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PORPOSAL FORMS & PROJECT MANUAL FOR

VALLEY SPRINGS MIDDLE SCHOOL

PARTIAL ROOF REPLACEMENT PROJECT

RFP 15-16

Project Number: FH166112

175 Bingham Rd, Asheville, NC 28806
Bid date May 11, 2016 3:00pm

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Notice of Bid Opportunity
VALLEY SPRINGS MIDDLE SCHOOL
PARTIAL ROOF REPLACEMENT PROJECT

This notice is for work that involves the replacement of existing roof with new TPO roof system, approximately 282 squares, per the bid specifications and drawings.

A pre-bid conference is scheduled for Friday, April 29, 2016, 2:00pm, Valley Springs Middle School, 224 Long Shoals Rd., Arden, NC 28704. Prebid attendees shall check in at the main office. Sealed proposals will be received by The Buncombe Board of Education at 175 Bingham Road, Asheville North Carolina on Wednesday, May 11, 2016 until 3:00pm.

Bid and construction documents are available for viewing on the Buncombe County Schools Purchasing website at <http://www.buncombe.k12.nc.us/domain/40> . Questions can be directed to the Purchasing Department at 828-255-5891.

The Buncombe County Board of Education reserves the unqualified right to reject any and all proposals.

STATE OF NORTH CAROLINA/BUNCOMBE COUNTY SCHOOLS REQUEST FOR PROPOSAL

PROJECT: **VALLEY SPRINGS MIDDLE SCHOOL PARTIAL ROOF REPLACEMENT PROJECT (RFP# 15-16)**

PROJECT DESIGNER: Mary Beth Kingston, AIA, Assistant Director of Facilities

USING AGENCY: Buncombe County Schools

ISSUE DATE: April 27, 2016

Sealed proposals from bidders subject to the conditions made a part hereof will be received until **3:00 PM on May 11, 2016** for furnishing all labor, materials, equipment, and services incidental and implied, for completion of the project described herein.

PREBID CONFERENCE: A pre-bid conference is scheduled for Friday, April 29, 2016, 2:00pm, Valley Springs Middle School, 224 Long Shoals Rd., Arden, NC 28704. Prebid attendees shall check in at the main office.

SEND ALL PROPOSALS DIRECTLY TO THE ADDRESS AS SHOWN BELOW:

Buncombe County Schools, Purchasing Division
175 Bingham Road
Asheville, NC 28806

NOTE: Indicate firm name and RFP number on the front of each sealed proposal envelope or package, along with the date for receipt of proposals specified above.

Direct inquiries concerning this RFP to: Mary Beth Kingston, Asst. Director Phone: 828-255-5916
Ron Venturella, Purchasing Officer Phone: 828-255-5891

THE PROCUREMENT PROCESS

The following is a general description of the process by which a firm will be selected to provide services.

1. Request for Proposals (RFP) is issued to prospective contractors.
2. A preproposal conference and/or deadline for written questions is five days prior to due date.
3. Proposals in one original will be received from each offeror in a sealed envelope or package. Each original shall be signed and dated by an official authorized to bind the firm. Unsigned proposals will not be considered. Bid bond should be included in a separate sealed envelope.
4. All proposals must be received by the issuing agency not later than the date and time specified on the cover sheet of this RFP.
5. At that date and time the proposals from each responding firm will be opened. Interested parties are cautioned that these costs and their components are subject to further evaluation for completeness and correctness and therefore may not be an exact indicator of an offeror's pricing position. Informal proposals (less than \$ 300,000) are confidential until such time that award has been made. Thereafter, the purchasing division will furnish bid tabs upon request.
6. At their option, the evaluators may request oral presentations or discussion with any or all offerors for the purpose of clarification or to amplify the materials presented in any part of the proposal. However, offerors are cautioned that the evaluators are not required to request clarification; therefore, all proposals should be complete and reflect the most favorable terms available from the offeror.
7. Proposals will be evaluated according to completeness, content, experience with similar projects, ability of the offeror and its staff, and cost. Award of a contract to one offeror does not mean that the other proposals lacked merit, but that, all factors considered, the selected proposal was deemed most advantageous to the State.
8. Offerors are cautioned that this is a request for offers, not a request to contract, and the State/Buncombe County Schools reserves the unqualified right to reject any and all offers when such rejection is deemed to be in the best interest of the State.

PROPOSAL FORM

**VALLEY SPRINGS MIDDLE SCHOOL
PARTIAL ROOF REPLACEMENT PROJECT
(RFP# 15-16)**

DUE DATE: May 11, 2016, 3:00 PM

By submitting this proposal, the potential contractor certifies the following:

- ** This proposal is signed by an authorized representative of the firm.
- ** It can obtain and submit to the Owner insurance certificates as required within 5 calendar days after notice of award.
- ** The cost and availability of all equipment, materials, and supplies associated with performing the services described herein have been determined and included in the proposed cost.
- ** All labor costs, direct and indirect, have been determined and included in the proposed cost.
- ** All taxes have been determined and included in the proposed cost.
- ** The offeror has attended the conference (*if applicable*) or conducted a site visit and is aware of prevailing conditions associated with performing these services.
- ** The potential contractor has read and understands the conditions set forth in this RFP and agrees to them with no exceptions.

Therefore, in compliance with this Request for Proposals, and subject to all conditions herein, the undersigned offers and agrees, if this proposal is accepted within 45 days (normally less) from the date of the opening, to furnish the subject services for a cost not to exceed:

OFFEROR: _____

Addendums received and used in computing bid: YES/NO _____

Number of Addendums received: _____

BID HOLDING TIME AND ACCEPTANCE

The undersigned hereby agrees that this bid may not be revoked or withdrawn after the time set for the opening of bids, but shall remain open for acceptance for a period of sixty (60) days following the bid date.

Cost of project submittals \$ _____ dollars and ____/100 \$ _____

BASE BID: Replacement of existing roof with new TPO roof system, approximately 282 squares, per the bid specifications and drawings. Include project submittals.

\$ _____ dollars and ____/100 \$ _____

Proposal Form continued on Next Page

(NOTE: THIS FORM MUST BE FULLY EXECUTED AND RETURNED FOR CONSIDERATION OF PROPOSAL)

PROPOSAL FORM

**VALLEY SPRINGS MIDDLE SCHOOL
PARTIAL ROOF REPLACEMENT PROJECT
(RFP# 15-16)**

DUE DATE: May 11, 2016, 3:00 PM

OFFEROR: _____

UNIT PRICES:

The undersigned proposed the following unit prices for additions or deletions to the Contract/Agreement. Unit prices shall include all costs including charges for materials, labor, equipment, fees, field and office operations overhead, taxes, insurance and profit. The Contract/Agreement will be altered in each case as follows:

	<u>ITEM</u>	<u>UNIT</u>	<u>UNIT PRICE</u> (ADD/DEDUCT)
1.	Wire brush and paint rusted metal decking.	sq. ft.	\$ _____
2.	Wire brush, paint and plate deteriorated metal decking.	sq. ft.	\$ _____
3.	Replace damaged or deteriorated metal decking.	sq. ft.	\$ _____
4.	Replace damaged/deteriorated wood blocking.	bd. ft.	\$ _____
5.	Secure existing metal deck side laps.	fastener	\$ _____
6.	Resecure existing metal deck to existing structural members.	fastener	\$ _____
7.	Install sheet metal over changes in direction of deck.	lin. ft.	\$ _____

SUBCONTRACTORS

FIRM

TRADE

Proposal Form continued on Next Page

(NOTE: THIS FORM MUST BE FULLY EXECUTED AND RETURNED FOR CONSIDERATION OF PROPOSAL)

PROPOSAL FORM

**VALLEY SPRINGS MIDDLE SCHOOL
PARTIAL ROOF REPLACEMENT PROJECT
(RFP# 15-16)**

DUE DATE: May 11, 2016, 3:00 PM

OFFEROR: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

TELEPHONE NUMBER: _____ FAX: _____

FED ID No: _____ Type & License #: _____

E-MAIL: _____ MBE Status: _____

Principal Place of Business if different from above (See General Information on Submitting Proposals, Item 18.): _____

BY: (Signature) _____ TITLE: _____

DATE: _____ (Typed or printed name) _____

Bid bond and MBE forms are required. Bidder must use bond forms included in the bid package. Please include bid bond and MBE forms in separate sealed envelope from proposal form.

End of Proposal Form

GENERAL INFORMATION ON SUBMITTING PROPOSALS

1. **EXCEPTIONS:** All proposals are subject to the terms and conditions outlined herein. All responses shall be controlled by such terms and conditions and the submission of other terms and conditions, price lists, catalogs, and/or other documents as part of an offeror's response will be waived and have no effect either on this Request for Proposals or on any contract that may be awarded resulting from this solicitation. Offeror specifically agrees to the conditions set forth in the above paragraph by signature to the proposal.
2. **CERTIFICATION:** By executing the proposal, the signer certifies that this proposal is submitted competitively and without collusion (G.S. 143-54), that none of our officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and that we are not an ineligible vendor as set forth in G.S. 143-59.1. False certification is a Class I felony.
3. **ORAL EXPLANATIONS:** The State/Buncombe County Schools shall not be bound by oral explanations or instructions given at any time during the competitive process or after award.
4. **REFERENCE TO OTHER DATA:** Only information which is received in response to this RFP will be evaluated; reference to information previously submitted shall not be evaluated.
5. **ELABORATE PROPOSALS:** Elaborate proposals in the form of brochures or other presentations beyond that necessary to present a complete and effective proposal are not desired.

In an effort to support the sustainability efforts of the State of North Carolina we solicit your cooperation in this effort.

It is desirable that all responses meet the following requirements:

- All copies are printed **double sided**.
 - All submittals and copies are printed on **recycled paper with a minimum post-consumer content of 30%** and indicate this information accordingly on the response.
 - Unless absolutely necessary, all proposals and copies should **minimize or eliminate use of non-recyclable or non re-usable materials** such as plastic report covers, plastic dividers, vinyl sleeves, and GBC binding. Three-ringed binders, glued materials, paper clips, and staples are acceptable.
 - Materials should be submitted in a format which allows for **easy removal and recycling** of paper materials.
6. **COST FOR PROPOSAL PREPARATION:** Any costs incurred by offerors in preparing or submitting offers are the offerors' sole responsibility; the State of North Carolina/Buncombe County Schools will not reimburse any offeror for any costs incurred.
 7. **TIME FOR ACCEPTANCE:** Each proposal shall state that it is a firm offer which may be accepted within a period of 45 days. Although the contract is expected to be awarded prior to that time, the 45 day period is requested to allow for unforeseen delays.
 8. **TITLES:** Titles and headings in this RFP and any subsequent contract are for convenience only and shall have no binding force or effect.
 9. **CONFIDENTIALITY OF PROPOSALS:** In submitting its proposal the offeror agrees not to discuss or otherwise reveal the contents of the proposal to any source outside of the using or issuing agency, government or private, until after the award of the contract. Offerors not in compliance with this provision may be disqualified, at the option of the State/Buncombe County Schools, from contract award. Only discussions authorized by the issuing agency are exempt from this provision.
 10. **RIGHT TO SUBMITTED MATERIAL:** All responses, inquiries, or correspondence relating to or in reference to the RFP, and all other reports, charts, displays, schedules, exhibits, and other documentation submitted by the offerors shall become the property of the State/Buncombe County Schools when received.
 11. **OFFEROR'S REPRESENTATIVE:** Each offeror shall submit with its proposal the name, address, and telephone number of the person(s) with authority to bind the firm and answer questions or provide clarification concerning the firm's proposal.
 12. **SUBCONTRACTING:** Offerors may propose to subcontract portions of the work provided that their proposals clearly indicate what work they plan to subcontract and to whom and that all information required about the prime contractor is also included for each proposed subcontractor.
 13. **PROPRIETARY INFORMATION:** Trade secrets or similar proprietary data which the offeror does not wish disclosed to other than personnel involved in the evaluation or contract administration will be kept confidential to the extent permitted by NCAC T01:05B.1501 and G.S. 132-1.3 if identified as follows: Each page shall be identified in boldface at the top and bottom as "CONFIDENTIAL". Any section of the proposal which is to remain confidential shall also be so marked in boldface on the title page of that section. Cost information may not be deemed confidential. In spite of what is labeled as confidential, the determination as to whether or not it is shall be determined by North Carolina law.

