



**Moisture Diagnostic Scans – Building Envelope Surveys & Analysis – Project Management
Roof Design and Consulting – Preventative Maintenance Programs**

**RICHLAND COUNTY
SCHOOL DISTRICT ONE
201 Park Street
Columbia, SC 29201**

**PROJECT MANUAL
Arden Elementary School
1300 Ashley Street, Columbia, SC 29203
2025 Low Slope Roof Replacement**

Solicitation # 2025-032

Consultants Project #2025-02031SC

February 3, 2025

THIS DOCUMENT MUST REMAIN INTACT – DO NOT DETACH

Building Management Consultants
6116 Shallowford Road, Ste. 104
Chattanooga, TN 37421

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	Richland County School District One INVITATION FOR BIDS FOR CONSTRUCTION SERVICE	Solicitation # Date Issued Procurement Officer Phone E-mail Address	2025-032 May 7, 2025 Carolyn Hodges 803.231.7052 Carolyn.Hodges@richlandone.org
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Sealed bids for Arden Elementary School Roof Replacement, will be received from qualified bidders that are properly licensed under the laws of the State of South Carolina. These bids will be opened and read aloud by the Owner at the office of the Procurement Services, Central Services Facility, 201 Park Street, Columbia, SC 29201. Bids received after the indicated times will be rejected and returned to the Bidder unopened. All questions must be submitted via email to: Carolyn Hodges, Construction Contracts Manager (E-mail Above).

SCHEDULE OF EVENTS	DATE AND TIME
Pre-Bid conference will be held on: (Location of Pre-proposal Meeting: Arden Elementary School 1300 Ashley St. Columbia SC 29203 Meet and sign in at Front Office.	May 14, 2025 10 AM
Bid Questions must be received by:	May 14 , 2025 3 PM
Bid(s) must be received by:	May 21, 2025 2 PM
Bids will be opened on:	May 21 , 2025 2 PM

PROJECT INFORMATION	
The name of the project is	Arden Elementary School Roof Replacement
Project Address:	1300 Ashley St Columbia, SC 29203
The Owner is:	Richland County School District One 201 Park Street Columbia, SC 29201
The Architect/Engineer is:	Building Management Consultants 6116 Shallowford Rd, Ste 104 Chattanooga, TN 37421
The Construction Manager is:	N/A

Description of the Project

The project is to remove the existing low slope roofing, repair the existing metal deck as needed, install Polyisocyanurate tapered system, install ½" gypsum cover board, and install Modified Bitumen Membrane Roofing with 20-year NDL warranty at the Richland County School District One Arden Elementary School.

Bid Documents

Bidding Documents are available for inspection at the following locations:

- Please contact James@bmcusa.net for additional information. Solicitation documents are at <https://richlandone.org/departements/procurement-services/solicitations>.

Bids will be binding for a period of 60 (sixty) calendar days from the date bids are opened.

COMPANY INFORMATION

1.) Name of Company: _____

Address: _____

Phone Number: _____

2.) Name of Assigned Contact: (Main) _____

Direct Phone Number: _____

Other Phone Number: _____

Email: _____

3.) Name of Assigned Contact: (Secondary) _____

Direct Phone Number: _____

Other Phone Number: _____

Email: _____

** If awarded the contract, these individuals cannot be switched for the duration of the contract unless permitted by the Richland County School District One.*

SIGNATURE

Name of Company

Printed Name of Firm Representative

Signature of Firm Representative

Date

Bidders shall submit bids only on Lump Sum Bid Form.

BID SUBMITTED BY: _____
(Bidder's Name)

BID SUBMITTED TO: Richland County School District One
(Owner's Name)

FOR: PROJECT NAME: Arden Elementary School 2025 Low Slope Roof Replacement

PROJECT NUMBER: Solicitation #2025-032 BMC Consultants Project #2025-02031SC

OFFER

§ 1. In response to the Invitation to Bid and in compliance with the Instructions to Bidders for the above- named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Owner on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to Section 11-35-3030(1) of the SC Code of Laws, as amended, Bidder has submitted Bid Security as follows in the amount and form required by the Bidding Documents:

☐ Bid Bond with Power of Attorney ☐ Electronic Bid Bond ☐ Cashier's Check
(Bidder check one)

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

(Bidder, check all that apply. Note, there may be more boxes than actual addenda. Do not check boxes that do not apply)

ADDENDA: ☐ #1 ☐ #2 ☐ #3 ☐ #4 ☐ #5

§ 4. Bidder accepts all terms and conditions of the Invitation for Construction Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of sixty (60) Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Owner.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 **BASE BID WORK** (as indicated in the Bidding Documents and generally described as follows): Project is to remove the existing low slope roofing, repair the existing metal deck as needed, install Polyisocyanurate tapered system, install ½" gypsum cover board, and install Modified Bitumen Membrane Roofing with 20-year NDL warranty at the Richland County School District One Arden Elementary School.

LUMP SUM BASE BID:

\$ _____
(\$ _____)

UNIT PRICE #1: REPLACE DAMAGED METAL DECKING: \$ _____ S.F.

**§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i),
CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED**
(See Instructions on the following page 00 41 00-3)

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

(A) SUBCONTRACTOR LICENSE CLASSIFICATION or SUBCLASSIFICATION NAME (Completed by Owner)	(B) LICENSE CLASSIFICATION or SUBCLASSIFICATION ABBREVIATION (Completed by Owner)	(C) SUBCONTRACTOR and/or PRIME CONTRACTOR (Required – must be completed by Bidder)	(D) SUBCONTRACTOR'S and/or PRIME CONTRACTOR'S SC LICENSE NUMBER (Requested, but not required)
BASE BID			
ALTERNATE #1			
ALTERNATE #2			
ALTERNATE #3			

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

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

Pursuant to instructions in the Invitation for Construction Bids, if any, Bidder will provide to Owner upon the Owner's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors, other than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that this list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements of SC Code Ann § 11-35-3020(b)(i).

§ 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES

a) CONTRACT TIME

Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Owner. Bidder agrees to substantially complete the Work within 90 Calendar Days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

b) LIQUIDATED DAMAGES

Bidder further agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the amount of \$500.00 for each Calendar Day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.

§ 10. AGREEMENTS

- a) Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.
- b) Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be canceled for the convenience of, and without cost to, the Owner.
- c) Bidder agrees that neither the Owner nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to the issuance of the Notice to Proceed.

§ 11. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, included in the Bidding Documents.

ELECTRONIC BID BOND NUMBER: _____

SIGNATURE AND TITLE: _____

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION

SC Contractor's License Number(s): _____

Classification(s) & Limits: _____

Subclassification(s) & Limits: _____

By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the AIA Document A701, Instructions to Bidders, is expressly incorporated by reference.

BIDDER'S LEGAL NAME: _____

ADDRESS: _____

TELEPHONE: _____

EMAIL: _____

SIGNATURE: _____ **DATE:** _____

PRINT NAME: _____

TITLE: _____

END OF SECTION 00 41 00

**SECTION 00 52 00
AGREEMENT FORM**

PART 1 GENERAL

1.01 FORM OF AGREEMENT

- A. AIA A101-2017 SCOSE Standard Form of Agreement
- B. AIA A201-2017 SCOSE General Conditions of the Contract for Construction

1.02 RELATED REQUIREMENTS

- A. 00 11 16 – Invitation to Bid
- B. 00 41 00 – Bid Form
- C. 00 52 00 – Agreement Form
- D. 01 10 00 – Summary
- E. 01 20 00 -- General Requirements
- F. 01 21 00 – Instructions to Bidders
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- R. 01 60 00 - Product Requirements
- S. 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions
- T. 01 70 00 - Execution and Closeout Requirements
- U. 01 78 00 - Closeout Submittals

PART 2 PRODUCTS

- A. 07 22 16 – Roof and Deck Insulation
- B. 07 52 17 – SBS Modified Bituminous Membrane
- C. 07 62 00 – Sheet Metal Flashing and Trim

PART 3 EXECUTION

- A. DRAWINGS

END OF SECTION 00 52 00

CERTIFICATE OF NONCOLLUSION

I, _____ of _____
("Bidder"), make and am authorized to make this statement on behalf of Bidder; that I certify and affirm that neither Bidder nor any employee or agent of Bidder has consulted, conferred, conspired or communicated with any person or firm or agent thereof with respect to (1) the amount of Bidder's bid or any component thereof; (2) the terms or conditions of work or sale or compensation proposed by Bidder; or (3) any other matter pertaining to the bid submitted herewith except for such persons or firms engaged or proposed to be engaged by Bidder as subcontractors or suppliers in connection with the work or sale covered by this bid and disclosed by name in Bidder's proposal, nor directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with the submission of this bid.

SIGNED: _____

Each Bidder submitting a bid must complete this Certificate, which will be considered a part of the Bidder's bid. Any bid received without this Certificate duly completed may be returned or rejected as incomplete.

PERFORMANCE BOND**KNOW ALL MEN BY THESE PRESENTS**, that *(Insert full name or legal title and address of Contractor)*

Name: _____

Address: _____

hereinafter referred to as “Contractor”, and *(Insert full name and address of principal place of business of Surety)*

Name: _____

Address: _____

hereinafter called the “surety”, are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*Name: Richland School District OneAddress: 210 Park StreetColumbia, Sc 29201

hereinafter referred to as “Agency”, or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to constructProject Name: Arden Elementary School 2025 Low Slope Roof ReplacementProject Number: 2025-02031SCBrief Description of Awarded Work: Remove existing roofing, install polyisocyanurate taper system, install gypsum cover board, install modified bitumen membrane in cold process, and install new metal details on the low slope roof.in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*Name: Building Management ConsultantsAddress: 6116 Shallowford RoadChattanooga, TN 37421

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ **day of** _____, **2** _____
(shall be no earlier than Date of Contract)

BOND NUMBER _____**CONTRACTOR**

By: _____
 (Seal)

Print Name: _____**Print Title:** _____**Witness:** _____**SURETY**

By: _____
 (Seal)

Print Name: _____

Print Title: _____
(Attach Power of Attorney)

Witness: _____*(Additional Signatures, if any, appear on attached page)*

PERFORMANCE BOND

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

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency for the full and faithful performance of the contract, which is incorporated herein by reference.
2. If the Contractor performs the contract, the Surety and the Contractor have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. The Surety's obligation under this Bond shall arise after:
 - 3.1 The Agency has notified the Contractor and the Surety at the address described in paragraph 10 below, that the Agency is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If the Agency, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Agency's right, if any, subsequently to declare a Contractor Default; or
 - 3.2 The Agency has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract.
4. The Surety shall, within 15 days after receipt of notice of the Agency's declaration of a Contractor Default, and at the Surety's sole expense, take one of the following actions:
 - 4.1 Arrange for the Contractor, with consent of the Agency, to perform and complete the Contract; or
 - 4.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Agency for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Agency and the contractor selected with the Agency's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the Bonds issued on the Contract, and pay to the Agency the amount of damages as described in paragraph 7 in excess of the Balance of the Contract Sum incurred by the Agency resulting from the Contractor Default; or
 - 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and:
 - 4.4.1 After investigation, determine the amount for which it may be liable to the Agency and, within 60 days of waiving its rights under this paragraph, tender payment thereof to the Agency; or
 - 4.4.2 Deny liability in whole or in part and notify the Agency, citing the reasons therefore.
5. Provided Surety has proceeded under paragraphs 4.1, 4.2, or 4.3, the Agency shall pay the Balance of the Contract Sum to either:
 - 5.1 Surety in accordance with the terms of the Contract; or
 - 5.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
 - 5.3 The balance of the Contract Sum due either the Surety or another contractor shall be reduced by the amount of damages as described in paragraph 7.
6. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond 15 days after receipt of written notice from the Agency to the Surety demanding that the Surety perform its obligations under this Bond, and the Agency shall be entitled to enforce any remedy available to the Agency.
 - 6.1 If the Surety proceeds as provided in paragraph 4.4 and the Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.
 - 6.2 Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution process defined in the Contract Documents and the laws of the State of South Carolina.
7. After the Agency has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Agency shall be those of the Contractor under the Contract, and the responsibilities of the Agency to the Surety shall be those of the Contractor under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Agency of the Balance of the Contract Sum to mitigation of costs and damages on the Contract, the Surety is obligated to the Agency without duplication for:
 - 7.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract; and
 - 7.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
 - 7.3 Damages awarded pursuant to the Dispute Resolution Provisions of the Contract. Surety may join in any Dispute Resolution proceeding brought under the Contract and shall be bound by the results thereof; and
 - 7.4 Liquidated Damages, or if no Liquidated Damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. The Surety shall not be liable to the Agency or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Sum shall not be reduced or set-off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Agency or its heirs, executors, administrators, or successors.
9. The Surety hereby waives notice of any change, including changes of time, to the contract or to related subcontracts, purchase orders and other obligations.
10. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the address shown on the signature page.
11. Definitions
 - 11.1 Balance of the Contract Sum: The total amount payable by the Agency to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts to be received by the Agency in settlement of insurance or other Claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.
 - 11.2 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform the Contract or otherwise to comply with the terms of the Contract.

LABOR & MATERIAL PAYMENT BOND**KNOW ALL MEN BY THESE PRESENTS**, that *(Insert full name or legal title and address of Contractor)*

Name: _____

Address: _____

hereinafter referred to as “Contractor”, and *(Insert full name and address of principal place of business of Surety)*

Name: _____

Address: _____

hereinafter called the “surety”, are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*Name: Richland School District OneAddress: 210 Park StreetColumbia, SC 29201

hereinafter referred to as “Agency”, or its successors or assigns, the sum of _____ (\$ _____), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, Contractor has by written agreement dated _____ entered into a contract with Agency to constructProject Name: Arden Elementary School 2025 Low Slope Roof ReplacementProject Number: 2025-02031SCBrief Description of Awarded Work: Remove existing roofing, install polyisocyanurate taper system, install gypsum cover board, install modified bitumen membrane in cold process, and install new metal details on the low slope roof.in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*Name: Building Management ConsultantsAddress: 6116 Shallowford RoadChattanooga, TN 37421

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

IN WITNESS WHEREOF, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Labor & Material Payment Bond to be duly executed on its behalf by its authorized officer, agent or representative.

DATED this _____ **day of** _____, **2** _____ **BOND NUMBER** _____*(shall be no earlier than Date of Contract)***CONTRACTOR****SURETY**

By: _____

(Seal)

By: _____

(Seal)

Print Name: _____

Print Name: _____

Print Title: _____

Print Title: _____

(Attach Power of Attorney)

Witness: _____

Witness: _____

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

LABOR & MATERIAL PAYMENT BOND

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

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency to pay for all labor, materials and equipment required for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to the Agency, this obligation shall be null and void if the Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
 - 2.2 Defends, indemnifies and holds harmless the Agency from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract.
3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
4. With respect to Claimants, and subject to the provisions of Title 29, Chapter 5 and the provisions of §11-35-3030(2)(c) of the SC Code of Laws, as amended, the Surety's obligation under this Bond shall arise as follows:
 - 4.1 Every person who has furnished labor, material or rental equipment to the Contractor or its subcontractors for the work specified in the Contract, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the date on which the last of the labor was done or performed by him or material or rental equipment was furnished or supplied by him for which such claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of such suit and to prosecute such action for the sum or sums justly due him.
 - 4.2 A remote claimant shall have a right of action on the payment bond upon giving written notice by certified or registered mail to the Contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of the material or rental equipment upon which such claim is made.
 - 4.3 Every suit instituted upon a payment bond shall be brought in a court of competent jurisdiction for the county or circuit in which the construction contract was to be performed, but no such suit shall be commenced after the expiration of one year after the day on which the last of the labor was performed or material or rental equipment was supplied by the person bringing suit.
5. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
 - 5.1 Send an answer to the Claimant, with a copy to the Agency, within sixty (60) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 5.2 Pay or arrange for payment of any undisputed amounts.
 - 5.3 The Surety's failure to discharge its obligations under this paragraph 5 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this paragraph 5, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.
6. Amounts owed by the Agency to the Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Contractor furnishing and the Agency accepting this Bond, they agree that all funds earned by the contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Agency's prior right to use the funds for the completion of the Work.
7. The Surety shall not be liable to the Agency, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Agency shall not be liable for payment of any costs or expenses of any claimant under this bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.
8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
9. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Agency or the contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
10. By the Contractor furnishing and the Agency accepting this Bond, they agree that this Bond has been furnished to comply with the statutory requirements of the South Carolina Code of Laws, as amended, and further, that any provision in this Bond conflicting with said statutory requirements shall be deemed deleted here from and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.
11. Upon request of any person or entity appearing to be a potential beneficiary of this bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
12. Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the laws of the State of South Carolina.
13. **DEFINITIONS**
 - 13.1 Claimant: An individual or entity having a direct contract with the Contractor or with a Subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's lien might otherwise be asserted.
 - 13.2 Remote Claimant: A person having a direct contractual relationship with a subcontractor of the Contractor or subcontractor, but no contractual relationship expressed or implied with the Contractor.
 - 13.3 Contract: The agreement between the Agency and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

SMALL / WOMEN / MINORITY BUSINESS ENTERPRISE POLICY

SMALL/ WOMEN/ MINORITY BUSINESS ENTERPRISE (S/W/MBE) CHECKLIST

NAME OF AGENCY:

PLEASE CHECK THE FOLLOWING THAT
APPLY TO YOUR AGENCY:

☐ **Minority Owned**

Minority Owned is defined as: At least fifty-one percent (51%) owned by one or more citizens of the United States who are determined to be socially and economically challenged.

