansion joints to match insulation height while maintaining a constant nailer height along perimeter edges.

- E. Install wood blocking and nailers 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.
- F. 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 obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.
- G. 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. Install joints between wood for a smooth transition.
- H. Attachment:
  - 1. 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 anchored to resist the required upward and outward design wind loads.
  - 3. Meet the requirements herein and that of the current FM Loss Prevention Data Sheet 1-49, Perimeter Flashing, for rough carpentry attachment.
  - 4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten above nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed; countersink a maximum of one half the board thickness.
  - 5. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood 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. Repair or replace damaged masonry with fasteners re-installed in an acceptable location.
  - 7. Fastener spacing: Staggered in two rows 1/3 the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.
    - a. Nails: Securing wood to wood spaced 12 inches on center in Perimeter (Zone 2) and 6 inches on center in Corner (Zone 3), staggered, with two nails installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
    - b. Screws: Securing wood to wood spaced as indicated below, staggered, with two screws installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
    - c. Self-Drilling Screws: Securing wood to steel spaced as indicated below, staggered, with one screw within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
  - 8. Plywood Sheathing Securement: Secure at 12 inches on center in Perimeter (Zone 2) and 6 inches on center in Corner (Zone 3) staggered each direction.
- I. Select fasteners of size and length that are not exposed from the building interior and/or from the ground, or remove protruding fasteners, paint or finish to eliminate exposure.

- J. Thickness of wood nailers flush with adjacent insulation and other materials. Install additional fasteners to ensure nailers are flush.
- K. Unless otherwise detailed, install plywood used as blocking or shim below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.
- L. Do not utilize wood nailers at roof perimeters, expansion joints, roof area dividers, etc. less than 3 feet long.
- M. 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.
- N. Fasten each end of nailers with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.
- O. Shims:
  - 1. Provide plywood and lumber shims as required for the specified height and thickness.
  - 2. Shims to make full contact with stacked rough carpentry. Partial shim contact, and small shim pieces spaced apart are not acceptable.
- P. 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. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.
- B. Clean the site and building of saw dust from lumber, fasteners and other debris.
- C. Repair or replace damages to the building, grounds, equipment and site to meet pre-construction conditions, as accepted by the Owner.

## END OF SECTION

#### **SECTION 07 01 50**

## **PREPARATION FOR REROOFING**

## **PART 1 - GENERAL**

#### 1.1 **SUMMARY**

- Section Includes: A.
  - 1. Complete preparatory work prior to roof installation including but not limited to:
    - Removal of roof assemblies down to the steel deck at Roof Areas A, C a. and D.
    - b. Removal and disposal of wet insulation on Roof Area B.
    - Removal of flashing and edge metal on Roof Areas A, B, C and D. c.
    - Adhesive bonded field uplift tests on Roof Area B. d.
    - Soil pipe extensions. e.
    - Raising of mechanical units and/or HVAC units to meet the required f. minimum flashing height.
    - Under Roof Deck Survey g.
    - Removal of brick to allow installation of new receiver and through wall h. flashing above Roof Area C.

#### 1.2 **RELATED DOCUMENTS**

- 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. Section 04 20 00 "Unit Masonry"
  - 2. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - Section 06 10 00 "Rough Carpentry" 3.
  - Section 07 22 16 "Roof Insulation" 4.
  - Section 07 53 23 "Thermoset EPDM Roofing" 5.
  - Section 22 14 26 "Roof Drains" 6.

#### 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 demolition. When accepted by Engineer, items may be removed to a suitable, protected storage location during demolition, 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 items become the Contractor's property. Remove demolished items from the site.

## 1.4 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Test Reports:
  - 1. Fastener Withdrawal Testing: Provide a report along with a roof plan showing test locations and corresponding withdrawal value of each pull test.
  - 2. Adhesive Bonded Field Uplift Test: Provide a report along with a roof plan showing test locations and corresponding results of each uplift test.

## 1.5 EXISTING ROOF ASSEMBLIES

- A. Existing Roof Assemblies are provided in the project Drawings.
- B. Roof system composition is based on random sampling. Contractor is responsible for verification of roof system composition.

#### **1.6 QUALITY ASSURANCE**

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

## 1.7 SCHEDULING

A. Do not disrupt Owner's operations during demolition. Provide 72 hours notification to Owner of activities that affect Owner's operations.

## **1.8 WARRANTIES**

A. Repair or replace damage to existing items under warranty with materials acceptable to the Warrantor.

## PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Soil Pipe Extensions:
  - 1. No-Hub:

- Provide no-hub coupling with coupling conforming to CISPI 310 and ASTM C 1277. Gasket to be made from elastomeric compound meeting ASTM C 564. 5/16" hex-head screw band assembly. Inside diameter to match outside diameter of soil pipe being raised.
- b. Solid-wall white PVC pipe of diameter to match existing and length as necessary to provide minimum 8" and maximum 12" flashing height.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Survey conditions to determine extent of demolition.
- B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.
- C. Do not remove elements that result in structural deficiency or collapse the structure or adjacent structures during demolition.
- D. Inspect substrate for soundness and notify Engineer in writing of deficiencies. Commencement of work signifies 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, 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 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.
  - 1. Locate conduits and equipment attached to the underside of the decking prior to reroofing. Do not disturb conduits or interior components/equipment with insulation fasteners.
  - 2. If utilities serving occupied portions of the site are shut down, provide temporary services.

- 3. Provide 72 hours' notice to Owner if shut down is required.
- 4. Where services are 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 there is potential for damage to occur or where hazardous conditions, ice or flooding are created.

## 3.5 UNDER ROOF DECK SURVEY

- A. Prior to work being performed, complete a survey of the under deck components.
- B. Locate and mark conduit, utilities, etc. that interfere with the replacement roof system.
- C. Determine the presence of spray applied fireproofing on the underside of the roof deck and utilize caution during roof operations. If fireproofing is present, monitor the building interior during roof operations and notify the Owner/Engineer if fireproofing is observed to be displaced.
- D. Notify Owner and Engineer prior to survey being performed.

## 3.6 **REMOVALS**

- A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the replacement roof system and such that varying heights between roof assemblies does not adversely affect roof drainage.
- B. Demolish and remove construction only to the extent required.
- C. Remove roof membrane, flashings, roof insulation, sheet metal and discard at Roof Areas A, C and D.
- D. Remove and dispose of the edge metal, counterflashing, membrane flashing, flashing boots at all roof curbs, drains, wall, dividers and other flashed penetrations at Roof Area B.
- E. Remove or correct obstructions which interfere with the proper application of materials.
- F. Lift or remove equipment so that flashings can be replaced.
- G. Remove debris to provide clean, dry substrate.
- H. Demolish masonry in small sections providing support for masonry above that will remain. 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 prevents damage/spills to adjacent buildings and areas.

- J. Prepare existing modified bitumen roof membrane on Roof Section B by power brooming. All loose granules, dirt and debris must be removed.
- K. Areas of wet insulation identified shall be removed down to the existing roof deck.
- L. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.
- M. Transport demolished materials off-site and dispose of materials in a legal manner.
- N. Perform progress inspections to detect hazards resulting from demolition activities.
- O. Remove sealant from existing reglet flashing to remain at Roof Area E.

## 3.7 FLASHING HEIGHTS

- A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.
- B. Provide additional wood blocking to top of mechanical equipment curbs to achieve minimum 8" flashing height.
- C. Soil Pipe Extensions: Extend 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
    - a. For soil pipes that do not provide minimum 8" flashing height, cut existing pipe so that no-hub coupling can be located within roof insulation system.
  - 2. Installation
    - a. Provide no-hub coupling installed and torqued in accordance with manufacturer's installation instructions.
    - b. Provide PVC pipe extension to provide a minimum 8" and maximum 12" flashing height

## **3.8 ADHESIVE BONDED UPLIFT TESTS**

A. Conduct adhesive bonded field uplift tests in accordance with ANSI/SPRI IA-1 Standard Field Test Procedure for Determining the Uplift Resistance of Insulation and Insulation Adhesive Combinations over Various Substrates. Testing to be performed by roof system manufacturer. A minimum of two tests shall be performed in Roof Area B.

## 3.9 CLEANING

A. Inspect the site daily and clean up debris and hazards at the end of each day. Keep adjacent roads, drives and walkways 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**

## SECTION 07 22 16

## **ROOF INSULATION**

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Roof Areas A and C:
    - a. Provide Tapered Insulation System and Crickets mechanically attached.
    - b. Provide Cover Board adhered in foam adhesive
  - 2. Roof Area B:
    - a. Provide Roof Insulation to replace existing wet insulation mechanically attached.
    - b. Provide Tapered Insulation Crickets / Saddles where removed in wet areas, mechanically attach.
    - c. Provide Cover Board adhered in foam adhesive to match height of adjacent roof membrane
  - 3. Roof Area D:
    - a. Provide Tapered Insulation System and Crickets mechanically attached.

## **1.2 RELATED DOCUMENTS**

- 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. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 06 10 00 "Rough Carpentry"
  - 3. Section 07 01 50 "Preparation for Reroofing"

## **1.3 PERFORMANCE REQUIREMENTS**

- A. R Value
  - 1. In accordance with the referenced Energy Conservation Code and ASHRAE 90.1.
  - 2. Minimum continuous R-value at Roof Areas A and C: 30 (Polyisocyanurate Insulation thickness 4 inches minimum at Drain)
  - 3. Minimum continuous R-value at Roof Area D: Not Required, Polyisocyanurate minimum thickness, 1-1/2 inches at scupper)

- 4. R value based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for 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 53 23 "Thermoset EPDM Roofing".

## 1.4 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Shop Drawings: Tapered insulation plan from material supplier with minimum R-value for each roof area.

## 1.5 QUALITY ASSURANCE

- A. Install insulation in accordance with their respective manufacturer's requirements.
- B. Reject insulation not bearing UL label at point of delivery.
- C. Remove insulation damaged or wetted before, during, or after installation from the job site no later than the next working day from the day such damage or moisture contamination is noted.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.
- B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.
  - 1. Utilize tarps that 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: Handle material in such a manner to prevent damage and contamination with moisture or foreign matter.

## **1.7 PROJECT CONDITIONS**

- A. Do not apply insulation during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Take necessary action to restrict dust, asphalt, and debris from entering the structure.

C. Do not remove more roofing than can be replaced with insulation, membrane and flashings in the same day to create a watertight installation.

## PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Insulation Boards:
  - 1. Roof Insulation (Repairs at Roof Area B):
    - a. Rigid polyisocyanurate roof insulation board with factory applied coated polymer bonded glass fiber mat facers on the top and bottom complying with ASTM C1289 Type II, Class 2, Grade 2] and meeting the following requirements:
      - 24 hours minimum curing time, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
      - 2 percent maximum linear change dimensional stability when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
      - 3) Maximum permissible insulation board size for mechanical attachment is 4 feet by 8 feet and for foam adhesive and hot asphalt attachment is 4 feet by 4 feet. Field cutting of larger boards is not acceptable.
      - 4) Thickness: As required to match height of adjacent roof surface less cover board thickness.
  - 2. Tapered Insulation System:
    - a. Rigid polyisocyanurate roof insulation board with factory applied coated polymer bonded glass fiber mat facers on the top and bottom complying with ASTM C1289 Type II, Class 2, Grade 2 3 and meeting the following requirements:
      - 1) Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
      - 2) Dimensional stability: 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
      - 3) Board size s: 4 feet by 4 feet.
      - 4) Slope: 1/4 inch per foot
      - 5) Minimum thickness: 4 inches at Drains Roof Areas A and C, 1-1/2 inches at Roof Area D at scupper.
      - 6) Fill Insulation: Rigid polyisocyanurate meeting the above requirements with board size of 4 feet by 4 feet and thickness of 2 inches.
      - 7) Crickets and Saddles: Rigid polyisocyanurate meeting the above requirements with a board size of 4 feet by 4 feet and 1/2 inch per foot slope.

- 3. Cover Board:
  - a. Lightweight, high-density polyisocyanurate roof board with coated fiberglass facers, minimum compressive strength of 90 psi, R-value of 2.5 and 1/2 inch thick.
- B. Insulation Accessories:
  - 1. Tapered Edge Strip:
    - a. Polyisocyanurate: Closed-cell polyisocyanurate foam core integrally bonded to non-asphaltic, fiber-reinforced organic felt or inorganic coated-glass facers. Fabricated with 1 inch per foot slope and "zero edge" to provide transitions as required by field conditions.
- C. Insulation Attachment Materials:
  - 1. Steel Deck Mechanical Fasteners and Stress Plates: Corrosion resistant 3-inch galvalume stress plate and corrosion resistant screw type fasteners for use with steel decks; approved by the insulation manufacturer for the insulation type, thickness and board size specified; fastener length as required by the fastener manufacturer for the insulation thickness specified, and to penetrate the deck a minimum of 3/4 inch and a maximum of 1 inch.
  - 2. Foam Adhesive: One or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.
    - a. Primer: Provide as required by adhesive manufacturer and substrate conditions.

## PART 3 - EXECUTION

## **3.1 PREPARATION**

A. Dry and broom roof deck clean of debris and foreign matter prior to installation of insulation system.

## **3.2 APPLICATION**

## A. General

- 1. Apply in accordance with the insulation and roof system manufacturer's instructions and these specifications.
- 2. Install insulation in full boards, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch are not acceptable.
- 3. Saw cut or knife cut insulation and cover boards in a straight line, not broken. Utilize chalk lines to cut insulation. Uneven or broken edges are not acceptable.
- 4. Remove insulation dust and debris that develops during insulation cutting operations.
- 5. Offset joints between successive and adjacent layers of insulation a minimum of six inches.

- 6. Stagger joints of cover boards one foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.
- 7. On steel decks, apply insulation boards with long dimension of units across deck ribs. Bear ends of insulation boards on top flange of steel deck.
- 8. Install crickets, saddles and tapered edge strips before the cover board.
- 9. Adhere 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.
- 10. 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.
- 11. Make field modifications of insulation, tapered insulation, tapered edge strips and cants where required to accommodate roof and flashing conditions and to prevent water dams and ponding water. Ponding water at scuppers and cricket valleys is not acceptable.
- 12. Provide necessary modifications to prevent standing water which is defined as 1/4 inch of water in a 4-square foot or larger area 24 hours or more after precipitation.
- B. Tapered Insulation System:
  - 1. Install tapered insulation system to provide positive slope for roof drainage without ponding water.
  - 2. Size crickets as shown in the Contract Drawings. Provide modifications to ensure positive slope and prevent standing water along the cricket valley.
    - a. Minimum length to width ratio of 2:1. Fabricate partial crickets with dimensions which result in a minimum length to width ratio of 2:1 if they were extended to full size.
    - b. Unless otherwise noted, fabricate crickets from tapered stock as required to provide the specified minimum slope. For example, when roof slope is indicated as 1/4 inch per foot minimum, fabricate crickets with slope of 1/2 inch per foot minimum.
    - c. 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.
- C. Roof Drainage:
  - 1. Install drainage sumps as detailed.
  - 2. Carefully lay out the tapered insulation, sumps, drain bowls and scuppers to ensure the finished roof provides drainage with no ponding water.
  - 3. Fabricate miter-cut sumps at drains/scuppers to provide smooth transitions between the insulation system and the drains/scuppers.
  - 4. Ensure sumps provide roof drainage and prevent water dams.
  - 5. Adjust insulation, drains and scuppers to ensure roof drainage and satisfactory substrates for membrane and flashings.
  - 6. Secure drain sump components 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 are not allowed.

- D. Ponding Water: The ponding of water on the roof surface after installation of the roofing system is not acceptable and is 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. Provide modifications to roof system to ensure proper drainage including but not limited to reinstallation of roof system or installation of additional tapered insulation.
- E. Insulation Mechanical Attachment:
  - 1. Fastener quantity and spacing as required to comply with the requirements of roof system manufacturer's approved, tested assembly.
  - 2. Install fasteners using manufacturer's recommended equipment and in accordance with the manufacturer's requirements.
  - 3. Set fasteners and stress plates secure and tight against the insulation surface and do not over drive.
  - 4. Fasteners to engage the top flange of steel decks only.
- F. Foam Adhesive:
  - 1. Position and space adhesive beads as required to comply with the requirements of the roof system manufacturer's approved, tested assembly.
  - 2. Size adhesive beads in accordance with the adhesive manufacturer's guidelines.
  - 3. Place insulation boards onto the beads and "walk" and/or "weight" into place. Place insulation boards into the adhesive in accordance with the adhesive manufacturer's guidelines.
  - 4. Ensure adhesion of insulation and take whatever steps necessary to achieve adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

## END OF SECTION

## SECTION 07 42 43 - ALUMINUM-FACED COMPOSITE WALL PANELS

## PART 1 - GENERAL

## **1.1 SECTION INCLUDES**

- A. Aluminum-faced composite panels and mounting system including the following:
  - 1. Exterior cladding panels over vertical accents above Roof Area C.
- B. System Type for Exterior Applications:
  - 1. Rout and return wet sealed system.

## **1.2 RELATED DOCUMENTS**

- 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. Section 06 10 00 "Rough Carpentry"
  - 2. Section 07 62 00 "Sheet Metal Flashing and Trim"
  - 3. Section 07 92 00 "Elastomeric Joint Sealants"

## **1.3 REFERENCES**

- A. Refer to the following references, current edition, for specification compliance:
  - 1. American Architectural Manufacturers Association (AAMA):
    - a. AAMA 508 Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems.
    - b. AAMA 509 Voluntary Test and Classification Method for Drained and Back Ventilated Rain Screen Wall Cladding Systems.
    - c. AAMA 620 Voluntary Specification for High Performance Organic Coatings on Coil, Coated Architectural Aluminum.
    - d. AAMA 2605 Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
    - e. AAMA "Metal Curtain Wall, Window, Storefront and Entrance Guide Specifications Manual".
  - 2. ASTM International (ASTM):
    - a. ASTM B 117 Method of Salt Spray (Fog) Testing.
    - b. ASTM D 635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
    - c. ASTM D 822 Practice for Operating Light and Water Exposure Apparatus (Carbon-Arc Type) for Testing Paint, Varnish, Lacquer, and Related Products.

- d. ASTM D 1308 Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
- e. ASTM D 1781 Climbing Drum Peel Test for Adhesives.
- f. ASTM D 1735 Method for Water Fog Testing of Organic Coatings.
- g. ASTM D 1929 Standard Test Method for Determining Ignition Temperature of Plastics.
- h. ASTM D 2247 Practice for Testing Water Resistance of Coatings in 100 percent Relative Humidity
- i. ASTM D 2794 Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
- j. ASTM D 3359 Methods for Measuring Adhesion by Tape Test.
- k. ASTM D 3363 Method for Film Hardness by Pencil Test.
- 1. ASTM E 84 Surface Burning Characteristics of Building Materials.
- m. ASTM E 283 Rate of Leakage through Exterior Windows, Curtain Walls, and Doors.
- n. ASTM E 330 Structural Performance of Exterior Windows, Curtain Walls, and Doors Under the Influence of Wind Loads.

## **1.4 SYSTEM REQUIREMENTS**

- A. Panel system includes the following components:
  - 1. Aluminum faced composite panels with mounting system. Panel mounting system including anchorages, shims, furring, fasteners, gaskets and sealants, related flashing adapters, and masking (as required) for a complete watertight installation.
  - 2. Parapet coping, column covers, soffits, sills, border, and filler items indicated as integral components of the panel system or as designed.
  - 3. Interior panel system work that matches exterior panel system work.
- B. Maximum deviation from vertical and horizontal alignment of erected panels: 1/4 inch in 20 feet non-accumulative.
- C. Shop drawings shall show the preferred joint details providing a watertight and structurally sound wall panel system that allows no uncontrolled water penetration on the inside face of the panel system as determined by ASTM E 331. Systems not utilizing a construction sealant at the panel joints (i.e. Rout and Return Dry and Rear Ventilated System) shall provide a means of concealed drainage with baffles and weeps for water which may accumulate in members of the system.
  - 1. Building Code Acceptance: Composite panel manufacturer shall have established a Certification Program acceptable to the local Code Authorities.

## **1.5 SYSTEM PERFORMANCE**

- A. Composite panels shall be capable of withstanding building movements and weather exposures based on the following test standards required by the Architect and/or the local building code.
- B. Wind Load:

- 1. Panels shall be designed to withstand the Design Wind Load based upon the local building code, but in no case less than 20 lbf/sq. ft. and 30 lbf/sq. ft. on parapet and corner panels. Wind load testing shall be conducted in accordance with ASTM E 330 to obtain the following results.
  - a. Normal to the plane of the wall between supports, deflection of the secured perimeter-framing members shall not exceed L/175 or 3/4 inch, whichever is less.
  - b. Normal to the plane of the wall, the maximum panel deflection shall not exceed L/60 of the full span.
  - c. Maximum anchor deflection shall not exceed 1/16 inch.
  - d. At 1-1/2 times design pressure, permanent deflections of framing members shall not exceed L/100 of span length and components shall not experience failure or gross permanent distortion. At connection points of framing members to anchors, permanent set shall not exceed 1/16 inch.
- C. Air/Water System Test:
  - 1. If system tests are not available, mock-ups shall be constructed and tests performed under the direction of an independent third party laboratory, which show compliance to the following minimum standards:
  - 2. Air Infiltration When tested in accordance with ASTM E 283, air infiltration at 1.57 psf (7.7 kg/sq. m) shall not exceed 0.06 cfm/sq. ft. of wall area.
  - 3. Water Infiltration Water infiltration is defined as uncontrolled water leakage through the exterior face of the assembly. Systems not using a construction sealant at the panel joints (i.e. Rout and Return Dry and Rear Ventilated Systems) shall be designed to drain any water leakage occurring at the joints. No water infiltration shall occur in any system under a differential static pressure of 6.24 lbf/sq. ft. after 15 minutes of exposure in accordance with ASTM E 331.