14. **HISTORICALLY UNDERUTILIZED BUSINESSES:** Pursuant to General Statute 143-48 and Executive Order #150, Buncombe County Schools invites and encourages participation in this procurement process by businesses owned by minorities, women, disabled, disabled business enterprises and non-profit work centers for the blind and severely disabled.

The Contractor agrees in particular to maintain open hiring and employment practices and to receive applications for employment in compliance with all requirements of applicable federal, state and local laws and regulations issued pursuant thereto relating to nondiscriminatory hiring and employment practices. Each Prime Contractor shall undertake an affirmative action program to ensure that no person shall be excluded from participation in any employment activities because of age, sex, race, religion, color, national origin or handicap.

15. **PROTEST PROCEDURES:** If an offeror wants to protest a contract awarded pursuant to this solicitation, they must submit a written request to the Purchasing Officer, Buncombe County Schools, 175 Bingham Road, or PO Box 16771, Asheville, NC 28806. This request must be received by the Purchasing Division within thirty (30) consecutive calendar days from the date of the contract award, and must contain specific sound reasons and any supporting documentation for the protest. NOTE: Contract award notices are sent only to those actually awarded contracts, and not to every person or firm responding to this solicitation. Contract status and award notices are available through the purchasing division or the project designer with contact information as shown on the first page of this solicitation. Offeror's may call to obtain a verbal status of contract award. All protests will be handled pursuant to the North Carolina Administrative Code, Title 1, Department of Administration, Chapter 5, Purchase and Contract, Section 5B.1519.
16. **TABULATIONS:** Offeror's may call the purchasing division to obtain a verbal status of contract award.
17. **VENDOR REGISTRATION AND SOLICITATION NOTIFICATION SYSTEM:** Vendor Link NC allows vendors to electronically register free with the State to receive electronic notification of current procurement opportunities for goods and services available on the Interactive Purchasing System. Online registration and other purchasing information are available on the Internet web site: <http://www.state.nc.us/pandc/>.
18. **RECIPROCAL PREFERENCE:** G.S. 143-59 establishes a reciprocal preference law to discourage other states from applying in-state preferences against North Carolina's resident offerors. The "Principal Place of Business" is defined as the principal place from which the trade or business of the offeror is directed or managed.

NORTH CAROLINA GENERAL CONTRACT TERMS AND CONDITIONS (Contractual and Consultant Services)

1. **GOVERNING LAW:** This contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina.
2. **SITUS:** The place of this contract, its situs and forum, shall be North Carolina, where all matters, whether sounding in contract or tort, relating to its validity, construction, interpretation and enforcement shall be determined.
3. **INDEPENDENT CONTRACTOR:** The Contractor shall be considered to be an independent contractor and as such shall be wholly responsible for the work to be performed and for the supervision of its employees. The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this agreement. Such employees shall not be employees of, or have any individual contractual relationship with the Agency.
4. **KEY PERSONNEL:** The Contractor shall not substitute key personnel assigned to the performance of this contract without prior written approval by the Agency's Contract Administrator. The individuals designated as key personnel for purposes of this contract are those specified in the Contractor's proposal.
5. **SUBCONTRACTING:** Work proposed to be performed under this contract by the Contractor or its employees shall not be subcontracted without prior written approval of the Agency's Contract Administrator/Project Designer. Acceptance of an offeror's proposal shall include any subcontractor(s) specified therein.
6. **PERFORMANCE AND DEFAULT:** If, through any cause, the Contractor shall fail to fulfill in timely and proper manner the obligations under this agreement, the Agency shall thereupon have the right to terminate this contract by giving written notice to the Contractor and specifying the effective date thereof. In that event, all finished or unfinished deliverable items under this contract prepared by the Contractor shall, at the option of the Agency, become its property, and the Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such materials. Notwithstanding, the Contractor shall not be relieved of liability to the Agency for damages sustained by the Agency by virtue of any breach of this agreement, and the Agency may withhold any payment due the Contractor for the purpose of setoff until such time as the exact amount of damages due the Agency from such breach can be determined. In case of default by the Contractor, the State may procure the services from other sources and hold the Contractor responsible for any excess cost occasioned thereby. The State reserves the right to require performance bond or other acceptable

alternative guarantees from successful offeror without expense to the State.

Upon the entering of a judgment of bankruptcy of insolvency by or against the Contractor, the Agency may terminate this contract for cause.

Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations by any act of war, hostile foreign action, nuclear explosion, riot, strikes, civil insurrection, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.

7. **TERMINATION:** The Agency may terminate this agreement at any time by *15 days* notice in writing from the Agency to the Contractor. In that event, all finished or unfinished deliverable items prepared by the Contractor under this contract shall, at the option of the Agency, become its property. If the contract is terminated by the Agency as provided herein, the Contractor shall be paid for services satisfactorily completed, less payment or compensation previously made.
8. **AVAILABILITY OF FUNDS:** Any and all payments to the Contractor are dependent upon and subject to the availability of funds to the Agency for the purpose set forth in this agreement.
9. **CONFIDENTIALITY:** Any information, data, instruments, documents, studies or reports given to or prepared or assembled by the Contractor under this agreement shall be kept as confidential and not divulged or made available to any individual or organization without the prior written approval of the Agency.
10. **CARE OF PROPERTY:** The Contractor agrees that it shall be responsible for the proper custody and care of any property furnished it for use in connection with the performance of this contract or purchased by it for this contract and will reimburse the State for loss of damage of such property.
11. **COPYRIGHT:** No deliverable items produced in whole or in part under this agreement shall be the subject of an application for copyright by or on behalf of the Contractor.
12. **ACCESS TO PERSONS AND RECORDS:** The State Auditor shall have access to persons and records as a result of all contracts or grants entered into by State agencies or political subdivisions in accordance with General Statute 147-64.7. The Contractor shall retain all records for a period of three years following completion of the contract.
13. **ASSIGNMENT:** No assignment of the Contractor's obligations nor the Contractor's right to receive payment hereunder shall be permitted. However, upon written request approved by the issuing purchasing authority, the State may:
 - a. Forward the contractor's payment check(s) directly to any person or entity designated by the Contractor, or
 - b. Include any person or entity designated by Contractor as a joint payee on the Contractor's payment check(s).In no event shall such approval and action obligate the State to anyone other than the Contractor and the Contractor shall remain responsible for fulfillment of all contract obligations.
14. **COMPLIANCE WITH LAWS:** The Contractor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements (permits) that are applicable to the conduct of its business, including those of federal, state, and local agencies having jurisdiction and/or authority.
15. **AFFIRMATIVE ACTION:** The Contractor shall take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination by reason of race, color, religion, sex, national origin, or disability.
16. **INSURANCE:** During the term of the contract, the contractor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the contract. As a minimum, the contractor shall provide and maintain the following coverage and limits:
 - a. Worker's Compensation - The contractor shall provide and maintain Worker's Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$150,000.00, covering all of Contractor's employees who are engaged in any work under the contract. If any work is subcontracted, the contractor shall require the subcontractor to provide the same coverage for any of its employees engaged in any work under the contract.
 - b. Commercial General Liability - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of \$2,000,000.00 Combined Single Limit. (Defense cost shall be in excess of the limit of liability).
 - c. Automobile - Automobile Liability Insurance, to include liability coverage, covering all owned, hired and non-owned vehicles, used in connection with the contract. The minimum combined single limit shall be \$500,000.00 bodily injury and property damage; \$500,000.00 uninsured/under insured motorist; and \$100,000.00 medical payment.

Providing and maintaining adequate insurance coverage is a material obligation of the contractor and is of the essence of this

contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The contractor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or this contract. The limits of coverage under each insurance policy maintained by the contractor shall not be interpreted as limiting the contractor's liability and obligations under the contract.

The Contractor shall furnish a Certificate of Insurance as proof of the above coverages. Certificate will contain provision that the insurance coverages cannot be canceled, reduced in amount or coverage eliminated without 30 days written notice to the Buncombe County Board of Education. Owner's Protective insurance must list the Buncombe County Board of Education as a "Named Insured" as it's interest may appear. Owner's approval of Certificate of Insurance does not decrease or relieve the contractor's responsibility for maintaining insurance coverage as required in this Request for Proposal.

17. **ADVERTISING:** Contractor agrees not to use the existence of this contract, the name of the agency, or the name of the State of North Carolina as part of any commercial advertising.

18. **ENTIRE AGREEMENT:** This contract and any documents incorporated specifically by reference represent the entire agreement between the parties and supersede all prior oral or written statements or agreements. This Request for Proposals, any addenda thereto, and the offeror's proposal are incorporated herein by reference as though set forth verbatim.

All promises, requirements, terms, conditions, provisions, representations, guarantees, and warranties contained herein shall survive the contract expiration or termination date unless specifically provided otherwise herein, or unless superseded by applicable Federal or State statutes of limitation.

19. **AMENDMENTS:** This contract may be amended only by written amendments duly executed by the Agency and the Contractor.

20. **TAXES:** G.S. 143-59.1 bars the Secretary of Administration from entering into contracts with vendors if the vendor or its affiliates meet one of the conditions of G. S. 105-164.8(b) and refuse to collect use tax on sales of tangible personal property to purchasers in North Carolina. Conditions under G. S. 105-164.8(b) include: (1) Maintenance of a retail establishment or office, (2) Presence of representatives in the State that solicit sales or transact business on behalf of the vendor and (3) Systematic exploitation of the market by media-assisted, media-facilitated, or media-solicited means. By execution of the bid document the vendor certifies that it and all of its affiliates, (if it has affiliates), collect(s) the appropriate taxes.

21. **GENERAL INDEMNITY:** The contractor shall hold and save the State/Buncombe County Schools, its officers, agents, and employees, harmless from liability of any kind, including all claims and losses, with the exception of consequential damages, accruing or resulting to any other person, firm, or corporation furnishing or supplying work, services, materials, or supplies in connection with the performance of this contract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the contractor in the performance of this contract and that are attributable to the negligence or intentionally tortious acts of the contractor provided that the contractor is notified in writing within 30 days that the State/Buncombe County Schools has knowledge of such claims. The contractor represents and warrants that it shall make no claim of any kind or nature against the State's agents who are involved in the delivery or processing of contractor goods to the State. The representation and warranty in the preceding sentence shall survive the termination or expiration of this contract.

CONTRACTOR'S SALES TAX REPORT
NC State and Local Sales Taxes Paid

Buncombe County Schools

CONTRACTOR: _____ PO#/RFP# _____

Address: _____ For Period: _____

Invoice Date	Invoice #	Type of Property	NC Tax 4.75%	County Tax 2.25%	Name of County
		TOTAL	\$	\$	

I certify that the above figures do not include any tax paid on supplies, tools and equipment which were used to perform this contract and only includes those building materials, supplies, fixtures and equipment which actually became a part of or annexed to the building or structure. I certify that, to the best of my knowledge, the information provided here is true, correct, and complete.

Sworn to and subscribed before me,

This the _____ day of
_____, 20____

Signed

Notary Public

My Commission
Expires: _____

Print or Type Name of Above & Title

Seal

NOTE:
This certified statement may be subject to audit.

The North Carolina General Assembly has amended the Statute to provide refunds of sales and use tax to local school units in accordance with the provisions of G.S. 105-164. 14(c) effective with tax paid on or after July 1, 1998.

