

PROJECT MANUAL

FOR



**BLUE RIDGE COMMUNITY COLLEGE
PATTON BUILDING ROOF REPLACEMENT
180 WEST CAMPUS DR., FLAT ROCK, NC 28731**

DECEMBER 1, 2022

REI PROJECT NO. 022CLT-249

SECTION 00 01 07

SEALS PAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Design Firm for Blue Ridge Community College Patton Building Roof Replacement with Project Manual dated December 1, 2022:

1. REI Engineers, Inc.
2. 1927 J.N. Pease Place, Suite 201, Charlotte, NC 28262
3. North Carolina Firm License C-1520

Professional Engineer



END OF SECTION

SECTION 00 01 10

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LIST OF DRAWINGS

PART 1 - GENERAL

1.1 SUMMARY

A. The following drawings dated December 1, 2022 are included as part of the Contract Documents:

1. XR101 Roof Plan
2. XR301 Roof Systems
3. XR501 Details
4. XR502 Details
5. XR503 Details
6. XR504 Details

END OF SECTION



Henderson County Capital Projects

100 North King Street, Suite 206
Hendersonville, North Carolina 28792

Memorandum To: Interested Qualified Bidders

From: Bryan Rhodes
Henderson County, NC
Capital Projects Project Manager

Subject: Request for Proposals:
Blue Ridge Community College Patton Building (OLD) Roof Replacement

Date: January 18, 2023

Henderson County requests proposals to replace the roof systems, on the Patton Building (OLD), at Blue Ridge Community College, 180 West Campus Drive, Flat Rock, NC 28731

Mandatory Pre-Bid Meeting: February 1, 2023 at 2:00 PM
Blue Ridge Community College, Patton Building
180 West Campus Drive, Flat Rock, NC 28731

Proposals are due: February 15, 2023 at 2:00 PM
Henderson County Government Offices
1st Floor Meeting Room
100 North King Street
Hendersonville, NC 28792

Location of Work: Blue Ridge Community College Patton Building
180 West Campus Drive, Flat Rock, NC 28731
Henderson County, NC

Last Day for Questions: February 6, 2023 at 4:00 PM
Questions must be received in written Form by the date and time indicated. Submit all questions to Bryan Rhodes at brhodes@hendersoncountync.gov

Sealed hard copy bids, no emails, will be received from bidders by Henderson County at the Henderson County Government Offices, 100 North King Street, Suite 206, Hendersonville, North Carolina 28792, until February 15, 2023 at 2:00 PM, at that time the bids will be opened and read publicly for the Blue Ridge Community College Patton Building (OLD) Roof Replacement Project, located in Henderson County, North Carolina.

Hard copy bids may be delivered to the above address via Fed Ex, UPS, Etc., to the Attention of Bryan Rhodes, prior to the bid opening, clearly marked, "RFP for BRCC Patton Building Roof Replacement".



Henderson County Capital Projects

100 North King Street, Suite 206
Hendersonville, North Carolina 28792

It is the sole responsibility of the vendor that its bid reaches Henderson County by the designated date and time indicated above.

Scope of Work:

1. Furnish the necessary supervision, labor, tools, equipment, and materials to complete the required work as listed on the drawings provided, plus the specifications listed in the Project Manual.
2. Obtain any required permits
3. Restore all disturbed areas affected by the work and remove trash daily to a designated dumpster
4. Work schedule limitations to be directed per site, to adhere to the cohesiveness of school schedules and events.
5. A sales tax report will be required for the awarded bidder for each pay application/invoice.

The following information “must” be included in the proposal:

1. All applicable licensure with North Carolina.
2. Warranty on all above work for 1 year from completion.
3. Proposals to be in the form of a proposed contract signed by the bidder and ready for the County's approval.
4. Include a copy of COI and W-9 form
5. Proposals should include a lump sum price for the base bid work and include separate pricing for each alternate/unit price listed each inclusive of all applicable taxes. Henderson County is not tax exempt.
6. Acknowledgement of any Addendum received during the bid shall be noted on the proposal or, if provided, on the bid form.
7. Include **Bid security** in an amount equal to not less than five percent (5%) of the gross amount of the base bid.
8. **Performance and Payment bond** for 100% of the base bid are required for proposals over \$300,000.00.
9. Include the appropriate **MWBE forms** with the proposal.

Project will be awarded based on base bid.

See “Doing Business with Henderson County” for general information and Henderson County Insurance and Bond Requirements, Purchase Order/Contract Terms and Conditions Requirements, and Minority Business Participation Guidelines and Requirements at <https://www.hendersoncountync.gov/county/page/doing-business-henderson-county>

REQUIRED CONTRACTUAL PROVISIONS

Any proposal submitted to Henderson County shall be deemed to include all the Terms and Conditions shown in the document found online at:



Henderson County Capital Projects

100 North King Street, Suite 206
Hendersonville, North Carolina 28792

https://www.hendersoncountync.gov/sites/default/files/fileattachments/henderson_county/page/42611/terms_and_conditions_02.23.2022.pdf

These Terms and Conditions, which refer to a “purchase order”, shall be deemed to be included in any contract entered into as a result of this Request for Proposals (“RFP”), even if the RFP seeks the provision of services or a mixture of services and goods instead of solely goods.

Any attempt by a proposed contracting party (the “Bidder”) under the RFP to exclude any of these Terms and Conditions shall cause any Proposal made in response to this RFP to be deemed to be non-responsive (unless Henderson County has notified the Bidder that the funding source for the goods or work sought under this RFP is not federal funds, in which case those provisions under number 15 of the Terms and Conditions (and all subparts thereunder) may be excluded from a Proposal.

PUBLIC RECORDS

In any Proposal made under this RFP, any information claimed by a Bidder to be “confidential information”, and any documents, memorandum, data, reports, analyses, compilations, records, pricing and evaluation of all or any portion of the transactions contemplated by this agreement may be deemed public records and subject to disclosure, in whole or in part, pursuant to the North Carolina Public Records Law. The County will provide the Bidder with reasonably prompt notice of any intended disclosures or requests for disclosure pursuant to the North Carolina Public Records Law. The Bidder may then choose to seek judicial protection of the confidential information consistent with all applicable laws and regulations. Should a public records request be made for information from the Bidder, the County will, within a reasonable time, notify the Bidder of such public records request. The Bidder shall, within five (5) business days of said notification, deliver notice to the County that it objects to the County disclosing the requested information pursuant to the subject public records request. If no such notice is received by the County within five (5) business days, the Bidder shall be deemed to have waived any such objections. If the Bidder objects to the disclosure of the requested information, the Bidder agrees that it shall be solely responsible for the defense of and all the costs of the defense of any claim or complaint against the County for its refusal to disclose confidential information. The Bidder further agrees that if any such complaint or claim is filed it will indemnify the County and will reimburse the County for any and all damages awarded as a result of the refusal to disclose the requested information. The Bidder agrees that it releases the County from all loss, liability, claims or expense, including attorney's fees, arising out of, or related to the release or disclosure or failure by the County to release or disclose confidential information. The Bidder further agrees that it waives the right to file any court action for any such release, disclosure, or failure to release or disclose confidential information.

Henderson County reserves the right to reject any and / or all bids, and to waive any bid informalities in so far as it is authorized to do so. Qualified contractors interested in bidding on this project may contact Bryan Rhodes at brhodes@hendersoncountync.gov or George Urbaniuk at gurbaniuk@reiengineers.com

**Henderson County
Terms and Conditions**

By acceptance of this purchase order, the vendor or contractor (referred to as the seller), declares that the supplies, materials, equipment, apparatus, or services will be furnished according to the following terms and conditions:

1. **QUESTIONS CONCERNING THE PURCHASE ORDER:** Contact the **Ship to Department** shown.
2. **PURCHASE ORDER NUMBER:** The purchase order number must appear on all invoices, packing slips, correspondence, and bills of lading.
3. **PRICE:** All goods and/or services must be billed to Henderson County (County) at prices and quantities not to exceed those stated on the purchase order. All invoices, packages, shipping notices or the like affecting this order shall contain the applicable purchase order number. All prices are quoted F.O.B. Destination unless specifically indicated otherwise.
4. **INVOICES:** Invoices for partial shipments will be accepted and final invoices should indicate completion of order.
5. **CASH DISCOUNTS:** All cash discounts will be effective from the date of actual receipt of a correct and approved invoice by the ordering department.
6. **PAYMENT TERMS:** The County agrees to pay all approved invoices Net Thirty (30) days from the date received and approved. The County does not agree to the payment of late charges or finance charges assessed by the seller for any reason. Invoices are payable in U.S. funds.
7. **TAXES: Henderson County is NOT Sales Tax-Exempt.** Prices shown on the County's purchase orders do not include tax; however, all applicable taxes shall be paid by the County. Seller shall itemize taxes on the seller's invoice. It should be noted that the County is exempt from Federal Excise Tax except as required to be paid by law.
8. **AGREEMENT TERMS:** Absent a negotiated contract, this purchase order is limited to the terms and conditions contained on the face and back hereof. Any additional or different terms in the Seller's form are hereby deemed to be material alterations and notice of objection to them and rejection of them is hereby given. All delivery of goods and/or services shall conform to specifications, price, terms and conditions as set forth in this instrument. This purchase order including all contracts, references and/or insertions, with the stated terms and conditions thereon shall constitute the complete agreement between the County and the Seller. The terms and conditions of this order shall not be modified by any verbal understanding and shall only be binding if agreed to in writing by the County.
9. **DELIVERY/ACCEPTANCE OF GOODS:** All quotations are solicited on a delivered price basis. When the County accepts a quotation not including all shipping charges, your claim for reimbursement must be itemized on the invoice and supported with a copy of the original freight bill. The packing list shall be enclosed in each box or package. All items shall be prepared and packed for shipment in a manner that will prevent damage in transit. All deliveries on this order must be in full accordance with specifications, properly identified with the purchase order number and must not exceed the quantities specified. The County shall have the right to inspect and test all items supplied under the order before making acceptance. Risk of loss and title to all goods received shall remain with the Seller until the County has made acceptance. Rejected goods shall be returned to the Seller at Seller's risk and expense. Payment for supplies shall not constitute acceptance and is without prejudice to claims that the County may have against the seller.
10. **SERVICES PERFORMED:** All services rendered under this agreement will be performed at the Seller's own risk and the Seller expressly agrees to indemnify and hold harmless the County, its officers, agents, and employees from any and all liability, loss or damage that they may suffer as a result of claims, demands, actions, damages or injuries of any kind or nature whatsoever by or to any and all persons or property.
11. **INSURANCE:** This purchase order shall be considered a written contract and requires the County to be endorsed as additional insured for General Liability, Automobile Liability, and Umbrella Liability Insurance Policies. Contractor shall maintain at its own expense (a) Commercial General Liability Insurance in an amount not less than \$1,000,000 per occurrence limit/\$2,000,000 aggregate limit for bodily injury, property damage, or personal injury; (b) Professional Liability Insurance in an amount not less than \$1,000,000 per occurrence (if providing professional services); (c) Worker's Compensation Insurance as required by the State of North Carolina General Statutes; (d) Commercial Automobile Insurance applicable to bodily injury and property damage covering all owned, non-owned, and hired vehicles, in an amount not less than \$1,000,000 combined single limit. Negotiated written contracts may require additional insurance coverage. A Certificate of Insurance shall be furnished prior to the commencement of services. The Certificate Holder shall be: County of Henderson, Attn: Finance Dept., 113 N Main Street, Hendersonville, NC 28792.
12. **APPLICABLE LAWS:** By acceptance of this order, seller represents that the goods covered by this order are in full compliance with all applicable local, state or federal laws and regulations and agrees to indemnify and defend the County against any loss, cost, liability or damage by reason of seller's violation of any laws.
13. **E-VERIFY:** North Carolina General Statute §143-133.3 prohibits the County from entering into contracts with contractors and subcontractors who have not complied with the requirement of Article 2 of Chapter 64 of the North Carolina General Statutes. Contractor shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes. Further, if contractor utilizes a subcontractor, contractor shall require the subcontractor to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes.
14. **IRAN DIVESTMENT:** By acceptance of this purchase order, vendors, contractors, and/or subcontractors certify they are not listed and will not utilize a subcontractor listed on the Final Divestment List created by the State Treasurer pursuant to N.C.G.S. 147-86.59, Iran Divestment Act Certification.
15. **CANCELLATION:** The County reserves the right to cancel this order, or any part thereof, at any time without penalty. Such cancellation may be based upon failure of the seller to comply with the terms and conditions of this transaction, failure to perform the work with promptness and diligence, failure to make shipment within the time specified or for any other reason which causes the seller not to perform as agreed.
16. **WARRANTY:** The seller expressly warrants that goods, covered by this order will conform to the specifications, drawings, or samples furnished by the County and shall be free from defects in material and/or workmanship and shall be merchantable. This warranty shall survive any inspection, delivery acceptance, or payment by the County. The seller also warrants that the goods do not infringe any patent, registered trademark or copyright and agrees to hold the County harmless in the event of any infringement or claim thereof. Additionally, seller warrants that the goods are free and clear of all liens and encumbrances and that seller has a good and marketable title to the same.
17. **HAZARDOUS CHEMICALS:** The seller shall ensure that each container of a hazardous chemical is labeled, tagged or marked with information required by OSHA's Hazard Communication Standard, Department of Transportation requirements, and any applicable EPA requirements. The seller shall ensure that the County is provided an appropriate current Material Safety Data Sheets (MSDS) with or prior to the initial shipment of a hazardous chemical, and with or prior to the first shipment after the MSDS is updated.
18. **NON-DISCRIMINATION:** The County does not discriminate on the basis of race, color, sex, national origin, religion, age or disability. Any contractors or vendors who provide services, programs or goods to the County are expected to fully comply with the County's non-discrimination policies.
19. **VERBAL AGREEMENT:** The County will not be bound by any verbal agreements.
20. **INDEPENDENT CONTRACTOR:** It is mutually understood and agreed the seller is an independent contractor and not an agent of the County, and as such, seller, his or her agents and employees shall not be entitled to any County employment benefits, such as but not limited to vacation, sick leave, insurance, worker's compensation, pension or retirement benefits.
21. **GOVERNING LAW:** All terms and conditions shall be interpreted in accordance with the laws of the State of North Carolina. Any legal actions arising from default of this contract shall be brought only in the County of Henderson, State of North Carolina.