## 1.6 SUBMITTALS

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Shop Drawings: Submit shop drawings showing project layout and elevations; fastening and anchoring methods; detail and location of joints, sealants, and gaskets, including joints necessary to accommodate thermal movement; trim; flashing; and accessories.
- E. Code Compliance: Documents showing product compliance with the national and local building code. ACM manufacturer shall have an ICC/ES Research Report and be in compliance with AC25 (Acceptance Criteria for Metal Composite Material).

## 1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

- 1. Composite Panel Manufacturer shall have a minimum of 20 years experience in the manufacturing of the panel product.
- 2. Composite Panel Manufacturer shall be solely responsible for panel manufacture and application of the finish.
- 3. Composite panel manufacturer shall have established a Certification Program acceptable to the local Code Authorities.
- B. Installer Qualifications:
  - 1. Fabricator/installer shall be acceptable to the composite panel manufacturer.
  - 2. Fabricator/Installer shall have a minimum 5 years experience of metal panel work similar in scope and size to this project.
  - 3. Panel fabricator/installer shall assume sole responsibility for design and installation of the panel mounting components of the exterior panel system including, but not limited to attachment to sub-construction, panel to panel joinery, panel to dissimilar material joinery, and joint seal associated with the panel system.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Protect finish and edges in accordance with panel manufacturer's recommendations.
- B. Store material in accordance with panel manufacturer's recommendations.

## **1.9 PROJECT CONDITIONS**

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Field measurements shall be taken prior to the completion of shop fabrication whenever possible. However, coordinate fabrication schedule with construction progress as directed by the Contractor to avoid delay of work. Field fabrication may be allowed to ensure proper fit. Field fabrication shall be kept to an absolute minimum with the majority of the fabrication being done under controlled shop conditions.

## 1.10 WARRANTY

A. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to and not a limitation of, other rights Owner may have under the contract documents.

## PART 2 - PRODUCTS

## 2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
  - 1. Alucobond, a 3A Composites Company

- 2. Mitsubishi Chemical America, Inc. ALPOLIC Division
- 3. Petersen Aluminum Corporation, A Carlisle Company
- 4. Americlad
- 5. Engineers accepted equivalent

## 2.2 PANELS

- A. Metal Wall Panels: Aluminum-faced composite panels
  - 1. Panel Thickness: 4 mmthick
  - 2. Composition:
    - a. Two sheets of aluminum sandwiching a solid core formed in a continuous process with no glues or adhesives between dissimilar materials. The core material shall be free of voids and/or air spaces and not contain foamed insulation material. Products laminated sheet by sheet in a batch process using glues or adhesives between materials shall not be acceptable.
    - b. Core Material: Extruded thermoplastic material.
    - c. Aluminum Face Sheets:
      - 1) Thickness: 0.50 mm (0.0197 inch) (nominal).
  - 3. Product Performance:
    - a. Panel Tolerance:
      - 1) Length: -0 + .375 inch (+ 9.5 mm).
      - 2) Width: -0 + .188 inch.
      - 3) Thickness: +/- .008 inch for 3 mm to 6 mm thicknesses.
      - 4) Bow (length and/or width): Maximum 0.8 percent.
      - 5) Squareness: Maximum .250 inch.
      - 6) Aluminum Sheet Thickness: .020 inch nominal.
    - b. Bond Integrity:
      - When tested for bond integrity, in accordance with ASTM D 1781 (simulating resistance to panel delamination), there shall be no adhesive failure of the bond between the core and the skin nor cohesive failure of the core itself below the following values:
      - 2) Peel Strength:
        - a) 115 N mm/mm (22.5 in lb/in) as manufactured.
        - b) 115 N mm/mm (22.5 in lb/in) after 21 days soaking in water at 70 degree F.
    - c. Temperature Resistance: Withstands environmental temperature changes from -55 degree F to +175 degree F (-50 degree C to 80 degree C). The coefficient of linear expansion is governed by the aluminum sheet.

## 2.3 FINISHES

- A. Coil Coated Finishes:
  - 1. Coil coated in conformance with the following general requirements of AAMA 2605 and AAMA 620.
    - a. 2-coat coil coated KYNAR 500 or HYLAR 5000 based Polyvinylidene Fluoride (PVDF).
  - 2. Color:
    - a. Color as selected from manufacturer's standard color palette.
  - 3. Coating Thickness:
    - a. Colors: 1.0 mil (+/-0.2 mil).
    - b. Clear: 0.50 mil (+/- 0.05 mil).
  - 4. Hardness: ASTM D 3363; HB minimum using Eagle Turquoise Pencil.
  - 5. Impact:
    - a. Test method: ASTM D 2794; Gardner Variable Impact Tester with 5/8 inch mandrel.
    - b. Coating shall withstand reverse impact of 1.5 inches/pounds per mil substrate thickness.
    - c. Coating shall adhere tightly to metal when subjected to #600 Scotch Tape pick-off test. Slight minute cracking permissible. No removal of film to substrate.
  - 6. Adhesion:
    - a. Test Method: ASTM D 3359.
    - b. Coating shall not pick off when subjected to 11 inches by 11 inches by 1/16 inch grid and taped with #600 Scotch Tape.
  - 7. Humidity Resistance
    - a. Test Method: ASTM D 2247.
    - b. No formation of blisters when subject to condensing water fog at 100 percent relative humidity and 100 degree F for 4000 hours.
  - 8. Salt Spray Resistance:
    - a. Test Method: ASTM B 117; Expose coating system to 4000 hours, using 5 percent NaCl solution.
    - b. Corrosion creepage from scribe line: 1/16 inch maximum.
    - c. Minimum blister rating of 8 within the test specimen field.
  - 9. Weather Exposure:
    - a. Outdoor:

- 1) Ten-year exposure at 45 degree angle facing south Florida exposure.
- 2) Maximum color change of 5 Delta E units as calculated in accordance with ASTM D 2244.
- 3) Maximum chalk rating of 8 in accordance with ASTM D 4214.
- 4) No checking, crazing, adhesion loss.
- b. Chemical Resistance:
  - 1) ASTM D 1308 utilizing 10 percent Muriatic Acid for an exposure time of 15 minutes. No loss of film adhesion or visual change when viewed by the unaided eye.
  - 2) ASTM D 1308 utilizing 20 percent Sulfuric Acid for an exposure time of 18 hours. No loss of film adhesion or visual change when viewed by the unaided eye.
  - 3) AAMA 2605 utilizing 70 percent reagent grade Nitric Acid vapor for an exposure time of 30 minutes. Maximum color change of 5 Delta E units as calculated in accordance with ASTM D 2244.

## 2.4 PANEL SYSTEM FABRICATION

- A. Tolerances:
  - 1. Panel Bow: Maximum 0.8 percent of any 72 inches panel dimension.
  - 2. Panel Dimensions: Field fabrication shall be allowed where necessary, but shall be kept to an absolute minimum. All fabrication shall be done under controlled shop conditions unless indicated on approved shop drawings.
  - 3. Panel lines, breaks, and angles shall be sharp, true, and surfaces free from warp and buckle.
  - 4. Maximum deviation from panel flatness shall be 1/8 inch in 60 inches on panel in any direction for assembled units. (Non-accumulative No Oil Canning).
- B. System Characteristics:
  - 1. System shall not have any visible fasteners, telegraphing or fastening on the panel faces or any other exposed surface that compromises a neat and flat appearance.
  - 2. System shall comply with the applicable provisions of the "Metal Curtain Wall, Window, Storefront, and Entrance Guide Specifications Manual" by AAMA and ANSI/AAMA 302.9 requirements for aluminum windows.
  - 3. Fabricate panel system to dimension, size, and profile indicated on the drawings based on a design temperature of 70 degree F.
  - 4. Fabricate panel system so that no restraints can be placed on the panel, which might result in compressive skin stresses. The installation detailing shall be such that the panels remain flat regardless of temperature change and at all times remain air and water tight.
  - 5. The finish side of the panel shall have a removable plastic film applied prior to fabrication, which shall remain on the panel during fabrication, shipping, and erection to protect the surface from damage. Remove masking as soon as possible after installation.

- C. System Type:
  - 1. Rout and Return Wet:
    - a. System must provide a wet seal (caulked) reveal joint as detailed on drawings. The sealant type shall be as specified in Section 07 92 00 "Elastomeric Joint Sealants" and with foamed type backer rod as indicated or specified.

## 2.5 ACCESSORIES

- A. Extrusions, formed members, sheet, and plate shall conform to ASTM B 209 and the recommendations of the manufacturer.
- B. Panel stiffeners, if required, shall be structurally fastened or restrained at the ends and shall be secured to the rear face of the composite panel with silicone of sufficient size and strength to maintain panel flatness. Stiffener material and/or finish shall be compatible with the silicone.
- C. Sealants and gaskets within the panel system shall be as per manufacturer's standards to meet performance requirements.
- D. Fabricate flashing materials from 0.030 inch minimum thickness aluminum sheet painted to match the adjacent curtain wall / panel system where exposed. Provide a lap strap under the flashing at abutted conditions and seal lapped surfaces with a full bed of non-hardening sealant.
- E. Fasteners (concealed, exposed and non-corrosive): Fasteners as recommended by panel manufacturer. Do not expose fasteners except where unavoidable and indicated on the approved shop drawings. Match finish of adjoining metal.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Surfaces to receive panels shall be even, smooth, sound, clean, dry and free from defects detrimental to work.
- B. Do not begin installation until substrates have been properly prepared. If substrate preparation is the responsibility of another installer, notify Contractor and Architect of unsatisfactory preparation before proceeding.

## 3.2 INSTALLATION

A. Erect panels in accordance with manufacturer's requirements and approved shop drawings, plumb, level, and true.

- B. Attachment system shall allow for the free and noiseless vertical and horizontal thermal movement due to expansion and contraction for a material temperature range of -20 degree F to +180 degree F (-29 degree C to 82 degrees C). Buckling of panels, opening of joints, undue stress on fasteners, failure of sealants or any other detrimental effects due to thermal movement will not be permitted. Fabrication, assembly, and erection procedure shall account for the ambient temperature at the time of the respective operation.
- C. Panels shall be erected in accordance with an approved set of shop drawings.
- D. Anchor panels securely per engineering recommendations and in accordance with approved shop drawings to allow for necessary thermal movement and structural support.
- E. Conform to panel fabricator's instructions for installation of concealed fasteners.
- F. Do not install component parts that are observed to be defective, including warped, bowed, dented, abraded, and broken members.
- G. Do not cut, trim, weld, or braze component parts during erection in a manner which would damage the finish, decrease strength, or result in visual imperfection or a failure in performance. Return component parts which require alteration to shop for rework, if possible, or for replacement with new parts.
- H. Separate dissimilar metals and use gasket fasteners where needed to eliminate the possibility of corrosive or electrolytic action between metals.