These refunds are to include the “sales and use taxes paid by contractors on building materials, supplies, fixtures and equipment that become a part of or annexed to a building or structure that is owned or leased by the governmental entity and is being erected, altered or repaired for use by the governmental entity (G.S. 105-164.14).”

Sales and Use Tax Technical Bulletin Section 18-2F specifies: “To substantiate a refund claim for sales or use taxes paid on purchases of building materials, supplies, fixtures and equipment by its contractor, the claimant must secure from such contractor certified statements setting forth all of the following information:

- a. the date the property was purchased;
- b. the type of property purchased ;
- c. the project for which the property was used;
- d. if the property was purchased in this State, the county in which it was purchased;
- e. if the property was not purchased in this State, the county in which the property was used; and
- f. the amount of sales and use taxes paid.

In the event the contractor makes several purchases from the same vendor, such certified statement must indicate the invoice numbers, the inclusive dates of the invoices, the total amount of the invoices and the State and local sales and use taxes paid thereon. Such statement must also include the cost of any tangible personal property withdrawn from the contractor's warehouse stock and the amount of sales and use tax paid thereon by the contractor. Similar certified statements by his subcontractors must be obtained by the general contractor and furnished to the claimant. Any local sales or use taxes must be shown separately from the State sales or use taxes. The contractor's statements must not contain sales or use taxes paid on purchases of tangible personal property purchased by such contractors for use in performing the contract which does not annex to, affix to or in some manner become a part of the building or structure that is owned or leased by a governmental agency and is being erected, altered or repaired for use by a governmental entity as defined by G.S. 105-164.14(c). Examples of property on which sales or use tax has been paid by the contractor and which shall not be included in the contractor's statement are scaffolding, forms for concrete, fuel for the operation of machinery and equipment, tools, repair parts and equipment rentals.

Please read entire specification package. You will be held accountable for all information. NO payment shall be made if specifications are not followed.

Scope: Work shall consist of furnishing all labor, materials, equipment and services, incidental for the completion of work as described herein. All items not specifically mentioned in the specifications, but which obviously are required to make the job complete, shall be included automatically.

Qualifications: All bidders must furnish a list of North Carolina Contractor Licenses, which they hold.

Contractor's Responsibility: The Contractor shall be responsible for the construction site during the performance of the work. The Contractor shall be responsible for any and all damages to persons and property during the performance of the work and shall further provide all necessary safety measures and shall fully comply with all federal state and local laws, building rules, rules and regulations to prevent accidents or injury to persons or property on or about the location of the work site. This is to include OSHA 1910, General Construction, or those regulations mandated by these specifications. Special attention will be made to proper barricading of the work areas due to the work progressing within an actively operating office atmosphere.

Safety Regulations: The Contractor shall adhere to the rules, regulations and interpretations of the North Carolina Department of Labor relating to Occupational Safety and Health Standards for the Construction Industry (Title 29, Code of Federal Regulations, Part 1926, published in Volume 39, Number 122, Part II, June 24, 1974 Federal Register) which is hereby incorporated in these specifications.

Codes: All work shall be done in accordance with the specifications and shall comply with North Carolina Building Code, Underwriters' Rules and Regulations and Federal, State and Local Regulations covering work of this nature. Whenever drawings or specifications are in excess of such laws, codes and regulations, the specifications shall hold. All equipment shall have U. L. labels attached.

Permits: The Contractor must secure all permits required for the job completion, obtain and deliver to Owner, all certification of inspection issued by the authorities having jurisdiction, with Contractor paying cost of same. Permitting is through the Permitting Division of Buncombe County and Western North Carolina (WNC) Regional Air Quality Agency. **All final certificates must be delivered to owner prior to request for final payment.**

Workers on Job: All employees of the Contractor shall, while on Buncombe County Board of Education property, act in a professional and courteous manner. All workers shall be expected to wear long pants and shirts while on Board property. Also, all employees of the Contractor must "sign in" in the main office upon entering the facility and must "sign out" upon leaving the property. Any employee of the Contractor may be told to leave the property by either the Principal or the Assistant Director, if they do not follow the above procedure. The employee shall be replaced with another at no additional cost to the Buncombe County Board of Education.

In accordance with G.S. 14-208.18, all persons who (1) are required to register under the Sex Offender and Public Protection Program AND (2) have been convicted of certain sexually violent offenses or any offense where the victim was under the age of 16 years at the time of the offense are expressly forbidden to knowingly be present on any property owned or operated by the school system, including school buildings, athletic fields, playgrounds, parking lots, school buses, activity buses or other property of any kind for any reason, including attendance at sporting events or other school related functions, whether before, during or after school hours. It is the responsibility of the contractor or vendor that their employees and sub-contractors are in accordance with G.S. 14-208.18.

E-Verify: Contractor shall comply with E-Verify, the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used

to verify the work authorization of newly hired employees pursuant to federal law and as in accordance with N.C.G.S. §64-25 et seq. In addition, to the best of Contractor's knowledge, any subcontractor employed by Contractor as a part of this contract shall be in compliance with the requirements of E-Verify and N.C.G.S. §64-25 et seq.

Iran Divestment Act: North Carolina Local Government Units may not enter into contracts with any entity or individual found on the State Treasurer's Iran Final Divestment List N.C.G.S. 143C-6A. By bidding on this project the bidder certifies it is not listed on the Final Divestment List created by the State Treasurer.

Equipment and Tools: The Contractor shall use no equipment or tools that are owned by the Buncombe County Board of Education. Also, no employees of the Buncombe County Board of Education shall be utilized by the Contractor except for opening locked doors and giving directions.

Materials: No materials shall be stored on site and the Buncombe County Board of Education is not responsible for any materials, equipment or tools lost or stolen from the site.

Clean Up: The area of work shall be cleaned daily so that the Buncombe County Board of Education shall not incur any additional costs to make the area suitable for the work process. Also, the Contractor shall utilize no trash receptacles or dumpsters owned by the Buncombe County Board of Education. All trash and removed materials shall be properly disposed of off the property.

Performance of Work: All work shall be performed at the highest level of quality. The Owner shall be responsible for determining the quality of work, and may notify the Contractor of same. **ANY WORK COMPLETED THAT IS NOT SUITABLE TO THE OWNER SHALL BE REPEATED BY THE CONTRACTOR AT NO COST TO THE OWNER.** Any damage to existing area or utilities will be the responsibility of the Contractor. **NO EXCEPTIONS.**

Schedule of Completion: The Contract Start Date shall begin upon date indicated on the Notice to Proceed. Contractor shall begin work within seven (7) days of issuance of Notice to Proceed and shall commence actual physical work within twenty-one (21) days of date indicated on the Notice to Proceed. All work shall be substantially complete within **sixty-five (65)** calendar days from the date set forth in the Notice to Proceed.

Bonds: A bid bond is required from each bidder. The winning bidder will be required to provide a performance and payment bond before the contract is awarded. Bond forms are included with the RFP.

Bidding Instructions: Proposal form must be completed and signed. Bid bond and MBE forms are required. Bidder must use bond forms included in the bid package. Please include bid bond and MBE forms in separate sealed envelope from proposal form.

The Buncombe County Board of Education reserves the right to reject any or all bids for any or no reason, and to waive informalities.

SECTION 00800 – INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specifications Sections, apply to this section.
- B. Refer to Section 00801 – General Procurement Conditions.

1.2 BID FORM

- A. Base quotations upon the Specifications and Drawings. Include a statement to that effect. Quotations containing qualifying statements will not be considered.
- B. Submit bids on Bid Form included in these specifications.

1.3 RESPONSIBLE BIDDER

- A. Bidders must be licensed General Contractors for a minimum of five (5) years of the class required by North Carolina Statutes for executing the work being bid. Bidder's name, address, State license number, and date of license must appear on the outside of envelope containing Bidder's proposal.
- B. Bidder shall submit a copy of contractor's license with his Bid. Failure to provide evidence of an appropriate license by any bidder as described herein shall result in that bid, quotation or proposal not being considered.
- C. Bidder must be a Roofing Contractor with at least five (5) years of contracting experience in the type of work involved in this project, and must have performed work similar in scope to the work proposed in this project. Provide evidence of qualifications upon request by Engineer or Owner. The contracting firm's experience will be considered in the enforcement of this paragraph.
- D. All experience must have been acquired by bidding contractor named on the form of proposal. Firms using aliases, or who have changed names during the five year period are subject to disqualification at the discretion of the Owner.
- E. Submit upon request of Engineer or Owner certification from the roofing materials manufacturer that the bidding contractor is acceptable to the roofing system manufacturer as an installer of the manufacturer's system in all regards and no warranties required by the contract documents will be withheld by the manufacturer solely as a result of the bidder's qualifications to perform the work.
- F. Bidder, by submitting a bid for this project, certifies that the bidding contractor is acceptable to the roofing system manufacturer as an installer of the manufacturer's system in all regards

and no warranties required by the contract documents will be withheld by the manufacturer solely as a result of the bidder's qualifications to perform the work.

- G. Any bidder deemed as not responsible will be notified by the Engineer or Owner after the Bid Opening.

1.4 BID SECURITY

- A. Each bid must be accompanied by 1) Cashier's Check or Certified Check of the bidder made payable to the Owner; or 2) a bid bond issued by a surety authorized to do business in the State of North Carolina and acceptable to the Owner. Bid security shall be in an amount not less than 5% of the Base Bid and all add Alternates. 3) Bidders must use bond forms included with this request for proposal.

1.5 BID WITHDRAWAL

- A. No proposal shall be withdrawn subsequent to specified time of Bid Opening for a period of sixty (60) calendar days without written consent of Owner.

1.6 WAGE RATES

- A. Bidders shall inform themselves as to local labor conditions, including prospective changes or adjustments of local wage rates, and shall not pay less than the prevailing wage scale in the locality for comparable type of work. No increase in Contract price shall be authorized on account of payment of wage rates in excess of prevailing local rates.

1.7 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

- A. The Bidder is required, before submitting his proposal, to visit the site of the proposed work and familiarize himself with the nature and the extent of the work and any surface and subsurface conditions that may in any manner affect the work to be done, and the equipment, materials, and labor required, and the cost thereof. Bidder is also required to examine carefully the Plans and Specifications and Contract Documents and to inform himself thoroughly regarding any and all conditions and requirements that may in any manner affect the work to be performed under the Contract.
- B. Ignorance on the part of the Contractor will in no way relieve him of the obligations and responsibilities assumed under the Contract. No information derived from maps, drawings, specifications, or from Employees of the City, County, the Engineer, or his assistants, shall relieve the Contractor from any risk or from fulfilling all terms of the Contract.

1.8 INTERPRETATIONS, INCONSISTENCIES AND ADDENDA

- A. No interpretation of the meaning of the Drawings, Specifications or other Contract Documents will be made orally to any bidder. Prospective bidders must request such interpretation in writing from the Engineer. To be considered, such request must be received at least five (5) days prior to the time fixed for the opening of bids.

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- B. Any and all interpretations and supplemental instructions will be issued in the form of written addenda, which will be sent by email to all prospective bidders (at the email address furnished by the bidder) not later than three (3) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addenda shall not relieve any bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

1.9 SUBSTITUTIONS

- A. Brand or manufacturer names are used as standards of quality when no other appropriate reference is available. The Engineer (or Owner) will consider substitution of materials of equal quality and properties provided a written request accompanied substantiating data is received by him at least five (5) days prior to bid date.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 00800

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplemental Conditions and other Division 1 Specifications Sections, apply to this section.