**Henderson County
Terms and Conditions**

22. **NON-APPROPRIATION:** No provision of any agreement between the County and the seller (the "Agreement") shall be construed or interpreted as creating a pledge of the faith and credit of the County within the meaning of any Constitutional debt limitation. No provision of the Agreement shall be construed or interpreted as creating a delegation of governmental powers nor as a donation by or a lending of the credit of the County within the meaning of the Constitution of North Carolina. The Agreement shall not directly or contingently obligate the County to make any payments beyond those appropriated in the sole discretion of the County for any fiscal year in which the Agreement is in effect; provided, however, that any failure or refusal by the County to appropriate funds which results in the failure by the County to make any payment coming due under the Agreement will in no way obviate the occurrence of the event of default resulting from such nonpayment. No deficiency judgment may be rendered against the County in any action for breach of a contractual obligation under this Agreement, and the taxing power of the County is not and may not be pledged directly or indirectly or contingently to secure any moneys due under this Agreement. No provision of the Agreement shall be construed to pledge or create a lien of any class or source of the County's moneys, nor shall any provision of the Agreement restrict the future issuance of any of the County's bonds or obligations payable from any class or source of the County's moneys. To the extent of any conflict this provision and any other provision of the Agreement, this provision shall take priority and control.

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.

1.2 RELATED DOCUMENTS

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



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412212553

Customer ID: REIE25

Customer PO:

Project ID:

Attention: George Urbaniuk
REI Engineers
1927 JN Pease Place
Suite 201
Charlotte, NC 28262

Project: HC BRCC Patton Bldg. RR 022CLT-249

Phone: (704) 596-0331

Fax: (704) 596-0533

Received Date: 12/13/2022 11:40 AM

Analysis Date: 12/14/2022 - 12/15/2022

Collected Date: 11/08/2022

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
C TC#12-Roofing 412212553-0001	Field	Black Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
C TC#12-Tar 412212553-0001A	Field	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B TC#11-Roofing 412212553-0002	Field	Black Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
B TC#11-Tar 412212553-0002A	Field	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B TC#11-Insulation 412212553-0002B	Field	Brown Non-Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
C TC#13-Roofing 412212553-0003	Vapor Barrier	Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
C TC#13-Tar 412212553-0003A	Vapor Barrier	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C TC#13-Insulation 412212553-0003B	Vapor Barrier	Brown/White Non-Fibrous Homogeneous	70% Cellulose	15% Perlite 15% Non-fibrous (Other)	None Detected
B TC#11-Roofing 412212553-0004	Vapor Barrier	Black Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
B TC#11-Tar 412212553-0004A	Vapor Barrier	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
D TC#9A-Roofing 412212553-0005	Vapor Barrier	Black Non-Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
D TC#9A-Tar 412212553-0005A	Vapor Barrier	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
D TC#9B-Roofing 412212553-0006	Vapor Barrier	Black Fibrous Homogeneous	45% Cellulose	55% Non-fibrous (Other)	None Detected
D TC#9B-Tar 412212553-0006A	Vapor Barrier	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
G TC#14A-Roofing 412212553-0007	Field	Black Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
G TC#14A-Tar 412212553-0007A	Field	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 12/15/2022 13:27:32



EMSL Analytical, Inc.

10801 Southern Loop Blvd Pineville, NC 28134

Tel/Fax: (704) 525-2205 / (704) 525-2382

<http://www.EMSL.com> / charlottelab@emsl.com

EMSL Order: 412212553
Customer ID: REIE25
Customer PO:
Project ID:

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

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
G TC#14A-Insulation <i>412212553-0007B</i>	Field	Brown/White Fibrous Homogeneous	70% Cellulose	15% Perlite 15% Non-fibrous (Other)	None Detected
G TC#14B-Roofing <i>412212553-0008</i>	Field				Positive Stop (Not Analyzed)
G TC#14B-Tar <i>412212553-0008A</i>	Field	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
G TC#14B-Insulation <i>412212553-0008B</i>	Field	Brown Fibrous Homogeneous	60% Cellulose	25% Perlite 15% Non-fibrous (Other)	None Detected
G TC#14A-Roofing <i>412212553-0009</i> <i>No aluminum coating present</i>	Flashing w/ Aluminum Coat.	Black Non-Fibrous Homogeneous		90% Non-fibrous (Other)	10% Chrysotile
G TC#14A-Tar <i>412212553-0009A</i>	Flashing w/ Aluminum Coat.	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
G TC#14A-Insulation <i>412212553-0009B</i>	Flashing w/ Aluminum Coat.	Brown/Tan Fibrous Homogeneous	70% Cellulose	15% Perlite 15% Non-fibrous (Other)	None Detected
G TC#14B-Roofing <i>412212553-0010</i> <i>No aluminum coating present</i>	Flashing w/ Aluminum Coat.				Positive Stop (Not Analyzed)
G TC#14B-Tar <i>412212553-0010A</i>	Flashing w/ Aluminum Coat.	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
G TC#14B-Insulation <i>412212553-0010B</i>	Flashing w/ Aluminum Coat.	Brown Non-Fibrous Homogeneous	60% Cellulose	25% Perlite 15% Non-fibrous (Other)	None Detected

Analyst(s) _____

Brant Alyea (18)

Maggie Pasour (6)

Lee Plumley, 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. Pineville, NC NVLAP Lab Code 200841-0, VA 3333 00312

Initial report from: 12/15/2022 13:27:32

SECTION 00 41 13

BID FORM

To: Henderson County
100 North King Street,
Suite 206,
Hendersonville, NC 28792

Project: Blue Ridge Community College Patton Building Roof Replacement
REI Project No. 022CLT-249

Date: _____

Bidder: _____

Address: _____

Phone: _____ Email: _____

North Carolina License No.: _____ Classification : _____ Limitation : _____

PART 1 - GENERAL

1.1 SUMMARY

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 December 1, 2022 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.

1.2 BASE BID:

_____ \$
(Words) (Figures)

1.3 ALTERNATES:

A. The undersigned agrees to perform alternative work as described in Section 01 23 00 "Alternates" for the sums stated below resulting in additions to or deductions from the base bid stated above. Additions and deductions shall include any modifications of the Work or additional work that may be reasonably included as part of the alternative work. All alternative work is to be completed within the same timeframe as the base bid work. All alternates must be filled out. A zero or no entry after any alternate indicates no cost change to include that Alternate. The Owner may accept Alternates at any time during the bid holding period. The undersigned acknowledges that failure to complete all information requested in this section may result in the rejection of this bid.

1. Alternate No. 1: Provide roof replacement on Roof Areas D, E and F.
 - a. Words: _____
 - b. Figures: \$_____.____
 - c. Select One: ___ Add or ___ Deduct

2. Alternate No. 2: Provide roof replacement of Roof Area G..
 - a. Words: _____
 - b. Figures: \$_____.____
 - c. Select One: ___ Add or ___ Deduct

3. Alternate No. 3: Provide fixed metal ladders where indicated on roof plan.
 - a. Words: _____
 - b. Figures: \$_____.____
 - c. Select One: ___ Add or ___ Deduct

1.4 ALLOWANCES:

- A. Include in the Base Bid the \$20,000.00 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 800 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
 2. Repair 100 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
 3. Overlay 400 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 400 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"

5. Replace 500 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"
6. Provide 100 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
7. Replace 1 EA of damaged roof drain bowl to match similar style and same diameter as existing. Provide no-hub connection to existing vertical drain leader and insulate underside of bowl and leader.

1.5 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 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. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
 - a. Cost: \$_____ per SF
3. Overlay Deteriorated Steel Deck with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
 - a. Cost: \$_____ per SF
4. Replace Deteriorated Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
 - a. Cost: \$_____ per SF
5. Replace Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"
 - a. Cost: \$_____ per BF
6. Provide Additional Manufacturer's Walk Pad Material. Refer to Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
 - a. Cost: \$_____ per LF
7. Replace damaged roof drain bowl to match similar style and same diameter as existing. Provide no-hub connection to existing vertical drain leader and insulate underside of bowl and leader.
 - a. Cost: \$_____ per EA

1.6 MANUFACTURERS:

- A. Base bid shall utilize roofing materials manufactured by _____. Only one manufacturer shall be listed. Provide Section 00 62 33 "Roof Manufacturer's Acknowledgment" signed by manufacturer listed above and enclose with bid.

1.7 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 45 calendar days from the date of commencement.
- B. Applicable liquidated damages shall be stated in the Section 00 73 00 "Supplementary Conditions".

1.8 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: _____

1.9 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		
Concrete		
Waste Disposal		
Other (_____)		
Other (_____)		
We do not plan to use subcontract forces		

1.10 ENCLOSURES:

A. Provide the following enclosures with submitted bid:

1. Bid Bond
2. Section 00 62 33 "Roof Manufacturer's Acknowledgment" for Manufacturer listed above.

Respectfully submitted this _____ day of _____, _____.

Company: _____

Printed Name: _____

Signature: _____

Title: _____

_____(State)

County of _____

I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this _____ day of _____, 20____.

Notary Public

(OFFICIAL SEAL)

My commission expires _____, 20____.

END OF SECTION

SECTION 00 43 13

BID BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. AIA Document A310 - 2010 Bid Bond Form.

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 A310™ – 2010****Bid Bond****CONTRACTOR:***(Name, legal status and address)***SURETY:***(Name, legal status and principal place of business)***OWNER:***(Name, legal status and address)***BOND AMOUNT: \$****PROJECT:***(Name, location or address, and Project number, if any)*

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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

ADDITIONS AND DELETIONS:

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

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

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

Additions and Deletions Report for **AIA[®] Document A310™ – 2010**

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

Note: This Additions and Deletions Report is provided for information purposes only and is not incorporated into or constitute any part of the associated AIA document. This Additions and Deletions Report and its associated document were generated simultaneously by AIA software at 10:41:50 ET on 10/08/2021.

There are no differences.

Certification of Document's Authenticity

AIA® Document D401™ – 2003

I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 10:41:50 ET on 10/08/2021 under Order No. 3536468362 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A310™ – 2010, Bid Bond, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

SECTION 00 52 13

STANDARD FORM OF AGREEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. 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.

DRAFT AIA® Document A101™ – 2017

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

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

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

«»
«»
«»
«»

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

«»
«»
«»
«»

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

«»
«»
«»

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

«REI Engineers, Inc.
1927 J.N. Pease Place
Suite 201
Charlotte, North Carolina 28262»

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.

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TABLE OF ARTICLES

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

EXHIBIT A INSURANCE AND BONDS

ARTICLE 1 THE CONTRACT DOCUMENTS

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

ARTICLE 2 THE WORK OF THIS CONTRACT

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

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of the commencement of the work will be fixed in a notice to proceed.

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

§ 3.3 Substantial Completion

§ 3.3.1 The Contractor shall achieve Substantial Completion of the entire Work not later than « » (« ») calendar days from the date of commencement subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

§ 3.3.3 If the Contractor has not substantially completed the work within the specified contract time period and no time extension is 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. Should the Owner or Architect delay the starting time or any portion of the work, an equitable adjustment will be made in the schedule.

If the Contractor has not completed the punch list items within fifteen (15) days of the substantial completion inspection, the Owner will have the right to impose liquidated damages in the amount of five hundred (\$500) dollars for each consecutive day until all of the items are completed.

If the Contractor has not submitted the required closeout documents within thirty (30) calendar days after Substantial Completion of the Work, the Owner will have the right to impose liquidated damages in the amount of five hundred (\$500) dollars for each consecutive day until all of the items are completed.

ARTICLE 4 CONTRACT SUM

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

§ 4.2 Alternates

§ 4.2.1 The Contract Sum is based upon the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

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

Item	Price
« »	

§ 4.4 Unit prices, if any:

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

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

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

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

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the last day of a month, the Owner shall make payment of the amount certified to the Contractor not later than Forty-Five (45) days after the Architect receives the Application for Payment.

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

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

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

§ 5.1.6 Subject to other provisions of the Contract documents the amount of each progress payment shall be computed as follows:

- 1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the Contract Sum

allocated to that portion of the Work in the schedule of values, less retainage of « Five » percent (« 5 » %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute shall be included as provided in Section 7.3.9 of AIA Document A201™–2007, General Conditions of the Contract for Construction;

- .2 Add 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), less retainage of « Five » percent (« 5 » %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of AIA Document A201–2007.

§ 5.1.7 The progress payment amount determined in accordance with Section 5.1.6 shall be further modified under the following circumstances:

- .1 Add, upon Substantial Completion of the Work, a sum sufficient to increase the total payments to the full amount of the Contract Sum, less such amounts as the Architect shall determine for incomplete Work, retainage applicable to such work and unsettled claims; and
(Section 9.8.5 of AIA Document A201–2007 requires release of applicable retainage upon Substantial Completion of Work with consent of surety, if any.)
- .2 Add, if final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of AIA Document A201–2007.