## 3.3 ADJUSTING AND CLEANING

- A. Remove and replace panels damaged beyond repair as a direct result of the panel installation.
- B. Repair panels with minor damage as acceptable to the Architect.
- C. Remove masking (if used) as soon as possible after installation.
- D. Ensure weep holes and drainage channels are unobstructed and free of dirt and sealants.

## 3.4 **PROTECTION**

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

## END OF SECTION

## SECTION 07 53 23

## THERMOSET EPDM ROOFING

## PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes
  - 1. Provide an adhered, thermoset, EPDM roof membrane and flashings to provide a permanently watertight system.

## **1.2 RELATED DOCUMENTS**

- 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. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 05 31 23 "Steel Roof Deck"
  - 3. Section 06 10 00 "Rough Carpentry"
  - 4. Section 07 01 50 "Preparation for Reroofing"
  - 5. Section 07 22 16 "Roof Insulation"
  - 6. Section 07 62 00 "Sheet Metal Flashing and Trim"
  - 7. Section 22 14 26 "Roof Drains"

## **1.3 REFERENCES**

- A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.
- B. Refer to the following references, current edition for specification compliance:
  - 1. ASTM International (ASTM):
    - a. ASTM D 412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
    - b. ASTM D 624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
    - c. ASTM D 816 Standard Test Methods for Rubber Cements.
    - d. ASTM D 4637 Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane.
    - e. ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials.
  - 2. FM Global
    - a. FM 4470 Approval Standard for Class 1 Roof Covers.
  - 3. National Roofing Contractors Association (NRCA)

- a. Low Slope Roofing and Waterproofing Manual, Current Edition.
- 4. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)
  - a. Architectural Sheet Metal Manual.
- 5. Underwriters Laboratories (UL):
  - a. UL-790 Standard Test Method for Fire Tests of Roof Coverings.
- 6. Single Ply Roofing Institute

## 1.4 **DEFINITIONS**

- A. PS: Pressure-Sensitive
- B. RUSS: Reinforced Universal Securement Strip

## **1.5 PERFORMANCE REQUIREMENTS**

- A. Install roofing system to meet UL 790 Class A Fire Rating.
- B. Wind Design: Provide an approved, tested roof assembly to resist the design wind uplift pressures specified in the Contract Drawings.

## **1.6 SUBMITTALS**

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Roof System Assembly Letter: Letter from roof system manufacturer listing roof assembly components along with their method of attachment and acceptance of the specified roof system warranty terms. Assembly letter should match the submitted test report documentation and specified assembly.
- E. Test Reports: Submit documentation of approved, tested roof system to meet the specified requirements for the following:
  - 1. Wind uplift pressures
  - 2. UL Fire Resistance Rating
- F. Shop Drawings:

1. Submit manufacturer approved drawings and details for conditions not depicted in Contract Drawings including but not limited to inside corners, outside corners, lap seams, etc.

## 1.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Supply products specified by a single manufacturer with a minimum of twenty (20) years' experience.
  - 2. Upon completion of the installation, provide manufacturer's inspection by a technical representative of the manufacturer to review the installed roof system and document deficiencies.
- B. Installer Qualifications:
  - 1. Minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
  - 2. Capable of extending the specified Manufacturer's Labor and Materials guarantee.
  - 3. Approved by the membrane manufacturer prior to bid.
  - 4. Application of the roofing system accomplished by a primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer. Submit evidence of qualification from the manufacturer.
- C. Do not make deviations from the Contract Documents or the accepted shop drawings without prior written acceptance by the Engineer.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

## **1.9 PROJECT CONDITIONS**

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
  - 1. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
  - 2. Do not apply roofing during precipitation. Contractor assumes responsibility for starting installation in the event there is a probability of precipitation occurring during application.

- B. Maintain Material Safety Data Sheets (MSDS) on location during the transportation, storage and application of materials.
- C. When positioning membrane sheets, exercise care to locate field splices away from low spots and out of drain sumps. Shingle field splices to prevent bucking of water.
- D. Arrange work sequence to avoid use of new roof as a walking surface or for equipment movement and storage. Where such access is absolutely required, provide necessary protection and barriers, consisting of plywood over rigid insulation, to segregate the work area and to prevent damage to adjacent areas.
- E. Ensure substrate is clean, smooth, dry, and free of projections, fins, sharp edges, foreign materials, oil, grease and contaminants that prevents proper application of or is incompatible with the installation.
- F. Complete roofing and make weathertight at the end of the work day. Install only as much of the roofing as can be made weathertight each day, including flashings and detail work. Clean and seal seams before leaving the job site that day.
- G. Do not allow contaminants, grease, fats and oils to come in direct contact with the roofing membrane.
- H. Take precautions when using membrane adhesives at or near rooftop vents or air intakes as adhesive odors could enter the building. Refer to Section 01 14 00 "Work Restrictions" for requirements.

## 1.10 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).
  - 1. Warranty to include but not be limited to membrane, insulation, adhesives, fasteners, sealants, flashings, accessories, etc.
  - 2. Warranty Period: Twenty years from date of Substantial Completion
  - 3. Warranty to remain in effect for wind speeds up to 90 mph.
  - 4. Warranties requiring the Owner's signature are not acceptable.
- B. Contractor's Warranty:
  - 1. Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

## PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers:
  - 1. Carlisle SynTec
  - 2. Versico
  - 3. Engineers accepted equivalent

#### 2.2 ETHYLENE PROPYLENEDIENE TERPOLYMER (EPDM) MEMBRANE

- A. EPDM Roof Membrane: Extruded, cured, EPDM membrane meeting the requirements of ASTM D 4637, Type III, fabric backed membranes.
  - 1. Color: Black.
  - 2. Membrane Thickness: 115 mil nominal total thickness with 60 mils EPDM membrane over 55 mil fleece backing.
  - 3. Sheet Dimensions:
    - a. Width: 10 feet
    - b. Length: 100 feet
  - 4. Factory inseam tape, 6 inch width.
  - 5. Factory applied fleecebacking
- B. Membrane Foamable Adhesive: Low-VOC, spray applied aerosol contact adhesive and primer used for adhering EPDM membranes to horizontal and vertical substrates.
- C. Flashing Membrane: Self-curing, non-reinforced membrane composed of nonvulcanized EPDM rubber, complying with ASTM D 4811 Type II, with thickness of 55 mils.

#### 2.3 FLASHING ACCESSORIES

- A. Seam Tape: Self-adhering, cured EPDM rubber seam tape with clear polyethylene release line for slicing EPDM sheets.
- B. RUSS:
  - 1. Nominal 9 inch wide, 60-mil thick reinforced EPDM membrane with a 55 mil fleece fabric backing or as required by primary membrane manufacturer.
- C. PS Cover Strip: Nominal 60-mil black, cured EPDM membrane laminated to a nominal 28-mil cured, synthetic rubber pressure-sensitive adhesive for flashing metal edgings, stripping in seams and sealing end laps of Fleeceback membranes. Width in 6 inch, 9 inch or 12 inch and as indicated in Contract Drawings.

- D. PS Overlayment Strip: 40-mil semi-cured EPDM laminated to 30-mil fully cured, syntheic rubber-based, pressure-sensitive adhesive for stripping in metal edge, fleeceback membrane end laps and seam fastening plates. Width in 6 inch, 9 inch or 12 inch and as indicated in Contract Drawings.
- E. PS EPDM Flashing: 20 inch wide, 60-mil thick EPDM Flashing laminated to a pressure sensitive, factory-applied tape used in conjunction with primer.
- F. PS Curb Flashing: 60-mil thick, 20 inch wide cured EPDM membrane with 6 inch wide, pressure sensitive, factory-applied tape along one edge used to flash curbs/skylights, etc.
- G. PS Inside/Outside Corner: 7 inch by 9 inch precut 60-mil thick uncured EPDM flashing with a 30-mil fully cured pressure sensitive adhesive.
- H. PS "T" Joint Covers: Factory cut uncured 40-mil uncured EPDM flashing laminated to a nominal 30-mil fully cured pressure sensitive adhesive, size 6 inches by 6 inches with pre-cut rounded corners.
- I. PS Pipe Seals: Pre-manufactured with factory-applied tape on the deck flange.
- J. PS Elastoform Flashing: 60-mil uncured EPDM membrane lamintated to 30-mil fully cured pressure sensitive adhesive in widths of 6 inch, 9 inch or 12 inch as indicated in Contract Drawings.
- K. Pourable Sealer Pocket: Prefabricated pourable sealer pocket consisting of a 2 inch wide plastic support strip with factory-applied, adhesive backed uncured EPDM flashing.
- L. Liquid Applied Flashing: Two component liquid applied polyurethane flashing system with non-woven needle punched poyester reinforcing fabric compatible with the roof membrane, flashing and substrates. System to include primer for application to substrates.
- M. RELATED MATERIALS Weathered Membrane Cleaner: Clear, solvent-based cleaner used to loosen and remove contaminants from the surface of exposed EPDM membrane prior to applying EPDM Primer.
- N. Splice Tape: 3 inch or 6 inch wide by 100 foot long splice tape used for splicing adjoining sections of EPDM membrane.
- O. Primer: Solvent-based primer used to prepare the surface of EPDM membrane for application of splice tape or PS products.
- P. Splicing Cement: High-strength, butyl-based contact cement which is used for splicing adjoining sections of EPDM membrane (cured or uncured).
- Q. Lap Sealant: Black, heavy-bodied material (trowel or gun-consistency) used to seal the exposed edges of a membrane splice.
- R. Bonding Adhesive: High-strength, yellow colored, synthetic rubber adhesive used for bonding EPDM membranes to various surfaces.

- S. Water Cut-Off Mastic: One-component, low viscosity, self-wetting, butyl blend mastic used as a compression sealing agent between EPDM membranes and applicable substrates.
- T. Pourable Sealer: Black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects, clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.
- U. Sealant: 100 percent solids, solvent free, one-part, polyether sealant that provides a weather tight sealant to a variety of building substrates; used as a termination bar sealant.
- V. Walkway Pads: EPDM pressure-sensitive walkway pads, 30 inch by 30 inch with total thickness of 0.375 inches.

## 2.4 FASTENING COMPONENTS

- A. RUSS Strip Securement Screws and Plates:
  - 1. Screw: #21, threaded, black epoxy electro-deposition coated (E-Coat) fastener for use with 22-gauge steel. Length as required to penetrate top flange of steel deck a minimum of 3/4 inch; maximum penetration of 1-1/4 inch through top flange of steel deck.
  - 2. Seam Plate: A 2-3/8 inch diameter, polymer, barbed plate designed to accommodate the specified #21 screw.
- B. Masonry Anchors: A 1-1/4inch long expansion anchor with threaded drive pin used for fastening Termination Bar to concrete, brick or block walls.
- C. Termination Bar: 1 inch by 10 foot long galvalume-coated steel fastening bar pre-punched 6 inches on center.
- D. Counter Flashing Bar: 1 inch wide, .098 inch thick extruded aluminum bar pre-punched 6 inches on center with sealant ledge.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Verify that the substrate is dry, clean, smooth, and free of loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections to ensure a smooth surface before roofing. Do not begin installation until substrates have been properly prepared.
- B. Beginning installation means acceptance of prepared substrate.
- C. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

## **3.2 PREPARATION**

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Do not commence work until other work trades have completed jobs that require them to traverse the deck on foot or with equipment.
- D. Power broom cap ply of existing roof membranes to remove existing loose granules. Remove all loose granules, dirt and debris immediately prior to installing membrane.