1.2 DESCRIPTION OF EXISTING SYSTEM

- A. Information in this Section is provided only to establish general description and is not necessarily accurate. The Contractor is responsible for visiting the site and becoming satisfied as to the existing conditions, size of roof areas, etc. before preparation and submission of bid. Receipt of bid will be considered evidence Contractor has inspected roof or otherwise become satisfied on all details relating to the work.
- B. Existing Systems
1. Areas H, J and O generally consist of an aggregate-surfaced built-up-roof adhered in asphalt to 1 inch thick fiberglass insulation adhered in asphalt to 2-inch thick fiberglass insulation adhered to asphalt to 5/8 inch gypsum underlayment over a Type A metal deck.
- C. Drainage of Areas H, J and O primarily is to internal roof drains.
- D. The slope on Areas H and O is approximately 1/4 inch per foot and is in the structure. Slope on Area J is negligible.
- E. Asbestos containing materials were found within the pitch pans.
- F. The approximate size of the roof are as follows:

<u>ROOF AREA</u>	<u>APPROXIMATE SIZE (SQUARE FEET)</u>
H	11,314
J	836
O	15,600
Total	27,750

- G. Top of parapet is approximately 14 feet above grade.
- H. Contractor shall be responsible to document all existing damage to facility prior to beginning work and producing documentation acceptable to Engineer prior to starting work. Damage discovered during the project which was not documented and which is not clearly the responsibility of others may be presumed by the Engineer or Owner as the responsibility of the contractor. Documentation may be in the form of written statements and/or drawings but must also be supported with photographs and/or video tape supplied by contractor.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Project generally consists of roof replacement of low slope roof areas (Areas H, J and O) and installation of new edge metal, expansion joints, counterflashing, drains, overflow drains and all other miscellaneous work associated herein.
 - 1. Project location: Valley Springs Middle School, Arden, North Carolina.
 - 2. Owner: Buncombe County School District.
 - 3. Refer to Key Plan KP.
- B. The Owner has elected to designate Terracon Consultants, Inc., Charlotte, North Carolina, as Engineer for this Project.
- C. The terms "Architect" and "Engineer" used in the contract documents are that individual, partnership, or corporation engaged by the Owner for the preparation of certain of the Contract Documents, and referred to in the Contract Documents. The "Architect" or "Engineer" may, however, be an Architect, Architect-Engineer, Engineer or other design professional authorized by the Owner to perform such functions and the terms are interchangeable.
- D. The work under the Base Bid is as follows. Refer to Roof Plans, A-101 and A-102.
 - 1. Low Slope Roofing: Work on Area H, J and O generally consists of the complete removal of all existing built-up roofing, insulation, gypsum underlayment, base sheet, flashings, metal flashing and the installation of a new pre-engineered perimeter edge metal, membrane, high density polyisocyanurate TPO, cover board, tapered and base insulation, flashings, metal flashings, new drain extensions, new overflow drains, new leaders and all associated miscellaneous work as specified herein.

1.4 START AND COMPLETION

- A. Work on the project is to be substantially complete within sixty-five (65) calendar days. Upon arrival at substantial completion, Contractor shall have fourteen (14) calendar days to arrive at final completion.
- B. Prework Conference: Prior to start of work there shall be a conference attended by the Contractor, the representative of the Owner, roofing manufacturer's representative, and other parties who may be designated by the Owner, to be convened at the work site for the purpose of reviewing the specifications and job conditions and resolving any questions then arising. Contractor shall advise the office of the Owner of date and time at least one week before the date to allow proper notification of parties.
- C. Work on the project may begin after the date of fully executed contracts and after submittals have been approved. Materials may be delivered to the site prior to the start of work upon Owner approval.
- D. Any extension of contract time considered necessary by the Contractor must be submitted in writing to the Owner with complete details of conditions necessitating extension and specific time of extension requested. Any extension must be specifically authorized by the Owner in writing.

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- E. For purposes of this project, a rain day is defined as a day when precipitation equal to or greater than 0.01 inches is recorded at the NOAA or NWS weather station closest to the project. Only that day on which the precipitation occurs will be considered a rain day. The threat of rain, or the occurrence of standing water from previous rain days will not be considered in the evaluation of the contract time to complete the project. In the event, the nearest NOAA or NWS weather station is greater than 15 miles from the project, a rain day will also be defined as any day during which precipitation occurs at the project and the precipitation is documented daily by the contractor and the daily report is provided to the Engineer within 24 hours.
1. Extensions will not be granted for foul weather unless the number of days of foul weather exceeds that which can reasonably be expected to occur during the construction time period and the contractor can clearly demonstrate to the satisfaction of the Owner that the project was delayed by the additional days of foul weather.
 2. Historic weather data provided by the National Oceanic and Atmospheric Administration (NOAA) and/or the National Weather Service (NWS) will be used as a basis of foul weather which can be and should be anticipated by the contractor.
- F. Substantial completion is defined for this project as the successful installation of every component required under the contract documents to be installed for this project. A punch list may be issued by the Engineer for work complete at this time.
- G. When Owner has certified substantial completion, contractor shall have an additional fourteen (14) calendar days to complete all work under the contract, including any outstanding punch list items established at the substantial completion; any required submittals, including warranties, releases of liens, unit price logs, consents of surety, final pay request, etc. Date of final completion is defined as the date when all work required under the contract has been completed.
- H. Contractor shall begin the Work on the commencement date set forth in the Contract, and shall perform the Work expeditiously with adequate forces and shall complete the Work within the Contract Time.
- I. All time limits stated in the Contract are of the essence with respect to Contractor's obligations hereunder.

1.5 LIQUIDATED DAMAGES

- A. Liquidated damages will apply starting the first calendar day after the date established for final completion and will be assessed at a rate of \$200.00 per day for each calendar day, until such time as all construction is complete and has been accepted by the Owner.
- B. Contractor, by submitting a bid for this project, attests and agrees that the value of liquidated damages as stated are a fair and equitable representation of damages to the Owner in the event project is not completed within the allotted time.
- C. In the event the project extends beyond the contract period (including any extensions to contract, approved by Owner), Owner will back charge the contractor for fees and expenses attributable to additional services by Owner's consultants which are provided solely as a result of the project being extended beyond the contract period. Owner may withhold monies

attributable to these fees and expenses from contractor's requests for payment. Where liquidated damages are imposed as a result of the contract between the Owner and Contractor, these fees and expenses will be funded from the liquidated damage payments by the contractor. Owner may withhold monies attributable to these fees and expenses from contractor's request for payment.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

SECTION 01210 – ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Unit-cost allowances.
- C. Related Sections include the following:
 - 1. Division 1 Section "Unit Prices" for procedures for using unit prices.

1.3 ALLOWANCE PROCEDURES

- A. Prior to the conclusion of the project, credit the amount of unused allowance to Owner by Change Order.
- B. Deductive amounts of unit price work included in the Contract Sum will be calculated at 100% of the quoted unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 UNIT PRICE ALLOWANCES SCHEDULE

- A. Include the following unit price allowances in the Contract Sum.
 - 1. Allowance No. 1 – Wire brush and paint 1,000 square feet of deteriorated metal decking.
 - 2. Allowance No. 2 – Wire brush, paint and plate 100 square feet of deteriorated metal decking.
 - 3. Allowance No. 3 – Replace 50 square feet of deteriorated metal decking.
 - 4. Allowance No. 4 – Replace 100 board feet of damaged deteriorated wood blocking.
 - 5. Allowance No. 5 – Install 100 fasteners at loose metal deck side laps.

6. Allowance No. 6 – Install 100 fasteners to secure loose metal deck to existing framing members.
7. Allowance No. 7 – Install 500 linear feet of sheet metal over changes in direction of metal decking, over loose perimeters to wood blocking and over deficiencies in deck.

END OF SECTION 01210

SECTION 01250 – CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
 - 1. Division 1 Section “Unit Prices” for procedures for using unit prices.
 - 2. Division 1 Section “Allowances” for procedural requirements regarding handling and processing allowances.

1.3 MINOR CHANGES IN WORK

- A. Engineer will issue supplemental instructions (field orders) authorizing minor changes in the Work, not involving adjustment to the Contract Sum or Contract Time, on AIA Document G710, “Architect’s Supplemental Instructions.”

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner or Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Proposal Requests issued by Owner are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and

finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Engineer.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- C. Change Order proposal shall be submitted by the Contractor to the Engineer with a breakdown suitable for proper review. At a minimum, the breakdown should include line items for materials, labor, insurance, bonds and overhead and profit. If the proposal is approved by the Engineer, a recommendation will be made to the Owner. If approved by Owner, Engineer will provide written confirmation to the Contractor to proceed with proposed work.
- D. The Contractor shall not commence work or purchase materials for such proposed work until written approval is received.
- E. All changes in the work must be reviewed by Engineer and forwarded to Owner.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Engineer may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
- B. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or Contract Time.
- C. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
- D. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01250

SECTION 01270 – UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections include the following:
 - 1. Division 1 Section “Allowances” for procedures for using unit prices to adjust quantity allowances.
 - 2. Division 1 Section “Contract Modification Procedures” for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

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

1.4 PROCEDURES

- A. Include in unit prices all necessary material, plus cost of delivery, installation, insurance, taxes, overhead and profit.
- B. Owner reserves the right to reject Contractor’s measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner’s expense, by an independent surveyor acceptable to Contractor.
- C. List of Unit Prices: A list of unit prices if included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.
- D. Contractor shall maintain a daily log showing dates, location and exact quantities of unit price work. Contractor is responsible for providing photographic evidence of unit price work installed. Copies of log and appropriate change order forms shall be submitted with each application for payment unless no unit price work is accomplished during the period covered by the application.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

- A. Unit Price No. 1 – Wire brush and paint metal deck.
 - 1. Description: Wire brush and paint rusted metal decking according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per square foot.
- B. Unit Price No. 2 – Wire brush, paint and plate metal deck.
 - 1. Description: Wire brush, paint and plate deteriorated metal deck according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per square foot.
- C. Unit Price No. 3 – Replace steel deck.
 - 1. Description: Replace damaged/deteriorated metal deck according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per square foot.
- D. Unit Price No. 4 – Replace damaged or deteriorated wood blocking.
 - 1. Description: Replace damaged or deteriorated wood blocking according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per board foot.
- E. Unit Price No. 5 – Secure metal deck side laps.
 - 1. Description: Secure existing metal deck side laps according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per fastener.
- F. Unit Price No. 6 – Resecure metal deck.
 - 1. Description: Resecure existing metal deck to existing structural members according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per fastener.
- G. Unit Price No. 7 – Plate steel deck.
 - 1. Description: Install steel plate over changes in direction of steel deck according to Division 7 Section “Roofing Preparation.”
 - 2. Unit of Measurement: Per linear foot.

END OF SECTION 01270

SECTION 01290 – PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
 - 1. Division 1 Section “Allowances” for procedures for using unit prices to adjust quantity allowances.
 - 2. Division 1 Section “Contract Modification Procedures” for procedures for submitting and handling Change Orders.
 - 3. Division 1 Section “Unit Prices” for procedures for using unit prices.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
 - 1. Prior to start of any work, Contractor must submit to Owner a Schedule of Values on a copy of AIA Document G703 listing each phase of the work and its scheduled value. Contractor must be prepared to verify all material costs by producing supplier invoices, bills of lading, etc. upon request by Owner.
 - 2. Schedule of Values, shall include labor and material line items for all material components with a material value of more than \$2,000.00 or 5% of the contract amount (whichever is least). The schedule of values must include, as a minimum, line items for any of the following which are applicable to this project including separate labor and material line items where applicable.
 - a. Mobilization
 - b. Performance and Payment Bonds
 - c. Demolition
 - d. Asbestos Removal
 - e. Asbestos Disposal
 - f. Wood Blocking
 - g. Underlayment
 - h. Cover Board

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- i. Single Ply Membrane
 - j. Insulation
 - k. Base Flashing
 - l. Sheet Metal Flashing and Trim
 - m. Pre-Engineered Perimeter Edge Metal
 - n. Drain
 - o. Overflow Drains
 - p. Site Cleanup
 - q. Manufacturer's Inspections
 - r. Unit Price Work
 - s. Guarantee
- 3. Schedule Updating: Update and resubmit the Schedule of Values before the next Application for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.
 - 4. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
 - 5. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at Contractor's option.