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

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.6.1 and 5.1.6.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

«When the project is fifty percent (50%) complete, the Owner, with written consent of the surety, shall not retain any further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and any nonconforming work identified in writing prior to that time by the Engineer, engineer or owner has been corrected by the contractor and accepted by the Engineer, engineer or owner. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of five percent (5%). The project shall be deemed fifty percent (50%) complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed fifty percent (50%) of the value of the contract, except the value of materials stored on-site shall not exceed twenty percent (20%) of the contractor's gross project invoices for the purpose of determining whether the project is fifty percent (50%) complete. Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the owner with written consent of the surety shall release to the contractor all retainage on payments held by the owner: (i) the owner receives a certificate of substantial completion from the Engineer in charge of the project; or (ii) the owner receives beneficial occupancy or use of the project. However, the owner may retain sufficient funds to secure completion of the project or corrections on any work. If the owner retains funds, the amount retained shall not exceed two and one half times the estimated value of the work to be completed or corrected. Any reduction in the amount of the retainage on payments shall be with the consent of the contractor's surety. »

§ 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 A201-2007, 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 45 days after the issuance of the Architect's final Certificate for Payment.

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 A201-2007.

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201-2007, the method of binding dispute resolution shall be as follows:

(Check the appropriate box.)

[] Arbitration pursuant to Section 15.4 of AIA Document A201-2007

[] Litigation in a court of competent jurisdiction

[] Other *(Specify)*

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 A201-2007.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201-2007.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201-2007 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner's representative:

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

<< >>
<< >>
<< >>

§ 8.3 The Contractor's representative:

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

<< >>
<< >>
<< >>

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

§ 8.5 Insurance and Bonds

§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™-2017.

<< >>

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

- .1 AIA Document A101™-2017, Standard Form of Agreement Between Owner and Contractor.
- .2 AIA Document A201™-2007, General Conditions of the Contract for Construction.

.3 Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
« 00 73 00 »	Supplementary Conditions		

.4 Specifications

Refer to Section 00 01 10 – Table of Contents contained in REI Project Manual entitled “ “ dated xxxxx, xx, 20__”

.5 Drawings

Refer to Section 00 01 15 - List of Drawings contained in REI Project Manual entitled “ “ dated xxxxx, xx, 20__”.

.6 Addenda, if any:

Number	Date	Pages
« »		

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

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

« »

OWNER (Signature)
 « »« »

 (Printed name and title)

« »

CONTRACTOR (Signature)
 « »« »

 (Printed name and title)

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: Copies are available for purchase from the American Institute of Architects, 1735 New York Ave. N.W., Washington, DC, 20006, (800) AIA-3837 or visit www.aia.org/documents, or from local authorized distributors.
 - a. G701, Change Order Form, 2017 Edition
 - b. G702, Application and Certificate for Payment,
 - c. G703, Continuation Sheet, 1992 Edition
 - d. G704, Certificate of Substantial Completion, 2017 Edition
 - e. G706, Contractor's Affidavit of Payment of Debts and Claims, 1994 Edition
 - f. G706A, Contractor's Affidavit of Payment of Release of Liens, 1994 Edition
 - g. G707, Consent of Surety to Final Payment, 1994 Edition
 - h. G710 Architect's Supplemental Instruction Form, 2017 Edition
 - i. G714 Construction Change Directive, 2017 Edition
- B. The following documents are included in the Project Manual:
1. Section 00 61 13.13 "Performance Bond Form"
 2. Section 00 61 13.16 "Payment Bond Form"
 3. Section 00 62 33 "Roof Manufacturer's Acknowledgment"
 4. Section 00 62 76.13 "Sales Tax Report"
 5. Section 00 63 13 "Request for Interpretation"
 6. Section 00 63 25 "Substitution Request Form"
 7. Section 00 63 55 "Change Proposal Form"
 8. Section 00 65 36 "Contractor's Warranty"
 9. Section 00 65 37 "Asbestos Free Warranty"

END OF SECTION

SECTION 00 61 13.13

PERFORMANCE BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. AIA Document A312 - 2010 Performance Bond Form

1.2 RELATED DOCUMENTS

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

DRAFT AIA® Document A312™ - 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

« »
« »

SURETY:

(Name, legal status and principal place of business)

« »
« »

OWNER:

(Name, legal status and address)

« »
« »

CONSTRUCTION CONTRACT

Date: « »

Amount: \$ « »

Description:

(Name and location)

« »
« »

BOND

Date:

(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

Signature:

Name and « »

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

SURETY

Company: (Corporate Seal)

Signature:

Name and « »

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

« »
« »
« »

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

« »
« »
« »
« »
« »
« »

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

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

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

« »

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

CONTRACTOR AS PRINCIPAL

SURETY

Company: (Corporate Seal)

Company: (Corporate Seal)

Signature:
Name and Title: « »
Address: « »

Signature:
Name and Title: « »
Address: « »



SECTION 00 61 13.16
PAYMENT BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. AIA Document A312 - 2010 Payment Bond Form

1.2 RELATED DOCUMENTS

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

DRAFT AIA® Document A312™ - 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

« »
« »

SURETY:

(Name, legal status and principal place of business)

« »
« »

OWNER:

(Name, legal status and address)

« »
« »

CONSTRUCTION CONTRACT

Date: « »

Amount: \$ « »

Description:

(Name and location)

« »
« »

BOND

Date:

(Not earlier than Construction Contract Date)

« »

Amount: \$ « »

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature:

Name and « »

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

Signature:

Name and « »

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

« »
« »
« »

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

« »
« »
« »
« »
« »
« »

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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 16 Definitions

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:

<< >>

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

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

SURETY

Company:

(Corporate Seal)

Signature:

Name and Title:

Address:

<< >><< >>

<< >>

SECTION 00 62 33

ROOF MANUFACTURER'S ACKNOWLEDGMENT

Owner: Henderson County

Project Name: Blue Ridge Community College Patton Building Roof Replacement

Project Address: 180 West Campus Dr., Flat Rock, North Carolina 28731

Roofing Contractor: _____

Address: _____

Telephone: _____

This is to advise the Owner that having thoroughly reviewed the Specifications and Drawings contained within the Project Manual dated December 1, 2022, the above-titled project, we acknowledge that the roof system(s) and flashing system(s) specified are suitable for the issuance of the specified Manufacturer's warranty on this project and have been tested and approved for the wind uplift pressures outlined in the project specifications. Having reviewed the project requirements in detail, the Manufacturer will provide a written response of exceptions to the Engineer through the contractor before five (5) days of the bid due date or as otherwise outlined in the Instructions to Bidders, if conflicts exist between the Manufacturer's warranty requirements and the above listed documents. Exceptions not submitted accordingly are subject to rejection. The manufacturer also certifies that the installer is approved, authorized, or licensed by the manufacturer to install the specified roof system and is eligible to provide the specified manufacturer's warranty. The manufacturer will comply with the specified requirements for on-site technical support.

Print or type name of manufacturer's designated Liaison on this project

Telephone and Email

Roof Manufacturer's Company Name

Roof Manufacturer Representative's Signature Date

Roof Manufacturer Representative's Name Title

Roof Manufacturer's Address

END OF SECTION

SECTION 00 62 76.13

SALES TAX REPORT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. The attached County Sales and Use Tax Report Summary Totals and Certification Appendix A and State of North Carolina Sales and Use Tax Report Detail Appendix A.

1.2 RELATED DOCUMENTS

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

STATE AND COUNTY SALES/USE TAX STATEMENT AND CERTIFICATION

Project Name: _____

Application/Invoice #: _____

Contractor's Name: _____

Date: _____

Subcontractor's Name: _____

Invoice Number	Invoice Date	Vendor's Name	Materials Purchased	Amount of Invoice Before Sales Tax	Sales Tax	Total Invoice	Name of County to Which Sales Tax Paid
TOTALS							

CERTIFICATION

This will certify that the above-listed amounts include only Sales or Use Taxes paid on purchases of tangible personal property for use in performing the contract for construction of the above-mentioned project which have become annexed to, affixed to, or have become a part of the building or structure.

SWORN AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____

NOTARY PUBLIC

My Commission Expires: _____

Contractor: _____

Signed By: _____

Title: _____

Date: _____

SECTION 00 63 13

REQUEST FOR INTERPRETATION

Project:	Blue Ridge Community College Patton Building Roof Replacement	RFI Number:	
From:		Date:	
Engineer:	REI Engineers	REI Project No.:	022CLT-249

Specification Section: _____ Paragraph: _____ Drawing Reference: _____
Request: _____

Signed By: _____

Response: _____

Attachments: _____

Response From: _____ Date Rec'd: _____ Date Ret'd: _____

Signed By: _____ Date: _____

Copies: __ Owner __ Contractor __ Engineer __ Other

END OF SECTION

SECTION 00 63 25

SUBSTITUTION REQUEST FORM

Project Name: Blue Ridge Community College Patton Building Roof Replacement

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 Needed 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: _____

END OF SECTION

SECTION 00 63 55

CHANGE PROPOSAL FORM

Project: Blue Ridge Community College
Patton Building Roof
Replacement Project No.: 022CLT-249

Contractor: _____ Change Proposal No.: _____

Description of change:

Materials		SUBTOTALS
1	Total direct cost of materials	\$ _____
2	Overhead & profit on Item 1 (15% max., includes small tools & consumables)	\$ _____
3	Sales tax	\$ _____
4	Shipping & transportation	\$ _____
5	Total Materials (1 + 2 + 3 + 4)	\$ _____
Labor		
6	Total manhours: _____ mh @ \$ _____ /hr.	\$ _____
7	Overhead & profit on Item 6 (15% max. on straight cost, not premium portion; includes supervisor's time)	\$ _____
8	Payroll taxes and insurance _____ %	\$ _____
9	Total Labor (6 + 7 + 8)	\$ _____
Equipment Rental (Include quotes)		
10	Equipment rental	\$ _____
11	Overhead & profit on Item 10 (6% maximum)	\$ _____
12	Total Equipment Rental (10 + 11 + 12)	\$ _____
Subcontractors (Include quotes with material & equipment backup)		
13	Subcontractors	\$ _____
14	Overhead & profit on Item 13 (6% maximum)	\$ _____
15	Total Subcontractors (13 + 14)	\$ _____
16	Subtotal of Proposal (5 + 9 + 12 + 15)	\$ _____
17	Bonds (% of subtotal of proposal) _____ %	\$ _____
TOTAL OF CHANGE PROPOSAL (16 + 17)		\$ _____

Time Extension Request: _____ calendar day(s)

The Contractor agrees to perform the work outlined in this change proposal for the amount specified above in accordance with the Contract Documents if the work is authorized by the Owner.

Contractor's Signature: _____ Date: _____

Engineer Approval Recommended: _____ Date: _____

Owner's Representative Approval: _____ Date: _____

END OF SECTION

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 Blue Ridge Community College Patton Building Roof Replacement under contract between Henderson County (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 acceptable to the Manufacturer, all at no expense to the Owner. Interior finishes damaged from leaks will be repaired or replaced including ceiling tiles, carpet, flooring, walls, etc.

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.

We, Contractor, agree to attend one post construction field inspection no earlier than one month prior to the Contractor's Warranty expiration date and to complete corrective actions requested by Owner, Engineer, or Manufacturer at no additional cost to the Owner.

Warranty Period: Two (2) years from date of substantial completion of _____, 20____.

_____(State), County of _____

I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official seal, this _____ day of _____, 20____.

(OFFICIAL SEAL)

Notary Public

My commission expires _____, 20____.

END OF SECTION

SECTION 00 65 37

ASBESTOS FREE WARRANTY

Owner: Henderson County
Project Name: Blue Ridge Community College Patton Building Roof Replacement
Project Address: 180 West Campus Dr., Flat Rock, North Carolina 28731
Project Manual Date: December 1, 2022

Date of Substantial Completion: _____

Know all men by these presents, that we, _____
(Contractor, Subcontractor, Material Supplier or Equipment Manufacturer)
having furnished labor, materials, equipment and/or supplies; removed existing roof system; installed new roof system and/or miscellaneous roof system components; from, to and/or on the above referenced Project under contract between the Owner and Contractor, warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work.

Exceptions: _____
If there are no exceptions, state "No Exceptions" here.