## 3.3 MEMBRANE INSTALLATION

- A. Placement:
  - 1. Position EPDM membrane over the acceptable substrate without stretching with laps shingled with flow of water.
  - 2. Allow the membrane to relax approximately 1/2 hour prior to splicing.
  - 3. Place adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum splice width. Shingle splices to avoid bucking of water.
- B. Foamable Adhesive:
  - 1. Adhere membrane to substrate in accordance with manufacturer's installation instructions.
  - 2. Apply primer if required by manufacturer.
  - 3. Apply adhesive to substrate only and roll membrane into wet adhesive once it has foamed to 1/8 inch to 3/4 inch and begins to string when touched.
  - 4. Broom and roll membrane with a weighted steel roller
- C. Splicing:
  - 1. Overlap adjacent sheets and mark a line 1/2 inch out from the top sheet.
  - 2. Fold the top sheet back and clean the dry splice area (minimum 2 1/2 inches wide) of both membrane sheets with primer as required by the membrane manufacturer.
  - 3. Where splice tape is not factory-applied, apply splice tape to bottom sheet with the edge of the release film along the marked line. Press tape onto the sheet using hand pressure. Overlap tape roll ends a minimum of 1 inch.
  - 4. Remove the release film and press the top sheet onto the tape using hand pressure.
  - 5. Roll the seam toward the splice edge with a 2-inch-wide steel roller.
  - 6. Install PS "T" Joint Cover over field splice intersections.
  - 7. When using non-PS EPDM Flashing, seal edges of flashing with lap sealant.
  - 8. The use of lap sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane where lap sealant is required.

## 3.4 FLASHING INSTALLATION

- A. Follow manufacturer's typical flashing procedures for wall, curb, and penetration flashings including metal edging/coping and roof drain applications. Continue the deck membrane at wall flashing where practicable.
- B. Provide mechanical termination at angle changes. Mechancial termination is required regardless of whether manufacturer does not require for issuing specified warranty.

## 3.5 WALKWAYS

- A. Install walkways where indicated in the Contract Drawings.
- B. Adhere walkway pads to the EPDM membrane in accordance with the manufacturer's current application guidelines.
- C. Provide walk pads where indicated in Contract Drawings and at the following locations:
  - 1. Around roof hatches.
  - 2. At base and top of fixed wall access ladders.
  - 3. Around HVAC units as shown on Drawings..

## 3.6 DAILY SEALS

- A. Install flashings concurrently with the membrane in order to maintain a watertight condition as the work progresses.
- B. When a break in the day's work occurs, install a temporary watertight seal. Utilize pourable sealer to adhere the roof membrane to the existing roof membrane. Provide PS Cover Strip or EPDM Cover Strip as necessary to maintain tie-in in a watertight condition. When work resumes, remove and dispose of the contaminated membrane. Do not re-use these materials.
- C. If inclement weather occurs while a temporary water stop is in place, provide the labor necessary to monitor the situation to maintain a watertight condition.
- D. If water is allowed to enter under the completed system, replace the affected area.

## 3.7 CLEAN UP

- A. Perform daily clean-up to collect wrappings, empty containers, paper, and other debris from the project site. Upon completion, dispose of debris in a legally acceptable manner.
- B. Prior to the manufacturer's inspection for warranty, perform a pre-inspection to review work and to verify flashing has been completed as well as the application of caulking.

#### **3.8 PROTECTION**

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

# **END OF SECTION**

#### SECTION 07 62 00

## SHEET METAL FLASHING AND TRIM

## PART 1 - GENERAL

## 1.1 SUMMARY

- A. Section Includes
  - 1. Sheet metal flashings and trim to provide a permanently watertight condition.

## **1.2 RELATED DOCUMENTS**

- 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. Section 06 10 00 "Rough Carpentry"
  - 2. Section 07 53 23 "Thermoset EPDM Roofing"
  - 3. Section 07 65 00 "Through Wall Flashing"

## **1.3 REFERENCES**

- A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.
- B. Refer to the following references for specification compliance:
  - 1. ASTM International
  - 2. National Roofing Contractors Association (NRCA)
  - 3. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
    - a. Architectural Sheet Metal Manual, Seventh Edition January 2012
  - 4. ANSI/SPRI ES-1
  - 5. FM Global
    - a. Data Sheet 1-49, Perimeter Flashing

#### **1.4 SUBMITTALS**

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

- D. Shop Drawings: For any transitions and/or terminations not depicted in Contract Drawings.
- E. Color Charts:
  - 1. Pre-finished Sheet Metal
  - 2. Sealants

## 1.5 QUALITY ASSURANCE

- A. Install in accordance with the Contract Drawings.
- B. Ensure work is free of leaks.
- C. Fabricate metal edge (where no gutter is present) and coping in accordance with ANSI/SPRI ES-1 requirements.
- D. Provide first-class workmanship. Assemble and secure sheet metal work in accordance with these specifications, roof system 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 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.
- B. Coordination and Scheduling: Coordinate phases of work to allow continuity of work without delays.

## 1.8 WARRANTY

- A. Provide 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 PRIMARY SHEET METAL

- A. Pre-finished Aluminum: 040 inch (40-mil), ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14, primed and finished on one side with Kynar/Hylar based fluoropolymer coating of 1.0 mil total dry film thickness, and on the reverse side, with a wash coat of 0.3 to 0.4 mil dry film thickness. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.
  - 1. Slip Flashing
  - 2. Counterflashing Receiver Flashing
  - 3. Counterflashing
  - 4. Fascia
  - 5. Edge Metal
  - 6. Edge Metal Extension
  - 7. Mullion Cover
  - 8. Coping
  - 9. Panel Stiffener
  - 10. Downspouts
  - 11. Back-up Plate
  - 12. Outlet Tube
- B. Mill-finished Aluminum: 0.063inch (63-mil) Mill Finished Aluminum. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14.
  - 1. Scupper
- C. 0.050 inch (50-mil) Mill Finished Aluminum, ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:
  - 1. Continuous Cleat

### 2.2 ALUMINUM

- A. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:
  - 1. Downspout Hangers: 1/16 inch x 1 inch

## 2.3 STAINLESS STEEL

- A. 26-gauge, Type 304 as tested in accordance with ASTM A 167.
  - 1. Watertight Umbrella
  - 2. Receiver Flashing (masonry wall)
  - 3. Vent Base
  - 4. Storm Collar
  - 5. Flange/Sleeve

### 2.4 FASTENERS

- A. Roofing Nails: Minimum 12-gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8 inch diameter head and length as required to penetrate substrate a minimum of 1-1/4 inches.
- 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 inches. Provide with bonded EPDM washer or washer specified below. Factory painted heads to match the sheet metal color.
  - 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 inches.
  - 3. Sheet metal to sheet metal attachment (exposed): 1/4 inch x 7/8 inch 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. Factory painted heads to match the sheet metal color.
  - 4. Sheet metal to light gauge steel attachment (concealed): #14-13 DP1 stainless-steel low-profile pancake head of length as required for three threads to penetrate metal substrate or min. 1 inch penetration though wood substrates.
- C. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inches. Factory painted heads to match the sheet metal color.
- D. Washers: Stainless steel with neoprene gasket backing.
  - 1. 9/16 inch diameter for use with #12 screws
  - 2. 5/8 inch diameter for use with 1/4 inch diameter concrete and masonry anchors.
- E. Rivets: #44 stainless steel rivets with stainless steel mandrel and factory painted head to match adjacent sheet metal. Length to properly fasten particular sheet metal components.

# 2.5 RELATED MATERIALS

- A. 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 sheet metal color selected by Owner.
- B. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant meeting ASTM C 920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to match sheet metal color selected by Owner. Acceptable Manufacturers include:
  - 1. Dow 790 Building Sealant
  - 2. Pecora 890 NST Silicone
  - 3. Sikasil-WS 290
  - 4. Triangle Fastener Corporation Ultra 1000
- C. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.

- D. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.
- E. Backer Rod: Closed-cell polyethylene or polyurethane rods sized approximately 25% larger than joint opening.
- F. Solder: 80-20 lead-TIN alloy conforming to ASTM B32.
- G. Flux: Muriatic acid killed with zinc or an accepted brand of commercial soldering flux designed for use with 80-20 solder.

## **PART 3 - EXECUTION**

#### 3.1 EXAMINATION

- A. Coordinate with other work for correct sequencing of items.
- B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.
- C. Report deficiencies associated with the sheet metal substrates to Engineer before beginning sheet metal work. Correct deficiencies before installing sheet metal flashings.

## **3.2 INSTALLATION**

- A. General:
  - 1. Lock and seal joints of pre-finished sheet metal.
  - 2. Solder joints of stainless steel sheet metal.
  - 3. Provide for thermal movement (expansion and contraction) of sheet metal.
  - 4. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt primer or separate with sheet metal underlayment.
  - 5. Prime sheet metal surfaces (top and bottom) to receive bituminous materials. Allow primer to dry before application of bituminous materials.
  - 6. Install metal flanges on top of membrane, adhere and fasten as indicated in detail drawings, specified herein, and in accordance with membrane manufacturer's requirements.
  - 7. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
  - 8. Hem (return) exposed edges for strength and appearance.
  - 9. Fit sheet metal close and neat.
  - 10. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
  - 11. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.
  - 12. Provide redundancy with sheet metal including but not limited to sheet metal underlayment and sealants. Install, seal and lap underlayment to ensure a redundant layer of protection to shed moisture infiltration behind sheet metal.
- B. Sheet Metal Laps: Unless otherwise indicated:

- 1. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two bead of butyl sealant between sections.
- 2. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2 inches on center.
- C. Fasteners:
  - 1. Size and type required.
  - 2. Fasteners compatible with materials being joined.
  - 3. Exposed Fasteners:
    - a. Install screws with 5/16 inch predrilled, oversized holes.
    - b. Install Concrete and Masonry Anchors with 11/32 inch predrilled, oversized holes.
    - c. Exposed horizontal surface fasteners are not acceptable.
- D. Slip Flashing:
  - 1. Fabricate at curbs as shown in detail drawings in 10 foot lengths.
  - 2. Extend a minimum of 2 inches below base flashing termination and fit tightly against curb.
  - 3. Secure at 12 inches on center of a minimum of two fasteners per side of the curb. If slip flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
- E. Receiver Flashing:
  - 1. Fabricate receiver flashing as shown in detail drawings in 10 foot lengths.
  - 2. Attachment:
    - a. Install receiver flashing surface mounted at 12 inches on center where indicated in Drawings. If receiver flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
  - 3. Install sealant properly tooled to ensure adhesion and slope to shed water in saw-cut reglet. Cover soft metal wedges with sealant.
- F. Counterflashing:
  - 1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.
  - Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. If counter flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
  - 3. Stagger receiver anchors with counter flashing fasteners.
  - 4. Extend counter flashing a minimum of 1.5 inches below base flashing termination.
- G. Coping:
  - 1. Fabricate coping in 10 foot lengths. Fabricate coping a maximum of 1/2 inch wider than the width of the wall; field verify parapet wall width prior to sheet metal fabrication. Refer to SMACNA Architectural Sheet Metal Manual Figure 3-4A.