1.4 APPLICATIONS FOR PAYMENT

- A. Monthly pay estimates shall be submitted to Engineer in triplicate on AIA Document G702 and AIA Document G703.
- B. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.
 - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
 - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- C. Applications for payment requesting payment for materials will not be certified or approved unless accompanied with Manufacturer's Certificates of Compliance for those materials. It is suggested that Contractor request material certificates of compliance from material suppliers at the time materials are ordered.
- D. Include a retainage amount of ten percent (10%) for the value of materials stored at the site and work executed.
- E. A payment or payments made to Contractor for work performed shall not constitute acceptance or approval of the work and shall in no way relieve Contractor from the requirements of the Contract.
- F. All sums received by Contractor for any part or parts of the work furnished or performed by a Subcontractor shall be paid promptly to the latter by Contractor, and while in the hands of Contractor, shall constitute trust funds held for the use and benefit of Owner.

- G. If payments are to be made on account of materials or equipment not incorporated in the work but delivered and suitably stored at the Site, or at such other location agreed upon in writing, such payments shall be conditioned upon submission by Contractor of bills of sale or other documents satisfactory to Owner establishing Owner's title to such materials or equipment or otherwise protecting Owner's interest therein including the prepayment of applicable insurance and transportation charges to the Site.
- H. Each Payment Applications shall include a notarized Sales Tax Report.
- I. Contractor warrants and guarantees the title to all work, materials and equipment covered by an invoice, whether or not incorporated in the work, will pass to Owner upon Contractor's receipt of the payment covering such work, materials and equipment, free and clear of all liens or other similar or dissimilar encumbrances in any way affecting Owner's title thereto.
- J. A payment or payments made to Contractor for work performed shall not constitute acceptance or approval of the work and shall in no way relieve Contractor from the requirements of the Contract.
- K. Submit to Engineer digitally. Upon approval, submit three hard copies to Engineer.

1.5 FINAL PAYMENT APPLICATION

- A. Refer to Section 01400 – QUALITY REQUIREMENTS, Paragraph 1.5, Inspection of Work for Final Inspection Requirements and related provisions for final payment and closeout documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01290

SECTION 01330 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

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

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples and other miscellaneous submittals.
 - 1. Division 1 Section “Payment Procedures” for submitting Applications for Payment and the Schedule of Values.
 - 2. Division 7 Section for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

- A. Shop Drawings: Drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by Contractor or any Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor which illustrate some portion of the work.
- B. Samples: Physical examples furnished by Contractor to illustrate materials, equipment or workmanship and establish standards of work.

1.4 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate the schedule for submittal of shop drawings and samples with progress schedule and the requirements of the Contract. Failure to schedule and submit shop drawings and samples in ample time for checking, correction and rechecking will not justify any delay in the timely performance of the work.
- B. Submittal Schedule: Within two weeks after award of Contract, provide a schedule of the dates for submission of each shop drawing and sample required by the Contract.
- C. Processing Time: Allow sufficient time for an orderly review with reasonable time for checking, correction and rechecking corrections, as well as returning the approved or rejected shop drawings and samples to Contractor and, in turn, any Subcontractor.
- D. Allow a minimum of 10 working days from the date submittal is received until the date the submittal is required to be returned to the Contractor.
- E. If a submittal contains more than 10 shop drawings, indicate which drawings must be returned within the period of 10 working days, and, in such event, allow an additional 10 working days for return of the balance of the submittal.
- F. Identification: Provide each submittal with the following information:

1. Owner's and Engineer's respective project numbers.
 2. Date of submittal.
 3. Submittal number.
 4. Title of project.
 5. Name of Contractor and date of Contractor's approval.
 6. Name of Subcontractor or supplier and date of submittal to Contractor.
 7. Reference to Specification Section and Paragraph and/or Drawing Number.
 8. The specific location of that portion of the work covered by the submission.
 9. Any qualification, departure or deviation from the requirements of the Contract.
 10. Any additional information required by the Specifications for the particular material being furnished.
- G. Provide a space on each shop drawing for the approval stamps of Contractor, Engineer and Engineer's sub-consultants, if any.
- H. Transmittal Form: Use form of transmittal contained at the end of this Section, or a similar form containing the same information.
- I. Numbering: Number each submittal. Retain numbering system throughout all revisions.
- J. Submit all associated shop drawings relating to a complete assembly at the same time, where possible, so that each may be checked in relation to the entire proposed assembly.
- K. Prepare composite shop drawings and installation layouts, when required, to depict proposed solutions for tight field conditions. Coordinate composite shop drawings and field installation layouts in the field with Subcontractors for proper relationship to the work of all other trades involved in the work.
- L. Prior to submission, review, affix a stamp on, and indicate approval of all shop drawings and samples. Determine and verify field measurements and availability of the material, and coordinate each shop drawing and sample with requirements of the Contract.
- M. All submittals are to be submitted electronically to the Engineer.
- N. Engineer will review Shop Drawings and Samples to determine conformance with the design concept of the Project and with the information given in the Contract. Engineer's approval of a separate item shall not be construed to mean approval of the assembly of which such item is a part.
- O. Engineer's approval of Shop Drawings or Samples shall not relieve Contractor of responsibility for any deviation from the requirements of the Contract unless Contractor has informed Engineer in writing of such deviation at the time of submission and Engineer has given written approval to the specific deviation, nor shall Engineer's approval relieve Contractor from responsibility for errors or omissions in the shop drawings or samples.
- P. Make corrections required by Engineer and resubmit corrected copies of shop drawings or new samples until approved. Direct specific attention in writing, or on resubmitted shop drawings, to revisions other than the corrections required by Engineer. The number and distribution of copies shall be the same as in Contractor's first submission.

- Q. In the event that Engineer shall mark shop drawings “approved” or “approved as noted,” make such corrections, if any, as may be noted. Correction shall be made on, and prints for final distribution shall be made from, the drawings bearing Engineer’s notations and impress stamps. Final distribution of prints shall be made by Contractor.
- R. Do not commence any portion of the work requiring a shop drawing or sample until the submission has been approved by the Engineer. All such portions of the work shall be in accordance with approved shop drawings and samples.
- S. Do not commence any work which will result in structural changes in walls, steel, floors and masonry prior to Engineer’s written approval. Fully describe all details of methods, shoring and bracing in submission for such work.
- T. Contractor shall submit a copy of building permit prior to beginning work.

1.5 LIST OF PROJECT SUBMITTALS

- A. Refer to Project Document Checklist at the end of this Section for submittals that will be required from contractor and approved by Engineer prior to start of work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

SUBMITTAL TRANSMITTAL

Date: _____

From: _____ To: Terracon Consultants, Inc.

2020 Starita Road, Suite E
Charlotte, NC 28206

Project Name: _____ Valley Springs Middle School

Owner: _____ Buncombe County School District, Asheville, North Carolina

Owner's Project Number: _____

Terracon Consultants, Inc. Project Number: _____ FH166112

Submittal Number: _____ No. of Copies: _____

Specification Section and Paragraph Reference(s): _____

Drawing/Detail Reference(s): _____

Location of Work: _____

Product Manufacturer: _____

Supplier/Subcontractor: _____

Date submitted to Contractor: _____

Qualifications/Deviations From Specifications: _____

CONTRACTOR'S APPROVAL

THIS SUBMITTAL HAS BEEN PREPARED BY THE CONTRACTOR OR THOROUGHLY REVIEWED
BY THE CONTRACTOR AND IS A CONTRACTOR APPROVED SUBMITTAL SUBJECT TO ANY
QUALIFICATIONS MADE HEREON OR ON THE ATTACHMENTS.

SIGNED: _____
NAME: _____

DATE: _____

ENGINEER'S APPROVAL

APPROVED _____; APPROVED AS NOTED _____; NOT APPROVED - RESUBMIT _____;
REVIEWED _____; APPROVED FOR CONSTRUCTION ACCORDING TO NOTATIONS.
REVISE AND RESUBMIT _____; REFER TO APPROVAL STAMP ON ATTACHMENT _____

Checking by Engineer is only for conformance with the design concept of the project and compliance
with the information given in the contract documents. Contractor is responsible for dimensions to be
confirmed and correlated at the job site, for information that pertains solely to the fabrication processes
or to techniques of construction, and for coordination of the work of all trades.

SIGNED: _____

DATE: _____

PROJECT DOCUMENT CHECKLISTSUBMITTALS

- ☐ Materials List
- ☐ Materials Certificate of Compliance
 - ☐ Lumber
 - ☐ Prefinished Galvalume
 - ☐ Sealant
 - ☐ TPO Membrane
 - ☐ Gypsum Underlayment Board
 - ☐ Polyisocyanurate Insulation
 - ☐ High Density Polyisocyanurate Cover Board
 - ☐ Base Flashing
 - ☐ Pre-Engineered Edge Metal
 - ☐ Wood Fiber Tapered Edge Strips
 - ☐ Self-adhering Underlayment
- ☐ Manufacturer's Application Procedures
- ☐ Edge Metal Installation
- ☐ Copies of Authorizations and Licenses from Authorities having jurisdiction
- ☐ AIA Document G703, Schedule of Values
- ☐ Material Safety Data Sheets
- ☐ Schedule for Removal and Installation
- ☐ Written Safety Procedures
- ☐ Underwriter's Laboratories, Inc. Class A Roof Covering Certificate from Roofing System Manufacturer
- ☐ Shop Drawings
- ☐ Metal Samples
- ☐ Color Chart
- ☐ Documentation of Existing Conditions
- ☐ Certification from Manufacturer that Contractor is an Approved Installer
- ☐ List of Subcontractors
- ☐ List of Contractor Staff Assignments and Qualifications
- ☐ Tapered Insulation Shop Drawings
- ☐ Metal Shop Drawings
- ☐ Asbestos Abatement Permit and License
- ☐ Building Permit

END OF SECTION 01330

SECTION 01400 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes administrative and procedural requirements for quality assurance and quality control.

1.3 INSTALLER QUALIFICATIONS

- A. Installer must be licensed General Contractors for a minimum of five (5) years of the class “General Roofing” and/or “Specialty Roofing” required by North Carolina Statutes for executing the work being bid. Bidder's name, address, State license number, and date of license must appear on the outside of envelope containing Bidder's proposal.
- B. Installer shall be a licensed Contractor with at least five (5) years of contracting experience in the type of work involved, and shall have performed work similar in scope to the work proposed in this project. Evidence of qualifications shall be available upon request by Owner. The contracting firm's experience will be considered in the enforcement of this provision. All experience must have been acquired by the bidding contractor named on the form of proposal. Firms using aliases, or who have changed names during the five (5) year period are subject to disqualification at the discretion of the Owner. Contractor shall demonstrate experience on a minimum of five (5) projects of similar size, scope and complexity to this project.
- C. None but skilled foremen and workmen shall be employed on work requiring special qualifications. Any person employed on the work who fails, refuses, or neglects to obey the instructions in anything relating to this work, or who appears to be disorderly, insubordinate, unfaithful, or incompetent, shall upon the order of the Owner be at once discharged and not again employed on any part of the work. Any interference with, or abusive or threatening conduct toward the Owner or his assistants by the Contractor or his employees or agents, shall be authority for the Owner to annul the Contract and re-let the work.
- D. Bidder shall submit certification from the roofing manufacturer that the bidding contractor is acceptable to the manufacturer as an installer of the manufacturer's system in all regards and no warranties required by the contract documents will be withheld by the manufacturer solely as a result of the bidder's qualifications to perform the work.