☐ **Small Business**

"Small" Business is defined as having 15 employees or less.

☐ **Woman Owned**

Women Owned is defined as: At least fifty-one percent (51%) owned by one or more citizens of the United States who is a Female.

DEFINITIONS

"Minority Person" means a United States citizen who is economically and socially disadvantaged.

"Socially disadvantaged individuals" means those individuals who have been subject to racial or ethnic prejudice or cultural bias because of their identification as members of a certain group, without regard to their individual qualities. Such groups include but are not limited to African Americans, Hispanic Americans, Native Americans (including American Indians, Eskimos, Aleuts and Native Hawaiians), Asian Pacific Americans, Asians and women regardless of race or origin.

"Economically disadvantaged individuals" means those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged.

Printed Name of Firm Representative

Signature of Firm Representative

Date

(Subject to any federal, state and local laws)

****The District does not accept vendor applications directly from vendors. Vendor applications (new and updated) must be submitted internally through a Richland County School District One employee before being created. (i.e. Bookkeepers, Administrative Assistants, or Department Heads). ****

****Richland One employees will forward completed applications to the Procurement Services Department. ****

****NO APPLICATION WILL BE PROCESSED WITHOUT A COMPLETE W-9 ATTACHED****

Please check the appropriate boxes:

☐ M-Minority
 ☐ S-Small
 ☐ W-Woman
 ☐ O-Other
 ☐ W-9 Attached

* What services are being rendered? _____ (ex. Consulting, professional development, etc.).

Name of Company: _____ Contact 1: _____ Contact 2: _____ Telephone Number: _____ Fax Number: _____	DBA: _____ SSN or FEIN: _____ Business License Number: _____ State: _____ How long in present business: _____ Years In the interest of protection for the District and its vendors, it is mandatory for vendors to have purchase authorization in the form of a signed Purchase Order BEFORE placing an order.
Address To Which Bids/Quotes and Purchase Orders Are To Be Mailed: Email Address For Electronic Purchase Order Transmittals To Be Mailed: _____ Website: _____	Remittance Address (If Different From Bids/Quotes/PO Mailing Address): P-Card Payment Preferred _____ Yes _____ No An active application does not legally entitle a vendor to any particular solicitation, therefore, vendors are encouraged to check the District's website: www.richlandone.org for legal notices of Invitation to Bid (IFB). The Procurement Department may also be contacted for solicitation information.
Type of Organization (Check One) _____ Individual _____ Partnership _____ Corporation _____ Other _____ RCSD One requires that no employee or Board of School Commissioners may have a special interest in any contract paid with funds belonging to or administered by the Board of School Commissioners. If you/your firm have such a relationship, attach a separate sheet explaining the relationship. All transactions are governed by the laws of the State of South Carolina and the Board of School Commissioners for RCSD One.	

I certify that information supplied herein is correct and neither the applicant nor any person in any connection with the applicant as a principal or officer, so far as known, now debarred, suspended or otherwise declared ineligible by any agency of Federal Government, agencies of the State of South Carolina or by Richland County School District One.

Person Authorized to Sign this Application, Title

Date

Request for Taxpayer Identification Number and Certification

► Go to www.irs.gov/FormW9 for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or
See Specific

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
2 Business name/disregarded entity name, if different from above	
3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes. Individual/sole proprietor or single-member LLC C Corporation S Corporation Partnership Trust/estate Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. Other (see instructions) ► _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
6 City, state, and ZIP code	
7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									
				-				-	
or									
Employer identification number									
				-					

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ►	Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)
Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.
If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding later*

SECTION 01 10 00
SUMMARY

PART 1 GENERAL

1.01 PROJECT

- A. Project Name: 2025 Low Slope Roof Replacement – Richland County School District One: Arden Elementary School
- B. Owner Name: Richland County School District One
- C. Consultant Name: Building Management Consultants; BMC.
- D. BMC Consultants Project #2025-02031SC
- E. Summary Project Scope:

Remove the existing low slope roofing, repair the existing metal deck as needed, install Polyisocyanurate tapered system, install ½ gypsum cover board, and install Modified Bitumen Membrane Roofing at the Richland County School District One Arden Elementary School; All low slope sections designated:

 - 1. Provide necessary material, equipment, labor, labor supervision, taxes, and permits required to complete the Project. A description of the Work required is included in the Project Manual.
 - 2. The intent of the Contract Documents is that materials, equipment, and systems be installed properly and complete for their intended function in the completed Work.
 - 3. Contractor represents that it is familiar with, and has expertise in, this Work, and it is understood that although the Contract Documents provided may be complete in detail, any work not shown on Drawings, or delineated in the Scope of Work but required to fulfill the intent of a completed job, is included in this Scope of Work.
 - 4. Contractor is advised that the quality of Work required by the Contract Documents is to be of the highest quality of industry standards, and Contractor shall not be due additional compensation for it.
- F. The Work includes, but is not limited to, labor, supervision, materials, equipment, tools, machinery, construction facilities and temporary controls, transportation and other facilities, and services necessary to produce the construction required by the Contract Documents.
- G. Contractor is solely responsible for scheduling, coordinating, expediting and material control, quality control, fabricating, accuracy of quantities and dimensions, and delivery to the Project of all materials and services necessary to provide the Work.
- H. Contract Terms: Lump sum (fixed price, stipulated sum).

1.02 CONTRACT DESCRIPTION

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

1.03 OWNER OCCUPANCY

- A. Owner intends to continue to occupy all portions of the existing building during the entire construction period. **CONTRACTOR SHALL MAKE WHATEVER PROVISIONS ARE NECESSARY TO PREVENT WATER INTRUSION THROUGH THE ROOFING OR ROOFINGRELATED COMPONENTS THROUGHOUT THE COURSE OF THIS PROJECT.**
- B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- C. Schedule the Work to accommodate Owner occupancy.

1.04 CONTRACTOR USE OF SITE AND PREMISES

- A. Arrange use of site and premises to allow:
 - 1. Owner occupancy. Work by Others.
 - 2. Work by Owner.
 - 3. Use of site and premises by the public.

- B. Provide access to and from site as required by law and by Owner:
 - 1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered. Provide pedestrian tunnels where overhead work could impact access to building.
 - 2. Do not obstruct roadways, sidewalks, or other public ways without permit.
 - 3. Provide OSHA approved barricades as required to protect natural resources, site improvements, existing property, adjacent property, and pedestrians.
 - 4. Provide OSHA approved roof perimeter barricades and guardrails where required to prevent injury to workers.
- C. Temporary Ladders, Scaffolds, Hoists:
 - 1. Furnish and maintain temporary access ladders, ramps, scaffolds, swing stages, hoists, etc. as required for property execution of work.
 - 2. Such apparatus, equipment and construction shall be of non-combustible constructions and meet requirements of applicable Federal, State, and Local Safety and Labor Laws.
- D. Building Rigging:
 - 1. To perform roofing work required by this contract, the contractor must provide rigging to access to project work areas.
 - 2. Contractor shall provide all design and engineering required to rig building for the use of roofing equipment, access and loading. This shall include the review of existing conditions at the site for the appropriateness to receive and support the roof equipment, supports or loads.
- E. Time Restrictions:
 - 1. Limit conduct of especially noisy exterior work to the hours of 8:30 am to 6 pm.
- F. Utility Outages and Shutdown:
 - 1. Do not disrupt or shut down life safety systems, including but not limited to fire sprinklers and fire alarm system, without 7-day notice to Owner and authorities having jurisdiction.
 - 2. Prevent accidental disruption of utility services to other facilities.
- G. Contractor Dress:
 - 1. Ensure personnel are always properly dressed with Occupational Health and Safety Administration (hereinafter OSHA) approved clothing and safety gear. All Contractor employees shall wear, at all times, a hard hat, safety glasses, safety vest, a shirt with sleeves, long pants, and proper work shoes. If applicable, the Contractor may perform and document an OSHA approved Hazard Analysis on a daily basis. If the Hazard Analysis identifies a safe environment, use of Personal Protective Equipment (PPE) such as hard hats and safety glasses is optional for that day. However, PPE must be available at the site should construction activities change throughout the day. The Hazard Analysis must be done daily in order for the job to be exempt from the use of PPE.
 - 2. At no time shall Contractor employees exhibit logos, slogans, art, and/or graphics on any item of clothing being worn, with the exception of Contractor or subcontractor name and company logo. Avoid loose clothing and jewelry that may get caught in machinery.
 - 3. Contractor Identification Badges: All Contractor employees shall wear identification badges, identification clothing, or a recognizable form of company identification at all times, in clear view and above the waist, while on property. ID badges or clothing shall be provided by the Contractors for their employees

working on the project. Personnel found on the Job Site without an ID will be escorted to the Project gate and denied further access until obtaining an appropriate company ID.

1.05 NOTIFICATION OF EXISTING CONDITIONS

- A. **Roofing Contractor:** This work must be performed by a firm having not less than five (5) years successful experience in comparable roof replacement projects and must employ personnel skilled in the operation indicated. They also must be authorized by the manufacturer to install manufacturer's warranted year full system unlimited roof assemblies. Authorization in writing by manufacturer must be submitted prior to owner awarding contract.
- B. **Sheet Metal:** This work must be performed by a firm having not less than five (5) years successful experience in comparable sheet metal installation.
- C. **Verification:** Prior to application of specified materials, contractor shall have manufacturer of the roof system inspect existing conditions to which his material is to be applied. Manufacturer shall then accept, modify or reject written specifications/conditions of Consultants Project #2025-02031SC in writing to Consultant. Costs, if incurred for this service or field services, shall be paid for by Contractor and included in the base bid.
- D. **Manufacturer's Field Services:** The following applies to all manufacturers of materials being applied on this project. Cost, if incurred for this service or field services, shall be paid by the Contractor and included in the individual line-item bids.
 - 1. During installation the Contractor shall provide for the following on-site inspections by a technical representative of the respective roof material manufacturers.
 - 2. One (1) at pre-construction meeting, one (1) at Contractor start-up, and site inspections during the entire construction period at average intervals often days and maximum intervals of fourteen days.
 - 3. Upon completion and within five (5) days of each specified manufacturer inspection, submit in writing to Consultant, acceptance or rejection of previous work and conditions of application.
 - 4. Upon completion of complete installation, provide a final inspection by each respective manufacturer to confirm that the respective system has been installed in accordance with the project specifications and the manufacturer's requirements, provide a punch list and issue specified warranty.
 - 5. Failure on the part of the manufacturer to make the required inspections shall in no way relieve the manufacture of the warranty responsibilities for both labor and materials.
 - 6. It shall be the Contractor's responsibility to assure that all required inspections are made by the manufacturer and all specified reports are submitted to the Consultant. The Owner shall have the right to withhold payment to the Contractor should the required inspections not be conducted and the required reports of those inspections not be submitted to the Consultant for review in a timely manner. It is the intent of these inspections and reports to protect the Owner's interests and the reports should not be submitted to the Contractor for review and editing prior to submittal to the Consultant.
- E. Contractor must be found sufficiently experienced and financially sound to the satisfaction of the Owner and Consultant.

1.06 WORK SEQUENCE

- A. Coordinate construction schedule and operations with Owner.

1.07 SPECIFICATION SECTIONS APPLICABLE TO ALL CONTRACTS

- A. Unless otherwise noted, all provisions of the sections listed below apply to all contracts. Specific items of work listed under individual contract descriptions constitute exceptions.
- B. Section 01 30 00 - Administrative Requirements.
- C. Section 01 32 16 - Construction Progress Schedule.
- D. Section 01 40 00 - Quality Requirements.

- E. Section 01 42 16 - Definitions.
- F. Section 01 42 19 - Reference Standards.
- G. Section 01 55 00 - Vehicular Access and Parking.
- H. Section 01 60 00 - Product Requirements.
- I. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- J. Section 01 70 00 - Execution and Closeout Requirements.
- K. Section 01 78 00 - Closeout Submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL

- A. Remove vegetation, improvements, or obstructions interfering with use of available setup locations. Replace to match existing at completion of work. Coordinate all Work with Director of Engineering.
- B. All substrates specified to be prepared and/or cleaned, shall be prepared/cleaned in accordance with the methods and procedures specified and recommended by the specified material manufacturer.
- C. Damage to landscaping, shrubbery, trees, exterior lighting, underground sprinkler, fire systems, or asphalt and/or concrete driveways and sidewalks shall be the contractor's responsibility and shall be repaired/replaced at contractor's expense.
- D. Should Work performed by Contractor be found to be faulty and not in accordance with the specifications through inspections by the Manufacturer, Owner, or Consultant, faulty work shall be removed and replaced.
- E. During the course of the Work, the Contractor shall carefully examine the grounds around the building receiving Work at the end of each day. All debris including the smallest pieces of membrane, asphalt, insulation, sheet metal or containers shall be cleaned and removed from the site.

END OF SECTION 01 10 00

SECTION 01 20 00
GENERAL REQUIREMENTS

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL REQUIREMENTS of the contract, the DRAWINGS and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the roof contract is awarded.
- C. The term Owner shall be understood to be Richland County School District One.
- D. The term Owner's Representative shall be understood to mean Building Management Consultants or known as BMC.

1.2 OWNER'S REPRESENTATIVE STATUS

- A. The Owner's Representative shall have general Rights of Inspection of the work and is the agent of the Owner in all matters pertaining to the work as provided in the Contract Documents. The Owner's Representative has the authority to stop work whenever such stoppage may be necessary to ensure the proper execution of the contract and shall have authority to reject any and all materials, whether worked or unworked, if such materials are not in accordance with the plans and specifications.

1.3 CONDITION OF SITE

- A. The bidders shall visit the site before submitting their bids and determine the field conditions affecting their work. In considering the bids, the Owner will assume that the bidders are aware of all items, pertinent to their work and have made allowance for same in their bids.

1.4 VERIFICATION OF DIMENSIONS AND ELEVATIONS

- A. Dimensions and elevations indicated on the drawings in reference to existing structures or utilities are the best available data obtainable but are not guaranteed by the Owner's Representative and the Owner's Representative will not be responsible for their accuracy. Before bidding on any work dependent upon the data involved, the Contractor shall field check and verify all dimensions, grades, lines, levels or other conditions of limitations at the site to avoid construction errors. If any work is performed by the Contractor or any of his/her sub-contractors prior to adequate verification or applicable data, any resultant extra cost for adjustment of work as required to conform to existing limitations, shall be assumed by the Contractor without reimbursement or compensation by the Owner.

1.5 PROTECTION OF OWNER'S OPERATIONS

- A. The Contractor shall erect such barriers, tarpaulins, doors, etc., as may be necessary to protect the Owner's operations while work is in progress. Any such openings that are essential to carrying on the work shall be securely closed by the Contractor when not in use to protect the Owner's operations.

1.6 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all his/her work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. He/she shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and his/her workmen from any dangers inherent with or created by the work in progress. He/she shall hold the Owner harmless from any loss arising due to injury or accident to the public or his/her workmen, or from theft of materials stored at the job site. All materials will be stored in locations other than on roof surfaces except as necessary and shall then be placed on plywood or other type of material to protect the roof surface at all times.
- B. Before starting any work, the Contractor shall protect all grounds, copings, paving and exterior of all buildings where work will be performed.
- C. In those areas where materials will be raised to the roof area, a protective covering shall be placed from the base of the wall extending up and over the top edge of the roof. This coverage shall be wide enough to assure that the exterior walls do not become stained or soiled during roofing operations.
- D. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.
- E. In those areas that tear off or new materials are transported, or any heavy repeated wheeled or foot traffic is performed across the new or existing roof surface, the new or existing roof surface will be protected by a minimum ½" OSB or plywood sheeting from the starting point to the end point of each roof section.