- 2. Install continuous cleat fastened to substrate 6 inches on center in vertical leg. Locate fasteners no greater than 2 inches from the bottom hem.
- 3. Lock outside face of coping onto continuous cleat and secure inside face as follows:
  - a. For coping widths up to and including 12 inches, secure with screws through waterproof washers and oversized holes at 18 inches on center.
  - b. For coping widths greater than 12 inches, secure inside face with continuous cleats. Secure cleat through vertical face of cleat to blocking with fasteners at 6 inches on center. Locate fasteners no greater than 2 inches from the bottom hem.
- 4. Coping Seams:
  - a. Provide drive seam at adjoining coping sectionssix inch wide back-up plates at laps. Apply two beads of polyurethane sealant along each side of lap, extend sealant down vertical leg of splice plate. Turn cover ends back a minimum of 1 inch onto itself. Allow 1/4 inch space between coping sections for expansion and contraction and install sealant. Refer to SMACNA Architectural Sheet Metal Manual Figure 3-2, tType J24..
- 5. Provide one-piece coping section at corners, four-way intersections and tee intersections. Locate joints within 24 inches from inside corner.
- 6. Turn coping ends up a minimum of 2 inches at elevation walls and cover termination with surface mounted counterflashing.
- H. Through Edge Scupper:
  - 1. Fabricate through wall scupper flange, liner, and faceplate as shown in detail drawings. Scuppers dimensions as indicated in the Contract Drawings with flange extending a minimum of 4 inches on top and sides of scupper and extends a minimum of 4 inches onto the horizontal membrane.
  - 2. Weld Joints in Scupper
  - 3. Strip in scupper liner as specified.
  - 4. Provide edge metal to cover over scupper, fold edge metal over top edge of scupper to engage.
- I. Metal Edge:
  - 1. Fabricate metal edge as shown in detail drawings in 10 foot lengths.
  - 2. Install continuous cleat as indicated in detail drawings fastened to substrate 6" on center. Locate fasteners no greater than 1-3/4 inch from the break at the bottom hem.
  - 3. Lock metal edge onto continuous cleat and secure flange of metal edge to wood blocking 3 inches on center staggered with first row 1 inch from edge of flange and second row offset 1/2 inch from first row.
  - 4. Leave a 1/4 inch opening between metal edge sections. Center cover plates over opening, set in roof cement, and install two nails through the center of the cover plate between metal edge sections. Refer to SMACNA Architectural Sheet Metal Manual Figure 2-5A.
  - 5. Strip-in flange of metal edge as specified.
  - 6. Hand tong metal edge onto continuous cleat.

- J. Downspouts:
  - 1. Fabricate downspouts in 10 foot lengths. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-32B.
  - 2. Paint hangers with air dried kynar painted or powder coat to match sheet metal finish of downspouts.
  - 3. Secure downspout to the structure with two-piece hangers spaced no more than 8 foot apart with a minimum of two hangers per downspout with a hanger located within 12 inches from bottom.
  - 4. Fashion downspouts to run back to (at overhangs) and be parallel to the facility walls.
  - 5. Tie downspouts into below grade storm drainage system or if no below grade system is applicable kick-out downspouts above grade onto concrete splash blocks. Fill in soil to provide slope away from building.
    - a. Provide square to round transition to tie into below grade system as necessary.

# **3.3 CLEANING AND PROTECTION**

A. Replace sheet metal components with scratches through the metal finish.

#### SECTION 07 65 00

#### THROUGH WALL FLASHING

#### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes
  - 1. Replacement of through wall flashing where indicated in Contract Drawings.

#### **1.2 RELATED DOCUMENTS**

- 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. Section 04 05 00 "Mortar and Grout"
  - 2. Section 04 20 00 "Unit Masonry"
  - 3. Section 07 62 00 "Sheet Metal Flashing and Trim"

#### **1.3 SUBMITTALS**

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Mock-up: Provide 4 foot long section of each through wall flashing configuration with a joint and end dam shown for each mock-up.

#### 1.4 QUALITY ASSURANCE

- A. Engage an experienced restoration firm to perform work having completed similar work in material, design, and extent to that indicated for this Project with a record of successful in-service performance.
  - 1. Field Supervision: Maintain experienced full-time supervisors on Project site during work. Do not change supervisors during Project except for causes beyond the control of restoration specialist firm.
  - 2. Restoration Worker Qualifications: Experienced and specialize in restoration work of types of work specified.

# 1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in their original sealed containers bearing manufacturer's name and identification of product.

### **1.6 PROJECT/SITE CONDITIONS**

- A. Maintain ambient and surface temperatures above 40°F during application.
- B. Provide protection of surrounding areas and adjacent surfaces from application of materials.

# PART 2 - PRODUCTS

## 2.1 THROUGH WALL FLASHING COMPONENTS

- A. Stainless Steel: 26-gauge, Type 304 as tested in accordance with ASTM A 167.
  - 1. Receiver Flashing
- B. Flexible Flashing: 40-mil nominal, self-sealing, self-adhering, composite Flexible Flashing consisting of rubberized asphalt bonded to a polyethylene film.
  - 1. Meets AAMA 711
  - 2. Water Vapor Permeance: <.05 perms; ASTM F1249, E96 (A).
  - 3. Water Resistance: 200 hours; ASTM D779.
- C. Mastic: Rubberized asphalt mastic provided and approved by Flexible Flashing Manufacturer.
- D. Primer: Provided and approved by Flexible Flashing Manufacturer.
- E. Termination Bar:
  - 1. Lipped bar with 3/16 inch by 45 degree angled lip to receive sealant
  - 2. #304 stainless steel.
  - 3. 0.09 inches thick by 3/4 inch tall
  - 4. Pre-drilled, oversized or slotted holes 6 inches on center.

#### 2.2 FASTENERS

A. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length as required to penetrate substrate a minimum of 1-1/2 inch.

#### 2.3 RELATED MATERIALS

A. 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.

- B. Sealant Tape: Minimum 1/2 inch wide non-skinning butyl sealant tape.
- C. Solder: 20-80 tin-lead alloy conforming to ASTM B32.
- D. Flux: Muriatic acid killed with zinc or an accepted brand of commercial soldering flux designed for use with 20-80 solder.

# PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine conditions for compliance with requirements for installation tolerances and other conditions affecting performance.

#### **3.2 PREPARATION**

- A. Remove veneer clean and straight without damaged or spalling veneer to install through wall flashing components. Replace damaged work. Properly support wall and veneer during replacement of through wall flashing.
- B. Remove existing flashing components as necessary.
- C. Prepare back-up wall surfaces so they are smooth and free from projections that could puncture flashing.

#### 3.3 INSTALLATION

- A. General
  - 1. Lock and seal sheet metal joints as indicated in Contract Drawings.
  - 2. Solder end dams, inside corners and outside corners. Provide inside and outside corners to consist of soldered, fabricated sheet metal extending 18" each direction from corner.
  - 3. Provide for thermal movement (expansion and contraction) of sheet metal.
  - 4. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt paint.
  - 5. Prime metal surfaces (top and bottom) to receive asphalt/bituminous materials. Allow primer to dry thoroughly before application of asphalt/bituminous materials.
  - 6. Hem exposed edges of sheet metal for strength and appearance.
  - 7. Fit sheet metal closely and neatly.
- B. Installation
  - 1. Fabricate receiver flashing as shown in detail drawings and install with horizontal flange set in two beads of polyurethane sealant.
    - a. Lap adjacent sheet metal sections of drip edge using a back-up plate as shown in the Drawings. Provide two beads of butyl sealant on each side of lap and extend sealant fully up vertical back leg of receiver flashing.

- b. At control/expansion joints; leave 1/4 inch space between adjacent sheet metal sections and provide 8 inch wide cover plate centered over joint and set in two beads of sealant on each side of joint.
- c. Provide a lap 18 inch in each direction from inside/outside corners. Solder or inside and outside corners.
- 2. Apply asphalt primer to drip edge and CMU back-up wall. Do not apply primer to gypsum wall sheathing.
- 3. Follow flexible flashing manufacturer's guidelines for installation of flexible flashing.
- 4. Adhere flexible flashing to back-up wall substrate and drip edge.
- 5. Seal top edge of flexible flashing with termination mastic.
- 6. Lap flexible flashing sheets a minimum of 3 inch.
- 7. Apply mastic at seams and laps of flexible flashing material.
- 8. Terminate top edge of flexible flashing with termination bar at 8 inches on center or into each metal stud.
- 9. Seal top edge of termination bar with sealant or mastic approved by flexible flashing manufacturer.
- 10. Before covering flashing, seal penetrations in flashing with mastic, sealant, or tape as recommended by flashing manufacturer.
- C. Refer to Section 04 20 00 "Unit Masonry" for replacement of veneer materials.

### SECTION 07 72 00

# **ROOF ACCESSORIES**

# PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Provide roof accessory assemblies as indicated and required by the Contract Drawings:
    - a. Provide interior parapet wall safety railing
    - b. Provide pre-manufactured galvanized steel nailer

### **1.2 RELATED DOCUMENTS**

- 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. Section 07 53 23 "Thermoset EPDM Roofing"
  - 2. Section 07 62 00 "Sheet Metal Flashing and Trim"

#### **1.3 SUBMITTALS**

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

#### 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: Protect against damage while stored at the site.
- C. Handling: Comply with Manufacturer's instructions.

## **1.5 PROJECT CONDITIONS**

A. Field Measurements: Verify dimensions required.

#### **1.6 WARRANTIES**

A. Include roof accessories provided through roof system manufacturer in the specified roof system manufacturer's warranty.

# PART 2 - PRODUCTS

# 2.1 MATERIALS

- A. Pre-manufactured galvanized steel nailer: Nailer substitute with manufacturer supplied attachment fasteners. Product to be fabricated from 20 GA galvanized steel with integral stiffening rib and fasteners for attachment to wood substrates. Nailer to have a height sufficient to match maximum insulation height above roof deck and have a width to match the width of the existing top nailer.
  - 1. Products:
    - a. Metal ERA Edgebox RI
    - b. Engineers Approved Equivalent
- B. Interior Mounted Parapet Wall Safety Railing: Premanufactured parapet railing system constructed with 2" Round mill finished 6106-T6 aluminum top rail, 1-5/8" 6106-T6 knee rail, 2-1/4" x 1/1/2" rectangular posts constructed of 6061-T6 aluminum pre-manufactured railing system designed to be installed at the interior of parapet walls and meets OSHA 1926.501(b) and 1910.28(b) requirements. Posts to be spaced 8 feet on center, total rail length to be 16 feet. System to include interior mounting brackets, rail assembly fittings and hardware and mounting bracket hardware for attaching to a concrete masonry unit wall. System shall have a top rail height of 42 inches above the walking surface.
  - 1. Products:
    - a. FixFast KattGuard GR31 System
    - b. Engineers Approved Equivalent

# PART 3 - EXECUTION

# 3.1 EXAMINATION

- A. Verification of Conditions: Examine substrates to receive Work and report detrimental conditions in writing to Engineer. Commencement of work signifies acceptance of substrates.
- B. Coordination: Coordinate with other Work which affects, connects with, or is concealed by this Work

# 3.2 INSTALLATION

- A. Pre-manufactured galvanized steel nailer:
  - 1. Examine the existing substrate to verify the existing framing is suitable for attaching the new galvanized nailer.