Signature: _____

Title: _____

<p>_____ (State)</p> <p>County of _____</p> <p>I, _____, a Notary Public for _____ County, _____ (State), do hereby certify that _____ personally appeared before me this day and acknowledged the due execution of the foregoing instrument.</p> <p>Witness my hand and official seal, this _____ day of _____, 20____.</p>	<p>(OFFICIAL SEAL)</p>
<p>_____ Notary Public</p>	
<p>My commission expires _____, 20____.</p>	

END OF 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)

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

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

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

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

§ 1.1.2 The Contract

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

§ 1.1.3 The Work

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

§ 1.1.4 The Project

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

§ 1.1.5 The Drawings

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

§ 1.1.6 The Specifications

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

§ 1.1.7 Instruments of Service

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

§ 1.1.8 Initial Decision Maker

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

§ 1.2 Correlation and Intent of the Contract Documents

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

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

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

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

§ 1.3 Capitalization

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

§ 1.4 Interpretation

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

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

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

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

§ 1.6 Notice

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

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

§ 1.7 Digital Data Use and Transmission

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

§ 1.8 Building Information Models Use and Reliance

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

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

ARTICLE 2 OWNER

§ 2.1 General

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

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

§ 2.2 Evidence of the Owner's Financial Arrangements

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

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

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

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

§ 2.3 Information and Services Required of the Owner

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

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

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

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

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

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

§ 2.4 Owner's Right to Stop the Work

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

§ 2.5 Owner's Right to Carry Out the Work

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

ARTICLE 3 CONTRACTOR

§ 3.1 General

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

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

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

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

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

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

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

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

§ 3.3 Supervision and Construction Procedures

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

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

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

§ 3.4 Labor and Materials

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

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

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

§ 3.5 Warranty

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

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

§ 3.6 Taxes

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

§ 3.7 Permits, Fees, Notices and Compliance with Laws

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

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

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

§ 3.7.4 Concealed or Unknown Conditions

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

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

§ 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

§ 3.9 Superintendent

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

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

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

§ 3.10 Contractor's Construction and Submittal Schedules

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

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

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

§ 3.11 Documents and Samples at the Site

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

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

§ 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 3.13 Use of Site

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

§ 3.14 Cutting and Patching

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

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

§ 3.15 Cleaning Up

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

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

§ 3.16 Access to Work

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

§ 3.17 Royalties, Patents and Copyrights

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

§ 3.18 Indemnification

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

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

ARTICLE 4 ARCHITECT

§ 4.1 General

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

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

§ 4.2 Administration of the Contract

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

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

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

§ 4.2.4 Communications

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

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

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

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

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

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

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

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

§ 5.3 Subcontractual Relations

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

§ 5.4 Contingent Assignment of Subcontracts

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

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

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

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

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

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

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

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

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

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

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

§ 6.2 Mutual Responsibility

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

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

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

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

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

§ 6.3 Owner's Right to Clean Up

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

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

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

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

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

§ 7.2 Change Orders

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

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

§ 7.3 Construction Change Directives

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

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

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

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

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

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

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

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

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

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

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

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

§ 7.4 Minor Changes in the Work

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

ARTICLE 8 TIME

§ 8.1 Definitions

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

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

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

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

§ 8.2 Progress and Completion

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

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

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

§ 8.3 Delays and Extensions of Time

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

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

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

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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

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

§ 9.2 Schedule of Values

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

§ 9.3 Applications for Payment

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

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

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

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

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

§ 9.4 Certificates for Payment

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

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

§ 9.5 Decisions to Withhold Certification

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

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

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

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

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

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

§ 9.6 Progress Payments

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

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

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

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

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

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

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

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

§ 9.7 Failure of Payment

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

§ 9.8 Substantial Completion

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

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

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

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

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

§ 9.9 Partial Occupancy or Use

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

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

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

§ 9.10 Final Completion and Final Payment

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

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

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

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

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

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

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

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

§ 10.2 Safety of Persons and Property

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

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

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

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

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

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

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

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

§ 10.2.8 Injury or Damage to Person or Property

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

§ 10.3 Hazardous Materials and Substances

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

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

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

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

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

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

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

§ 10.4 Emergencies

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

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

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

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

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

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

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

§ 11.2 Owner's Insurance

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

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

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

§ 11.3 Waivers of Subrogation

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

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

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

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

§11.5 Adjustment and Settlement of Insured Loss

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

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

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

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

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

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

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

§ 12.2.2 After Substantial Completion

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

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

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

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

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

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

§ 12.3 Acceptance of Nonconforming Work

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

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

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

§ 13.2 Successors and Assigns

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

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

§ 13.3 Rights and Remedies

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

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

§ 13.4 Tests and Inspections

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

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

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

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

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

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

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

§ 13.5 Interest

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

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

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

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

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

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

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

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

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

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

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

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

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

§ 14.3 Suspension by the Owner for Convenience

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

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

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

§ 14.4 Termination by the Owner for Convenience

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

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

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

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

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

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

§ 15.1.2 Time Limits on Claims

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

§ 15.1.3 Notice of Claims

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

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

§ 15.1.4 Continuing Contract Performance

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

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

§ 15.1.5 Claims for Additional Cost

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

§ 15.1.6 Claims for Additional Time

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

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

§ 15.1.7 Waiver of Claims for Consequential Damages

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

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

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

§ 15.2 Initial Decision

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

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

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

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

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

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

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

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

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

§ 15.3 Mediation

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

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

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

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

§ 15.4 Arbitration

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

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

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

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

§ 15.4.4 Consolidation or Joinder

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

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

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

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I, _____, hereby certify, to the best of my knowledge, information and belief, that I created the attached final document simultaneously with its associated Additions and Deletions Report and this certification at 09:08:11 ET on 08/05/2021 under Order No. 3536468362 from AIA Contract Documents software and that in preparing the attached final document I made no changes to the original text of AIA® Document A201™ – 2017, General Conditions of the Contract for Construction, as published by the AIA in its software, other than those additions and deletions shown in the associated Additions and Deletions Report.

(Signed)

(Title)

(Dated)

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: Blue Ridge Community College Patton Building Roof Replacement

THE OWNER: Henderson County

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."

7.3.4: In the first sentence, change "as set forth in the Agreement, or if no such amount is set forth in the Agreement" to read "as stated in the Specification Section 00 63 55 "Change Proposal Form"."

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:

"9.10.2.1 The 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

11.1.1 Change the first sentence to read: "The Contractor shall purchase from and maintain in a company or companies acceptable to the Owner lawfully authorized to do business in the jurisdiction in which the Project is located such insurance will protect the Contractor, Owner, Architect, and such other parties as may be designated by the Owner from claims set forth below which may arise out of or result from the Contractor's operations and completed operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:"

11.1.2 Add the following sentence to the end of the paragraph: "The amount, limits, and other specific requirements for insurance are stated in the "Owner's Instructions for Bonds and Insurance" or otherwise included in the Contract Documents."

11.1.3 Add the following sentence to the end of the paragraph: "Furnish one copy of Certificates herein required for each copy of this Agreement: specifically set forth evidence of all coverage required by Sections 11.1.1 and 11.1.2. The form of the Certificate shall be AIA Document G715, or Acord form if acceptable to Owner. Furnish to the Owner copies of any endorsements that are subsequently issued amending coverage or limits.

Add: 11.1.5 The insurance required by Subparagraph 11.1.1 shall be written for not less than the following, or greater if required by law and shall be written on an occurrence basis:

- .1 Worker's Compensation – Requirements of the State of North Carolina
- .2 Comprehensive General Liability (including Premises – Operations; Independent Contractors' Protective; Products and Completed Operations; Broad Form Property Damage):
 - a. Bodily Injury/Property Damage: \$2,000,000.00 each occurrence, \$2,000,000.00 annual aggregate
 - b. Property Damage Liability Insurance: Provide X, C or U coverage as applicable.
- .3 Contractual Liability:
 - a. Bodily Injury/Property Damage: \$2,000,000.00 each occurrence, \$2,000,000.00 annual aggregate.
- .4 Personal Injury, with Employment Exclusion Deleted: \$1,000,000.00 annual aggregate
- .5 Comprehensive Automobile Liability:

- a. Bodily Injury/Property Damage: \$1,000,000.00 each person, \$1,000,000.00 each occurrence.
- b. Umbrella Excess Liability including blasting coverage: \$5,000,000.00 over primary insurance; \$10,000.00 retention.

11.1.5 All insurance certificates shall state explicitly that the issuing insurer will provide by mail thirty (30) day advance written notice in the event of policy cancellation to the Owner and name Henderson County and REI Engineers as additional insured on the Worker's Compensation Policy and the General Liability Policy.

11.3.1 In the first sentence, change "Owner" to read "Contractor".

11.3.1.2 Delete paragraph in its entirety.

11.3.1.3 Change to read: "If the Owner property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles.

Change Article 11.4 in its entirety to read:

"11.4 PERFORMANCE AND PAYMENT BOND

11.4.1 The Contractor shall furnish to the Owner and keep in force during the term of the Contract performance and labor and material bonds guaranteeing that the Contractor will faithfully perform its obligations under the Contract, and will pay for all labor and materials furnished for the Work. Such bonds shall be issued in a form and by a Surety reasonably acceptable to the Owner and Architect, shall be submitted to the Owner and the Architect for approval as to form, shall name the Owner as obligee, and shall be in an amount equal to at least one hundred percent (100%) of the Contract Sum (the same may be adjusted from time to time pursuant to the Contract). The Contractor shall deliver the executed, approved bonds to the Owner within seven (7) days after execution of this Agreement.

11.4.2 All Performance Bonds and Payment Bonds shall be executed on AIA Document Form A-312 by a surety company authorized to do business in the State of North Carolina. Cost of bonds shall be borne by the Contractor. Each bond must be accompanied by a current Power of Attorney.

11.4.3 The Contractor shall deliver the required bonds to the Owner not later than seven days following the date the Agreement is entered into, or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished. The Contractor must advise his surety of all additions and deductions to the Owner-Contractor Agreement.

11.4.4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf of the surety to affix thereto a certified and current copy of the power of attorney.

11.4.5 The costs of all bonds furnished hereunder shall be included in the Contract Sum, and is the sole obligation of the Contractor.

11.4.6 The Owner shall have the right to waive any bonds required to be provided hereunder, in which even the amount of the premium of any such waived bond shall be deducted from the Contract Sum by appropriate Change Order.

11.4.7 If any Surety hereunder makes any assignment for the benefit of creditors, or commits any act of bankruptcy, or is declared bankrupt, or files a voluntary petition for bankruptcy, or is removed from the list of surety companies accepted on United States Government project bonds, or in the reasonable opinion of the Owner insolvent, the Contractor shall immediately furnish and maintain another Surety

satisfactory to the Owner.”

Add:

11.5 This Section 11.4 shall not preclude or prevent the Contractor (as its option and at no additional cost to the Owner) from requiring Subcontractors to furnish like performance and payment bonds for the Work provided in their Subcontracts.

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

13.1 Change to read: "The Contract shall be governed by the law of the State of North Carolina

Add: 13.1.1 The parties agree that any litigation arising out of this Contract will be brought in the Superior Court of Henderson County, North Carolina. Any such action shall be heard by the Court without a jury.

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 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Name: Blue Ridge Community College Patton Building Roof Replacement
- B. Project Address: 180 West Campus Dr., Flat Rock, North Carolina 28731
- C. Owner: Henderson County
- D. Engineer: The Contract Documents, dated December 1, 2022, were prepared by REI Engineers, Inc.
- E. 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 Areas A, B and C:
 - a. Remove and dispose of the roof system including flashings and sheet metal down to the steel deck.
 - b. Secure the steel deck to structural framing members as specified in Section 05 01 30 "Steel Roof Deck Repair and Securement".
 - c. Provide roof insulation system as specified in Section 07 22 16 "Roof Insulation".
 - d. Fully adhere thermoplastic polyolefin (TPO) membrane along with flashings and accessories as specified in Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
 - e. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
 - f. Provide a complete, watertight, 20-year warrantable roof assembly.
- F. Asbestos Containing Roofing Materials (ACRM):
 - 1. Sample Testing Results:
 - a. The presence of Asbestos Containing Roofing Materials (ACRM) has been detected in test samples of the built-up asphalt roof membrane and flashings on Roof Areas A, B, C, D and G. Remove and dispose of ACRM in a safe and legal manner.
 - 2. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor 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.

- G. Provide electrical, plumbing, mechanical, and other related trade work necessary to facilitate project operations. Relocate or raise conduit, HVAC equipment, curbs, and/or plumbing necessary to comply with the requirements of these documents and conform to the requirements of the State Building Code.
- 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 CONTRACT

- A. Project constructed under a single prime general construction contract.

1.4 WORK UNDER OTHER CONTRACTS

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

1.5 SPECIFICATION FORMATS AND CONVENTIONS

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

1. Coordinate work schedule with College's testing and events schedule and may not be allowed on-site during certain days/events.
2. Contractor will not be allowed to work on Graduation day. The date of Graduation will be provided to the Contractor well in advance for scheduling.

3. The College has testing which is required by the State and there may be times that noise from machines, tools or equipment may not be allowed. Coordination of these times will be discussed during construction meetings. A schedule of classes and activities will be provided to the Contractor before the start of the job.

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.
4. Limit access to the work area of the roof and parking lot staging areas. Under no conditions is the Contractor or his subcontractors allowed to enter the building without prior approval from the Owner.

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.
- 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.
 - a. Take precautions to prevent the spread of dust and debris, specifically into the building.
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. 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 or its contents resulting from, or attributable to, the work operation.
6. 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, 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.

- c. Vehicles should use Henderson or Upper Killian as a turnaround however existing through the TEDC/Killian parking lot or driving through campus is not allowed.
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 WEAPONS PROHIBITED ON SCHOOL PROPERTY

- A. It is unlawful for any person to possess, or carry, whether openly or concealed any gun, rifle, pistol, dynamite cartridge, bomb, grenade, mine, powerful explosive, bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, blackjack, metallic knuckles or any other weapon of like kind, in any College building or vehicle or otherwise on College property

1.10 NO SMOKING POLICY

- A. Blue Ridge Community College is committed to providing students, employees, and visitors a safe and healthy environment. To address this commitment, smoking and use of tobacco products is prohibited on all College properties including inside any building or facility and on College grounds. Exceptions are only limited to smoking or the use of tobacco products inside the confines of a motor vehicle on College grounds. This shall also be known as the College's "Tobacco-free Policy".
- B. For the purposes of this policy, tobacco products include cigarettes, cigars, blunts, bidis, pipes, chewing tobacco, snuff, e-cigarettes, and any other items containing or reasonably resembling tobacco or tobacco products, or any product simulating smoking instruments.

1.11 MISCELLANEOUS

- A. Mask Mandate: Contractor must comply with Federal, State, County or BRCC mandates that are in effect at the time of the work.
- B. Communication with students is not permitted. Shirts are required at all times.

END OF SECTION

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 \$20,000.00 contingency allowance in the base bid.

B. Quantity Allowances:

1. Repair 800 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
2. Repair 100 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
3. Overlay 400 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 400 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
5. Replace 500 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry".
6. Provide 100 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 54 23 "Thermoplastic-Polyolefin Roofing".