1.7 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange his/her material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean and the building shall be broom cleaned. If the Contractor refuses at any time to remove his/her debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor.
- B. The Contractor shall also remove drippage of bitumen or adhesive from all walls, windows, floors, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- C. Materials must be delivered with manufacturer's label intact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

1.8 INSPECTION OF WORK

- A. Where the drawings or specifications require the inspection and approval of any work in progress by the Owner's Representative, the Contractor shall give that Representative ample notice to allow for scheduling the inspection, which shall be made promptly to avoid delay of work. If work has progressed without the required inspections or approval by the Representative, it shall be uncovered for inspection at the Contractor's expense.
- B. Uncovering of work not originally inspected, or uncovering questioned work may be ordered by the Owner's Representative and it shall be done by the Contractor. If examination proves such work to be incorrectly done or not done in accordance with the plans and specifications, the Contractor shall bear all cost of the reexamination. If the work is proven correctly installed, all such expense shall be born by the Owner.

1.9 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. If directed by the Owner's Representative, the Contractor shall cut not more than four (4) cores, of approximately 200 square inches each, from every newly constructed roof area, in order to establish the amount of materials used per square foot, and shall restore all such areas to sound and watertight conditions as prior to the core testing.
- B. In the event that such core cuts disclose any deficiency in materials, or soundness of construction, the Contractor shall, at his/her own expense, apply additional materials or otherwise correct the deficiencies to the satisfaction of the Owner's Representative.
- C. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the Contractor's expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner.
- D. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractor's expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- E. The Owner will require the Owner's Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- F. The authorized Owner's Representative shall be responsible for:
 - 1. Keeping the Owner informed on a periodic basis as to the progress and quality of the work;
 - 2. Calling to the attention of the Contractor those matters he/she considers to be in violation of the contract requirements;
 - 3. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices;
 - 4. Conducting the preliminary job-site meeting with the Contractor's official job representative;
 - 5. Supervising the taking of test cuts, and the restoration of such areas;
 - 6. Rendering any other inspection services which the Owner may designate; and
 - 7. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.
- G. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of his/her contractual responsibilities.

1.10 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such adjustments in extension of time as may be acceptable to the Owner. The value of such extra work shall be determined in one of the following ways:
 - 1. By firm price adjustment;
 - 2. By cost plus with a guaranteed maximum;
 - 3. By cost with a fixed fee; or
 - 4. By unit cost.
- B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owner's Representative shall have

authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.

- C. All work covered by unit prices submitted by the Contractor in his/her proposal must be covered by a written work order. The Owner's Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order which will be written at the end of each day, will be signed by the Owner's Representative and the Contractor's foreman and/or superintendent.

1.11 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

- A. The Contractor shall promptly remove any work that does not meet the requirements of the plans and specifications or is incorrectly installed or otherwise disapproved by the Owner or the Owner's Representative as failing to meet the intent of the plans and specifications. The Contractor shall promptly replace any such work without expense to the Owner and shall bear the cost of making good all work of other contractors, or the Owner, destroyed or damaged by such removal or replacement.

1.12 CORRECTION OF WORK AFTER FINAL PAYMENT

- A. The Contractor shall guarantee all materials and workmanship for five (5) years from date of final payment of the contract by the Owner. Any defects which may arise during this period shall be promptly repaired by the Contractor including any damage done to the Owner's property due to such defects.

1.13 DEDUCTION FOR UNCORRECTED WORK

- A. If the Owner deem it unacceptable to have the Contractor correct work which has been incorrectly done, a deduction from the contract price shall be agreed upon therefore. Such a deduction from the contract price shall in no way affect the Contractor's responsibility for defects which may occur nor his/her ability for correcting them, and damage caused by them.

1.14 LIENS

- A. The Contractor shall, if required by the Owner, furnish him/her with a release in full of all liens arising out of this contract or in lieu thereof, and receipts in full for all materials and labor on the job. In either case, the Contractor shall furnish an affidavit that the liens or receipts include all the labor and material for which a lien could be filed. In lieu of the above, the Contractor may at his/her option furnish a bond to indemnify the Owner against all hazard of liens. Neither part nor final payment shall in any way release the Contractor from the above obligation and in the event that part or full payment has been made and any lien remains undischarged, the Contractor shall refund to the Owner the necessary funds to discharge such a lien including all cost and attorney's fees.

1.15 JOB CONDITIONS

- A. All surfaces to be covered shall be smooth, dry, and free from dirt, debris, and foreign material before any of this work is installed. The Contractor shall be responsible for guarding against fires, and shall provide suitable fire extinguishers conveniently located at the site. Competent operators shall be in attendance at all times equipment is in use. Materials shall be stored neatly in areas designated by the Owner and dispersed so as to present a minimum fire hazard. Loads placed on the roof at any point shall not exceed the safe load for which the roof is designed.

- B. There is NO SMOKING allowed on the roof and the Contractor shall be responsible for enforcement of this job rule at all times with his/her personnel.
- C. The Contractor should be aware of Owner's property when tearing off the existing roof. This is required for removal of dirt, silt, debris, roof membrane and insulation from the roof surface in order to preserve the ecology, eliminate unsightly conditions and protect building surfaces. Specific locations will be discussed at the pre bid conference.
- D. Rolled Roofing Materials: All rolled roofing materials must be stored standing on end on a pallet or otherwise raised off of the roof. The materials are to be covered in a proper manner to assure that they will not become wet prior to application. Any materials that become wet or damaged must be removed from the job-site and replaced at the Contractor's expense.
- E. Ladders: Any ladders used on this project must be in good condition. The ladder must also be secured at the roof line at all times while in use. All ladders must be O.S.H.A. approved.
- F. No drugs or alcoholic beverages are permitted on the grounds.
- G. The Contractor shall place necessary barriers and/or protection around or under all work areas where his/her operations involve risk of injury to personnel.
- H. The Contractor will also protect the building structure from damage in the process of the job. In the event that damage does occur to any property or equipment, or the Owner's work in process, notification must be made within two (2) working days of the incidents to the Owner and Owner's Representative.
- I. During the progress of the job, if waste material and rubbish are found or damage resulting from the Contractor's operations is found, or the Contractor does not comply with the requirement by keeping the premises free of accumulations and correct the damage, it shall be the Owner's prerogative to hire personnel to do so; and the cost of this work will be deducted from the balance due the Contractor.
- J. Existing roof top equipment, walls, windows, etc. shall be completely protected by masking or other effective methods. Any mastics or asphalt must be cleaned off metal surfaces.
- K. The Contractor is responsible for protecting all materials from the elements. If any material, such as insulation, becomes wet, it cannot be installed and must be replaced at the Contractor's expense.
NOTE: Insulation and rolled roofing materials must be covered with waterproof tarps at the end of each work day. Plastic wrappers supplied by the insulation manufacturer are not acceptable substitutes for tarps. The Owner's Representative will reject any covering method or material which does not adequately protect roofing materials.
- L. Anyone guilty of willful destruction or unlawful removal of company property will be dismissed from the job and is subject to prosecution by law.
- M. Any lawns damaged by Contractor vehicles will be restored with a stand of grass at the Contractor's expense. Any damaged pavements will likewise be restored and at the Contractor's expense.
- N. The Contractor must verify that all materials can be installed to accommodate the building design, pertinent codes and regulations, and the manufacturer's current recommendations.
- O. The Contractor will ensure that all substrates are clean, dry, sound, smooth, and free of dirt, debris, and other contamination before any materials are supplied.
- P. Any isolated areas that must be torn off and replaced will be built-up to the height of the existing roof prior to the installation of the new roofing membrane system.

1.16 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval

of the Owner or Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of specifications and drawings on the job-site at all times.

- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

1.17 INSULATION

- A. Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cant, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back ½" from vertical surfaces and sumps. Insulation shall be protected from the weather at all times. No more insulation shall be laid than can be completely covered with roof materials on the same day. A base sheet shall not be considered as a proper weather barrier.
- B. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation. If roofing is in place, the roofing shall be also replaced. All replacing work shall be done at no added cost to the Owner.

1.18 ROOF DECK

- A. Contractor shall notify the Owner or Owner's Representative of any unforeseen areas of wet insulation. Where the damage is serious and extensive, it will be the Owner's prerogative to authorize removal and replacement of deteriorated roofing, insulation and repair of the vapor barrier, if present. Where damage to the roof deck is found, the Contractor shall furnish the Owner with a unit price for removal and replacement of the damaged deck.

1.19 SAFETY

- A. Contractor shall conform to requirements as designated by the United States Federal Government (O.S.H.A.). Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.
- B. Contractors hereby acknowledged that they and their workers have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.

1.20 INSURANCE

- A. All certificates of Insurance must specify the following: Certificate Holder is named additional insured with respect to work performed for them by the named insured.
- B. The following standard indemnity agreement and minimum insurance requirements are incorporated in the Specifications for all work performed by Contractors for the Owner, its affiliated and associated organizations or subsidiaries, hereinafter referred to as Owner.
 - 1. THE CONTRACTOR AGREES TO INDEMNIFY AND SAVE THE OWNER AND OWNER'S REPRESENTATIVE HARMLESS FROM AND AGAINST ANY AND ALL COSTS, LOSS AND EXPENSE, LIABILITY DAMAGES, OR CLAIMS FOR DAMAGES, INCLUDING COST FOR DEFENDING ANY ACTION, ON ACCOUNT OF ANY INJURY TO PERSONS (INCLUDING DEATH) OR DAMAGE TO OR DESTRUCTION OF PROPERTY OF THE OWNER, ARISING OR RESULTING FROM THE WORK PROVIDED FOR OR PERFORMED, OR FROM ANY ACT, OMISSION, OR NEGLIGENCE OF THE CONTRACTOR, SUBCONTRACTOR AND THEIR AGENTS OR EMPLOYEES. THE FOREGOING PROVISIONS SHALL IN NO WAY BE DEEMED RELEASED, WAIVED OR MODIFIED IN ANY RESPECT BY REASON OF ANY INSURANCE OR SURETY PROVIDED BY THE CONTRACTOR.

2. All sub-contractors are required to file Certificates of Insurance properly completed and signed by an authorized insurance company representative before their work commences on the job or job site. No monies will be paid until the acceptable certificates are on file with the Contractor. Such certificates shall provide that there will be no cancellation, reduction or modification of coverage without thirty (30) days prior written notice to the Contractor. In the event such certificates are not provided to the Contractor prior to commencement of work, Contractor's failure to demand such certificates shall not be deemed a waiver of Subcontractor's requirement to obtain the subject insurance.
3. The Contractor shall provide and maintain standard fire, extended coverage perils, vandalism and malicious mischief insurance to protect the interest of both the Contractor and the Owner for materials brought into the job or stored on the premises. Such insurance shall be for 100% of the insurable value of the work to be performed including all items of labor and materials incorporated therein, materials stored at the job-site to be used in completing the work, and such other supplies and equipment incidental to the work as are not owned or rented by the Contractor, the cost of which are included in the direct cost of the work. This insurance shall not cover any tools, derricks, machinery, tar buckets, ladders, engines, workmen's quarters, boilers, pumps, wagons, scaffolds, forms, compressors, shanties, or other items owned or rented by the Contractor, the cost of which is not included in the direct cost of the work.
4. The Contractor and subcontractor(s) shall maintain the following minimum insurance limits:
 - a. Workmen's Compensation and Employer's Liability Insurance affording:
 1. Protection under the Workmen's Compensation Law of the States in which the work is performed; and
 2. Employer's Liability protection subject to a minimum limit of \$1,000,000.
 - a. Comprehensive General Liability Insurance in amounts not less than:

Personal Injury	\$1,000,000 per person
(including bodily injury)	\$1,000,000 per occurrence
Property Damage	\$1,000,000 per occurrence
Annual aggregate	\$2,000,000
 - b. Comprehensive Automobile Liability Insurance in the following minimum amounts:

Bodily Injury	\$1,000,000 per person
	\$1,000,000 per occurrence
Property Damage	\$1,000,000 per occurrence
 - c. Installation Floater

Value of Materials	\$500,000
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5. The contractor is to also have a Business Umbrella Liability policy for \$2,000,000.
 - a. This insurance shall:
 1. Include coverage for the liability assumed by the Contractor under this section (Indemnity).
6. Includes coverage for:
 - a. Premises, operations and mobile equipment liability.

- b. Completed operations and products liability.
 - c. Contractual liability insuring the obligation assumed by the subcontractor in this agreement.
 - d. Liability which subcontractor may incur as a result of the operations acts or omissions of subcontractors, suppliers or materialmen and their agents or employees; and
 - e. Automobile liability including owned, non-owned and hired automobile.
7. All coverage will be on an occurrence basis and on a form acceptable to the Contractor.
- a. Include completed operation coverage which is to be kept in force by the Contractor for a period of not less than one year after completion of the work provided for or performed under these specifications;
 - b. Not be subject to any of the special property damage liability exclusions commonly referred to as the exclusions pertaining to blasting or explosion, collapse or structural damage and underground property;
 - c. Not be subject to any exclusion of property used by the insured or property in the case, custody or control of the insured or property as to which the insured for any purpose is exercising physical control; and
 - d. The Certificates of Insurance furnished by the Contractor shall show by specific reference that each of the foregoing items have been provided for.
 - e. The Certificates of Insurance furnished by the Contractor as evidence of the Insurance maintained by him shall include a clause obligating the Insurer to give the Owner thirty (30) days prior written notice or cancellation of any material change in the insurance.

1.21 WORK HOURS AND DAYS

- A. When the bid is awarded, the Contractor will contact the Owner's Representative to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is to be bid under the assumption that all work will be performed on a straight time basis.

1.22 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

1.23 OWNER'S RULES

- A. The Contractor and all his/her personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Owner's Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to roof areas with very poor condition and which will be worked on. After such notification, the Contractor must take all necessary precautions to ensure the safety of his/her employees as well as the building personnel.

1.24 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the United States Federal Governments (e.g., O.S.H.A.).

1.25 ANTI-DISCRIMINATION IN EMPLOYMENT

- A. Contractors and subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of his/her contract, with respect to his/her hire, tenure, terms, conditions or privileges of employment because of his/her race, color, gender, sexual preference, religion, national origin, or ancestry.

END OF SECTION 01 20 00

SECTION 01 21 00
INSTRUCTIONS TO BIDDERS

1.1 SUBMISSIONS OF BIDS

- A. Richland School District One does not accept responses to this Invitation by facsimile or email.
- B. Bidders can submit bids by hand or mail to ATTN: Mrs. Carolyn Leigh Hodges, Construction Contracts Manager, Richland School District One, 201 Park Street, Columbia, SC 29201: Bid Enclosed: Arden Elementary School 2025 Low Slope Roof Replacement by May 21, 2025 at 2:00 pm EST.
- C. Samples of items, when required, must be submitted within five (5) calendar days and at no expense to the Richland School District One unless otherwise specified by the District. If not consumed by testing, samples will be returned at bidder's request and expense unless otherwise specified in the Invitation.
- D. The bidder must comply with all bid instructions and provide sufficient detail for the response to be properly evaluated. Any deficiencies in this regard will be determined by Richland School District One Purchasing Agent to be either a defect that the Agent can waive or that the response can be sufficiently modified to meet the bid requirements.

1.2 WITHDRAWAL OR MODIFICATION OF BID

- A. Written bid submittals: Prior to the bid submittal deadline, bidders may modify or extract their written bid.

1.3 BID OPENINGS

- A. Bids will be opened publicly and read aloud at the Richland County School District One, Procurement Services, 201 Park Street, Columbia, SC 29201 May 21, 2025 at 2:00 pm EST.

1.4 QUESTIONS

- A. Technical questions regarding this bid can be directed to: james@bmcusa.net no later than May 14, 2025, 3:00 pm EST. Answers will be posted online at <https://www.richlandone.org/departments/procurement-services/solicitations> by the end of day May 14, 2025.
- B. If the Contractor feels a conflict exists between what is considered good roofing practice and these specifications, he/she shall state in writing all objections prior to submitting quotations.
- C. It is the Contractor's responsibility, during the course of the work, to bring to the attention of the Owner's Representative any defective membrane, insulation or deck discovered which has not been previously identified.