- 2. Provide galvanized nailer with splice plates at each end lap and fill end runs of units with end plugs and miters at corners as required by manufacturer.
- 3. Secure units to each other and to substrate following manufacturers recommendations.
- B. Interior Mounted Parapet Wall Safety Railing:
  - 1. Assembly railing system and secure to existing wall following manufacturer's instructions. If substrate is found to be unsuitable for attachment, notify Engineer.

## 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.

#### SECTION 07 72 23 - RELIEF VENTS

### PART 1 - GENERAL

### 1.1 SUMMARY

- A. Section Includes:
  - 1. Provide turbine ventilators.

#### **1.2 RELATED DOCUMENTS**

- 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. Section 07 53 23 "Thermoset EPDM Roofing"

#### **1.3 REFERENCE STANDARDS**

- A. ASTM International:
  - 1. ASTM B 209/B 209M Specification for Aluminum and Aluminum- Alloy Sheet and Plate.
  - 2. ASTM B 221/B 221M Specification for Aluminum and Aluminum- Alloy Extruded Bars, Rods, Wire, Profiles and Tubes.

#### **1.4 SUBMITTALS**

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

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Deliver materials to site in Manufacturer's original unopened packaging with labels intact.
- B. Storage: Store off the ground and under cover. Protect internal parts, ends, inlets, outlets, and specialties against corrosion, dirt, and damage.

### **1.6 WARRANTIES**

A. Include relief vents provided through roof system manufacturer in the specified roof system manufacturer's warranty.

## PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Turbine Ventilator:
  - 1. Lomanco Model BEB Turbine Ventilator or Approved Equivalent.
  - 2. Description: Externally braced, self-flashing roof-mounted turbine attic ventilator. (Adjustable to roof pitches up to 12/12) Aluminum, rivet at every connection; permanently lubricated upper and lower ball bearings; 21 air- foil curved vanes with rolled edges to deflect water.
  - 3. Material: Aluminum: Conform to ASTM B 209 and ASTM B 221.
    - a. Vanes: 0.019 inch aluminum coiled sheet.
    - b. Base: 0.024 inch aluminum coiled sheet.
    - c. Elbow: 0.0305 inch aluminum coiled sheet.
    - d. Rotor Band: 0.0305 inch aluminum coiled sheet.
    - e. Dome: 0.032 inch aluminum coiled sheet.
    - f. C-Brace: 0.125 inch x 0.500 inch aluminum extrusion.
    - g. Rotor Bracket: 0.125 inch x 0.500 inch aluminum extrusion.
    - h. Shaft: 0.500 inch diameter aluminum extrusion.
    - i. Bearings: 100 Grade, 302 stainless steel ball bearings in fully machined raceways. Concentric to 0.0015 inch. Provided with manufacturer's standard DuPont Delrin inner and outer bearing rings, Turcon seals, and self-lubricated Turcite bearing cage.
  - 4. Dimensions: Overall 22 inch x 22 inch x 20-3/8 inch with hole size to match existing duct pipe.
  - 5. Finishes:
    - a. Comply with NAAMM's Metal Finishes Manual for Architectural and Metal Products for recommendations for applying and designating finishes.
    - b. Finish: Manufacturer's standard Valspar Super Flex polyester coating with minimum 0.8 top coat and minimum 0.3 wash coat. Colors Available: Brown, White, Black, Weathered Bronze, and Milled finished aluminum.

#### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates to receive Work and report detrimental conditions in writing to Engineer. Commencement of Work will be construed as acceptance of substrates.
- B. Coordinate with other Work which affects, connects with, or will be concealed by this Work.

# 3.2 INSTALLATION

## A. General:

- 1. Install turbine ventilator according to manufacturer's written instructions.
- 2. Install turbine ventilator level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
- 3. Anchor turbine ventilators securely in place so they are capable of resisting indicated loads.
- 4. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of turbine ventilators and fit them to substrates.
- 5. Install turbine ventilator to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
  - 1. Coat concealed side of turbine ventilator with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
  - 2. Underlayment: Where installing turbine ventilator directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
  - 3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturer of turbine ventilator for waterproof performance.
- C. Turbine Ventilator Installation: Verify that ventilators operate properly and have unrestricted airflow. Clean, lubricate, and adjust operating mechanisms.

#### 3.3 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Clean exposed surfaces according to manufacturer's written instructions.
- C. Clean off excess sealants.
- D. Replace components that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

#### 3.4 CLEANING

A. During the course of the Work and on completion, remove and dispose of excess materials, equipment and debris away from premises.

#### SECTION 07 72 33

### **ROOF HATCHES**

## PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Provide factory-fabricated roof hatches for ladder access.

#### **1.2 SUBMITTALS**

- A. Refer to Section 01 33 00 "Submittal Procedures".
- B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.
- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Shop Drawings: Submit shop drawings including profiles, accessories, location, adjacent construction interface, and dimensions.
- E. Warranty: Submit executed copy of manufacturer's standard warranty.

#### **1.3 QUALITY ASSURANCE**

- A. Manufacturer: A minimum of 5 years' experience manufacturing similar products.
- B. Installer: A minimum of 2 years' experience installing similar products.
- C. Manufacturer's Quality System: Registered to ISO 9001 Quality Standards including in-house engineering for product design activities.

### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original packaging.
- B. Store materials in a dry, protected, well-vented area.
- C. Inspect product upon receipt and report damaged material to delivering carrier and note such damage on the carrier's freight bill of lading.

## 1.5 WARRANTY

A. Manufacturer's Warranty: Provide manufacturer's standard warranty against defects in material and workmanship for a period of five years from the date of purchase.

# PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Acceptable Manufacturers:
  - 1. The BILCO Company
  - 2. Nystrom
  - 3. Acudor
  - 4. Engineers Accepted Equivalent
- B. Basis-of-Design Product:
  - 1. Type GS-50TB Roof Hatch by The BILCO Company

#### 2.2 ROOF HATCH

- A. Roof Hatch:
  - 1. Type GS-50TB
  - 2. Width: 36 inch
  - 3. Length: 30 inch
  - 4. Length denotes hinge side.
  - 5. Single leaf.
  - 6. Pre-assembled from the manufacturer.
- B. Cover: Aluminum extrusion with built in drainage channel and polycarbonate dome. Heavy extruded EPDM rubber gasket bonded to the cover interior to ensure a continuous seal when compressed to the top surface of the curb. Reinforced to support a minimum live load of 40 psf with a maximum deflection of 1/150th of the span or 20 psf wind uplift.
- C. Curb: 12 inch height, 11 gauge aluminum. Thermally broken interior and exterior surfaces to minimize heat transfer and to resist condensation. Formed with a 5-1/2 inch flange with 7/16 inch holes provided for securing to the roof deck. Equipped with an integral metal capflashing of the same gauge and material as the curb, welded at the corners, features the Bil-Clip®flashing system, including stamped tabs, 6 inches on center, bent inward to hold roofing membrane securely in place.
- D. Curb insulation: 3 inch thick polyisocyanurate with an R-value of 20.3.
- E. Lifting mechanisms: Provide compression spring operators enclosed in telescopic tubes to provide, smooth, easy, and controlled cover operation throughout the arc of opening and closing, not affected by temperature. Outer tube to prevent accumulation of moisture, grit, and debris inside the lower tube assembly. Interlocking lower tube with a flanged support shoe welded to the curb assembly.
- F. Hardware:
  - 1. Heavy stainless steel pintle hinges.
  - 2. Cover equipped with a spring latch with interior and exterior turn handles

- 3. Roof hatch equipped with interior and exterior padlock hasps.
- 4. Stamped latch strike bolted to the curb assembly.
- 5. Automatica lock of cover in the open position with a rigid hold open arm equipped with a 1 inch diameter red vinyl grip handle to permit easy release for closing.
- 6. Zinc plated and chromate sealed hardware.
- 7. Hardware bolted into heavy gauge channel reinforcing welded to the underside of the cover and concealed within the insulation space.
- G. Finishes: Factory mill finish aluminum.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

# 3.2 INSTALLATION

- A. Install products in accordance with manufacturer's instructions and accepted submittals. Locate units level, plumb, and in proper alignment with adjacent work.
  - 1. Test units for proper function and adjust until proper operation is achieved.
  - 2. Repair finishes damaged during installation.
  - 3. Restore finishes so no evidence remains of corrective work.

# **3.3** ADJUSTING AND CLEANING

A. Clean exposed surfaces using methods acceptable to the manufacturer which do not damage finish.

#### SECTION 07 92 00

#### ELASTOMERIC JOINT SEALANTS

## PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Provide sealant joints at the sides of the composite metal wall panels where indicated in the Contract Drawings including removal of 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 DOCUMENTS**

- 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. Section 07 42 33"Aluminum-Faced Composite Wall Panels"
  - 2. Section 04 20 00 "Unit Masonry"

#### **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.
  - 2. 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. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

- C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.
- D. Samples for Verification: Provide Manufacturer's standard color selection for Owner's approval. Provide physical sample of preselected color(s) for final approval of color by Owner before installation.
- E. Compatibility and Adhesion Test Reports: Submit Manufacturer's letters indicating substrate samples have been tested for adhesion and compatibility. Include surface preparation methods along with primer requirements for the substrates tested.
- F. Non-Stain Testing: 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, concrete, granite and marble.