END OF SECTION

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 Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 "Rough Carpentry".
 6. Provide Additional Manufacturer's Walk Pad Material. Unit of Measurement: Linear Foot (LF). Refer to Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
 7. Replace damaged roof drain bowl to match similar style and same diameter as existing. Provide no-hub connection to existing vertical drain leader and insulate underside of bowl and leader. Unit of Measurement: Each (EA)

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for alternates.

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

1.4 ALTERNATES

- A. Indicate on the Bid Form whether the alternate bid amount is to added to or deducted from the base bid in the event the alternate bid is accepted.
- B. The Owner reserves the right to accept or reject any or all of the alternate bids.
- C. Responsible for determining to his own satisfaction and for his own purposes the limits and extent of the work affected by the alternate bids and to make proper allowance therefore in the submission of alternate bid.
- D. Include the cost of each alternate bid as specified in the technical specification sections and as described on the drawings. Perform work required by the alternate bids in accordance with applicable specifications and drawings of the trade section affected.
- E. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate selected alternates into the Work. No other adjustments are made to the Contract Sum.
- F. The Owner reserves the right to delay the acceptance of the alternate bids during the bid holding period prior to accepting the contract without a change in the dollar amount of the alternate bids.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1: Provide roof replacement of Roof Areas D, E and F:
1. Remove and dispose of the roof system including flashings and sheet metal down to the [steel deck][concrete deck][wood plank deck][plywood deck][cementitious wood fiber deck][poured gypsum deck][lightweight concrete deck][lightweight insulating concrete][existing insulation system to remain] and Areas D and E and concrete deck on Area F.
 2. Secure the steel deck to structural framing members as specified in Section 05 01 30 "Steel Roof Deck Repair and Securement".
 3. Provide roof insulation system as specified in Section 07 22 16 "Roof Insulation".
 4. Fully adhere thermoplastic polyolefin (TPO) membrane along with flashings and accessories as specified in Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
 5. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
 6. Provide a complete, watertight, 20-year warrantable roof assembly.
- B. Alternate No. 2: Provide roof replacement of Roof Area G:
1. Remove and dispose of the roof system including flashings and sheet metal down to the [concrete deck][concrete deck][wood plank deck][plywood deck][cementitious wood fiber deck][poured gypsum deck][lightweight concrete deck][lightweight insulating concrete][existing insulation system to remain].
 2. Provide roof insulation system as specified in Section 07 22 16 "Roof Insulation".
 3. Fully adhere thermoplastic polyolefin (TPO) membrane along with flashings and accessories as specified in Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
 4. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
 5. Provide a complete, watertight, 20-year warrantable roof assembly.
- C. Alternate No. 3: Provide fixed metal ladders where indicated on roof plan.

END OF SECTION

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.

END OF SECTION

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 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 AIA G710 - Architect's Supplemental Instructions.

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, 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.

END OF SECTION

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 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: 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.

1.5 APPLICATION FOR PAYMENT

- A. Submit 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 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. If the total contract amount exceeds \$100,000.00; to ensure the proper performance of this Contract the Owner shall retain 5% of the amount of periodic payment due to a Contractor.
 - a. When the project is 50% complete, the Owner, with written consent of the surety, shall not retain further retainage from periodic payments due the contractor if the contractor continues to perform satisfactorily and nonconforming work identified in writing prior to that time by the Engineer, engineer or owner has been corrected by the contractor and accepted by the Engineer, engineer or owner.
 - b. If the owner determines the contractor's performance is unsatisfactory, the owner may reinstate retainage for each subsequent periodic payment application as authorized in this subsection up to the maximum amount of 5%.
 - c. The project shall be deemed 50% complete when the contractor's gross project invoices, excluding the value of materials stored off-site, equal or exceed 50% of the value of the contract, except the value of materials stored on-site shall not exceed 20% of the contractor's gross project invoices for the purpose of determining whether the project is 50% complete.
 - d. Within 60 days after the submission of a pay request and one of the following occurs, as specified in the contract documents, the owner with written consent of the surety shall release to the contractor retainage on payments held by the owner:
 - 1) The owner receives a certificate of Substantial Completion from the Engineer in charge of the project.
 - 2) The owner receives beneficial occupancy or use of the project. However, the owner may retain sufficient funds to secure completion of the project or corrections on work. If the owner retains funds, the amount retained shall not exceed two and one-half times the estimated value of the work to be completed or corrected. Reduction in the amount of the retainage on payments with the consent of the contractor's surety.
- 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. County/State Sales/Use Tax Statement: Submit with each pay request an original notarized statement provided by the Owner showing taxes paid on the project. List payments made directly to each supplier indicating the supplier name, invoice date, invoice amount before taxes, taxes paid indicating state and county, and total invoice amount. If no sales taxes have been paid, indicate "NONE" on the statement form and submit accordingly. Refer to Section 00 62 76.13 "Sales Tax Report".
 2. 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.
 3. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
 4. 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. Final County/State Sales/Use Tax Statement. Refer to Section 00 62 76.13 "Sales Tax Report".
 3. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
 4. AIA Document G706A, Contractor's Affidavit of Release of Liens
 5. AIA Document G707, Consent of Surety to Final Payment

END OF SECTION

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.

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.

END OF SECTION

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 62 33 "Roof Manufacturer's Acknowledgment" Form
 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 05 01 30 "Steel Roof Deck Repair and Securement"
 10. Section 05 31 33 "Metal Ladders"
 11. Section 06 10 00 "Rough Carpentry"
 12. Section 07 01 50 "Preparation for Reroofing"
 13. Section 07 22 16 "Roof Insulation"
 14. Section 07 54 23 "Thermoplastic-Polyolefin Roofing"
 15. Section 07 62 00 "Sheet Metal Flashing and Trim"
 16. Section 22 14 26 "Roof Drains"
 17. 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.
 18. Site Specific Safety Plan provided to Owner for information only. Include name of designated safety person at the project site and provide their OSHA safety training certification.

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. **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.
- D. **Product Certificates:** Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. **Installer Certificates:** Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- F. **Manufacturer Certificates:** Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G. **Material Certificates:** Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- H. **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.
- I. **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.
- J. **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.

- K. **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.
- L. **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.

END OF SECTION

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. Installer Certificate from Manufacturer indicating Contractor is authorized to install roofing system.

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. 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. 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.

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. Secure materials and equipment prior to inclement weather occurring.
 - b. 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.
 - c. 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.
 - d. 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 an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of \$500.00, each occasion, for mobilization and/or travel expenses.

- e. 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.
 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.

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

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

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 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. AITC, American Institute of Timber Construction, www.aitc-glulam.org
 12. ALSC, American Lumber Standard Committee, www.alsc.org
 13. ANLA, American Nursery & Landscape Association, www.anla.org
 14. ANSI, American National Standards Institute, www.ansi.org
 15. APA, The Engineered Wood Association, www.apawood.org
 16. APA, Architectural Precast Association, www.archprecast.org
 17. ARMA, Asphalt Roofing Manufacturers Association
 18. ASCE, American Society of Civil Engineers, www.asce.org
 19. ASHRAE, American Society of Heating, Refrigerating & Air-Conditioning Engineers, www.ashrae.org
 20. ASMA, Asphalt Sealcoat Manufacturers Association
 21. ASME International, The American Society of Mechanical Engineers International, www.asme.org
 22. ASTM, ASTM International, www.astm.org
 23. AWWPA, American Wood-Preservers' Association, www.awpa.com
 24. AWS, American Welding Society, www.aws.org
 25. BHMA, Builders Hardware Manufacturers Association, www.buildershardware.com
 26. BIA, Brick Industry Association, www.bia.org
 27. CCFSS, Center for Cold-Formed Steel Structures, www.umn.edu/~ccfss
 28. CDA, Copper Development Association Inc., www.copper.org
 29. CISPI, Cast Iron Soil Pipe Institute, www.cispi.org
 30. CLFMI, Chain Link Fence Manufacturers Institute, www.chainlinkinfo.org
 31. CPA, Composite Panel Association, www.pbmdf.com
 32. CPPA, Corrugated Polyethylene Pipe Association, www.cppa-info.org
 33. CRSI, Concrete Reinforcing Steel Institute, www.crsi.org
 34. CSI, Construction Specifications Institute, www.csinet.org
 35. DHI, Door and Hardware Institute, www.dhi.org

36. EIMA, EIFS Industry Members Association, www.eifsfacts.com
37. EJMA, Expansion Joint Manufacturers Association, Inc., www.ejma.org
38. FM, FM Global, www.fmglobal.com
39. FRSSA/TRI
40. GA, Gypsum Association, www.gypsum.org
41. GANA, Glass Association of North America, www.glasswebsite.com/gana
42. HPVA, Hardwood Plywood & Veneer Association, www.hpva.org
43. IGCC, Insulating Glass Certification Council, www.igcc.org
44. IMI, International Masonry Institute
45. LGSI, Light Gage Structural Institute, www.loseke.com
46. MBMA, Metal Building Manufacturers Association, www.mbma.com
47. MCA, Metal Construction Association, www.metalconstruction.org
48. MFMA, Metal Framing Manufacturers Association
49. MIA, Marble Institute of America, www.marble-institute.com
50. MSS, Manufacturers Standardization Society of the Valve and Fittings Industry, Inc.
51. NCMA, National Concrete Masonry Association, www.ncma.org
52. NCPI, National Clay Pipe Institute, www.ncpi.org
53. NECA, National Electrical Contractors Association, www.necanet.org
54. NEMA, National Electrical Manufacturers Association, www.nema.org
55. NETA, International Electrical Testing Association, www.netaworld.org
56. NFPA, National Fire Protection Association, www.nfpa.org
57. NFRC, National Fenestration Rating Council, www.nfrc.org
58. NHLA, National Hardwood Lumber Association, www.natlhardwood.org
59. NLGA, National Lumber Grades Authority, www.nlga.org
60. NRCA, National Roofing Contractors Association, www.nrca.net
61. NRDCA, National Roof Deck Construction Association, www.nrdca.org
62. NRMCA, National Ready Mixed Concrete Association, www.nrmca.org
63. NSA, National Stone Association, www.aggregates.org
64. NTMA, National Terrazzo and Mosaic Association, Inc., www.ntma.com
65. PCI, Precast/Prestressed Concrete Institute, www.pci.org
66. PIMA, Polyisocyanurate Manufacturer's Association
67. PDI, Plumbing & Drainage Institute, www.pdionline.org
68. RCSC, Research Council on Structural Connections, www.boltcouncil.org
69. RMA, Rubber Manufacturers Association, www.rma.org
70. SDI, Steel Deck Institute, www.sdi.org
71. SDI, Steel Door Institute, www.steeldoor.org
72. SGCC, Safety Glazing Certification Council, www.sgcc.org
73. SJI, Steel Joist Institute, www.steeljoist.org
74. SMACNA, Sheet Metal and Air Conditioning Contractors' National Association, www.smacna.org
75. SPFA, Spray Polyurethane Foam Alliance, www.sprayfoam.org
76. SPI, The Society of the Plastics Industry, www.plasticsindustry.org
77. SPIB, Southern Pine Inspection Bureau, www.spib.org
78. SPRI, Single Ply Roofing Institute. www.spri.org
79. SSMA, Steel Stud Manufacturers Association, www.ssma.com
80. SSPC, The Society for Protective Coatings, www.sspc.org
81. SWI, Steel Window Institute, www.steelwindows.com
82. SWRI Institute - Sealant, Waterproofing and Restoration Institute
83. TAPPI, The American Pulp and Paper Association, www.tappi.org
84. UL, Underwriters Laboratories, Inc., www.ul.com
85. WDMA, Window & Door Manufacturers Association, www.wdma.com
86. WWPA, Western Wood Products Association, www.wwpa.org

END OF SECTION

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. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.

- C. Water: Potable.
- D. 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.
- E. 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.
- F. 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.
- G. Ground Protection Mats: 4 foot by 8 foot, HDPE infused with rubber for traction mats designed to protect landscaping from construction equipment.

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.
 - c. Provide protection of building and windows around waste disposal facilities and trash chute locations.

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.

3.4 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. Utilize ground protection mats on non-paved areas.

- E. Do not operate travel or operate equipment over concrete sidewalks.

3.5 TEMPORARY CONTROLS

- A. Provide security controls to protect work and materials at the project site. Neither Henderson County or Blue Ridge Community College will be responsible for security of equipment or stored materials.

3.6 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.
- C. Signage to be bi-lingual.

3.7 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.

3.8 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.

3.9 REPAIR

- A. Restore grounds and landscaping to their original condition at completion of the work.
 - 1. Fill ruts and depressions in ground caused by vehicular traffic, equipment or dumpsters.
 - 2. Restore landscaping finishes including repair of concrete or asphalt pavement, reseeding and straw of grass areas and restoration of planting beds or natural areas.

END OF SECTION

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.

B. Deliver and transport materials to project in accordance with the Owner's requirements and coordinate material deliveries with Owner.

C. Comply with the manufacturer's written instructions for proper material storage.

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.

END OF SECTION

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".
- B. Landfill charge tickets
- C. Recycling Report.

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 between Patton and the lake. 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: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust 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.
 - 4. Utilized magnets as necessary to ensure nails, screws and scrap metal are cleaned from drive and parking areas. Tire punctures are the responsibility of the contractor to repair.
- 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. If disposing of surplus materials, properly dispose in a legal manner.
 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.