1.5 RESPONSIBILITY FOR MEASUREMENTS AND QUANTITIES

- A. The Bidding Contractors shall be solely responsible for all accuracy of all measurements and for estimating the material quantities required to satisfy these specifications.

1.6 DISCREPANCIES AND ADDENDA

- A. Should a Bidder find any discrepancies in the Drawings and Specifications, or should he be in doubt as to their meaning, he/she shall notify Richland School District One at james@bmcusa.net who will publish an Addendum to all Bidders. Oral instructions or decisions, unless confirmed by Addenda, will not be considered valid, legal or binding.
- B. No extras will be authorized because of the Contractor 's failure to include work called for in the Addenda in his/her bid.
- C. It shall be the responsibility of all Bidders to call to the Owner's attention at the prebid meeting, any discrepancies which may exist between or with any of the contract documents, or any questions which may arise as to their true meaning.
- D. Modifications to the specifications (if necessary) will be followed by an addendum; no verbal discussions or agreements shall be recognized.
- E. Bid Addenda, if issued, are posted at the link:
<https://www.richlandone.org/departments/procurement-services/solicitations> . Prior to submitting a Bid, it is the responsibility of the Bidder to ascertain that they have received all addenda issued and bid accordingly.

1.7 COMPETENCY OF THE BIDDER

- A. To enable the Owner to evaluate the competency and financial responsibility of a Contractor, the low Bidder shall, when requested by the Owner, furnish the information indicated, entitled Contractor's Qualification Statement, which shall be sworn to under oath by him/her or by a properly authorized representative of the Bidder.

1.8 DISQUALIFICATION OF BIDDERS

- A. Any one or more of the following causes may be considered sufficient for the disqualification of a Bidder and the rejection of his/her bid(s):
 - 1. Evidence of collusion among Bidders;
 - 2. Lack of responsibility as revealed by either financial, experience or equipment statements, as submitted;
 - 3. Lack of expertise as shown by past work, and judged from the standpoint of workmanship and performance history;
 - 4. Uncompleted work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded; or
 - 5. Being in arrears on existing contracts, in litigation with an Owner, or

having defaulted on a previous contract.

1.9 NOTICE OF AWARD

- A. The award of this contract for the work is contingent upon receipt of an acceptable bid. Any part of or all bids may be rejected. All bids shall be good for a period of sixty (60) days following the date the bids are due. The contract shall be deemed as having been awarded when the formal notice of acceptance of his/her proposal has been duly served upon the intended awardee by an authorized officer or agent of the Owner.

1.10 WARRANTY

- A. A Twenty (20) Year NDL written warranty, which will commence from date of acceptance by Manufacturer, must be supplied with the roof installation. The written warranty must be signed by the system manufacturer agreeing to promptly repair leaks in the roof membrane and base flashings resulting from defects in materials for the warranty period.
- B. A Three (3) year workmanship warranty is required from the Contractor for all remedial maintenance done under the terms of this contract.

1.11 START AND COMPLETION DATE

- A. Work shall begin within thirty (30) days from the award of this contract, or as set forth in the Notice To Proceed.
- C. All work as required in these specifications and drawings shall be completed within the time agreed upon in the contract.
- D. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out his/her work, so that it will be started and completed in a professional manner within the time period indicated per these written instructions.
- E. If the Contractor sets equipment onto the job-site without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the Contractor at no cost to the Owner, must remove his/her equipment and possessions from the job-site upon notification by the Owner.

1.12 CONTINGENCY

- A. In accordance with the executed owner agreement, the Bidder will include a Contingency in his/her bid in the amount of \$25,000.00. It is understood and agreed that such contingency funds are to be used for unforeseen condition costs to complete work considered to be within the original scope of work but which exceed the established estimated costs. The Contingency can be used for construction-related changes only. Change Orders for use of the Contingency funds shall be classified and tracked as unforeseen site conditions and Unit Price totals. Use of contingency funds must be approved in writing by Building Management Consultants and the Owner prior to requesting and/or approval of any funds

via a Change Order. All contingency fund charges will be tracked on the Schedule of Values by the approved contractor. Any amount of the Contingency remaining unused upon the issuance of a Substantial Completion Certificate of the Project, or upon the earlier termination of this Contract, shall be confirmed by the written certification of Building Management Consultants to the Owner. Also, at the time of the issuance of the Substantial Completion Certificate, any funds remaining in the Contingency amount shall be returned to Blount County via a deductive change order prior to final payment.

1.13 ALLOWANCE

- A. Allow for 250 Square Feet of metal roof decking replacement in the base bid.
 - 1. Fill in holes from removed abandoned roof equipment.
 - 2. Removal and replacement of damaged or rusted metal decking.

1.14 LIQUIDATED DAMAGES:

- A. Time being of the essence and a matter of material consideration thereof, a reasonable estimate in advance is established to cover losses incurred by the Owner if the project is not substantially complete in 90 days from the Notice to Proceed and as set forth in the Contract Documents. The Contractor and his Surety will be liable for and will pay the Owner the sum of \$500.00 per day as per the Standard Form of Agreement Between the Owner and the Contractor as fixed and agreed as liquidated damages for each calendar day of delay until the work is substantially complete unless circumstances dictate otherwise in the discretion of the Owner. No weather delay days will be allowed.

1.15 WEATHER DAYS:

- A. The table below defines the monthly anticipated adverse weather for the contract period and is based upon NOAA or similar data for the geographic location of the project.

MONTHLY ANTICIPATED ADVERSE WEATHER CALENDAR DAYS											
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
9	9	9	8	9	11	12	11	8	7	8	10

- 1. The above table constitutes the base line for monthly (or portion thereof) adverse weather evaluations. Actual adverse weather days are to be recorded on a calendar day basis, excluding weekends and holidays, and compared to the monthly anticipated adverse weather at the end of each month. Once the number of factually adverse weather days anticipated in the table above has been incurred, the Consultant will examine any subsequently occurring adverse weather days to determine whether or not the Contractor is entitled to a time extension. These subsequently occurring adverse weather days must incur a minimum of .1" precipitation, must prevent work for 50% or more of the Contractor's workday and must delay work critical to the timely completion of the project in order to qualify for an extension of time. Delays caused by extreme heat or cold will not be

considered weather days. Additional time will not be added to Contract Time for work that was delayed on subsequent days to actual weather days as a result of the actual rain days. Weather days may not be requested for portions of the Work that occur in the interior of the building. An onsite daily log of weather conditions is to be maintained by the project superintendent.

1.16 PAYMENT

- A. Payment for materials shall only be made after the material has been delivered to the job-site. An invoice for the material must be presented to the Owner for payment. Materials are not to be delivered to the job-site until the project is ready to begin. The Contractor must provide a release of lien from the Material Manufacturer. Subsequent requests for payment can be made monthly. Final payment for the project will be made following completion, after the final inspection has been made and an invoice presented to the Owner.
- B. A 3.5% retainer as per SC Code § Section 11-35-3030 shall be held on all invoiced and paid balances, and until the delivery of warranties and all close out documents are provided by the contractor to the owner.
- C. When the job progress is interrupted for two (2) weeks or longer by causes beyond the Contractor's control such as a strike, weather, acts of God, etc., the Owner agrees to pay, upon request of the Contractor, a price equivalent to the percentage of work completed at that time. Regular progress payments shall be made for labor and/or materials.
- D. Each invoice shall be accompanied by a detailed estimate of the amounts and values of labor expended and materials purchased up to the last day of the preceding month. The amount of the invoice shall not exceed ninety percent (96.5%) of the labor and material values estimated for the preceding month.
- E. Such payments shall be viewed by both parties as progress payments and shall not in any way relieve the Contractor of performance obligations under this contract, nor shall such payments be viewed as approval or acceptance of work performed under this contract.
- F. Final payment shall be withheld until all provisions of the specifications are met, including all necessary cleanup, and the Owner receives written verification of completion.
- G. Upon completion of the job, the Owner, the Owner's Representative, and the Contractor will make final inspection of the work done, and the Owner's Representative will sign a completion slip authorizing final payments.
- H. All payments for material used in the execution of this contract can be made by a check issued jointly, payable to the Contractor and Owner's Representative if requested by Owner's Representative.

- I. If requested by the Owner and/or Owner's Representative, the Contractor shall provide a Letter of Credit from the bank to secure payment to material supplier.
- J. If requested by the Owner and/or Owner's Representative, a check shall be paid by the Contractor to material supplier prior to release of order.
- K. If requested by the Owner and/or Owner's Representative, a check shall be paid by the Contractor to material supplier via common carrier upon receipt of delivery.
- L. Contractor shall have a pre-approved line of credit from the material supplier.
- M. Final payment shall be made to the Contractor no later than thirty (30) days after job approval, providing the Contractor submits waivers of lien with his/her final invoice indicating that all suppliers have been paid.

1.17 PERFORMANCE AND PAYMENT BOND

- A. The successful Contractor will be responsible for securing a performance and payment bond from an acceptable bonding company. The cost of the bond will be paid directly by the Contractor.
- B. If the successful Bidder is incorporated, an affidavit authorizing persons to sign for the Corporation is required.

1.18 TERMINATION BY THE OWNER FOR CAUSE

- A. The Owner may terminate the contract and finish the work by whatever reasonable method he/she deems expedient if the Contractor:
 - 1. Persistently or repeatedly refuses to supply specified materials or to provide enough skilled workers to ensure the project will be completed within the time period indicated per these written instructions;
 - 2. Fails to make payment to sub-contractors and/or suppliers for labor and materials as stipulated in the contract documents; and
 - 3. Is guilty of substantial breach of a provision of the contract documents.
- B. When the Owner terminates the contract for any of the above reasons, the Contractor shall not be entitled to receive further payment until the work is finished. If the unpaid balance of the contract sum exceeds the cost of finishing the work, it will be paid to the Contractor. If the cost to finish the work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner.

1.19 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.

1.20 JOB COMMUNICATION

- A. The General Contractor shall be responsible for scheduling, and implementing a 30-minute weekly conference call among the Mechanical and Electrical Subcontractors, the General Contractor, Consultant, and Consultant's Mechanical and Electrical Consultants.
- B. Consultant shall be given 24-hours' notice, minimum, before any required inspection, meeting, etc.

END OF SECTION 01 21 00

SECTION 01 22 00
CONTRACTORS INSTRUCTIONS

1.1 DESCRIPTION OF WORK

- A. The Work includes the provision of all labor, material, equipment, management, coordination, supervision and administration to complete the Work as outlined.
- B. The Contractor shall complete the following work. The following outline of work is noted by System. The work to be completed is the Base Bid Low Slope Roofs.

The work includes, but is not limited to the following:

System #1 Base Bid:

- a. Remove all existing low slope roofing and flashings including insulations and metal accessories.
- b. Remove and dispose of obsolete equipment, as noted by the specifications, repair roof deck as specified with new metal decking.
- c. Replace any existing rusted metal decking as discovered during tear off per Unit Price.
- d. Mechanically attach 1" base layer of Polyisocyanurate insulation to the existing metal deck.
- e. Fully adhere in Low Rise Foam Adhesive ¼" Polyisocyanurate taper system to the base Polyisocyanurate layer for a 1 ½" start at the roof drains.
- f. Fully adhere in Low Rise Foam adhesive ¼" gypsum cover board to taper system.
- g. Fully adhere in specified cold process adhesive two (2) plies modified bitumen membrane to coverboard.
- h. Install ½" plywood at all under soffit walls
- i. Install modified bitumen membrane base and cap flashings in specified flashing adhesive at under soffit walls, AC Units, roof curbs, and any detail specified by the specifications and per the manufacturer's installation instructions.
- j. Install new wood nailer to the perimeter edge where specified.
- k. Install new 24-gauge Kynar edge metal, wall counter flashings, and roof curb unit metal where specified.
- l. Inspect all existing roof drains and replace broken or damaged components as needed.
- m. Lift AC Units as needed to install new base and cap flashings.
- n. Reuse existing pipe supports, install new modified bitumen membrane slip sheet at each support.
- o. Paint all roof drains safety red.
- p. Install walk pads on the roof where specified.
- q. Provide manufactures 20-year limited roof warranty.
- r. Provide contractors 3-year labor warranty.

1.2 TAXES

- A. The Contractor shall accept sole and exclusive responsibility for any and all state and federal taxes with respect to Social Security, old age benefits, unemployment benefits, withholding taxes and sales taxes.
- B. The contractor is responsible for all material sales and use tax.

1.3 CONTRACTOR'S LICENSE

- A. All pertinent South Carolina state and local licenses will be required.
- B. All Bidders must be licensed in the category of General Contractor General Roofing Group #5 as

required by the South Carolina Contractor's Licensing Board as per Section 40-11-05 South Carolina Code of Laws as currently amended.

1.4 REQUIRED ITEMS INCLUDED WITH BID

- A. 5% Bid Bond
- B. Certificate of Non-Collusion

1.5 BUILDING PERMITS

- A. Contractor to verify all local, state, and/or federal permitting requirements. All costs are the responsibility of the Contractor.

1.6 JOB COORDINATION

- A. Contractor is responsible for daily communication with the Owner or Owner's Representative relating to areas of roof work in order that the Owner may adequately protect tenant's personal belongings, and the people themselves against possible damage or injury. Contractor is also responsible for policing and protecting areas involving removal and replacement of roof projections, defective decking or other work involving deck penetration.
- B. Forty-eight hours prior to starting of the project and/or delivery of materials, the Contractor shall notify: Building Management Consultants @ 423-648-5095.

1.7 CLEAN-UP

- A. Accumulated debris shall be removed periodically to assure maximum safety and sanitation at all times. At completion of work, the Contractor shall remove all excess material and debris from the site and leave all roof surfaces free from accumulations of dirt, debris and other extraneous materials. The Contractor shall also remove any and all drippage of bituminous materials from the face of the buildings, floor, window, ladders and other finished surfaces.

1.8 SUPERINTENDENT

- A. The Contractor shall keep a competent superintendent, satisfactory to the Owner and Owner's Representative, on the job at all times when work is in progress. The superintendent shall not be changed without notifying the Owner and the Owner's Representative unless the superintendent ceases to be in the employ of the Contractor.
- B. The superintendent shall represent the Contractor in his/her absence and all directions and instructions given to the superintendent shall be as binding as if given directly to the Contractor.
- C. The superintendent shall be responsible for the conduct of all the Contractor's employees on the premises and shall promptly take necessary measures to correct any abuses called to his/her attention by the Owner.

1.9 INSPECTIONS

- A. Before any material applications are made, the Owner or his/her representative and the material supplier representative shall be available to ensure a complete understanding of the specification.
- B. The accepted Material Manufacturer will have a representative on site a minimum of one (1) time a week to verify compliance with the specifications, answer questions that may arise and provide on-going inspection services.
- C. The contractor will provide to the Consultant/Owner a progress report once per week in written form.
- D. A final inspection shall be conducted by Owner, Contractor, and the Owner's Representative upon being notified of completion of specified work and clean-up.

END OF SECTION 01 22 00

SECTION 01 25 00
SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. General: materials, equipment, methods of construction, processes or products, not specifically indicated, may be acceptable to owner and consultant, but shall be approved in writing by consultant and owner.

1.2 REQUESTS FOR SUBSTITUTION

A. Procedure:

1. After the bid opening has been completed, owner and/or consultant shall not consider requests for substitutions of materials, equipment, methods of construction, processes, products, or other items.
2. Contractor shall submit requests no less than ten (10) days prior and in advance to the bid of the work and the consultant shall process requests for material substitutions in a timely manner.
3. Only substitution requests from contractors will be considered. Substitution request directly from manufacturers will not be considered or accepted.
4. Contractor shall submit two (2) copies in paper form or one (1) digital form of the request for substitution which shall include the following:
 - a. Complete data substantiating compliance of the proposed substitute with the drawings and specifications.
 - b. Proposed product substitution information including:
 - i. product identification; include manufacturer's name.
 - ii. Manufacturer's literature, including but not limited to product description, marked to indicate specific model, type, size, and options to be considered; performance and test data; reference standards; difference in power demand; and dimensional differences for specified unit.
 - iii. Names and addresses of three (3) similar re-roof projects in which product was used, including date of installation and field performance data.
 - iv. Where substitutions include modifications to other elements of the work, contractor shall provide revised design drawings stamped by a professional engineer for engineer and owner review.