# **1.5 QUALITY ASSURANCE**

- A. Installer Qualifications:
  - 1. Minimum of 5 years successful experience in building envelope restoration with the application of elastomeric joint sealants on projects of similar type and nature.
  - 2. Approved by Sealant Manufacturer.
- B. Manufacturer's Field Services: During construction and until substantial completion, perform monthly quality assurance site visits by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.
  - 1. Manufacturer present during the field mock-up phase and testing.
  - 2. Coordinate 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 are not acceptable for this function.
  - 4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Repeat manufacturer's final inspection conducted without REI personnel in attendance at no additional cost to the Owner.
- C. Source Limitations: Obtain joint sealants, related structural glazing sealant or related elastomeric coatings and joint sealant primers through one source from a single Manufacturer.
- D. Field Mock-up:

- 1. Before caulking work begins, prepare for caulking three 3 joints, each approximately 48 inches long, in each type material to be caulked. Treat joints as hereinafter specified as to preparation. After the joint preparation has been observed by the Engineer, Sealant Manufacturer, and the Contractor, caulk the joints and allow to reach final cure.
- 2. After final cure, obtain samples and test for appropriateness of preparation, installation and for adhesion of sealant to substrate. Test completed by manufacturer.
- 3. After the manufacturer's representative has observed the on-site job preparation and sealant application for the test areas, and after the material has been tested for appropriateness of use and field condition compliance with the specifications, present to the Engineer a certification that the sealant material is in compliance with the specifications and that field conditions tests confirm that the sealant material is appropriate and suitable for the intended use. Completed by manufacturer.
- 4. Do not begin work on the project until approved field tests have been accepted by the Engineer.
- E. During the progress of the work, after material has received final cure, hand pull test in accordance with procedures as published by SWRI, perform in the presence of the Engineer. Perform tests at random times in random areas selected by the Engineer. Repair test areas at no additional charge to the owner.

# 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and cartons.
- B. Storage. Store materials out of direct exposure to the elements, located above standing water at least 4 inches above ground level. Place non-sweating tarpaulins to prevent moisture contamination.
- C. Sealants are heat and moisture sensitive; protect from excessive heat exposure and moisture exposure.
- D. Do not allow sealants to be exposed to prolonged freezing temperatures.
- E. Shelf Life: Do not use products over 9 months old unless Manufacturer's published literature allow. Document product self-life information, and check expiration date before use.
- F. Handling: Handle material 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. Do not apply sealant during precipitation or start in the event there is a probability of precipitation during the application. Forecasted conditions to be dry for no less than 24 hours after application

- B. Ensure sealant Manufacturer's published requirements are followed, including the following general limitations for sealants:
  - 1. Do not apply polyurethane sealants to uncured silicone sealants, or install adjacent to uncured silicone.
  - 2. Do not allow uncured polyurethane sealant to come in contact with alcohol-based sealants, butyl sealants, acrylic sealants or other incompatible materials.
  - 3. Do not allow uncured 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 where continually immersed in water.
  - 6. Do not apply sealant to "green" treated lumber.
  - 7. Prime masonry, stainless steel, copper, galvanized steel and pre-finished metal with sealant Manufacturer's approved primer. Refer to specified primers.
  - 8. Follow Manufacturer's published precautions.
- C. Do not install more sealant than can cure for 24 hours before precipitation.

## 1.8 WARRANTY

- A. Material Manufacturer's Warranty:
  - 1. Guarantee material to meet or to exceed the properties specified within this section of the specifications and agree to replace products found defective.
  - 2. Silicone Sealant: 20 year period beginning at date of substantial completion of the work.

# **PART 2 - PRODUCTS**

#### 2.1 MATERIALS

- A. Silicone Sealant Components:
  - 1. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant for high movement expansions and control joints meeting ASTM C 920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color 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. 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 Manufacture sized 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: Inspect joints indicated for restoration and verify joint substrate conditions are acceptable for installation in accordance with sealant Manufacturer's instructions. Correct unsatisfactory conditions before installing sealants.
  - 1. Determine acceptable removal techniques for contaminants, dust, dirt, grease, oils, curing compounds, form release agents, laitance and waterproofing film or over-spray coatings which are harmful to sealant performance.
  - 2. Surface Defects and Repairs: Identify contaminants in substrates that are harmful to system performance. Allow substrates or repaired surface defects to cure per manufacturer's recommendations.
- B. Commencement of work signifies acceptance of substrate. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

# **3.2 PREPARATION**

- A. Protect adjacent work areas and finished surfaces from damage during joint sealant installation.
- B. Prior to installation, remove joint sealant materials and clean substrates of substances that impair the bond of joint sealants. Remove joint sealant residue.
- C. Remove rusting or scaling surfaces using abrasive cleaning methods as recommended by joint sealant Manufacturer prior to joint sealant installation.
- D. Remove and neutrailize efflorescence, mold, mildew and algae prior to joint sealant installation.
- E. Clean and prepare joint surfaces before installing joint sealants. Clean and dry surfaces of frost and dust.
  - 1. 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 dry, dust-free and cleaned substrate for optimum results.

- 2. Clean non-porous surfaces 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; utilize for non-porous joint cleaning and preparation. Use xylene, toluene or MEK for degreasing solvent and general cleaning of non-porous surfaces. Follow applicable precautions associated with solvents.
- F. Coordinate cleaning, priming and installation to avoid contamination of wet, freshly coated or on adjacent finished surfaces.
- G. Prepare finish-coated surfaces in accordance with joint sealant Manufacturer's specific recommendations.

# 3.3 INSTALLATION

- A. Comply with joint sealant Manufacturer's written installation instructions for products, primers and applications.
- B. Apply joint sealants for continuous waterproof sealant joint protection. Lap vertical joints over horizontal joints as recommended by sealant Manufacturer. Comply with installation recommendations in ASTM C-1193 for use of joint sealants as applicable to each specific sealant installation.
- C. 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. Follow Manufacturer's specific safety, health and environmental recommendations per most recent Material Safety Data Sheets, technical bulletins and instructions. Handle solvents in compliance with applicable EPA, OSHA and VOC requirements regarding health/safety standards.
  - 3. Allow primer installation to dry or cure prior to installation of backing or joint sealants.
- D. 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.
  - 3. Use masking tape to protect adjacent finished surfaces prior to joint sealant installation.
- E. 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 wet-out joint sealant substrates. Fill sealant joint opening to 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. Tool non-sag joint sealant installations. 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. Tool to 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.
  - 1. 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 sealant residue from adjacent finished surfaces. Remove masking after joint sealant is installed.
- G. Allow joint sealants to cure for a minimum of 7 days before adhesion testing is performed as recommended by joint sealant Manufacturer for field-testing.
- H. Match approved sealant mock-up for color, finish and overall aesthetics. Remove, refinish or re-install work not in compliance with the Contract Documents.

# 3.4 **PROTECTION**

A. Protect installed sealants during and after final curing from damage resulting during construction. Replace damaged joint sealants.

# 3.5 CLEANING

- A. Clean off/remove excess sealant or sealant residue adjacent to joint sealant installations as the work progresses by methods approved by joint sealant Manufacturer. Do not damage adjacent surfaces with harmful removal techniques and protect finished surfaces beyond those that have been masked.
- B. 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.

#### **SECTION 22 14 26**

#### **ROOF DRAINS**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Water test of below grade storm drain leaders and roof drains.
  - 2. Replacement of existing roof drain components.

#### **1.2 RELATED SECTIONS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications sections apply to this section, including but not limited to:
  - 1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
  - 2. Section 05 31 23 "Steel Roof Deck"
  - 3. Section 06 10 00 "Rough Carpentry"
  - 4. Section 07 01 50 "Preparation for Reroofing"
  - 5. Section 07 22 16 "Roof Insulation"
  - 6. Section 07 62 00 "Sheet Metal Flashing and Trim"

### **1.3 QUALITY ASSURANCE**

- A. Ensure plumbing systems and components are installed by licensed, qualified personnel.
- B. Ensure roof drains, couplings, piping, supports, fixtures, pipe hangers, fasteners, fittings, etc. are installed in compliance with the referenced plumbing code, and installed in accordance with the component manufacturer's published guidelines and instructions, and referenced standards.
- C. Field test completed storm drain systems as required by the referenced plumbing code.

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.
- B. Storage: Store materials to prevent damage and not encumber Owner's operations.
- C. Handling: Handle materials in such a manner as to prevent damage and contamination.

### **1.5 PROJECT CONDITIONS**

A. Environmental Requirements:

- 1. Install roof drains and associated plumbing during periods of no precipitation to prevent water from entering the building.
- 2. Prevent damage to the building and contents during roof drain and associated plumbing installations.
- 3. Comply with applicable rules and regulations of Authorities Having Jurisdiction pertaining to storm sewage systems.
- 4. Flood test roof drain systems to verify functional operation prior to roof replacement operations and report deficiencies to Engineer and Owner.
- B. Protection:
  - 1. Ensure roof drainage systems remain in service and restore to operational before leaving the site.
  - 2. Protect building interior and exterior surfaces during construction.

# PART 2 - PRODUCTS

# 2.1 MATERIALS

- A. Existing Roof Drains: Replace clamping ring and strainer dome to match existing drain manufacturer and model with cast iron clamping ring and strainer dome. Replace bolts with stainless steel clamping ring bolts. Restore threads as necessary using taps to ensure positive fastening; clean metal shavings, chips and debris before fastening clamping ring.
- B. Roof Drain Insulation: Provide insulation below drains to prevent condensation utilizing 2-1/2" fiberglass with PVC jacket.
- C. Above-grade Cast Iron Drain Piping & Fittings:
  - 1. Hubless Pipe and Fittings, manufactured from gray cast iron with tensile strength 21 ksi or greater, meeting or exceeding CISPI Standard No. 301 and ASTM A 888, or service weight hub-spigot coated cast iron pipe and fittings conforming to ASTM A74. IAMPO listed. Pipe and fitting size required and as noted on drawings.
  - 2. Couplings for Cast Iron Piping: No-Hub Couplings with stainless steel shield and stainless-steel coupling bands meeting CISPI 310 or ASTM C 1277. Acceptable manufacturers:
    - a. Fernco, Inc.
    - b. Mission Rubber Co.
    - c. Ideal/Stant
    - d. Engineer's accepted equivalent.

# PART 3 - EXECUTION

#### 3.1 DRAIN LEADERS [AND ROOF DRAINS]

A. Prior to commencement of work on the project inspect leaders [and roof drains] for damage and water flow.

- 1. Clean drains of accumulated debris and loose gravel.
- 2. Clean drain bowl and drain outlet of bitumen build-up to bare metal by hand scraping.
- 3. Power vacuum debris, loose gravel, and bitumen scrapping down to the first elbow in the drain line.
- 4. After cleaning bitumen from the drain bowl, inspect the bowl carefully for cracks, and the drainpipe connection for possible deterioration.
- 5. Flood test leaders [and roof drains] to determine that there are no plumbing leaks unrelated to the existing roof system and to verify proper function and flow.
- 6. Complete inspection and testing prior to roofing tear-off. If deficiencies or damages are observed, record the deficiency on a Roof Plan and forward to the Engineer. The Engineer will notify the Owner accordingly. Allow 48 hours after notification for corrective work by the Owner.
- 7. If no deficiencies or damages are reported to the Owner prior to commencement of work, assume responsibility for the condition and operation of the leaders [and drains including the connection between the roof drain and associated plumbing/leaders].
- B. Install temporary drain plugs during roofing activities to prevent foreign materials from entering drainage system. Remove drain plugs at the end of each workday to maintain drains in operational condition.
- C. Reinstall clamping rings, bolts and strainer domes at the end of each working day.
- D. Repair drain piping clogged by construction debris at no cost to the Owner.
- E. Repair leaks associated with damage, following successful flood testing, to the roof drain connection to associated plumbing at no cost to the Owner.

# 3.2 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.