1.4 SUPERINTENDENT

- A. For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site at all times work is being performed, and whose primary responsibility is to supervise and direct the performance of the work.
- B. The superintendent shall not be changed except with the consent of the Owner and Engineer, unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in his employment.
- C. The superintendent shall be in attendance at the project site at all times during the progress of the work and his duties as superintendent shall be limited to this project only. The superintendent shall supervise and instruct workmen. Should the superintendent be absent temporarily from the project at any time, he shall designate a competent foreman to assume his duties.
- D. The superintendent shall have had a minimum of five (5) years continuous experience as a job superintendent.
- E. Only the project superintendent (or the designated foreman in the superintendent's absence) will be permitted inside the facility, except when accompanied by the superintendent to perform work or in cases of emergency.
- F. The Contractor shall provide the Owner, in writing, the name of the proposed project manager, job superintendent and foreman for approval no later than seven (7) days prior to the prework conference. Also include chronological listing of superintendent's experience by project name, type system, size and required warranty.
- G. Once approved, neither the project manager nor the superintendent will be changed except with the consent of the Owner unless either proves to be unsatisfactory to the Owner or Contractor, or ceases to be in the Contractor's employment.
- H. Promotion or reorganization within the company will not be an acceptable cause for reassignment of project manager or superintendent.
- I. It shall be the superintendent's responsibility to communicate all matters pertaining to the Work with the Owner and/or Engineer. In case of emergency or safety, superintendent shall communicate directly with the Owner or Owner's representative, and, immediately thereafter, notify the Owner and/or Engineer. No decisions regarding changes in the Work will be made without the Owner's knowledge.
- J. Each day before work begins, superintendent shall indicate on the Roof Plan the area to be reroofed that day. Color markers are appropriate for this purpose. If changes in the work schedule occur, the Owner shall be notified accordingly.
- K. The job superintendent will have a local contact phone number.

1.5 INSPECTION OF WORK

- A. Work found to be in violation of specifications or not in accordance with established workmanship practices and standards will be subject to complete removal and proper replacement with new materials at Contractor's expense.
- B. Owner will provide inspection during the work. Such inspection may be periodic or daily.
- C. The words "supervise" and "inspect" wherever used herein in connection with the duties or activity of the Owner shall in no way, expressed or implied, relieve the contractor from his responsibilities for the safety of the workmen, the preservation of the work or proper performance under this contract. The Owner shall not be responsible for the safety of the workmen, the safeguarding of the work, or the proper performance of the Contractor.
- D. No Inspector shall have the power to waive the obligations resting upon the Contractor to furnish good material and do good work as herein prescribed. Any failure or omission on the part of any Inspector or the Engineer to observe, object to or condemn any defective material or work shall not release the Contractor from the obligation to at once tear out, remove, and properly replace or rebuild the same at any time upon discovery of the defect and upon notice from the Owner or Engineer to do so.
- E. Materials stored on site which are marked by the Inspector, Engineer or Owner as not meeting the requirements of the contract documents are to be removed from the site by the contractor immediately.
- F. Top surfacing will be judged by sight. If Inspector's decision is not acceptable to the Contractor he may, at his own expense, take samples and make tests by methods to which both parties agree.
- G. Failure of Owner or Engineer to discover or reject defective work, or work not in accordance with the Contract, shall not be deemed an acceptance thereof, nor a waiver of Owner's rights to Contractor's compliance with the Contract or performance of the work, or any part thereof. No partial or final payment, or partial or entire occupancy, by Owner shall be deemed to be an acceptance of work or of material which is not strictly in accordance with the Contract, nor shall it be deemed to be a waiver by Owner of any of Owner's rights pursuant to this Contract or otherwise.
- H. Substantial Completion Inspection shall be conducted as follows:
 - 1. When Engineer has certified substantial completion, Contractor shall have an additional fourteen (14) calendar days to complete all work under the contract, including any outstanding punch list items established at the substantial completion; any required submittals, including warranties, release of liens, unit price logs, consents of surety, final pay request, etc.
 - 2. Substantial completion is defined for this project as the successful installation of every component required under the contract documents to be installed for this project. A punch list may be issued by the Engineer for work complete at this time.
- I. Final Inspection shall be conducted as follows:
 - 1. Upon final completion, Contractor must notify Engineer and Owner in writing requesting a final inspection.

2. The Engineer and Owner will conduct a final inspection of all work included in the contract as soon as possible after receiving written notification by the Contractor that the work is complete and ready for inspection.
3. The final inspection report shall be prepared by the Engineer and Owner listing observed deficiencies and furnished to the Contractor.
4. Upon satisfactory completion of all deficiencies, Contractor shall initial each item on the report certifying his compliance and return to the Engineer.
5. No portion of the final payment will be made until all items have been satisfactorily corrected and the project closeout documents submitted to the Architect/Engineer.
6. All project completion documents are to be submitted within thirty (30) days following acceptance by the Owner.

1.6 PERMITS

- A. Contractor is responsible for obtaining all necessary licenses and permits required by law in order to accomplish the work. Satisfactory evidence that all licenses and permits have been issued must be submitted to Owner prior to starting work.
- B. Contractor must provide all protective structures, barriers, or other means of protection necessary to assure the public safety and to fulfill all requirements by governmental authorities.
- C. Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority having jurisdiction of Contractor's performance of the work or any part thereof. If Contractor knows, or should know that any requirement of these Specifications is at variance with any such laws, ordinances, rules, regulations or orders in any respect, Contractor shall promptly notify Engineer in writing and obtain written instructions before proceeding with the portion of the work thereby affected. If Contractor performs any work which is contrary to such laws, ordinances, rules and regulations without receiving Engineer's instructions, Contractor shall assume full responsibility therefor and shall bear all penalties and costs of remedying the work attributable thereto. However, this section shall not be construed to require Contractor to perform detailed engineering calculations normally performed by Engineer except when specifically provided.

1.7 SUBCONTRACTORS

- A. Use of Subcontractors to accomplish such miscellaneous or associated work as structural modifications, plumbing, relocation of conduit, service piping and/or HVAC equipment, etc. is permitted. Do not subcontract any part of the roofing work specified herein without the prior written consent of the Owner.

1.8 PRE-CONSTRUCTION CONFERENCE

- A. Prior to the start of work there shall be a conference attended by the Contractor, the representative of the Owner, and other parties who may be designated by the Owner, to be convened at the work site for the purpose of reviewing the specifications and job conditions and resolving any questions then arising.

1.9 MANUFACTURER'S INSPECTIONS

- A. A technical representative of the roof system manufacturer shall conduct periodic inspections throughout the course of the work. The representative shall prepare a written report for each inspection and shall promptly provide a copy of each report to the Owner, Contractor and Engineer. Each report shall note any deficiencies the representative observes which require correction. A minimum of three (3) inspections is required for this project including a final inspection after contractor has completed installation of all roof system components.

END OF SECTION 01400

SECTION 01500 – TEMPORARY FACILITIES, CONTROLS AND PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities, controls, protection and disconnects.

1.3 SUBMITTALS

- A. Submit plans for work for approval prior to starting work so that, if necessary, inside operations can be coordinated with the work.

1.4 TEMPORARY UTILITIES

- A. Water Service: Use water from Owner's existing water system without metering and without payment of use charges.
- B. Electric Power Service: Use electric power from Owner's existing system without metering and without payment of use charges.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities and drinking-water fixtures. Locate at sites approved by the Owner. Facilities in existing buildings are off-limits.
- D. Lunchroom Facilities: On-site facilities are not available to Contractor personnel.

1.5 TOBACCO PRODUCTS

- A. Tobacco products will not be allowed on site at any time. Enforce the tobacco policy of the Owner with regard to Contractor's personnel. Non-compliance by any of Contractor's personnel will be justification for removal of those individuals from this project.

1.6 SCAFFOLDING AND PLATFORMS

- A. Contractor shall provide all necessary platforms and scaffolds of ample strength. Inclusive are all hoisting machinery, all appliances and materials such as ladders, planks, ropes, wedges, centers and other tools and materials including the carriage thereof to and from the

buildings as required for proper handling and installation and/or erection of materials and equipment included in the work.

- B. Prior to starting work, Contractor shall obtain approval of the Owner for locations of work operations at ground level such as material storage, hoisting, dumping, etc. Work will be restricted to approved locations.
- C. Access to the roof will be by external means only. Access by ladder or scaffolding will be the responsibility of the Contractor.
 - 1. Ladders must be taken down daily and locked in storage or removed from site.
 - 2. Scaffolding must be barricaded to deter unauthorized usage by the public.

1.7 TEMPORARY PROTECTION

- A. Temporary measures shall be provided and maintained by the Contractor to protect the building and its contents from weather and construction related damages. Damaged or disturbed buildings or grounds to be corrected to the Owner's satisfaction prior to final payment.
- B. Protect the existing building, roof, equipment, and grounds from flying or falling debris during the demolition process. Protect so as not to disrupt building operations or cause damage to the building and its contents during construction.

1.8 PROTECTION OF BUILDINGS AND PROPERTY

- A. Note that building will remain occupied during work. Take all precautions necessary to protect building, contents and personnel from damage or injury from operations and from water entry into the building during construction. Keep dust and dirt to a minimum.
- B. At conclusion of each day's work, carefully inspect work including temporary daily tie-offs to ensure system is completely water-tight, all stored materials are suitably protected from the weather and all equipment is stored in such a manner as not to interfere with facility operations.
- C. On normal workdays when no work is accomplished due to inclement weather or other reasons, visit the site no later than normal start time and verify that the system is completely water-tight, all stored materials are suitably protected from the weather and all equipment is stored in such a manner as not to interfere with facility operations. Be prepared to implement emergency repairs as necessary to prevent leakage into the facility.
- D. Prior to starting work, obtain approval from Owner for locations of work operations at ground level, such as material storage, hoisting, dumping, etc. Restrict work to approved locations
- E. Prevent any work which could reasonable be deemed to be hazardous from taking place over or adjacent to occupied areas. Coordinate with the Owner the vacating of such affected areas of all occupants and give the Owner adequate notice to allow time to comply. Post a watchman inside the building in the affected area(s) at all times during the work to ensure no one enters or remains in the affected area(s).

-
- F. Contractor shall protect adjacent existing and new roof areas from damage. In the event roofing is damaged, Contractor is to restore to the original condition at no cost to the Owner.
- G. Remove debris and other material from the site in a timely manner to minimize accumulation.
- H. Owner reserves the right to judge whether or not debris is being removed in a timely manner. In the event debris is not removed from the site as required to maintain the site in a manner acceptable to the Owner, the Owner reserves the right to engage other contractor(s) or its own forces to clean the areas and deduct costs of such operations from this Contract.
- I. Protect grounds and landscaping from damage. In the event of damage, restore damaged property to a condition equivalent to that at time of start of operations.
- J. Document all existing damage to facility prior to beginning work and produce documentation acceptable to Engineer/Owner prior to starting work. Damage discovered during the project which was not documented and which is not clearly the responsibility of others may be presumed by the Engineer/Owner as the responsibility of the Contractor. Documentation may be in the form of written statements and/or drawings but must also be supported with photographs and/or video tape supplied by the Contractor.
- K. Isolate equipment from non-Contractor personnel by whatever means necessary, including the construction of a six-foot tall chain link fence (which completely surrounds the equipment, bitumen storage and personnel necessary to maintain the equipment) with integral lockable gate. Owner reserves the right to judge adequacy of Contractor's methods to isolate equipment and may, at any time, demand construction of the fence as compliance with this requirement. Should the Owner demand the construction of the fence, such shall be accomplished at no additional cost to the Owner.
- L. Implement related safety provisions imposed by local fire marshals, etc. Determine what procedures will be acceptable prior to submitting a bid or proposal.
- M. Initiate, maintain and supervise all safety precautions and programs in connection with the work. Take all necessary precautions for the safety of, and provide the necessary precaution to prevent damage, injury or loss to:
1. All employees on the work and other persons who may be affected thereby.
 2. All the work and all materials or equipment to be incorporated therein, whether in storage on or off the site.
 3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.
 4. Comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protection. Remedy all damage, injury or loss to any property caused, directly or indirectly in whole or in part, by the Contractor, and Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

1.9 DISCONNECTS

- A. In the event it is necessary to disconnect any electrical wiring or connections, plumbing lines or other building services, notify the Owner. Do not disconnect or connect services unless authorized in writing by Owner.
- B. Include in Base Bid all costs required for modification of existing service piping, wiring and duct work required in connection with the lifting, removal or relocation of roof-mounted equipment.
- C. All associated work is to be accomplished by appropriately licensed personnel in accordance with all applicable codes and regulations.
- D. Review roof-top equipment usage with Owner and facility user at beginning of project. Disable equipment determined to be essential to the operations of the facility only at those times prescribed by the Owner. This may require work to be done at other than normal operating hours.