B. Proposed methods of construction substitution information including:

1. Detailed description of proposed method.

2. Drawings illustrating method.
 - a. Itemized comparison of proposed substitution with product or method specified.
 - b. Data relating to changes in construction schedule.
 - c. Relation to separate contracts.
 - d. Accurate cost data on proposed substitution in comparison with product or method specified.
3. In making a request for substitution, or in using an approved substitute item, contractor represents:
 - a. Contractor has personally investigated proposed product or method, and has determined that it is equal or superior in all respects to that specified and that it shall perform the function for which it is intended.
 - b. Contractor shall provide the same guarantee for the substitute item as for the product or method specified.
 - c. Contractor shall coordinate installation of the approved substitution into the work, to include building modifications if necessary, making such changes as may be required for the work to be complete in all aspects.
 - d. Contractor waives all claims for additional costs related to the substitution which subsequently become apparent.

1.3 CONTRACTOR'S OPTION

- A. For products specified only by reference standards, contractor may select any product meeting standards by any manufacturer and indicate the selected type in the submission.
- B. For products specified by naming several products or manufacturers, contractor may select any product and manufacturer named and indicate the selected type in the submission.
- C. For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or equivalent" after specified product, contractor must submit request, as required for substitution, for any product not specifically named.

1.4 CONSULTANT'S APPROVAL

- A. Substitutions and/or options will not be considered if they are indicated or implied on shop drawings or project data submittals without a formal request submitted in accordance with this section.
- B. Consultant shall indicate approval or disapproval of the requested substitution(s) either by separate letter or by endorsement on contractor's letter of request.
- C. Any additional cost incurred by an approved substitution (including engineering costs of redesign) will be at contractor's expense.
- D. Contractor shall obtain consultant's written approval of substitutions prior to submitting bids. Should contractor include a bid before consultant approves of same, and if they are disapproved by the consultant, any costs differences from the specified material will be at contractor's expense.

- E. Consultant, with timely notice being given by contractor, shall inspect all substituted materials, equipment or products for conformance with substitution approvals, prior to bid.
- F. Consultant reserves the right to require substitute items to comply in color and pattern with specified items, if necessary, to secure “design intent”.

1.5 TRADEMARKS, COPYRIGHTS AND PATENTED DEVICES, MATERIALS, AND PROCESSES

- A. It shall be the burden and responsibility of contractor to determine, before bidding, the existence of any patents, trademarks, or copyrights which are in any way infringed upon by the drawings and specifications.
- B. Contractor shall include, or be considered as having included in the price or prices in the bid, which becomes a part of the contract, a sufficient sum to cover all fees, royalties and claims for any material, patent rights, machine, appliance, copyright, trademark, or any arrangement that may be used upon or in any manner connected with or appurtenant to the work.
- C. If contractor is required or desires to use any design, device, material, or process covered by letters, patents, copyrights, or trademarks, contractor shall provide for such use by suitable written agreement with the patentee or patent owner, copyright owner, or trademark owner, which agreement shall provide that there will be no future or continuing royalties or payments by contractor or by owner. Contractor and the surety shall, at all times, defend, save harmless, and indemnify owner, local government, consultant, and each of their officers, agents, and employees from and against all such fees, royalties, and claims or suits in connection therewith by reason of any infringement or alleged infringement of such patent rights, copyrights, or trademark rights.
- D. Contractor shall pay all applicable royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and save owner, local government and engineer harmless from loss on account thereof, except that owner shall be responsible for any such loss when a particular process, design, or the product of a particular manufacturer or manufacturers is specified. However, if contractor has reason to believe that the design, process or product specified is an infringement of a patent, contractor shall be responsible for such loss unless contractor promptly gives such information to consultant or owner.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 25 00

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction and site mobilization meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Progress photographs and daily reports.
- E. Submittals for review, information, and project closeout.
- F. Number of copies of submittals.

1.02 RELATED REQUIREMENTS

- A. Section 01 33 00 -- Submittals.

1.03 PROJECT COORDINATION

- A. Owner Representative: Building Management Consultants, The Owner's Representative will have the authority to act on behalf of the Owner to the extent provided in the contract documents and shall have access to the Work at all times.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for material delivery access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Consultant's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.
- G. Make the following types of submittals to Consultant:
 - 1. Requests for interpretation.
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Design data.
 - 6. Manufacturer's instructions and field reports.
 - 7. Applications for payment and change order requests.
 - 8. Progress schedules.
 - 9. Coordination drawings.
 - 10. Correction Punch List and Final Correction Punch List for Substantial Completion.
 - 11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION/SITE MOBILIZATION MEETING

- A. Consultant will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Consultant

3. Contractor.
 4. Any approved sub-contractors.
- C. Agenda:
1. Use of premises by Owner and Contractor.
 2. Owner's requirements.
 3. Construction facilities and controls provided by Owner.
 4. Temporary utilities provided by Owner.
 5. Security and housekeeping procedures.
 6. Schedules.
 7. Procedures for maintaining record documents.
 8. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
 9. Designation of personnel representing the parties to Contract, sub-contractors and Consultant.
 10. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.

3.02 PROGRESS MEETINGS

- A. Contractor will make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.
- B. Attendance Required:
1. Contractor.
 2. Owner.
 3. Consultant.
 4. Contractor's Superintendent.
 5. Major Subcontractors.
 6. The Owner and/or Consultant have the right to require attendance by the Contractor's Ownership at any or all project meetings.
 7. Contractor shall arrange for attendance by manufacturer's representatives when appropriate or when requested by the Owner or Consultant.
- C. Agenda:
1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems that impede, or will impede, planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Maintenance of progress schedule.
 7. Corrective measures to regain projected schedules.
 8. Planned progress during succeeding work period.
 9. Maintenance of quality and work standards.
 10. Effect of proposed changes on progress schedule and coordination.
 11. Other business relating to Work.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- B. Within 10 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- C. Within 10 days after joint review, submit complete schedule.

3.04 PROGRESS PHOTOGRAPHS/DAILY REPORTS

- A. Once a week field reports by the contractor must be generated to include verification that

all procedures have been reviewed as applicable that day. All weather conditions, dew points, wind, relative humidity, temperature, type and quality of materials used, manufactures batch codes and/or production dates for all materials, location(s) of work, manpower, equipment, and sequence of work is to be logged within the report.

- B. Photography Type: Digital; electronic files.
- C. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Consultant.
- D. Digital Photographs: minimum resolution of 12 MP, in JPEG, HEIF, or HEVC format; provide files unaltered by photo editing software.
 - 1. Delivery Medium: Via email, Dropbox, or USB drive.
 - 2. File Naming: Include project identification, date and time of view, and view identification.
 - 3. PDF File: Assemble all photos into printable pages in PDF format.

END OF SECTION 01 30 00

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary sequence schedule with durations.
- B. Construction progress schedule, typed with drop sequence numbered and duration days including mobilization and demobilization.

1.02 RELATED SECTIONS

- A. Section 01 10 00 - Summary: Work sequence.

1.03 REFERENCE STANDARDS

- A. AGC (CPSM) - Construction Planning and Scheduling Manual; 2004.

1.04 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the first 60 days of Work, with a general outline for remainder of Work.
- B. Within 10 days after joint review, submit complete schedule.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a typed word document or bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- D. Provide legend for symbols and abbreviations used.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Indicate changes required to maintain Date of Substantial Completion.

3.05 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to subcontractors, suppliers, Consultant, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION 01 32 16

**SECTION 01 33 00
SUBMITTALS**

Part 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Contract General Conditions.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including:

1. Contractor's construction schedule
2. Submittal schedule
3. Shop Drawings
4. Product Data
5. Samples.

1.03 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Architect shall return without action any submittals requiring coordination with other submittals until related submittals are coordinated.
3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
 - a. See General Conditions and Supplementary General Conditions for additional requirements.
 - b. If an intermediate submittal is necessary, process the same as the initial submittal.
 - c. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.

- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
2. Include the following information on the label for processing and recording action taken:
 - a. Project name
 - b. Date
 - c. Name and address of Consultant
 - d. Name and address of Contractor
 - e. Name and address of subcontractor
 - f. Name and address of supplier
 - g. Name of manufacturer
 - h. Number and title of appropriate Specification Section
 - i. Drawing number and detail references, as appropriate.

- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action. On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.05 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following information:
 - Dimensions
 - Identification of products and materials included
 - Compliance with specified standards
 - Notation of coordination requirements
 - Notation of dimensions established by field measurement.
- C. Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8-1/2" x 11" but no larger than 30" x 42".
- D. Submittals: Submit one three (3) blue- or black-line print for the Consultants review; one print will be returned. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.

1.06 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog, cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
 - 1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - Manufacturer's printed recommendations,
 - Compliance with recognized trade association standards,
 - Compliance with recognized testing agency standards,
 - Application of testing agency labels and seals,
 - Notation of dimensions verified by field measurement,
 - Notation of coordination requirements.
 - 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- B. Submittals: Submit a minimum of three (3) copies of each required submittal as well as additional copies as required by the Consultant, (the actual number of submittals and distribution required shall be determined by the Owners Representative at the Preconstruction Conference). The Consultant will return one set marked with action taken and corrections or modifications required.

- C. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities.
 - 1. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
 - 2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.07 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
 - 1. Mount, display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to include the following:
 - Generic description of the Sample
 - Sample source
 - Product name or name of manufacturer
 - Compliance with recognized standards
 - Availability and delivery time.
 - 2. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
- B. Preliminary submittals: Where Samples are for selection of color, pattern, texture or similar characteristics from a range of standard choices, submit a full set of choices for the material or product. Preliminary submittals will be reviewed and returned with the Consultants mark indicating selection and other action.
- C. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation, and similar characteristics, submit 3 sets; one will be returned marked with the action taken. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
- D. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the Work. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.

1.08 CONSULTANT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Consultant will review each submittal, mark to indicate action taken, and return promptly. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Consultant will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:

1. Final Unrestricted Release: Where submittals are marked "Approved," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. Final-But-Restricted Release: When submittals are marked "Approved as Noted," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
3. Returned for Resubmittal: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
 - b. Note: Any work performed prior to receiving a FULLY APPROVED submittal shall be done at the contractor's own risk and is subject to being replaced if any of the submittal requirements are not met.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 – EXECUTION

3.01 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.
 5. Tapered insulation layout (if needed).
 6. Fastening pattern of polyisocyanurate insulation to metal deck from manufacturer Technical Services.
- B. Submit to Consultant for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Shop Drawings: Provide:
 1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansion joints, penetrations, and drains.
 2. For tapered insulation, provide project-specific layout and dimensions for each board.
- D. Samples will be reviewed only for aesthetic, color, or finish selection.
- E. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - Closeout Submittals.

3.02 SUBMITTALS FOR INFORMATION

- A. When the following are specified in individual sections, submit them for information:
 1. Design data.
 2. Certificates.
 3. Test reports.
 4. Inspection reports.
 5. Manufacturer's instructions.
 6. Manufacturer's field reports.
 7. Other types indicated.
- B. Submit for Consultant's knowledge as contract administrator or for Owner. No action will

be taken.

C. Shop Drawings: Provide:

1. The roof membrane manufacturer's standard details customized for this project for all relevant conditions, including flashings, base tie-ins, roof edges, terminations, expansionjoints, penetrations, and drains.
2. For tapered insulation, provide project-specific layout and dimensions for each board.

3.03 SUBMITTALS FOR PROJECT CLOSEOUT

- A. Submit Correction Punch List for Substantial Completion.
- B. Submit Final Correction Punch List for Substantial Completion.
- C. When the following are specified in individual sections, submit them at project closeout:
 1. Project record documents.
 2. Operation and maintenance data.
 3. Warranties.
 4. Bonds.
 5. Other types as indicated.
- D. Submit for Owner's benefit during and after project completion.

3.04 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches (215 x 280 mm): Submit the number of copies that Contractor requires, plus two copies that will be retained by Consultant.
- B. Documents for Information: Submit three copies.
- C. Samples: Submit the number specified in individual specification sections; one of which will beretained by Consultant.
 1. After review, produce duplicates.
 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.05 SUBMITTAL PROCEDURES

- A. Shop Drawing Procedures:
 1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpretingthe Contract Documents and coordinating related Work.
 2. Generic, non-project specific information submitted as shop drawings do not meet therequirements for shop drawings.
- B. Transmit each submittal with a copy of approved submittal form.
- C. Sequentially number the transmittal form. Revise submittals with original number and asequential alphabetic suffix.
- D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number,and specification section number, as appropriate on each copy.
- E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification ofProducts required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may bedetrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Consultant review stamps.

- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.

END OF SECTION 01 33 00

**SECTION 01 35 53
SECURITY PROCEDURES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Security measures including entry control, personnel identification, and miscellaneous restrictions.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: use of premises and occupancy.

1.03 SECURITY PROGRAM

- A. Protect Work, existing premises and Owner's operations from theft, vandalism, and unauthorized entry.

1.04 ENTRY CONTROL

- A. Restrict entrance of persons and vehicles into Project site.
- B. Allow entrance only to authorized persons with proper identification.
- C. Owner will control entrance of persons and vehicles related to Owner's operations.

1.05 PERSONNEL IDENTIFICATION

- A. Maintain a list of accredited persons, submit copy to Owner on request.

1.06 RESTRICTIONS

- A. Do no work on Sundays.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 35 53

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- B. Section 01 42 16 - Definitions.
- C. Section 01 42 19 - Reference Standards.
- D. Section 01 60 00 - Product Requirements: Requirements for material and product quality.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Certificates: When specified in individual specification sections, submit certification by the manufacturer and Contractor or installation/application subcontractor to Consultant, in quantities specified for Product Data.
 - 1. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
 - 2. Certificates may be recent or previous test results on material or product, but must be acceptable to Consultant.
- C. Manufacturer's Instructions: When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, adjusting, and finishing, for the Owner's information. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.
- D. Manufacturer's Field Reports: Submit reports for Consultant's benefit as contract administrator or for Owner.
 - 1. Submit report in duplicate within 7 days of observation to Consultant for information.
 - 2. Submit for information for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents.

1.04 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.

- E. Should specified reference standards conflict with Contract Documents, request clarification from Consultant before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Consultant shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Consultant before proceeding. If discrepancies are discovered during course of work between existing conditions, drawings or compliance with Code, immediately notify the Owner's Representative by phone and solicit the manufacturer's approval prior to commencing or proceeding with the work. Necessary steps shall be taken to make the building watertight until the discrepancies are resolved. There will be no deviations from approved specifications, detail drawings, and submittals without prior written approval from specifier. Any deviation from the manufacturer's installation procedures must be supported by written certification on manufacturer's letterhead and presented for specifier's consideration.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

- A. Tests shall be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Consultant and is specified in product specification sections to be removed, protect mock-up throughout construction, remove mock-up and clear area when directed to do so by Consultant.

3.03 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. Should manufacturers' tolerances conflict with Contract Documents, request clarification from Consultant before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

3.04 MANUFACTURERS' FIELD SERVICES

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, and products suitable for use as applicable, and to initiate instructions when necessary.

- B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.05 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.

END OF SECTION 01 40 00

SECTION 01 42 16
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 42 16

SECTION 01 42 19
REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements relating to referenced standards.

1.02 QUALITY ASSURANCE

- A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes. Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Should specified reference standards conflict with Contract Documents, request clarification from the Consultant before proceeding.
- C. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Consultant shall be altered by the Contract Documents by mention or inference otherwise in any reference document.