END OF SECTION

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. Landfill Charge Tickets
 4. Certificate of Occupancy from AHJ

1.7 WARRANTIES

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

- B. Thermoplastic Polyolefin Roofing System warranty as outlined in Section 07 54 23 "Thermoplastic-Polyolefin Roofing".
- C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00 "Sheet Metal Flashing and Trim".
- D. 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.
- E. Section 00 65 37 "Asbestos Free Warranty"

END OF SECTION

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"
 4. Section 07 54 23 "Thermoplastic-Polyolefin Roofing"
 5. Section 22 14 26 "Roof Drains"

1.3 REFERENCES

- A. American Iron and Steel Institute (AISI) Standard- North American Specification for the Design of Cold-Formed Steel Structural Members, 2001 Edition with Supplement 2004.
- B. Steel Deck Institute, Inc. (SDI) Design Manual for Composite Decks, Form Decks, and Roof Decks (No. 31, 2007).
- C. American Institute of Steel Construction (AISC) Steel Construction Manual.
- D. FM Global:
 1. Data Sheet 1-28 Wind Design.
 2. Data Sheet 1-29 Roof Deck Securement and Above Roof Deck Components.
- E. American Welding Society (ANSI/AWS) D1.3 Structural Welding Code/Sheet Steel - 98 Structural Welding Code - Sheet Steel.
- F. ASTM International

1. A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy - Coated (Galvannealed) by the Hot-Dip Process.
2. A924/A924M Standard Specification for General Requirements for Steel Sheet, Metallic Coated by the Hot-Dip Process.
3. A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.

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 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 of thickness indicated 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 noted on roof plan. 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.
- 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 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.
- 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° 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. 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.

END OF SECTION

SECTION 05 51 33

METAL LADDERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide aluminum fixed access ladder 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.

1.3 REFERENCES

- A. AA - Aluminum Association.
- B. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- C. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- D. OSHA 1910.27 - Scaffolds and rope descent systems.
- E. OSHA 1910.28 - Duty to have fall protection and falling object protection.
- F. OSHA 1926.1053 - Ladders.

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:
 1. Detail fabrication and erection of each ladder indicated. Include plans, elevations, sections, and details of metal fabrications and their connections.
 2. Provide templates for anchors and bolts specified for installation under other Sections.
 3. Provide reaction loads for each hanger and bracket.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A firm experienced in producing aluminum metal ladders similar to those indicated for this Project.
 - 1. Record of successful in-service performance.
 - 2. Sufficient production capacity to produce required units.
 - 3. Professional engineering competent in design and structural analysis to fabricate ladders in compliance with industry standards and local codes.
- B. Installer Qualifications: Competent and experienced firm capable of selecting fasteners and installing ladders to attain designed operational and structural performance.
- C. Product Qualification: Comply with OSHA 1910.27 - scaffolds and rope descent systems, OSHA 1910.28 - duty to have fall protection and falling object protection, and OSHA 1926.1053 - ladders (construction standard).

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions by field measurement before fabrication.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, indicate established dimensions on shop drawing submittal and proceed with fabrication.

1.8 WARRANTY

- A. Manufacturer has responsibility for an extended Corrective Period for work of this Section for a period of 5 years commencing on date of substantial completion of the project against the conditions indicated below, and when notified in writing from Owner, to promptly and without inconvenience and cost to Owner correct said deficiencies.
 - 1. Defects in materials and workmanship.
 - 2. Deterioration of material and surface performance below minimum OSHA standards as certified by independent third-party testing laboratory. Ordinary wear and tear, unusual abuse or neglect excepted.
 - 3. Within the warranty period, at manufacturer's opinion; repair, replace, or refund the purchase price of defective ladder.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers:
 - 1. O'Keeffe's, Inc. (Basis of Design for Model listed herein)
 - 2. Cotterman

3. Gillis
4. Engineer's accepted equivalent

2.2 FIXED ACCESS LADDER

A. Fixed Access Ladder:

1. Heavy Duty Tubular Rail:
 - a. Model 501 as manufactured by O'Keeffe's Inc.

2.3 FINISHES

- A. Paint: Urethane over chemically pretreated substrate. Color as selected by Owner.

2.4 MATERIALS

- A. Aluminum Sheet: Alloy 5005-H34 to comply with ASTM B209.
- B. Aluminum Extrusions: Alloy 6063-T6 to comply with ASTM B221.

2.5 FABRICATION

- A. Rungs: Not less than 1-1/4 inches in section and 18-3/8 inches long, formed from tubular aluminum extrusions. Squared and deeply serrated on all sides. Rungs to withstand a 1,500-pound load without deformation or failure.
- B. Side Rails:
 1. Heavy Duty Tubular Side Rails: Assembled from two interlocking aluminum extrusions no less than 1/8-inch wall thickness by 3 inches wide. Self-locking stainless-steel fasteners, TIG welds and clean, smooth and burr-free surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Coordinate anchorages. Furnish setting drawings, templates, and anchorage structural loads for fastener resistance.
- B. Do not begin installation until supporting structure is complete and ladder installation does not interfere with supporting structure work.
- C. If supporting structure is the responsibility of another installer, notify Engineer of unsatisfactory supporting work before proceeding.

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions and in proper relationship with adjacent construction.

3.3 PROTECTION

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

END OF SECTION

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 pressure treated wood nailers/blocking.
 - b. Resecure rough carpentry to remain in place.
 - c. Replace damaged, rotted or deteriorated rough carpentry with pressure treated 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 07 01 50 "Preparation for Reroofing"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 54 23 "Thermoplastic-Polyolefin Roofing"
5. Section 07 62 00 "Sheet Metal Flashing and Trim"

1.3 REFERENCES

A. Refer to the following references, current edition for specification compliance:

1. 2018 North Carolina Building Code
2. American Society for Testing and Materials (ASTM)
3. American Wood-Protection Association (AWPA)
 - a. AWPA E12 - Standard Method of Determining the Corrosion of Metal in Contact with Wood.
 - b. AWPA M4 - Standard for the Care of Preservative Treated Wood Products.
 - c. AWPA P5 - Standard for Waterborne Preservatives.
 - d. AWPA P23 - Standard for Chromated Copper Arsenate Type C (CCA-C).
 - e. AWPA P25 - Standard for Inorganic Boron (SBX).
 - f. AWPA P26 - Standard for Alkaline Copper Quat Type A (ACQ-A).
 - g. AWPA P27 - Standard for Alkaline Copper Quat Type B (ACQ-B).
 - h. AWPA P28 - Standard for Alkaline Copper Quat Type C (ACQ-C).
 - i. AWPA P29 - Standard for Alkaline Copper Quat Type D (ACQ-D).
 - j. AWPA P47 - Standard for DCOI/Imidacloprid/Stabilizer, Waterborne (EL2).

- k. AWWA P48 - Standard for Copper Azole Type C (CA-C).
 - l. AWWA T1 - Use Category System: Processing and Treatment Standard.
 - m. AWWA U1 - Use Category System: User Specification for Treated Wood.
4. American National Standard
- a. ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems
5. Underwriters Laboratories, Inc. (UL)
6. FM Global (FM)
- a. Data Sheet 1-49 Perimeter Flashing

1.4 DEFINITIONS

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

1.5 SUBMITTALS

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

1.6 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. Treated lumber: 19% or less before being covered/enclosed into roofing assembly.
- E. Label: Bear the stamp of the AWWA Quality Mark, indicating compliance with the requirements of the AWWA 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. Installation of rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.
- H. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.
- I. Installation of fasteners and associated materials to secure rough carpentry as detailed and specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation
- B. 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. Treatment:
 - 1. Preservative Treatment:
 - a. ACQ as manufactured for Viance in accordance with AWPA U1 and P5, P26, P27, P28, P29 as appropriate. Use 0.15 lb/cu ft (2.4 kg/m³) of ACQ in accordance with AWPA U1: (UC3B) as appropriate.
 - b. Ecolife or EL2 as manufactured by Viance. Use 0.019 lb/cu ft (0.3 kg/m³) of Ecolife or EL2 (+ 0.2 lb/cu ft MCS) in accordance with AWPA U1 as appropriate.
 - c. Engineers accepted equivalent.

2.2 FASTENERS

A. General:

1. Stainless steel or as accepted by Engineer.
2. Fasteners securing pressure treated lumber manufactured for corrosion resistance and exposures associated with pressure treated wood applications.
3. 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.
4. 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.
5. 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.
6. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.

B. 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.

C. 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.

D. Masonry Screws: 1/4-inch minimum diameter, Type 410 stainless steel with flat head. Length to provide minimum 1 inch embedment into substrate.

1. Tapcon by ITW Buildex,
2. KWIK-CON II by Hilti
3. Powers Fasteners Tapper+
4. 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. Steel/Metal Substrates:
 1. Coat steel and metal with a uniform, heavy application of asphalt primer, or separate by membrane or other acceptable means to prevent contact between steel/metal and treated wood products.
- B. 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 with 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 $\frac{1}{3}$ the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.
 - a. 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.
 - 1) Perimeter (Zone 2) spacing of 12 inches maximum.
 - 2) Corner (Zone 3) spacing of 6 inches maximum.
 - b. 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.
 - 1) Maximum spacing of 12 inches.
 - c. Masonry Screws: Securing wood to concrete or masonry units spaced 12 inches on center maximum, staggered, with fasteners installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
- 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

A. Section Includes:

1. Complete preparatory work prior to roof installation including but not limited to:
 - a. Removal of roof assemblies down to the [steel deck][concrete deck][wood plank deck][plywood deck][cementitious wood fiber deck][poured gypsum deck][lightweight concrete deck][lightweight insulating concrete][insulation system to remain].
 - b. Raising of mechanical units and/or HVAC units to meet the required minimum flashing height.
 - c. Installation and/or modification of through edge overflow scuppers.
 - d. Under Roof Deck Survey

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 22 16 "Roof Insulation"
4. Section 07 54 23 "Thermoplastic-Polyolefin Roofing"
5. Section 22 14 26 "Roof Drains"

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.

1.5 QUALITY ASSURANCE

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

1.6 SCHEDULING

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

1.7 WARRANTIES

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

PART 2 - PRODUCTS

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, vapor retarder, sheet metal and discard.
- D. Remove or correct obstructions which interfere with the proper application of materials.
- E. Lift or remove equipment so that flashings can be replaced.
- F. Remove debris to provide clean, dry substrate.
- G. Remove and transport debris in a manner that prevents damage/spills to adjacent buildings and areas.
- H. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.
- I. Transport demolished materials off-site and dispose of materials in a legal manner.
- J. Perform progress inspections to detect hazards resulting from demolition activities.

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 parapet walls and expansion joints to achieve minimum 8" flashing height.

3.8 SCUPPER INSTALLATION

- A. Locate bottom of overflow scupper 2 inches above surface of the roof system adjacent to the nearest roof drain (excluding sump).
- B. Extend opening through parapet wall. Take precautions to avoid damaging adjacent wall surfaces.
- C. Provide finished openings as indicated.
- D. Repair exterior wall surface, veneer or cladding to match adjacent surfaces.

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 B:
 - a. Provide Gypsum Substrate loose laid.
 - b. Provide 1.5 inch Roof Insulation loose laid.
 - c. Provide 1.5 inch Roof Insulation mechanically attached.
 - d. Provide Tapered Insulation Crickets adhered in foam adhesive.
 - e. Provide Cover Board adhered in foam adhesive.
2. Roof Areas C and D:
 - a. Provide Gypsum Substrate loose laid.
 - b. Provide Tapered Insulation System mechanically attached.
 - c. Provide Cover Board adhered in foam adhesive.
3. Roof Area D:
 - a. Provide Tapered Insulation System mechanically attached.
 - b. Provide Cover Board adhered in foam adhesive.
4. Roof Area E and F:
 - a. Provide Tapered Insulation System adhered in foam adhesive.
 - b. Provide Cover Board adhered in foam adhesive.

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 54 23 "Thermoplastic-Polyolefin Roofing"
 5. Section 22 14 26 "Roof Drains"

1.3 REFERENCES

- A. Refer to the following references for specification compliance:
1. 2018 North Carolina Building Code
 2. 2009 North Carolina Energy Conservation Code
 3. National Roofing Contractors Association (NRCA)

4. FM Global
5. Underwriters Laboratories, Inc. (UL)
6. ASHRAE 90.1, edition referenced by Current Building Code

1.4 PERFORMANCE REQUIREMENTS

- A. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Section 07 54 23 "Thermoplastic-Polyolefin Roofing".

1.5 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.

1.6 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.

1.7 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.

1.8 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. Gypsum Substrate:

- a. Type X: Nonstructural, fiberglass faced, 5/8 inch thick, Type X, moisture resistant gypsum board, meeting the requirements of ASTM C 1396, ASTM D 3273, and ASTM C 473.

2. Roof Insulation:

- a. Rigid polyisocyanurate roof insulation board with factory applied glass fiber reinforced cellulosic felt facers on the top and bottom complying with ASTM C1289 Type II, Class 1, Grade 2 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) 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: 1.5 inch.

3. Tapered Insulation System:

- a. Rigid polyisocyanurate roof insulation board with factory applied glass fiber reinforced cellulosic felt facers on the top and bottom complying with ASTM C1289 Type II, Class 1, Grade 2 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: 4 feet by 4 feet.
- 4) Slope: 1/4 inch per foot
- 5) Minimum thickness: 1.5 inch.

- 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.
4. Cover Board:
- a. Cover board approved by roof system manufacturer. Board Size: 4 feet by 8 feet. Minimum thickness as listed below or as required by roof system manufacturer.
 - 1) Georgia Pacific 1/4 inch DensDeck Prime Roof Board
 - 2) DEXcell 1/4 inch Glass Mat Roof Board
- B. Insulation Accessories:
1. Tapered Edge Strip:
 - a. Wood Fiber: Asphalt impregnated wood fiber tapered edge strips with 1 inch per foot slope of sizes indicated in Contract Drawings or required by field conditions meeting ASTM C 208.
 - 1) Install at edges to make transitions as detailed in Contract Drawings.
 - 2) Provide slope transition at the outside of drainage sumps.
 - 3) Use 1/2 inch by 6 inch tapered edge strips in front of tapered insulation crickets to provide smooth transition.
- 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.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inspect substrate for soundness and notify Engineer in writing of deficiencies.
- B. 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. Dry and broom roof deck clean of debris and foreign matter prior to installation of insulation system.