1.10 USE OF PREMISES

- A. Use of Site: Limit use of premises to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Owner Occupancy: Allow for Owner occupancy of Project site and use by the public.
 - 2. Driveways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- B. Use of Existing Building: Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.11 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period as this school is on a year round calendar. The construction schedule has been developed around the recess periods for the students. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits, unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.
 - 2. Owner Occupancy of Completed Areas of Construction: Owner will occupy the building, before Substantial Completion, as provided in the construction schedule.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01500

SECTION 01732 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Removals.
- B. Related Sections include the following:
 - 1. Division 1 Section "Unit Prices and Allowances."
 - 2. Division 7 Section "Roofing Preparation."

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REMOVALS

- A. Remove all aggregate, built-up roofing, insulation, underlayment boards, expansion joint covers, flashings and metal flashings, and discard.
- B. Lift or remove all existing equipment so that existing flashings can be totally removed and new flashings installed.
- C. Discard any equipment not in use as shown on the roof plan.
- D. Carefully relocate all electrical, co-axial, telephone, fiber optic, intercom and miscellaneous wires, cables, etc. as required to accomplish work specified herein. Accomplish such relocation without interrupting the service provided by these lines except as specifically authorized by the Owner.
- E. Remove or correct any obstruction which might interfere with the proper application of new materials.

- F. Remove all existing roof drain strainers, drain bowls and clamping rings and store for reuse.
- G. Remove existing pitch pans and discard.
- H. Remove or correct any obstruction which might interfere with the proper application of new materials.
- I. Remove any drain leaders not complying with dimensions shown on drawings.

END OF SECTION 01732

SECTION 01733 – ASBESTOS PRODUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements relating to asbestos-containing materials.
- B. Related Sections include the following:
 - 1. Division 7 Section 07000 - "Roofing Preparation."

1.3 PROCEDURES

- A. It is the intention of these Specifications that no asbestos-containing materials be incorporated into the work and that, unless specifically designated to remain, no existing asbestos-containing materials incorporated in the existing roof system will remain subsequent to completion of the work. In the event additional hidden or unanticipated asbestos-containing materials are present in the existing roof system, stop all work in the affected area, notify the Engineer and provide temporary protection as required. Costs incurred, if any, due to the presence of hidden and/or unanticipated asbestos-containing materials will be resolved by Change Order to this Contract.
- B. Products containing asbestos fibers are present on roof areas on which work is specified. Include in the Base Bid all costs for compliance with all regulatory agency requirements in effect on the bid date, or scheduled to become effective prior to completion of the work. Cost incurred, if any, due to changes in existing or scheduled regulatory requirements will be resolved by Change Order to this Contract or by such other means as may be deemed in the best interest of the Owner.
- C. Contractor shall provide current asbestos certifications at preconstruction meeting.

1.4 WARRANTY

- A. Upon completion of the work, and before final payment and/or release of retainage, submit, and obtain from each subcontractor, material supplier and equipment manufacturer and submit, a properly executed Asbestos Free Warranty. Provide Warranty in the form included herein. Ensure forms are signed by a responsible officer of the Contractor, subcontractor, material supplier and equipment manufacturer and are notarized.

PART 2 - PRODUCTS (Not Used)

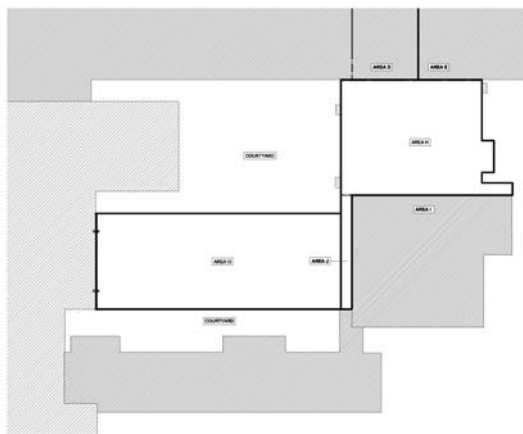
PART 3 – EXECUTION (Not Used)

ASBESTOS FREE WARRANTY
(on Contractor's standard letterhead)Owner: Buncombe County School DistrictLocation of Building: Arden, North CarolinaName of Building: Valley Springs Middle SchoolKnow all men by these presents that we, _____
(Contractor, Subcontractor, Material Supplier or Equipment Manufacturer)

having furnished labor, materials, equipment and/or supplies; removed roofing, roof insulation, vapor retarder, flashings and/or miscellaneous roof system components; accomplished certain repairs to existing roof system; installed new roofing, roof insulation vapor retarder, flashing and/or miscellaneous roof system components;

from, to and/or on _____ as shown on the roof plan below under
(Buildings, Roof Areas, etc.)contract between _____ and _____
(Owner and Contractor) (Contractor and/or Subcontractor, Material Supplier or Equipment Supplier)

warrant to Owner with respect to said work that no materials containing asbestos fibers were incorporated into the work, and that, to our knowledge and belief, no materials containing asbestos remain in or are covered by the work.

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

IN WITNESS WHEREOF, we have caused this instrument to be duly executed, this _____ day of _____, 20 _____.

WITNESS:

Company_____
By_____
Notary Public

END OF SECTION 01733

SECTION 01770 – CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes procedural requirements relating administrative and procedural requirements for contract closeout, including, but not limited to, the following.
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Related sections include the following:
 - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
 - 1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
 - 2. Complete final cleaning requirements, including touchup painting.
 - 3. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer and Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner, that must be completed or corrected before certificate will be issued.
 - 1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.4 FINAL COMPLETION

- A. Final Inspection shall be conducted as follows:
 - 1. Contractor will have 14 days from Substantial Completion to reach Final Completion.
 - 2. The Engineer and Owner will conduct a final inspection of all work included in the contract as soon as possible after receiving written notification by the Contractor that the work is complete and ready for inspection.
 - 3. The final inspection report shall be prepared by the Engineer and Owner listing observed deficiencies and furnished to the Contractor.
 - 4. Upon satisfactory completion of all deficiencies, Contractor shall initial each item on the report certifying his compliance and return to the Engineer.
 - 5. No portion of the final payment will be made until all items have been satisfactorily corrected and the project closeout documents submitted to the Engineer. Final payment shall be made within thirty (30) days of receipt of closeout documents.
 - 6. All project completion documents are to be submitted within thirty (30) days following acceptance by the Owner.
- B. Refer to Closeout Document Checklist at the end of this Section for all documents to be submitted and approved by Engineer.
- C. Contractor shall submit a Certificate of Compliance prior to close-out of the project.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
 - a. Remove tools, construction equipment, machinery, and surplus material from Project site.

- b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - c. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - d. Clean transparent materials, including glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish glass, taking care not to scratch surfaces.
 - e. Remove labels that are not permanent.
 - f. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - g. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR BAG

- A. Contractor shall provide a "Repair Bag" with enough of the roofing materials to repair/replace 1400 square feet of the roof.

CLOSEOUT DOCUMENTS CHECKLIST

- ☐ Asbestos Manifests.
- ☐ Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
- ☐ Updated final statement, accounting for final changes to the Contract Sum
- ☐ AIA Document G704, "Certificate of Substantial Completion."
- ☐ AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
- ☐ AIA Document G706A, "Contractor's Affidavit of Release of Liens."
- ☐ AIA Document G707, "Consent of Surety to Final Payment."
- ☐ Contractor's Warranty
- ☐ Metal Finish Warranty
- ☐ Manufacturer's Warranty
- ☐ Copy of Final Inspection
- ☐ Record Drawings
- ☐ Repair Bag
- ☐ Certificate of Compliance

THERMOPLASTIC MEMBRANE ROOFING SYSTEM WARRANTY
(on Contractor's Standard Letterhead)Owner: Buncombe County School District

Installer: _____

Location of Building: Arden, North CarolinaName of Building: Valley Springs Middle School Partial Roof ReplacementRoof Areas: H, J and O

Date of Substantial Completion: _____

Know all men by these presents, that we, Installer as defined above, having installed insulation, roofing, flashings and sheet metal work, and having accomplished certain other work on the roof areas identified above under contract between Owner and Contractor, warrant to Owner, with respect to said work that for a period of two (2) years from date of Substantial Completion of said work, the roofing including insulation, roofing membrane, flashings and sheet metal work, shall be absolutely watertight and free from all leaks, provided however that the following are excluded from this warranty:

Defects or failures resulting from abuse by the Owner.

Defects in design involving failure of (1) structural frame, (2) load-bearing walls, and (3) foundations.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars riots or civil commotion.

We, Installer, agree that should any leaks occur in the roofing we will promptly remedy said leaks in a manner to restore the roof to a watertight condition by methods compatible to the system and acceptable under industry standards and general practice.

We, Installer, further agree that for a period of two (2) years from date of Substantial Completion referred to above, we will make repairs at no expense to the Owner, to any defects which may develop in the work including but not limited to open laps, blisters, wrinkles, ridges, splits, warped insulation, and loose flashings in a manner compatible to the system and acceptable under industry standards and general practice.

IN WITNESS WHEREOF, we have caused this instrument to be duly executed, this
_____ day of _____, 20 _____.

(Installer)

WITNESS:

by _____

President_____
Notary Public

The undersigned named Owner agrees, from the date of acceptance of the project, to maintain the roof in accordance with the manufacturers written requirements and agrees to avoid damage to the roof surface by any parties under his control working or walking on the roof. The Owner recognizes his responsibility to inspect the roof semi-annually.

Owner_____
Date

END OF SECTION 01770

SECTION 06100 – ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Rooftop equipment bases and support curbs.
 - 2. Wood nailer.
 - 3. Expansion joint.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances."
 - 2. Division 1 Section "Unit Prices."
 - 3. Division 7 Section "Thermoplastic Membrane Roofing."
 - 4. Division 7 Section "Sheet Metal Flashing and Trim."

1.3 DELIVERY, STORAGE AND HANDLING

- A. Supply and keep all materials dry at all times prior to application.
- B. Store all lumber/plywood in dry, covered storage, or on platforms, and with weatherproof, breathable type material such as heavy canvas. Materials which are not stored under specified covers are subject to removal from the site at Engineer's or Owner's discretion.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS

- A. Lumber: No. 2 grade (or better) southern yellow pine or douglas fir unless specifically noted otherwise. Each piece of lumber shall bear the inspection stamp of the Southern Pine Inspection Bureau (SPIB) or the Western Wood Products Association (WWPA) indicating the grade and type of lumber.
 - 1. Wood Preservative: Alkaline Copper Quaternary (ACQ) pressure-treatment conforming to AWWA Standard C-2 (above ground). Retention of preservative shall be 0.025 pcf. All material shall be kiln-dried after treatment to 19 percent or less moisture content.

2.2 FASTENERS

- A. Provide stainless steel fasteners at all locations where fastener will come into contact with pressure-treated lumber.
- B. For securing lumber or plywood to lumber, provide galvanized ring shank nails of sufficient length to penetrate a minimum of 1½ inches into the underlying member but not smaller than 8d nails.
- C. For securing wood to concrete or masonry, secure using Tapcon Masonry fasteners at 12 inches on center, staggered.
- D. For securing wood to steel, secure using self-drilling/self-tapping fasteners.
- E. Anchor Bolts: ½ inch diameter, length to embed in concrete a minimum of 8 inches, with appropriately-sized nuts and washers.