PART 2 CONSTRUCTION INDUSTRY ORGANIZATION DOCUMENTS

2.01 REFERENCED SPECIFICATIONS AND STANDARDS PUBLISHED BY NATIONAL SOCIETIES, ASSOCIATIONS, AND INSTITUTES SHALL BE CONSIDERED AS PART OF THIS SPECIFICATION. IN ALL CASES, THE REFERENCED SPECIFICATION OR STANDARD SHALL BE OF THE MOST RECENT PUBLICATION DATE. ABBREVIATED IDENTIFICATIONS FOR THE PARTICULAR ORGANIZATIONS INVOLVED ARE AS LISTED BELOW:

- A. ASTM - American Society for Testing and Materials - Annual Book of ASTM Standards
- B. AWPA - American Wood Preservers Association
- C. AWPB - American Wood Preservers Bureau
- D. NRCA - National Roofing Contractors Association. DEFINITIONS Roofing Terminology: Refer to ASTM D1079 and the glossary of the NRCA Roofing and Waterproofing Manual for definitions of roofing terms related to this document.
- E. OSHA - Occupational Safety and Health Administration
- F. AIA - American Institute of Architecture
- G. UL - Underwriters Laboratory - Roofing Systems and Material Guide (TGFU R1306)
- H. ICBO -- INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
- I. ICC - INTERNATIONAL CODE COUNCIL, INC.
- J. FM -- FACTORY MUTUAL RESEARCH CORPORATION
- K. ANSI - American National Standards Institute
- L. SMACNA - Sheet Metal and Air-conditioning Contractors National Association - Architectural Sheet Metal Manual
- M. SDI -- STEEL DECK INSTITUTE
- N. ARMA - Asphalt Roofing Manufacturers Association
- O. CRRC - Cool Roof Rating Council
- P. SMA -- STUCCO MANUFACTURERS ASSOCIATION, INC.
- Q. SSPC -- THE SOCIETY FOR PROTECTIVE COATINGS
- R. BOCA -- BUILDING OFFICIALS & CODE ADMINISTRATORS INTERNATIONAL, INC.

- S. ASHRAE -- AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS, INC.
- T. ASCE - American Society of Civil Engineers
- U. CERTA - Certified Roofing Torch Applicator Program
- V. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition. (for construction work)
- W. SWRI -- SEALANT, WATERPROOFING AND RESTORATION INSTITUTE
- X. FBC – FLORIDA BUILDING CODE 7TH EDITION
- Y. ASCE7-16 - Minimum Design Loads for Buildings and Other Structures
- Z. 2018 IEBC - International Existing Building Code, 2018 Edition
- AA. 2018 IECC - International Energy Conservation Code, 2018 Edition

END OF SECTION 01 42 19

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary sanitary facilities.
- B. Temporary Controls: Barriers, enclosures, and fencing.
- C. Security requirements.
- D. Vehicular access and parking.

1.02 RELATED REQUIREMENTS

- A. Section 01 55 00 - Vehicular Access and Parking.

1.03 TEMPORARY SANITARY FACILITIES

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

1.04 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.05 FENCING

- A. Construction: Commercial grade chain link fence.
- B. Provide 6 foot (1.8 m) high fence around construction site; equip with vehicular and pedestrian gates with locks.

1.06 VEHICULAR ACCESS AND PARKING - SEE SECTION 01 55 00

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

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION 01 50 00

SECTION 01 55 00
VEHICULAR ACCESS AND PARKING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Access roads.
- B. Parking.
- C. Existing pavements and parking areas.
- D. Permanent pavements and parking facilities.
- E. Construction parking controls.
- F. Flag persons.
- G. Haul routes.
- H. Maintenance.

PART 2 EXECUTION

2.01 ACCESS ROADS

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

2.02 PARKING

- A. Use of designated areas of existing parking facilities by construction personnel is permitted.
- B. When site space is not adequate, provide additional off-site parking.

2.03 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles, and Owner's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

2.04 FLAG PERSONS

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

2.05 HAUL ROUTES

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

2.06 MAINTENANCE

- A. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

END OF SECTION 01 55 00

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED REQUIREMENTS

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.03 SUBMITTALS

- A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- B. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

- A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by the Contract Documents.

2.02 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. DO NOT USE products having any of the following characteristics:
 - 1. Made using or containing CFC's or HCFC's.
 - 2. Containing lead, cadmium, asbestos.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. If used on interior, have lower emissions, as defined in Section 01 61 16.
 - 2. If wet-applied, have lower VOC content, as defined in Section 01 61 16.
 - 3. Have a published GreenScreen Chemical Hazard Analysis.

2.03 PRODUCT OPTIONS

- A. The term "product" includes materials, systems, equipment.
- B. Provide products that are new and best of their respective kinds.
- C. Furnish in ample quantities to facilitate proper and timely execution of the Work.
- D. Use of products from one manufacturer insofar as practicable.
- E. Contractor's Options:
 - 1. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
 - 2. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
 - 3. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

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

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section. Substitution request will only be accepted from prime/qualified bidders on this project, will be signed by the contractor and the material manufacturer confirming compliance with all aspects of this specification.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- C. A request for substitution constitutes a representation that the submitter:
 - 1. Has investigated proposed system and determined that it meets or exceeds the quality level of the specified system. Include a detailed comparison of significant qualities of the proposed substitution with those of the specified system. Significant qualities may include size, weight, durability, performance and visual effect.
 - 2. Will provide the same warranty for the substitution as for the specified system.
 - 3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
 - 4. Waives claims for additional costs or time extension that may subsequently become apparent.
 - 5. Agrees to reimburse Owner and Consultant for review or redesign services associated with re-approval by authorities.
- D. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

3.02 TRANSPORTATION AND HANDLING

- A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.
- B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.
- C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- D. Transport and handle products in accordance with manufacturer's instructions.
- E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.
- H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.

- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.
- G. Comply with manufacturer's warranty conditions, if any.
- H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- I. Prevent contact with material that may cause corrosion, discoloration, or staining.
- J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION 01 60 00

SECTION 01 61 16
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for VOC-Content-Restricted products.
- B. Requirement for installer certification that they did not use any non-compliant products.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittal procedures.
- B. Section 01 60 00 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.

1.03 DEFINITIONS

- A. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
 - 1. Interior paints and coatings.
 - 2. Interior adhesives and sealants, including flooring adhesives.
- B. Interior of Building: Anywhere inside the exterior weather barrier.
- C. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.
- D. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.
- E. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
 - 1. Concrete.
 - 2. Clay brick.
 - 3. Metals that are plated, anodized, or powder-coated.
 - 4. Glass.
 - 5. Ceramics.
 - 6. Solid wood flooring that is unfinished and untreated.

1.04 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).
- C. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.
- D. GreenSeal GS-36 - Adhesives for Commercial Use; 2013.
- E. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition.
- F. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.

1.05 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.
- C. Installer Certifications Regarding Prohibited Content: Require each installer of any type of product (not just the products for which VOC restrictions are specified) to certify that either 1) no adhesives, joint sealants, paints, coatings, or composite wood or agrifiber products have

been used in the installation of his products, or 2) that such products used comply with these requirements.

1.06 QUALITY ASSURANCE

- A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.
 - 1. Evidence of Compliance: Acceptable types of evidence are:
 - a. Report of laboratory testing performed in accordance with requirements.
- B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

- A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.
- B. VOC-Content-Restricted Products: VOC content not greater than required by the following:
 - 1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
 - 2. Aerosol Adhesives: GreenSeal GS-36.
 - 3. Joint Sealants: SCAQMD 1168 Rule.
 - 4. Paints and Coatings: Each color; most stringent of the following:
 - a. 40 CFR 59, Subpart D.
 - b. SCAQMD 1113 Rule.
 - c. CARB (SCM).
 - 5. Wet-Applied Roofing and Waterproofing: Comply with requirements for paints and coatings.

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

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

END OF SECTION 01 61 16

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.
- C. Cutting and patching.
- D. Surveying for laying out the work.
- E. Cleaning and protection.
- F. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.
- G. General requirements for maintenance service.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 78 00 - Closeout Submittals: Project record documents, operation and maintenance data, warranties and bonds.

1.03 REFERENCE STANDARDS

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

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate Contractor.

1.05 PROJECT CONDITIONS

- A. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- B. Noise Control: Provide methods, means, and facilities to minimize noise produced by construction operations.
 - 1. At All Times: Excessively noisy tools and operations will not be tolerated inside the building at any time of day; excessively noisy includes jackhammers.
 - 2. Outdoors: Limit conduct of especially noisy exterior work to the hours of 8 am to 5 pm.
 - 3. Indoors: Limit conduct of especially noisy interior work to the hours of 6 pm to 7 am.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

- A. New Materials: As specified in product sections; match existing products and work for patching and extending work.
- B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

- C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

- A. Verify locations of survey control points prior to starting work.
- B. Promptly notify Consultant of any discrepancies discovered.
- C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- D. Promptly report to Consultant the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- E. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Consultant.
- F. Utilize recognized engineering survey practices.
- G. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
- H. Periodically verify layouts by same means.
- I. Maintain a complete and accurate log of control and survey work as it progresses.

3.04 GENERAL INSTALLATION REQUIREMENTS

- A. In addition to compliance with regulatory requirements, conduct construction operations in compliance with NFPA 241, including applicable recommendations in Appendix A.
- B. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.
- C. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.
- D. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.
- E. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.
- F. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

- A. Keep areas in which alterations are being conducted separated from other areas that are still occupied.
- B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 - 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- C. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.
- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Clean existing systems and equipment.
- H. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.
- I. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. Perform whatever cutting and patching is necessary to:
 - 1. Complete the work.
 - 2. Fit products together to integrate with other work.
 - 3. Provide openings for penetration of mechanical, electrical, and other services.
 - 4. Match work that has been cut to adjacent work.
 - 5. Repair areas adjacent to cuts to required condition.
 - 6. Repair new work damaged by subsequent work.
 - 7. Remove samples of installed work for testing when requested.
 - 8. Remove and replace defective and non-conforming work.
- D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
- I. Patching:
 - 1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 FINAL CLEANING

- A. Use cleaning materials that are nonhazardous.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES

- A. Make submittals that are required by governing or other authorities.
 1. Provide copies to Consultant and Owner.
- B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.
- C. Notify Consultant when work is considered ready for Consultant's Substantial Completion inspection.
- D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Consultant's Substantial Completion inspection.
- E. Owner will occupy all of the building as specified in Section 01 10 00.
- F. Conduct Substantial Completion inspection and create Final Correction Punch List containing Consultant's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Consultant.
- G. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

- H. Notify Consultant when work is considered finally complete and ready for Consultant's Substantial Completion final inspection.
- I. Complete items of work determined by Consultant listed in executed Certificate of Substantial Completion.

3.11 MAINTENANCE

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

END OF SECTION 01 70 00

SECTION 01 78 00
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements.
- B. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Consultant with claim for final Application for Payment.
- B. Warranties and Bonds:
 - 1. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 2. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.
- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal
- E. Warranties:
 - 1. Applicator Contractor Warranty: Furnish a Three (3) year roofing warranty against all installed materials and labor, and against all leaks and/or defects in materials and workmanship including all sheet metal items.
 - 2. Material Warranty: Manufacturer's Guarantee: Provides that the Manufacturer will repair leaks through the covered roofing materials due to material or workmanship defects, subject to certain exclusions, during the specified time period. Refer to guarantee for complete coverage and restrictions.
 - a. The Guarantee shall provide coverage for the roofing membrane and base flashings. The Guarantee shall be non-prorated and contain no deductibles or limitations on coverage amount.
 - b. Guarantee Period: 20 years from date of Substantial Completion.

END OF SECTION 01 78 00

**SECTION 02 41 19
SELECTIVE DEMOLITION**

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including the General and Supplemental Conditions, as well as other Division 01 Specification Sections, apply to this section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of all existing roofing down to the existing metal deck., all sections.
 - 2. Removal of ALL existing sheet metal and ALL associated components to be replaced with new, all sections.
 - 3. Repairs to existing roof deck assembly where damaged or deteriorated shall be performed using unit prices.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them offsite unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Predemolition Photographs or Video: Submit before Work begins.

1.5 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Consultant of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. If any suspected hazardous materials are encountered, do not disturb; immediately notify Consultant and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.

- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

- 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 – PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Consultant.
- D. Engage a professional engineer (if any structural element will be modified, removed, and/or addressed) to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction Photographs

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in General Requirements.
- B. If any disconnection of electrical, mechanical, plumbing is required to complete; it shall be disconnected and reconnected by a qualified craftsman.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing roof system only to the extent required by new roof system and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut roof system in straight lines taking in account tie in locations in relation to existing water flow and high/low points of crickets being provided. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain. Do not cut roof system creating a back lap for sheeting water to drain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. Remove all existing fasteners utilizing mechanical drills and/or means to not damage the roof deck.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations.
 - 5. Maintain fire watch and portable fire-suppression devices during flame-cutting operations and/or torching of roof system. Fire watch shall be a minimum of 2 hours.
 - 6. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 7. Remove all demolished items from roof in a manner to not damage exterior of facility and select locations determined by Owner.
- B. Removed and Reinstalled Items:
 - 1. Clean and repair items to functional condition adequate for intended reuse.
 - 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials

necessary to make item functional for use indicated.

- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Consultant, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 05 31 10 STEEL DECK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Scope: Furnish labor, materials, equipment and supervision as required to repair holes in the existing roof deck where abandoned equipment has been removed.
- B. Scope: Furnish labor, materials, equipment and supervision as required to repair rusted existing roof deck where structurally unsound.

1.2 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of the following codes and standards, except as otherwise indicated or specified:
 - 1. AISI "Specification for the Design of Cold-Formed Steel Structural Members".
 - 2. AWS "Structural Welding Code".
 - 3. SDI "Design Manual for Floor Decks and Roof Decks.
 - 4. Factory Mutual wind uplift classification 1-90.
- B. Qualification of Field Welding: Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".
- C. Welded decking in place is subject to inspection and testing. Remove work found to be defective and replace with new acceptable work.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and installation instructions for each type of decking and accessories. Include manufacturer's certification as may be required to show compliance with these specifications.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products equal to:
 - 1. Vulcraft/Division of Nucor Corporation.
 - 2. Approved equal.

2.2 MATERIALS

- A. Steel roof deck units shall comply with SDI "Roof Deck Specifications", of metal thickness, depth and width as shown, as required to match existing construction, and as follows:
 - 1. Steel for Galvanized Metal Deck Units: ASTM A446, Grade A.

2. Sheet Metal Accessories: ASTM A526, commercial quality, galvanized.
 3. Galvanizing: ASTM A525, G90 (.9 ounces/square foot).
 4. Galvanizing Repair Paint: High zinc-dust content paint for repair of damaged galvanized surfaces complying with Military Specifications MIL-P-21035 (Ships).
- B. Type B steel deck shall be utilized for infill of existing framed opening.
1. Depth of steel deck shall be 1.5".
 2. Thickness of steel deck shall be 22 gauge.

PART 3 – EXECUTION

1.1 INSTALLATION

- A. General: Install deck units and accessories in accordance with manufacturer's recommendations, the Steel Deck Institute (SDI) and as specified herein.
1. Place deck units on supporting steel framework and adjust to final position. End bearing shall be a minimum of 2". Do not stretch or compress side lap interlocks.
 2. Place deck units flat and square, secured to adjacent framing without warp or excessive deflection.
- B. Fastening Deck Units:
1. Fasten deck units shall comply with Factory Mutual wind uplift classification 1-90 requirements; however, minimum fastening shall be as follows:
 - a. Fasten deck units to steel supporting members by not less than 3/4" diameter fusion welds or elongated welds of equal strength, spaced not more than 12" o.c. in the field of the roof and spaced 6" o.c. at end supports.
 - i. Spacing of welds to be 6" o.c. at all supports in corners and perimeter of the deck.
 2. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used in correcting welding work.
 - a. Use welding washers where recommended by deck manufacturer.
 3. Fasten side laps of adjacent deck units between supports, at mid-span, at intervals not exceeding 36" o.c., using 1" long arc seam or fillet welds.
- C. Uplifting Loading: Install and anchor roof deck units as shown on Drawings.
- D. Reinforcement at Openings: Provide additional steel reinforcement and closure pieces as required for strength, continuity of decking and support of other work shown.
- E. Touch-Up and Painting: After decking installation, wire brush, clean and paint scarred areas, welds and rust spots on top and bottom surfaces of decking units and supporting steel members.

1. Touch-up galvanized surfaces with galvanizing repair paint applied in accordance with manufacturer's instructions.
2. Touch-up painted surfaces with same type of shop paint used on adjacent surfaces.
3. In areas where shop-painted surfaces are to be exposed, apply touch-up paint to blend into adjacent surfaces.

END OF SECTION 05 31 10

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Roofing nailers.
- B. Perimeter edge nailers.
- C. Roof-mounted curbs.

1.02 REFERENCE STANDARDS

- A. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology, Department of Commerce; 2010.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
 - 1. Lumber: S4S, No. 2 or Standard Grade.
 - 2. Boards: Standard or No. 3.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including shims, bracing, and blocking.