3.3 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. For torch application, continue coverboard over combustible substrates.
9. Install crickets, saddles and tapered edge strips before the cover board.
10. 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.
11. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.
12. 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.
13. 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. Construct crickets on up slope side of curbs to ensure positive drainage.
- d. Install tapered edge strips at cricket edges to provide a smooth transition between the cricket and insulation system below.

3. Insulation boards may require mechanical fasteners and stress plates at slope transition of crickets to minimize bridging.

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 54 23

THERMOPLASTIC-POLYOLEFIN ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Provide adhered, thermoplastic-polyolefin (TPO) membrane and flashings to provide a permanently watertight system.

1.2 RELATED SECTIONS

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

1. 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"
5. Section 07 62 00 "Sheet Metal Flashing and Trim"
6. Section 22 14 26 "Roof Drains"

1.3 REFERENCES

A. Refer to the following references, current edition for specification compliance:

1. 2018 North Carolina Building Code
2. ASTM International
3. National Roofing Contractors Association (NRCA)
4. Underwriters Laboratory (UL)
5. FM Global
6. Single Ply Roofing Institute

1.4 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.

1.5 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.

1.6 QUALITY ASSURANCE

- A. Manufacturer Requirements:
 - 1. Written contractor/installer approval program.
 - 2. Continuous manufacturing history with the current product formulation of no less than ten (10) years in the United States of America.
 - 3. Products manufactured by other manufacturers and private labeled are not acceptable.
 - 4. See materials section for general product description and specified requirements.
- B. Contractor Requirements:
 - 1. Authorized by the membrane manufacturer prior to bid.
 - 2. Installation accomplished by primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer of the single ply roofing system. Submit evidence of qualification from the manufacturer.
- C. Upon completion of the installation, complete an inspection by a representative of the membrane manufacturer to review the installed roof system and document deficiencies.
- D. Do not deviate from the Contract Documents or the accepted shop drawings without prior written approval by the Engineer and the membrane manufacturer.
- E. Work completed by personnel trained and authorized by the membrane manufacturer.
- F. Provide manufacturer written verification indicating seams have been probed and are watertight.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in the original unopened containers or wrappings bearing seals and approvals.
- B. Handle materials to prevent damage. Place materials on pallets and protect from moisture.
- C. Follow manufacturer's requirements for storing of membrane rolls. Store membrane rolls lying down on pallets and protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions affecting the ease of membrane weldability.
- D. Store adhesives at temperatures required by the manufacturer.
- E. Store flammable materials in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer.
- F. Remove damaged materials from the job site and replace at no cost to the Owner.

1.8 PROJECT CONDITIONS

- A. Do not apply roofing during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.
- B. Install only as much roofing as can be made weathertight each day including flashing and detail work. Clean and heat-weld seams before leaving the job site that day.
- C. Schedule and execute work without exposing the interior building areas to the effects of inclement weather. Protect building and its contents against risks.
- D. Dry surfaces to receive insulation, membrane or flashings. Provide the necessary equipment to dry the surface prior to application.
- E. Secure construction, including equipment and accessories, in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.
- F. Install uninterrupted waterstops at the end of the day's work and remove before proceeding with the next day's work.
- G. Arrange work sequence to avoid use of replacement roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, provide necessary protection, consisting of plywood over rigid insulation, and barriers to segregate the work area and to prevent damage to adjacent areas.
- H. Prior to and during application, remove dirt, debris and dust from surfaces, either by vacuuming, sweeping, blowing with compressed air and/or similar methods.
- I. Do not allow contaminants, grease, fats, oils, and solvents to come into contact with the roofing membrane. Report rooftop contamination that is anticipated or that is occurring to the Engineer and membrane manufacturer to determine the corrective steps necessary.

- J. If unusual or concealed conditions are discovered; stop work and notify Engineer of such condition in writing within 24 hours.
- K. Do not install roof under the following conditions without consulting the membrane manufacturer's technical department for precautionary steps:
 - 1. The roof assembly permits interior air to pressurize the membrane underside.
 - 2. The wall/deck intersection permits air entry into the wall flashing area.
- L. 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.

1.9 WARRANTIES

- A. Manufacturer's Weathertight Warranty: 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. Single source warranty to include but not be limited to membrane, insulation, adhesives, fasteners, sealants, flashings, polymer clad sheet metal, etc.
 - 2. Warranty Period: Twenty years from date of Substantial Completion
 - 3. Warranty to remain in effect for wind speeds up to 72 mph.
 - 4. Warranties requiring the Owner's signature are not acceptable.
 - 5. Prorated Conditions: None.
 - 6. Do not include "hold harmless" clause, nor limit liability of Contractor.
- 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 MANUFACTURER

- A. Manufacturer:
 - 1. Carlisle SynTec, Inc.
 - 2. Firestone Building Products
 - 3. Johns Manville
 - 4. Engineers Accepted Equivalent

2.2 MEMBRANE MATERIALS

- A. Membrane: 60-mil nominal thickness thermoplastic-polyolefin membrane with polyester reinforcement and factory applied fleece backing.
 - 1. Conform to ASTM D 6878 with thickness measured in accordance with ASTM D 751 and thickness above reinforce tested in accordance with ASTM D 4637.
 - 2. Color: White with initial reflectivity of 0.79, initial emissivity 0.85, and solar reflective index (SRI) of >97.
- B. Flashing:
 - 1. Reinforced 60 mil. thick, TPO membrane for walls and curbs.
 - 2. Unsupported 60 mil. thick, TPO membrane supplied for field-fabricated vent stacks, pipes, drains and corners.

2.3 RELATED MATERIALS

- A. Adhesive: Membrane manufacturer's low VOC, solvent based, bonding adhesive.
- B. T-joint Patch: Membrane manufacturer's circular patch welded over T-joints formed by overlapping thick membranes.
- C. Corner Flashing: Membrane manufacturer's pre-formed inside and outside flashing corners that are heat-welded to membrane or polymer clad metal base flashings.
- D. Termination Bar: 1/8 inch by 1 inch mill finish extruded aluminum bar with pre-punched slotted holes.
- E. Counterflashing Bar: Prefabricated extruded aluminum metal counterflashing and termination bar. 0.10-0.12 inch thick bar with 2-1/4 inch profile, pre-drilled holes 6 inches on center and sealant kick out at top edge.
- F. Sealant: Manufacturer's multi-purpose sealant.
- G. Fasteners:
 - 1. Flashing Membrane Termination Screws: #12 hot dipped galvanized or stainless-steel hex or pan head screws with length required to penetrate substrate a minimum of 1-1/2 inches.
 - 2. Concrete and Masonry Flashing Membrane Termination Anchors:
 - a. 1/4 inch diameter metal based expansion anchor with stainless steel pin of length required to penetrate substrate a minimum of 1-1/2 inch.
 - b. Masonry screws approved by membrane manufacturer, 1/4 inch minimum diameter, corrosion resistant, with Phillips flat head. Length required to provide minimum 1.5 inch embedment into substrate.
 - 3. Solid Concrete Deck Fasteners and Plates: Nail-in, non-threaded fasteners with split bulb tip designed for securement of membrane and insulation to structural concrete roof decks, length required to penetrate deck a minimum of 1 inch with plates as approved by roof membrane manufacturer.

4. Steel Deck Fasteners and Plates: #12 hot dipped galvanized or stainless-steel pan head screw approved by membrane manufacturer of length required to penetrate top flange of steel deck a minimum of 1 inch with galvalume plates approved for membrane attachment.
- H. Primary Membrane Cleaner: High-quality solvent cleaner provided by membrane manufacturer for use as a general membrane cleaner.
- I. Pre-weld Cleaner: High-quality solvent based seam cleaner with moderate evaporation rate provided by membrane manufacturer.
- J. Walkway Pad: Walkway pad by manufacturer of membrane.
- K. Polymer Clad Metal: Refer to Section 07 62 00 "Sheet Metal Flashing and Trim".

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify substrate is dry, clean, smooth, and free of loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections and accumulations of bitumen to ensure a smooth surface before roofing.
- B. Repair deteriorated substrates.
- C. Beginning installation means acceptance of prepared substrate.

3.2 PREPARATION

- A. Remove, cover or flash asphalt roofing substrates using compatible, approved materials. Do not allow TPO to contact substrates containing asphalt materials.
- B. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.3 MEMBRANE INSTALLATION

- A. Inspect substrates prior to installation of the roof membrane. Ensure substrate is clean, dry, free from debris and smooth with no surface roughness or contamination. Replace broken, delaminated, wet or damaged insulation boards.
- B. Position membrane over the properly installed and prepared substrate.
- C. Fold membrane back lengthwise so half the underside of the membrane is exposed.
- D. Apply adhesive using solvent resistant 3/4 inch nap paint rollers. Apply adhesive to the substrate and back side of the membrane at a rate according to the membrane manufacturer's requirements in smooth, even coatings with no gaps, globs, puddles or similar inconsistencies. Allow the adhesive to dry until it is tacky but does not string or stick to a dry finger touch.
 1. Count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.

2. Do not apply adhesive in seam areas.
- E. Roll the adhesive coated membrane into the coated substrate while avoiding wrinkles. Brush down the bonded section of the membrane after rolling the membrane into the adhesive with a soft bristle broom to achieve maximum contact.
- F. Fold back the unbounded half of the sheet lengthwise and repeat the bonding procedures. This process is repeated throughout the roof area.
- G. Position adjoining sheets to allow a minimum overlap of 2 inches and hot-air weld.
- H. Weld membrane coverstrips at feltback membrane seams without a factory selvage edge.
- I. Terminate membrane at walls and curbs as shown in the contract drawings.
 1. Wood Substrate: Turn membrane up wall 1 inch and mechanically terminate using specified screws 8 inches on center with a termination bar.
 2. Concrete/Masonry Substrate: Turn membrane up wall 1 inch and mechanically terminate using specified anchors 8 inches on center with a termination bar.
- J. Terminate membrane at penetrations as shown in the contract drawings. Terminate at 6 inches on center or a minimum of 4 fasteners per penetration into the structural deck using fasteners and plates as approved by the membrane manufacturer for the deck substrate.
- K. Extend membrane over roof edge a minimum of 2 inches below the perimeter wood blocking. If fleece-back membrane is utilized, trim membrane flush with outside edge of roof and hot-air weld a non-fleece back flashing membrane to extend over the roof edge.

3.4 FLASHING INSTALLATION

- A. General:
 1. Install flashings concurrently with the roof membrane as the job progresses.
 2. Temporary flashings are not allowed
 3. Do not tape seams as temporary measure; complete seams daily.
 4. Adhere flashing to compatible, dry, smooth, and solvent-resistant surfaces.
 5. Where substrates are incompatible with adhesives and TPO materials, replace the incompatible materials with compatible substrate or install compatible TPO flashing materials.
 6. Use caution to ensure adhesive fumes are not drawn into the building.
- B. Adhesive for Flashing Membrane:
 1. Over the properly installed and prepared flashing substrate, apply flashing adhesive according to manufacturer's instructions in smooth, even coats with no gaps, globs or similar inconsistencies.
 2. Press the bonded sheet firmly in place with a hand roller.
 3. Do not apply adhesive in seam areas that are to be welded.
- C. Mechanically terminate flashings a minimum of 8 inches above the finished roofing surface using specified fasteners and counterflashing bar unless otherwise indicated in the Contract Drawings.

- D. Consistently adhere flashing membranes to substrates. Cut and hot-air weld interior and exterior corners and miters into place. Utilize pre-formed corner flashing.
- E. Hot-air weld flashings at their joints and at their connections with the roof membrane.
- F. Provide additional securement for flashings that exceed 30 inches in height. Consult Manufacturer's Technical Department for securement methods.
- G. Seal off Polymer Clad sheet metal incorporated into the roofing system with a hot-air welded stripping ply to four inches beyond sheet metal onto roof membrane and fit closely to fit closely to edge of sheet metal.
- H. Roof Drain:
 - 1. Mechanically attach membrane 6 inches on center into structural deck around drain sump. Adhere flashing membrane and hot-air weld to membrane a minimum of 4 inches.
 - 2. Set flashing membrane in a bed of sealant under the clamping ring.
 - 3. Refer to Section 22 14 26 "Roof Drains".
- I. Soil Pipe/Pipe Penetration:
 - 1. Provide field wrapped pipe penetration flashing or manufacturer's prefabricated pipe boot as shown in detail drawing.
 - 2. Apply aluminum tape to penetration if asphalt contamination is present.
 - 3. Hot-air weld horizontal flashing membrane a minimum of 4 inches onto the membrane.
 - 4. Adhere vertical flashing membrane to pipe penetration and extend a minimum of 1.5 inches horizontal at the base of penetration. Hot-air weld vertical flashing membrane to horizontal flashing membrane.
 - 5. Install stainless steel draw band and sealant or hot-air weld flashing cap to terminate top edge of pipe flashing.

3.5 HOT-AIR WELDING OF SEAM OVERLAPS

- A. General
 - 1. Hot-air weld seams. Minimum 3 inch wide seam overlaps when automatic machine-welding and 4 inch wide when hand-welding, except for certain details.
 - 2. Provide welding equipment by or approved by the membrane manufacturer. Mechanics intending to use the equipment to have successfully completed a training course provided by a membrane manufacturer's technical representative prior to welding.
 - 3. Clean and dry membrane to be hot-air welded.
- B. Hand-Welding
 - 1. Complete hand-welded seams in two stages. Allow hot-air welding equipment to warm up prior to welding.
 - 2. Weld the back edge of the seam with a narrow but continuous weld to prevent loss of hot air during the final welding.

3. Insert nozzle into the seam at a 45-degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow," the hand roller is positioned perpendicular to the nozzle and pressed lightly. For straight seams, the 1-1/2 inchwide nozzle is recommended for use. For corners and compound connections, the 3/4 inchwide nozzle is recommended for use.

C. Machine Welding

1. Machine welded seams are achieved by the use of automatic welding equipment. When using this equipment, follow instructions from the manufacturer and local codes for electric supply, grounding and over current protection. Dedicated circuit house power or a dedicated portable generator is recommended. Do not operate other equipment off the generator.
2. Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

D. Quality Control of Hot-Air Welded Seams

1. Check hot-air welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark grey material from the underside of the top membrane. Provide on-site evaluation of welded seams daily and to locations as directed by the Engineer or membrane manufacturer's representative.

- E. Take 1 inchwide cross-section samples of hot-air welded at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Patch test cut areas.

- F. Install T-joint patch at T-seam locations.

3.6 WALKWAY PAD INSTALLATION

- A. Clean and dry roofing membrane to receive walkway pad.
- B. Check membrane seams that are to be covered by walkway with rounded screwdriver and re-weld inconsistencies before walkway installation.
- C. Place chalk lines on deck sheet to indicate location of Walkway.
- D. Apply a continuous coat of membrane adhesive to the membrane and the back of walkway pad in accordance with membrane manufacturer's technical requirements and press walkway pad into place with a water-filled, foam-covered lawn roller.
- E. Clean the deck membrane in areas to be welded. Hot-air weld the perimeter of the walkway to the roofing membrane.
- F. Check welds with a rounded screwdriver. Re-weld inconsistencies.
- G. 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.
4. At door access to roof areas.

3.7 TEMPORARY CUT-OFF

- 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 in the central area of the project, install a temporary watertight seal. Weld a 8 inch strip of membrane 4 inches to the field membrane. Seal the remaining 4 inches of flashing membrane to the deck or the substrate so that water is not allowed to travel under the membrane. Seal the edge of the membrane in a continuous heavy application of pourable sealer of 6 inch width. When work resumes, remove and dispose the contaminated membrane. Do not reuse materials.
- C. If inclement weather occurs while a temporary water stop is in place, monitor the situation to maintain a watertight condition.
- D. If water is allowed to enter under the completed system, replace the affected area.

3.8 CLEANING

- A. Ensure trash and debris is removed from the roof daily.
- B. Keep metal scraps, nails, screws and other sharp damaging debris off of the roof membrane surface during construction.
- C. Clean off/remove excess adhesive, sealant, stains and residue on the membrane and flashing surfaces.
- D. 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.

3.9 PROTECTION

- A. Protect the roof from construction related damages during the Work.
- B. Repair or replace damaged membrane, flashings and other membrane components. Repair in accordance with the membrane manufacturers repair instruction to comply with the specified warranty.

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 54 23 "Thermoplastic-Polyolefin Roofing"

1.3 REFERENCES

A. Refer to the following references for specification compliance:

1. 2018 North Carolina Building Code
2. ASTM International
3. National Roofing Contractors Association (NRCA)
4. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - a. Architectural Sheet Metal Manual, Seventh Edition - January 2012
5. ANSI/SPRI ES-1
6. 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. Polymer Clad Sheet Metal
3. Sealants

1.5 MOCK-UPS

- A. Provide mock-ups of the following sheet metal components prior to fabrication of the components:
 1. Gutter: Provide mock-up of gutter, gutter bracket and gutter hanger. Include one lap in gutter section.

1.6 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.

1.7 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.

1.8 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.

1.9 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 Galvalume: 24-gauge, galvalume coated steel meeting or exceeding AZ50 per ASTM A792. Manufacturer's smooth finish, pre-finished color coatings consisting 70% Kynar 500 fluorocarbon (Polyvinylidene Fluoride PVF2) coating over a urethane primer on the finish side, with primer and a wash coat on the reverse. Measurements per NCCA Technical Bulletin II-4 or ASTM D1005. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.

1. Slip Flashing
2. Receiver Flashing
3. Counterflashing
4. Fascia Cover
5. Crimped On Metal Edge
6. Gutter
7. Scupper Face Plate
8. Downspouts

2.2 GALVALUME

A. 22-gauge, galvalume coated steel meeting or exceeding AZ50 per ASTM A792:

1. Continuous Cleat

2.3 ALUMINUM

A. ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:

1. Gutter Brackets: 1/4 inch x 2 inches
2. Gutter Spacers: 1/16 inch x 1 inch
3. Downspout Hangers: 1/16 inch x 1 inch

2.4 STAINLESS STEEL

A. 26-gauge, Type 304 as tested in accordance with ASTM A 167.

1. Multiple Pipe Enclosure Components
 - a. Pipe Enclosure Flashing
 - b. Closure Cap
2. Equipment Support Curb Cover

2.5 POLYMER CLAD METAL

- A. Heat-weldable, 24 gauge, AISI G90 galvanized steel sheet with a 35-mil unsupported TPO membrane coating to match the flashing membrane composition laminated on one side. Polymer-Clad metal manufactured by, and included in the warranty of, the single-ply membrane Manufacturer utilized in Section 07 54 23 "Thermoplastic Polyolefin Roofing". Color selected by Owner.
1. Drip Edge
 2. Scupper Liner
 3. Base Flashing Closure

2.6 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.

2.7 RELATED MATERIALS

- A. 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
- B. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.
- C. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.
- D. Aluminum Tape: Pressure-sensitive, 2 inch wide aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as bond breaker under the metal edge cover plates.
- E. Solder: 80-20 lead-TIN alloy conforming to ASTM B32.
- F. 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. 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.

6. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
 7. Hem (return) exposed edges for strength and appearance.
 8. Fit sheet metal close and neat.
 9. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
 10. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.
- 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. Polymer Clad Sheet Metal:
1. Secure flanges of polymer clad sheet metal into roof deck at 12 inches on center.
 2. Sheet Metal Laps:
 - a. Leave a 1/4 inch opening between sheet metal sections.
 - b. Center aluminum tape over joint opening.
 - c. Hot-air weld 4-inch wide strip of stripping membrane over joint.
 - d. At inside and outside corners, lap miters a minimum of 1 inch and rivet at 2 inches on center; strip in with 4-inch wide strip of stripping membrane over joint.
- D. 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.
- E. 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.
- F. Equipment Support:
1. Fabricate Equipment Support Curb Cover at curbs as shown in detail drawings in one continuous piece of sheet metal.
 2. Secure at eighteen inches on center.
 3. Provide soldered end caps.

G. 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. 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.

H. Counterflashing:

1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.
2. 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.

I. Fascia Cover:

1. Provide fascia cover secured to wood blocking 12 inches on center where indicated in detail drawings.
2. Lock fascia cover onto continuous cleat if present and hand tong metal edge onto continuous cleat.

J. 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. Strip in scupper liner as specified.
3. Provide faceplate which extends 1.5 inches around the scupper and secure to wall substrate 12 inches on center with minimum of four fasteners (one in each corner). Set faceplate in a bead of sealant.
4. Extend scupper liner 1 inch beyond the exterior wall face and lock onto faceplate.

K. Crimped On Metal Edge:

1. Fabricate metal edge and continuous cleat as shown in detail drawings in 8 foot or 10 foot lengths.
2. Terminate membrane at roof edge and hot-air weld flashing membrane strip to extend down the outside vertical face over the wall.
3. Provide sealant tape at base of flashing membrane on outside of wall to prevent moisture infiltration.

4. Install a continuous cleat as indicated in detail drawings fastened to substrate 6 inches on center in vertical face 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. Locate fasteners no greater than 1-3/4 inch from the break at the bottom hem.
5. Strip flange of continuous cleat with hot-air welded stripping membrane as specified.
6. Lock metal edge onto continuous cleat crimp as shown.
7. Hand tong metal edge onto continuous cleat.
8. Metal Edge Joints:
 - a. Leave a 1/4 inch opening between metal edge sections.
 - b. Center 6-inch minimum width cover plate over or back-up plate under joint opening.
 - c. Set cover plate in butyl sealant tape on each side of joint.

L. Drip Edge:

1. Fabricate drip edge as shown in detail drawings in 10 foot lengths. Refer to SMACNA Architectural Sheet Metal Manual Figure 2-1 except for continuous cleat dimensions as shown in Contract Drawings.
2. Terminate membrane at roof edge and hot-air weld flashing membrane strip to extend down the outside vertical face over the wall.
3. Provide sealant tape at base of flashing membrane on outside of wall to prevent moisture infiltration.
4. Secure flange of drip 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.
5. Strip flange of metal edge with hot-air welded stripping membrane as specified in the Contract Drawings.
6. Hand tong metal edge onto continuous cleat.
7. Metal Edge Joints:
 - a. Leave a 1/4 inch opening between metal edge sections. Install two roofing nails in the end of the flange, and one roofing nail in the end of the vertical face of each metal edge section.
 - b. Center aluminum tape over joint opening (flange and face).
 - c. Hot-air weld 4-inch wide strip of stripping membrane over joint.
 - d. Strip in flange of metal edge as described above.
 - e. Center 6-inch wide cover plate over joint locking onto notched drip edges of metal edge sections. Refer to SMACNA Architectural Sheet Metal Manual Figure 2-5A, and Figure 2-5, Detail 1.
 - f. Strip flange of cover plate with hot-air welded flashing membrane. Extend flashing membrane 2 inches beyond the cover plate flange on 3 interior sides.

M. Gutters:

1. Fabricate to profile shown in Contract Drawings. Refer to SMACNA Architectural Sheet Metal Manual Figure 1.2 Style D.
2. Gutters continuous, roll formed from coil stock on site or formed in 10 foot lengths.

- a. Lap joints in gutters a minimum of 1 inch, riveted 1 inch on center. Install sealant tape between gutter sections and sealant at exposed inside edge and on rivets. Lap joints in the direction of water flow.
3. Provide butt type expansion joints in gutters at spacing appropriate for the type material used to fabricate gutters. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-7. Maximum length of gutter between expansion joints is 50 feet.
4. Provide downspout outlet tubes in downspout locations. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-33B and Detail 1. Tab gutter outlet tubes a minimum of 1 inch, set in a bead of sealant and secure to gutter with a minimum of two rivets per tab.
5. Provide coated gutter brackets and spacers as shown in detail drawings by air dried kynar paint or powder coated to match sheet metal finish color. Provide certification delivered to site with materials indicating method of finish utilized. Evenly stagger the placement of brackets and spacers. Space brackets and spacers 36 inches on center, staggered.
6. Rivet spacers to both sides of the gutter only.
7. Secure brackets to wood blocking with two stainless steel fasteners.
8. Fabricate gutter with leading edge 1 inch below the back edge as shown in detail drawing.
9. Hang gutters level.

N. 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. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-35H.
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.

O. Multiple Pipe Penetration:

1. Fabricate pipe enclosure flashing, and closure cap as shown in detail drawings. Refer to SMACNA Architectural Sheet Metal Manual Figure 8-8B or 8-9A depending upon direction of pipes.
2. Secure pipe enclosure flashing and cap as indicated in detail drawings.
3. Clean and solder seams of enclosure and cap.

P. Base Flashing Closure:

1. Install closures where base flashings abruptly end.

2. Hot-air weld joints watertight.
3. Install closures over membrane and under finish ply of base flashing.
4. Extend closures up under counterflashings or copings.
5. Install closures to seal ends of base flashings, membrane and cants as well as end joints of edge metal.

3.3 CLEANING AND PROTECTION

- A. Clean sheet metal work of asphalt, flux, scrapes and dust.
- B. Replace sheet metal components with scratches through the metal finish.

END OF SECTION

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 06 10 00 "Rough Carpentry"
 - 3. Section 07 01 50 "Preparation for Reroofing"
 - 4. Section 07 22 16 "Roof Insulation"
 - 5. Section 07 54 23 "Thermoplastic-Polyolefin Roofing"
 - 6. Section 07 62 00 "Sheet Metal Flashing and Trim"

1.3 REFERENCES

- A. Refer to the following references for specification compliance:
 - 1. 2018 North Carolina Building Code
 - 2. American Society of Mechanical Engineers - ASME
 - a. ASME A112.21.2 Roof Drains
 - 3. International Association Plumbing & Mechanical Officials - IAPMO
 - 4. ASTM International

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: Include plans, elevations, sections and details.

1.5 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.

1.6 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.

1.7 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.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Conduct a pre-job conference including the Engineer, Contractor, and the Owner's representative prior to the installation of roof drains and associated piping and plumbing fixtures.
- B. Verify that conditions are acceptable to begin the installation.
- C. Inspect daily the plumbing installation to ensure conditions remain satisfactory.

3.2 PREPARATION

- A. Inspect building components and conditions before proceeding with plumbing installation.
- B. Inspect the piping route and hanger attachment points to ensure conditions are satisfactory to install piping and associated plumbing fixtures for the completed drainage system.
- C. Do not route piping and fixtures to interfere with the service of in-place equipment and systems.
- D. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner, Engineer, and Authorities Having Jurisdiction.

3.3 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 scraping 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.

3.4 ROOF DRAIN INSTALLATION

- A. Install roof drains and associated components in accordance with the drain manufacturer's published instructions.
- B. Install roof drains, piping and associated plumbing to meet applicable requirements of the local plumbing, building and fire code.

3.5 CLEANING

- A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.

END OF SECTION