3.02 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fire blocking as required by applicable local code, to close concealed draft openings between floors and

between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

- C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

3.03 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.
- B. Provide wood curb at all roof openings except where specifically indicated otherwise. Form corners by alternating lapping side members. Raise existing curbs if necessary to provide minimum 8" flashing height.
- C. Provide wood nailers at all perimeters to accommodate new tapered polyisocyanurate system starting height and new metal edge attachment.

END OF SECTION 06 10 00

SECTION 07 22 16 ROOF AND DECK INSULATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

1.2 SUMMARY

- A. Section includes roof insulation over the properly prepared deck substrate.
- B. Related Sections:
 - 1. Section 06 10 00 -- Rough Carpentry
 - 2. Section 07 52 16 – SBS Modified Bituminous Membrane
 - 3. Section 07 62 00 – Sheet Metal Flashing and Trim.

1.3 REFERENCES

- A. American Society for Testing and materials (ASTM):
 - 1. ASTM A167 Standard Specification for Stainless and Heat-Resisting Chromium Nickel Steel Plate, Sheet and Strip.
 - 2. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process.
 - 3. ASTM B29 Standard Specification for Refined Lead.
 - 4. ASTM B32 Standard Specification for Solder Metal.
 - 5. ASTM C165 Standard Test Method for Measuring Compressive Properties of Thermal Insulation.
 - 6. ASTM C208 Standard Specification for Cellulosic Fiber Insulation Board.
 - 7. ASTM C209 Standard Test Method for Cellulosic Fiber Insulating Board.
 - 8. ASTM C272 Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
 - 9. ASTM C1396 Standard Specification for Gypsum Wallboard.
 - 10. ASTM C518 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 11. ASTM C578 Standard Specification for Perlite Thermal Insulation Board.
 - 12. ASTM C728 Standard Test Methods for Fire Test of Roof Coverings.
 - 13. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation.
 - 14. ASTM D5 Standard Test Method for Penetration of Bituminous Materials.
 - 15. ASTM D36 Standard Test Method for Softening Point of Bitumen (Ring and Ball Apparatus).
 - 16. ASTM D312 Standard Specification for Asphalt Used in Roofing.
 - 17. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
 - 18. ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 - 19. ASTM D1622 Standard Test Method for Apparent Density of Rigid Cellular Plastics.
 - 20. ASTM D1863 Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
 - 21. ASTM D2126 Standard Test Method for Response of Rigid Cellular Plastics to Thermal Humid Aging.

- 22. ASTM D2178 Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing.
- 23. ASTM D4601 Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
- 24. ASTM D5147 Standard Sampling and Testing Modified Bituminous Sheet Material.
- B. Cast Iron Soil Pipe Institute, Washington, D.C. (CISPI)
- C. Factory Mutual Research (FM):
 - 1. Roof Assembly Classifications.
- D. National Roofing Contractors Association (NRCA):
 - 1. Roofing and Waterproofing Manual.
- E. Underwriters Laboratories, Inc. (UL):
 - 1. Fire Hazard Classifications.
- F. Warnock Hersey (WH):
 - 1. Fire Hazard Classifications.
- G. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
- H. Steel Deck Institute, St. Louis, Missouri (SDI)
- I. Southern Pine Inspection Bureau, Pensacola, Florida (SPIB)
- J. Insulation Board, Polyisocyanurate (FS HH-I-1972)
- K. Insulation Board, Thermal (Fiberboard) (FS LLL-I-535B)

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's specification data sheets for each product in accordance with Division 01 Section Submittal Procedures 01 33 00.
- B. Provide approval letters from insulation manufacturer for use of their insulation within this particular roofing system type.
- C. Provide a sample of each insulation type.
- D. Shop Drawings
 - 1. Submit manufacturer's shop drawings indicating complete installation details of tapered insulation system, including identification of each insulation block, sequence of installation, layout, drain locations, roof slopes, thicknesses, crickets and saddles.
 - 2. Shop drawing shall include: Outline of roof, location of drains, complete board layout of tapered insulation components, thickness and the average "R" value for the completed insulation system.
- E. Certification
 - 1. Submit roof manufacturer's certification that insulation fasteners furnished are acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

1.5 QUALITY ASSURANCE

- A. Fire Classification, ASTM E-108.
- B. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class [A or B or C] for external fire and meets local or nationally recognized building codes.
- C. Manufacturer's Certificate: Certify that the roof system is adhered properly to meet or exceed the requirements of FM [1-90].
- D. Pre-installation meeting: Refer to Division 07 roofing specifications for pre-installation meeting requirements.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.
- C. Keep materials enclosed in a watertight, ventilated enclosure (i.e. tarpaulins).
- D. Store materials off the ground. Any warped, broken or wet insulation boards shall be removed from the site.

PART 2 – PRODUCTS

2.1 PRODUCTS, GENERAL

- A. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
 - 1. BITEC, Inc.
- B. Approved equal manufactures:
 - 1. Hunter Panels
 - 2. Approved Equivalent
- C. General: Insulation shall be approved in writing by the insulation manufacturer for intended use and for use with the specified roof assembly. Maintain a maximum panel size of 4 feet by 4 feet where polyisocyanurate insulation is specified to be installed with mechanical fasteners. Install only as much insulation as can be made watertight during the same work day.

2.2 INSULATION MATERIALS

- A. Thermal Insulation Properties and Approved Insulation Boards.
 - 1. Tapered Rigid Polyisocyanurate Roof Insulation; ASTM C1289:
 - a. Tapered Elastotherm B system by Bitec, Inc
 - b. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
 - c. Board Size: Four feet by four feet (4' x 4')
 - d. Thickness: 1/4" taper system (specified Low-Rise Foam Adhesive)
 - e. 1 1/2" start at the roof drains, (1" ISO base layer mechanically attached)
 - f. R-Value: Average R-20 LTTR.
 - g. Mechanical and fully adhere attached to meet all code and material manufacturer requirements for wind uplift.
 - h. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1.
 - 2. Gypsum Roof Deck Cover Board; ASTM C1177 or ASTM 1278:
 - a. Qualities: Water-resistant gypsum substrate, Class A Fire rated with primed asphalt on the top side.
 - b. Board Size: Four feet by eight feet (4' x 8')
 - c. Thickness: Minimum 1/4 inch (specified Low-Rise Foam Adhesive)
 - d. R-Value: Minimum R-0.28
 - e. Compliances: UL, WH, FM listed under Roofing Systems. Federal Specification LLL-I-535-B.
 - f. Acceptable Manufacturers:
 - 1 Georgia-Pacific Building Products; DensDeck Gypsum Roof Boards
 - 2 USG Corporation; Securock Gypsum Fiber Roof Board
 - 3 Approved Equivalent

2.3 RELATED MATERIALS

- A. Insulation Fasteners: The insulation fasteners shall provide attachment required to meet the specified uplift performance and to restrain the insulation panels against the potential for ridging.
- B. Insulation Fasteners - Metal Decks: Insulation mechanical fasteners shall be a fluorocarbon coated screw type roofing fastener having a minimum 0.220-inch thread diameter. Plates used in conjunction with the fastener shall be a metal type having a minimum 3-inch diameter, as supplied by the fastener manufacturer. The fastener shall conform meet or exceed Factory Mutual Standard 4470 and when subjected to 30 Kesternich cycles, show less than 15% red rust. Acceptable insulation fastener types for metal decks are listed below.
 - 1. Imperfast Fastener by BITEC, Inc.
- C. Insulation Adhesive for cover board: single or dual component low-rise polyurethane foam adhesive designed specifically for the adhesion of roof insulation to substrate, as well as subsequent layers of insulation. Acceptable manufacturers are as follows:
 - 1. Stronghold Foamable Adhesive by BITEC, Inc.
 - 2. Stronghold Pump Grade Adhesive by BITEC, Inc.
- D. Insulation Cant Strips: A cant strip composed of expanded volcanic minerals combined with waterproofing binders, meeting ASTM C728 criteria. The top surface shall be pre-treated with an asphalt-based coating. The face of the cant shall have a nominal 4-inch dimension.
- E. Tapered Edge Strips: A tapered panel composed of polyisocyanurate. The panels shall have a dimension sufficient to provide for a smooth transition and provide proper support for the

membrane layer or subsequent layer of insulation when there are transitions of 1/4 inch or greater.

PART 3 – EXECUTION

3.1 EXECUTION, GENERAL

- A. Comply with requirements of Division 01 Section “Common Execution Requirements.”

3.2 INSPECTOR OF SURFACES

- A. Roofing contractor shall be responsible for preparing an adequate substrate to receive insulation.
1. Verify that work which penetrates roof deck has been completed.
 2. Verify that wood nailers are properly and securely installed.
 3. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
 4. Do not proceed until defects are corrected.
 5. Do not apply insulation until substrate is sufficiently dry.
 6. Broom clean substrate immediately prior to application.
 7. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
 8. Verify that temporary roof has been completed.

3.3 INSTALLATION

- A. Attachment with Mechanical Fasteners and Low-Rise Foam Adhesive: Tapered ISO System
1. Approved insulation board shall be fully attached to the deck with an approved mechanical and Low-Rise Foam Adhesive fastening system. As a minimum, the number of fasteners shall be in accordance with manufacturer’s recommendation for FM I-90 system.
 2. Filler pieces of insulation require at least two fasteners per piece if size of insulation is less than four square feet.
 3. Spacing pattern of fasteners shall be as per manufacturer’s recommendations to meet the FM requirements. Placement of any fastener from edge of insulation board shall be a minimum of three inches, and a maximum of six (6) inches.
 4. Minimum penetration into deck shall be as recommended by the fastener manufacturer. There is a one (1) inch minimum for metal, wood and structural concrete decks where not specified by the manufacturer.
 5. Stagger all insulation joints a minimum twelve (12) inch vertically and horizontally.
 6. Stagger all cover board joints a minimum twelve (12) inch vertically and horizontally.
 7. Stagger successive layers of insulation/cover board twelve (12) inch vertically and laterally to ensure board joints do not coincide with joints from the layers above and below.
 8. The finished insulation system surface shall be tight to, and flush with, adjacent substrates to form a satisfactory substrate to install specified roof membrane and flashings.
 9. Install insulation panels with end joints offset with edges in moderate contact in accordance with the insulation manufacturer's requirements. Where insulation is installed in two or more layers, stagger joints between layers. Install only as much insulation as can be made watertight within the same work day.
 10. Crickets: Construct crickets of tapered insulation panels in a layout as indicated on the roof plan.
 11. Tapered Edge at Transitions: Field-cut, shape and install tapered edge strip at transitions of 1/4 inch or greater between substrate components to provide a smooth transition and

proper support for the subsequent insulation layer or membrane/flashing system components.

12. Insulation - multiple layer: Mechanically attach the base layers simultaneously to the substrate, using the specified fasteners, at a rate of 1 fastener for every 4 square feet of panel area (8 per 4' x 8' panel). Mechanically attach the perimeter of the roof at the rate of 1 fastener per 2 square feet of panel area (32 per 4-foot by 8-foot panel) and the corners at the rate of 1 fastener per 1 square foot of panel area (32 per 4-foot by 8-foot panel). Set the top layer of insulation in an application of the specified insulation adhesive in 3/4- to 1-inch-wide beads spaced 12 inches on center in the field of the roof, 6 inches on center at the perimeter of the roof, and 4 inches on center in the corners of the roof. Panels may be affected by post-growth of the insulation adhesive. Continuous walking in of the panels is recommended particularly in perimeter/corner areas with reduced bead spacing. Follow the requirements and guidelines of the insulation adhesive manufacturer/supplier. Stagger the panel joints between insulation layers as specified.

B. Attachment with Low Rise Foam Adhesive: Cover Board

1. Apply the specified two-component insulation adhesive to adhere cover board to existing prepared tapered Polyisocyanurate system.
2. Follow insulation adhesive product data sheets and published general requirements for installation requirements.
3. Set the top layer of insulation in an application of the specified insulation adhesive in 3/4- to 1-inch-wide beads spaced 12 inches on center in the field of the roof, 6 inches on center at the perimeter of the roof, and 4 inches on center in the corners of the roof. Panels may be affected by post-growth of the insulation adhesive. Continuous walking in of the panels is recommended particularly in perimeter/corner areas with reduced bead spacing. Follow the requirements and guidelines of the insulation adhesive manufacturer/supplier. Stagger the panel joints between insulation layers.
4. Immediately install insulation components into insulation adhesive, and apply weight to ensure the materials maintain full contact with all ribbons for complete adhesion. Do not allow insulation adhesive to skin-over before placing the insulation materials into the adhesive.
5. Adhere the insulation system to meet the specified wind uplift resistance performance and specified warranty requirements.

3.4 CLEANING

- A. Remove debris and cartons from roof deck. Leave insulation clean and dry, ready to receive roofing membrane.

3.5 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated during installation. Comply with requirements of authorities having jurisdiction.

END OF SECTION 07 22 16

SECTION 07 52 16
SBS MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The project plans, details and general Contract requirements apply to this Section.

1.2 SUMMARY

A. Items Included

1. SBS modified bituminous membrane roofing.
2. Walk tread.

B. Related Sections:

1. Section 06 10 00 Rough Carpentry
2. Section 07 22 16 Roof and Deck Insulation.
3. Section 07 62 00 Sheet Metal Flashing and Trim.

1.3 REFERENCES

- A. References in these specifications to standards, test methods and codes, are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies which may be used as references throughout this specification section.

1. ASTM: American Society for Testing and Materials
2. FM: Factory Mutual Engineering and Research
3. NRCA: National Roofing Contractors Association
4. OSHA: Occupational Safety and Health Administration
5. SMACNA: Sheet Metal and Air Conditioning Contractors National Association
6. UL: Underwriters Laboratories

1.4 QUALITY ASSURANCE

- A. Fire Rating: Submit evidence of exterior fire-test exposure by an approved third-party testing agency in accordance with ASTM E108 or UL 790 guidelines.

1. Class A

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

- B. Storage: Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing manufacturer.

1. Protect stored liquid material from direct sunlight, heat, open fire, ignition sources, oxidizing agents, strong acids, and strong alkalis.
2. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

- C. Protection: Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with the insulation manufacturer's written instructions for handling, storing, and protecting materials during installation.

- D. Handling: Handle and place roofing materials and equipment in a manner to avoid permanent deflection of deck.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. Installer: Submit written confirmation that they have a minimum of 2 years of experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.
2. Accepted Installer is required to be an approved installer of the specified materials by the material manufacturer and provide proof thereof.
3. Accepted Installer is required to apply for the material manufacturers system warranty by the material manufacturer prior to project start.
4. Manufacturer: Submit written confirmation that the manufacturer of the primary roofing products has been successfully producing the specified types of primary products for not less than 10 years with a consistent composition for a minimum of 5 years.

B. System Qualification:

1. Intent to Warrant Letter: Submit a signed letter on the roof membrane manufacturer's letterhead, confirming that specified roofing system complies with the guarantee requirements.
2. Sample Guarantee: Submit a sample copy of the manufacturer's proposed Guarantee.

1.7 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing to be installed in accordance with manufacturer's written instructions and warranty requirements.
- B. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.
- C. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.
- D. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.
- E. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractors Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.

1.8 GUARANTEE

- A. Manufacturer's Guarantee: Provides that the Manufacturer will repair leaks through the covered roofing materials due to material or workmanship defects, subject to certain exclusions, during the specified time period. Refer to guarantee for complete coverage and restrictions.
 1. The Guarantee shall provide coverage for the roofing membrane and base flashings. The Guarantee shall be non-prorated and contain no deductibles or limitations on coverage amount.
 2. Guarantee Period: 20 years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing contractor's warranty signed by the Installer, including all components of the roofing and insulation system for the following warranty period:
 1. Warranty Period: 3 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Manufacturer: A roof system by the following manufacturer is approved for application.

1. BITEC, Inc.

B. Approved equal Manufactures:

1. Soprema, Inc.
2. Siplast, Inc.

2.2 ROOFING MEMBRANE SHEET MATERIALS

A. Base Ply: An ASTM D6162, Type I, Grade S homogenous membrane with a combination polyester/glass fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend and dusted with a slag parting agent on both sides. The cross-sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen. The base ply shall possess the following physical/mechanical properties.

1. Thickness (avg): 118 mils (3 mm) (ASTM D5147)
2. Weight (min per 100 ft² of coverage): 73 lb
3. Low temperature flexibility @ -13°F (-25°C): PASS (ASTM D5147)
4. Tensile Strength: 105 lbf/inch MD and 75 XMD (ASTM D412)
5. Elongation: 60% MD and 70% XMD (ASTM D412)

> SPS-3H by BITEC, Inc.

B. Finish Ply: An ASTM D6163, Type I, Grade G homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend and dusted with a slag parting agent on bottom surface and a coarse mineral-granule top surfacing. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen.

1. Thickness (avg): 130 mils (3.5 mm) (ASTM D5147)
2. Weight (min per 100 ft² of coverage): 103 lb
3. Low temperature flexibility @ -30 F (-34.4 C): PASS (ASTM D5147)
4. Tensile Strength (avg) @ 73F (23C): 105 lbf/inch MD and 75 XMD (ASTM D5147)
5. Tensile Strength (avg) @ 0F (-18C): 152 lbf/inch MD and 115 XMD (ASTM D5147)
6. Elongation (avg) @ 73F (23C): 6% MD and 5% XMD (ASTM 5147D)
7. Elongation (avg) @ 73F (23C): 5% MD and 5% XMD (ASTM D5147)
8. Surfacing: ceramic granules

> SFM-3.5-FR by BITEC, Inc.

2.3 BASE FLASHING SHEET MATERIALS

A. Flashing Reinforcing Ply and Cant Backer: An ASTM D6162, Type I, Grade S homogenous membrane with a combination polyester/glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend. The back and front side of the reinforcing ply shall be surfaced with a slag parting agent.

1. SPS-3H by BITEC, Inc.

B. Granule-Surfaced Flashing Sheet: An ASTM D6162, Type I Grade G homogenous membrane with a fiberglass scrim/polyester reinforcing mat composite impregnated/saturated and coated each side with the SBS modified bitumen blend and dusted with a fine slag parting agent on bottom surface and a

coarse mineral-granule top surfacing. The cross sectional area of the sheet material shall contain no oxidized or non-SBS modified bitumen.

3. SPM-3.5H by BITEC, Inc.

2.4 PRIMERS

- A. Asphalt Primer: Primer shall meet ASTM D41 criteria.

1. D-41 Asphalt Primer by BITEC, Inc.

2.5 AUXILIARY ROOFING MATERIALS

- A. Cold-Applied Asphalt Adhesive: An asphalt, solvent blend meeting the warranty requirements of the roof membrane manufacturer.

1. PMA-186 Adhesive by BITEC, Inc.

- B. Asphalt Roofing Cement: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D4586 Type II requirements.

1. PMA-2000 Cement by BITEC, Inc.

- C. Sealant: A moisture-curing, self-leveling elastomeric sealant designed for roofing applications.

1. Elastopav by BITEC, Inc.

- D. Ceramic Granules: No. 11 grade specification ceramic granules of color scheme matching the granule surfacing of the finish ply.

2.6 WALKWAYS

- A. Walk tread: A protective walkway pad designed to be installed at roof access points, equipment, and areas of anticipated foot traffic, comprised primarily from recycled particle rubber material.

1. TrafGuard by BITEC, Inc.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Substrate Qualification: The installing contractor shall examine all substrates where the specified roofing and flashing system will be applied and confirm their suitability to receive the specified roofing materials.

3.2 PREPARATION

- A. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

- B. Remove all of the following existing conditions (as applicable):

1. Surface gravel
2. Roof membrane
3. Insulation
4. Base flashings
5. Edge metal
6. Flanged metal flashings
7. Cants
8. Walkways
9. Nonfunctional penetrations/curbs
10. Drain assemblies
11. Vapor retarder

12. Metal trim, counter flashing

- C. Asphaltic Primer: Prime metal and concrete and masonry surfaces with a uniform coating of the specified asphalt primer according to the manufacturer's published application rate. Cutting or alteration of the primer is not permitted.

3.3 INSTALLATION OF ROOFING, GENERAL GUIDELINES

- A. Adhesive Application: Apply membrane cold adhesive by roller, squeegee or spray unit in a smooth, even, continuous layer without breaks or voids. Utilize an application rate for each ply as published by the roof membrane manufacturer. Double the adhesive application rate at the end laps of granule surfaced sheets. Where solvent-based adhesive is applied, refer to the manufacturer's inter-ply flashing detail at the locations that are to receive the specified catalyzed acrylic resin primer/flashing system. Cutting or alteration of the adhesive is not permitted.
- B. General Appearance: Ensure that the finished roofing application has an aesthetically pleasing overall appearance and is acceptable to the Owner.

3.4 APPLICATION OF BITUMINOUS ROOFING MEMBRANE

- A. Apply all layers of roofing with side laps running perpendicular to the direction of the slope. Exert sufficient pressure on the roll during application to ensure prevention of air pockets, wrinkles, creases or fish mouths. Refer to the manufacturer's guidelines for maximum sheet lengths and special fastening of the head laps where the roof deck slope exceeds 1/2 inch per foot.
- B. Fully bond the base ply to the prepared substrate, utilizing minimum 3-inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger end laps a minimum of 3 feet.
- C. Fully bond the finish ply to the base ply, utilizing minimum 3 inch side and end laps. Apply each sheet directly behind the cold adhesive applicator. Stagger end laps of the finish ply a minimum 3 feet. Cut a dog ear angle at the end laps on overlapping selvage edges. Using a clean trowel, apply top pressure to top seal T-laps immediately following sheet application. Stagger side laps of the finish ply a minimum 12 inches from side laps in the underlying base ply. Stagger end laps of the finish ply a minimum 3 feet from end laps in the underlying base ply.

3.5 APPLICATION OF FLASHING AND STRIPPING

- A. Modified Bitumen Flashing System: Apply the specified base flashing materials in accordance with the manufacturer's standard details. Notify the design team immediately of any flashing heights below 8 inches. For torch applied base flashings, apply a 12-inch self-adhesive cant backing sheet extending 6 inches onto the field of the roof area and a minimum of 6 inches up the vertical surface utilizing minimum 3-inch laps. Set the non-combustible cant into place dry prior to installation of the roof membrane base ply and subsequent flashing system. Flash walls and curbs using the reinforcing sheet and flashing membrane. Exert pressure using a neoprene roller on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9-inch centers. (See the manufacturer's schematic for visual interpretation).

3.6 APPLICATION OF SEALANT

- A. Apply a smooth continuous bead of the specified sealant at the exposed finish ply edge transition to metal flashings incorporated into the roof system.
- B. Fabricate metal pitch pan boxes according to NRCA and SMACNA guidelines and install around penetrations with the specified roofing manufacturer's pourable sealer.

3.7 APPLICATION OF WALKTREAD

- A. Install the specified walk tread into maximum 4 foot by 5-foot lengths. Adhere the sheet using the specified plastic cement. Apply the specified cement in a 3/8-inch thickness to the back of the product in 5-inch by 5-inch spots in accordance with the pattern as supplied by the walk tread manufacturer. Walk-in each sheet after application to ensure proper adhesion. Use a minimum spacing of 2-inches between sheets to allow for proper drainage.

3.8 FIELD QUALITY CONTROL

- A. Notify the manufacturer of job completion in order to schedule a final inspection date. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the manufacturer's representative. Complete, sign, and send the punch list form to the manufacturer's headquarters.
- B. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.
- C. Complete all post installation procedures and meet the manufacturer's requirements for issuance of the specified guarantee.

END OF SECTION 07 52 16

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

1.2 SUMMARY

- A. Provide all labor, equipment, and materials to fabricate and install the following.
 - 1. Perimeter edge metal
 - 2. Wall counter flashing.
 - 3. Equipment curb unit metal.
 - 4. Equipment support cap metal.
 - 5. Miscellaneous metal items.
- B. Related Sections:
 - 1. Section 07 52 16 – SBS Modified Bituminous Membrane.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (galvanized) or Zinc-Iron Alloy-Coated (galvannealed) by the Hot-Dip Process.
 - 2. ASTM A792 Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy Coated by the Hot-Dip Process.
 - 3. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 4. ASTM B221 Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - 5. ASTM D692 Standard Specification for Coarse Aggregate for Bituminous Paving Mixtures.
- B. American National Standards Institute and Single Ply Roofing Institute (ANSI/SPRI)
 - 1. ANSI/SPRI ES-1 Testing and Certification Listing of Shop Fabricated Edge Metal
- C. Warnock Hersey International, Inc., Middleton, WI (WH)
- D. Factory Mutual Research Corporation (FMRC)
 - 1. FM 1-49 Loss Prevention Data Sheet
- E. Underwriters Laboratories (UL)
- F. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
 - 1. 1993 Edition Architectural Sheet Metal Manual
- G. National Roofing Contractors Association (NRCA)
 - 1. Roofing and Waterproofing Manual
- H. American Society of Civil Engineers (ASCE)
 - 1. ASCE 7 Minimum Design Loads for Buildings and Other Structures

1.4 SUBMITTALS FOR REVIEW

- A. Product Data:
 - 1. Provide manufacturer's specification data sheets for each product.
 - 2. Metal material characteristics and installation recommendations.
 - 3. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.
- B. Samples: Submit two (2) samples, illustrating typical metal edge, coping, gutters, fascia extenders for material and finish.
- C. Shop Drawings
 - 1. For manufactured and ANSI/SPRI ES-1 compliant shop fabricated gravel stops, fascia, scuppers, and all other sheet metal fabrications.
 - 2. Indicate material profile, jointing details, fastening methods, flashing, terminations, and installation details.
 - 3. Indicate type, gauge and finish of metal
- D. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
- E. Refer to Section 01 33 00 – Submittals.

1.5 SUBMITTALS FOR INFORMATION

- A. Design Loads: Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the wind uplift and perimeter attachment requirements according to ASCE 7-16 ASD and that the submitted equal edge metal system is compliant with the ANSI/SPRI ES-1 standard. Substitution requests submitted without licensed engineer approval will be rejected for non-conformance.
- B. Factory Mutual Research Corporation's (FMRC) wind uplift resistance classification: The roof perimeter flashing shall conform to the requirements as defined by the FMRC Loss Prevention Data Sheet 1-49.
- C. A letter from the manufacturing company certifying that the materials furnished for this project are the same as represented in tests and supporting data.
- D. Mill production reports certifying that the steel thicknesses are within allowable tolerances of the nominal or minimum thickness or gauge specified.
- E. Certification of work progress inspection. Refer to Quality Assurance Article below.
- F. Certifications.
 - 1. Submit roof manufacturer's certification that metal fasteners furnished are acceptable to roof manufacturer.
 - 2. Submit roof manufacturer's certification that metal furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.

1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- B. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.
- C. Insurance Certification: Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.7 QUALITY ASSURANCE

- A. Engage an experienced roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years' experience.
- B. Maintain a full-time supervisor/foreman who is on the job-site at all times during installation. Foreman must have a minimum of five (5) years' experience with the installation of similar system to that specified.
- C. Source Limitation: Obtain components from a single manufacturer. Secondary products which cannot be supplied by the specified manufacturer shall be approved in writing by the primary manufacturer prior to bidding.
- D. Upon request fabricator/installer shall submit work experience and evidence of financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.
- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

1.9 PROJECT CONDITIONS

- A. Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

1.10 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:
 - 1. Completed metal edge flashing system, shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

1.11 WARRANTIES

- A. Owner shall receive one (1) warranty from manufacturer of roofing materials covering all of the following criteria. Multiple warranties are not acceptable.
 - 1. Pre-finished metal material shall require a written twenty (20)- year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D2244 or chalking excess of 8 units per ASTM D659. If either occurs material shall be replaced per warranty, at no cost to the Owner.
 - 2. Changes: Changes or alterations in the edge metal system without prior written consent from the manufacturer shall render the system unacceptable for a warranty.
 - 3. Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.
 - 4. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of five years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.
 - 5. Installing roofing contractor shall be responsible for the installation of the edge metal system in general accordance with the membrane manufacturer's recommendations.
 - 6. Installing contractor shall certify that the edge metal system has been installed per the manufacturer's printed details and specifications.
 - 7. One manufacturer shall provide a single warranty for all accessory metal for flashings, metal edges and copings, along with the warranty for metal roof areas, membrane roof areas, and any transitions between two different material types.

PART 2 – PRODUCTS

2.01 MANUFACTURER

- A. Product Quality Assurance Program: Manufacturer shall be an ISO 9001 registered company. A 'Quality Compliance Certificate (QCC) for reporting/confirming the tested values of the Polyvinyl- Chloride Membrane Materials will be supplied upon request.
- B. Acceptable Manufacturers:
 - 1. Pac Clad/Peterson, located at: 10551 Pac Rd, Tyler, TX 75707, Telephone 1-800-441-8661; Website: www.pac-clad.com
 - 2. All substitution request will be reviewed and approved by the Consultant and Roof Manufacturer.
- C. Contractor shall furnish all miscellaneous sheet metal flashings, through-wall flashings, counter-flashings, roof area divider metal caps, roof curb flashings, and all other related sheet metal flashings, fasteners and sealants necessary to flash and counter flash the specified roofing system at all roof terminations, transitions and penetrations.
- D. Sheet metal flashing materials and fasteners shall be compatible with adjacent materials, to accommodate all project related exposures.
- E. Pre-Finished Sheet Metal Flashing Material: 24-gauge Galvanized Steel
- F. Shop produced metal items are allowed if manufactured by an ES-1 certified metal shop and approved and/or certified by the roofing manufacture for a 20-year NDL total system warranty.

2.02 SHEET METAL FLASHING

- A. Sheet Metal:
 - 1. Termination Bar: a 1" wide and .098" thick extruded aluminum bar pre-punched 6" on center; incorporates a sealant ledge to support Lap Sealant and provide increased stability for membrane terminations.
 - 2. All Metal Items: Unless otherwise indicated in Specifications or on Drawings, all miscellaneous sheet metal 24 gauge (cleats shall be the next higher available thickness of material) prefinished steel.
 - a. Finish: Metal exposed to view shall have face coating of polyvinylidene Fluoride (PVF2) Resin-base finish (Kynar 500 or Hylar 5000) containing 70 percent minimum PVF2 in resin portion of formula. Thermo cured two coat system consisting of corrosion inhibiting epoxy or acrylic latex primer and topcoat factory applied over properly pretreated metal.
 - b. Color as selected by Consultant from Manufacturer's standard colors.
 - 3. Manufacturer and Trade Name:
 - a. Pac-Clad Peterson Aluminum Corp.
- B. Fasteners:
 - 1. #9 Stainless Steel Screw w/ Neoprene Washer
 - a. Length as required.
 - 2. #12 Galvanized Self-Drilling Screw:
 - a. Length as required.
 - 3. Stainless Steel Ring Shank Nails:
 - a. Length as required.
 - 4. 3/16" Tapcon Screws:
 - a. Length as required.
 - 5. Stainless Steel Flat Head Screw w/ Extruded Washer:
 - a. Length as required.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions remain satisfactory throughout the project.
- B. The contractor shall examine all roofing substrates including, but not limited to: insulation materials, roof decks, walls, curbs, rooftop equipment, fixtures, and wood blocking.
- C. The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified roofing materials.
- D. During the application of specified materials, the applicator shall continue to examine all project conditions to ensure conditions remain satisfactory to complete the specified roofing system.

3.02 PREPARATION

- A. Before commencing work each day, the contractor shall prepare all roofing substrates to ensure conditions are satisfactory to proceed with the installation of specified roofing materials. Preparation of substrates includes, but is not limited to, substrate repairs, securement of substrates, eliminating all incompatible materials, and cleaning.
- B. Where conditions are found to be unsatisfactory, work shall not begin until conditions are made satisfactory to begin work. Commencing of work shall indicate contractor's acceptance of conditions.

3.03 SHEET METAL FLASHING APPLICATION

- A. Refer to manufacturer's sheet metal flashing and roof edge system detail drawings and follow product data sheets and published general requirements for installation instructions.
- B. General Requirements:
 - 1. Follow the most recent edition of the SMACNA Architectural Sheet Metal Manual for fabrication and installation requirements.
 - 2. Follow the most recent edition of the NRCA Roofing and Waterproofing Manual for fabrication and installation requirements for specified roofing and flashing.
- C. Isolate all metal components from ACQ treated wood or other incompatible material using specified membrane flashing materials.
- D. Appliances such as lightning rods, signs, or antennae shall be separate from the roof edge system.

3.04 GENERAL PURPOSE SEALANT

- A. Refer to published installation instructions. Ensure sheet metal and adjacent substrates are clean and free of oils, dust and other incompatible materials.

3.05 CLEAN-UP

- A. Clean-up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

END OF SECTION 07 62 00