PART 3 - EXECUTION

3.1 GENERAL

- A. Furnish and install new nominal 6-inch wide wood blocking at all edges and openings as required for blocking to finish flush with the top of the roof insulation.
- B. Secure wood nailers over existing nailers with ring shank fasteners or screws in two rows staggered and spaced not over 12 inches in each row.
- C. Secure wood blocking and curbs at spacings of 8 inches on center in a staggered pattern.
- D. Stagger fasteners when securing nominal 6 inch wide lumber or wider.
- E. At tops of CMU, brick, and concrete walls secure wood nailers to walls with anchor bolts. Space bolts at 2 feet on center within 8 feet of building corners and 4 feet on center at remaining locations. Recess nuts and washers into wood blocking.

3.2 EXISTING WOOD

- A. Remove all existing loose, wet, damaged or deteriorated wood blocking and discard. Install new wood blocking using the same size and thickness as existing.
- B. Inspect existing wood blocking at perimeters. In the event current fastener spacing exceeds 8 inches on center, secure blocking with additional specified fasteners to achieve fastener rate of 8 inches on center or less.

3.3 WOOD BLOCKING

- A. Furnish and install new wood blocking at all roof mounted equipment and hatches as required to provide a minimum flashing height of 8 inches above finished roof level.

- B. Install new wood blocking at all expansion joints as required to provide a minimum flashing height of 8 inches above finished roof level.
- C. Where vertical lumber is to be used, install chamfered wood cant for added rigidity with fasteners at 12 inches on center.

END OF SECTION 06100

SECTION 07000 – ROOFING PREPARATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Preparations.
 - 2. Deck repairs.
 - 3. Connects and disconnects
 - 4. Overflow drain and leader installation.
- B. Related Sections include the following:
 - 1. Division 1 Section "Allowances."
 - 2. Division 1 Section "Unit Prices."
 - 3. Division 6 Section "Rough Carpentry."

PART 2 - PRODUCTS

2.1 STEEL DECK REPAIR MATERIALS

- A. Metal Deck Primer: Sherwin Williams Kem Kromik Universal Metal Primer or approved equal.
- B. Sheet Metal for Steel Decks: 20 gauge galvanized steel.
- C. Steel Deck: ASTM A 653, galvanized, G-90 deck, manufactured in accordance with the requirements of the Steel Deck Institute, Inc. for narrow rib (Type A) and wide rib (Type B). (Contractor to field verify deck type.) Minimum section properties:
 - 1. Yield strength = 33 ksi.
 - 2. Section Modulus: 0.111in³.
 - 3. Moment of Inertia: 0.124in⁴.
 - 4. Thickness: 22 gauge.

2.2 FASTENERS

- A. Self-Drilling Fasteners: Stainless steel of sufficient length to secure steel such as #12 diameter TEKS 5.

- B. TEKS 3 for side laps.

2.3 MISCELLANEOUS MATERIALS

- A. Steel Plate: For covering openings, 1/8 inch thick, single sheet sized to extend 6 inches beyond opening in all directions.
- B. Single Component Polyurethane Sealant: ASTM C 920, Type S, Grade NS, Class 25, Use NT, M, A and O.
- C. Primer: As recommended by sealant manufacturer.
- D. Primer: Sherwin Williams Kem Kromik Universal Metal Primer rust-inhibitive primer and two coats of fibrated aluminum roof coating to match roof surface.

2.4 DRAIN AND LEADER MATERIALS

- A. Overflow Drain and Leader: Schedule 40 PVC with Schedule 40 PVC connections. Refer to plans for locations and drain and leader dimensions.
- B. Insulation: ASTM C 547, glass fiber, rigid molded, noncombustible, with white kraft paper vapor retarder reinforced with glass fiber yarn and bonded to aluminized film, 1/2 inch thick.
- C. Overflow Roof Drains: Coated cast iron body with cast iron low-profile dome, with clamping ring and deck clamp assembly. Diameter as shown on Drawings. No hub connection. Overflow riser shall not be more than 3 inches above primary drain.
- D. Pipe Hangers: Carbon steel, adjustable, clevis-type with steel riser clamp.
- E. Overflow Drain Outlets: New 8-inch diameter cast nickel bronze downspout nozzle with anchor flange.
- F. Intumescent wrap strips and sealant capable of wrapping around leader at fire walls.

2.5 CEMENTITIOUS MATERIALS

- A. Stucco Repair Finish System: To match existing in thickness and color. Products from STO Corporation or equal are acceptable.

PART 3 - EXECUTION

3.1 PREPARATION, GENERAL

- A. Prior to commencement of any work, inspect and thoroughly water test all existing roof drains for free flow operation with Owner's maintenance personnel present. Report drain restrictions to Engineer and Owner. Owner's maintenance personnel shall perform repairs to remove any

restrictions found. Should drains become clogged at any time after the start of work, correct the condition at no additional expense to the Owner.

- B. All vents, hatches and mechanical units must be raised to provide an 8 inch base flashing height above the finished roof system.
- C. Prior to the installation of any new roofing, flashings, and metal flashings, clean surfaces of all dust, dirt and other foreign matter.
- D. Furnish and install new primer and paint at all exhaust vents, power ventilators and stack vents as specified herein:
 - 1. Remove all loose rust by wire brushing. Sweep away all dirt, dust and debris prior to paint and primer application.
 - 2. Apply one coat of Sherwin Williams Kem Kromik Universal Metal Primer rust-inhibitive primer and two coats of fibrated aluminum roof coating to match roof surface.
- E. Over all abandoned openings, install new steel plate. Secure to deck using specified fasteners spaced not over 6 inches on center at all edges.
- F. Extend all existing vents through the roof to the height required by the local plumbing code but not less than 8 inches above finished roof level.
- G. Wire brush and paint rusted mechanical vents.

3.2 CONNECTS AND DISCONNECTS

- A. In the event it is necessary to disconnect any electrical wiring or connections, plumbing lines or other building services, notify the Owner. Contractor shall not disconnect or connect services unless authorized in writing by Owner.
- B. Modification of existing service piping, wiring and duct work required in connection with the lifting, removal or relocation of roof mounted equipment shall be accomplished by this Contractor and is to be included in the Proposal price.
- C. All costs required in connection with electrical and/or mechanical service connections/disconnections, including satellites and weather stations, are to be included in the Bid price. All associated work is to be accomplished by appropriately licensed personnel in accordance with all applicable codes and regulations.
- D. Contractor shall review roof top equipment usage with Owner and facility user at beginning of project. Equipment determined to be essential to the operations of the facility may only be disabled at those times prescribed by the Owner. This may require the contractor to work at other than normal operating hours.

3.3 STEEL DECK REPAIR

- A. Where steel deck is rusted but remains structurally sound, thoroughly clean deck units of rust and foreign matter with a wire brush. Paint with specified metal primer.

- B. Where steel deck is damaged or rusted through in small areas, clean deck units of rust with a wire brush. Paint with specified metal primer. Install over the damaged area a steel plate secured to the existing steel deck with sheet metal screws around the perimeter of the plate at 6 inches on center. Extend the new steel plate a minimum of 6 inches onto the surface of the existing steel deck beyond the damaged area.
- C. Where steel deck units are severely damaged or have deteriorated over large areas, remove the entire existing deck unit and install new decking of the same type and gauge as the existing. Lap new deck units over the existing the same manner as originally installed but not less than 6 inches. Lap ends only over structural framing. Secure to structural framing with specified fasteners at 6 inches on center at each framing member. Secure deck side laps at not more than 36 inches on center.
- D. Secure all existing loose steel deck to roof framing members using specified fasteners placed 12 inches on center at each available framing member.
- E. Secure metal deck side laps with specified fasteners at spacings not exceeding 36 inches from each other or nearest deck support. For deck supports (framing members) spaced greater than 36 inches on center and less than 72 inches on center, install a single side lap fastener at midspan between framing members.
- F. At all changes in direction, install specified steel plate 6 inches across change in direction on each side and secure using specified fasteners at 6 inches on center around the perimeter.

3.4 DRAINS

- A. Perform all drain work after hours or during weekends. Coordinate with building staff for access to the building interior.
- B. Insulate all roof drain bodies with specified insulation in accordance with insulation manufacturer's instructions.
- C. Install new drain extensions, if required to match new insulation thicknesses, over drain bowl using manufacturer-supplied extensions, gaskets, and fasteners.
- D. Seal drain to roof leaders in accordance with manufacturer's latest printed instructions for type of drain specified using only manufacturer-supplied gaskets, seals, clamps, etc.
- E. Compression gaskets shall conform to ASTM C 564. Ensure gaskets are compressed when the pipe is fully inserted.
- F. Thoroughly water test all joints upon completion.
- G. Upon completion of membrane and flashing installation at drains, install drain clamping rings at existing drains with new manufacturer-supplied bolts of sufficient length to properly engage drain bowl lugs.

3.5 OVERFLOW DRAIN AND LEADER INSTALLATION

- A. Install new PVC piping overflow drains at locations shown on Roof Plan as new overflow drains.
- B. Install and support all leaders with hangers at spacings not exceeding 4 feet on center for PVC pipes.
- C. Slope leader from drain a minimum of 1/8 inch per foot to match existing.
- D. Install 8-inch long 24 gauge sheet metal half-sleeves at insulated pipe runs through hangers to support pipe without crushing insulation.
- E. Make all drain leader connections using tees, elbows, caps, etc. of the same material as drain leaders. Make connections permanently watertight. At all changes in direction greater than 45 degrees, provide cleanouts with removable caps which can be accessed by maintenance personnel. Provide cleanouts where pipe changes directions.
- F. Top of PVC drain is to be no more than 3 inches above primary drain.
- G. Flash with manufacturer provided flashing according to manufacturer's latest printed specifications.
- H. Leaders are to be routed to outside of building. Specified outlet nozzle is to be used on exterior of building. At existing locations, enlarge openings as needed to accommodate new leader size.
- I. At fire walls, enlarge openings to accommodate new leader and firestop materials. Wrap with intumescent wrap strips where leader penetrates fire wall. Insert intumescent sealant in space between wrap strips and wall.
- J. Insulate all roof leaders and drain bodies with specified insulation in accordance with insulation manufacturer's instructions.

END OF SECTION 07000

SECTION 07450 – THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Thermoplastic membrane roofing.
 - 2. Cover board.
 - 3. Roof insulation.
 - 4. Gypsum Underlayment
- B. Related Sections include the following:
 - 1. Division 7 Section "Reroofing Preparation."
 - 2. Division 7 Section "Sheet Metal Flashing and Trim."

1.3 PERFORMANCE REQUIREMENTS

- A. Provide a roofing system that complies with the requirements of Underwriters' Laboratories, Inc. for a Class A roof covering.
- B. Provide roofing system meeting wind uplift requirements as follows:
 - 1. Field: -25 psf
 - 2. Perimeters: -42 psf
 - 3. Corners: -63 psf

1.4 SUBMITTALS

- A. Materials List: Give written notification of the brand name and manufacturer of each material proposed for use and include a statement that all proposed materials meet the specification requirements. Obtain approval prior to placing orders.
 - 1. Submittal of catalog cut sheets, etc. in lieu of the materials list required above is not acceptable.
- B. Manufacturers' Installation Instructions: As follows:
 - 1. Instructions for membrane and flashing installation.

C. Manufacturer Certificates: As follows:

1. System Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
2. Material Certificates: Original document signed by a responsible officer of the firm, notarized, on manufacturer's standard letterhead, certifying materials furnished for project comply with the referenced standard. Specifically reference the project and applicable compliance standard on certificate.

D. Polyisocyanurate Insulation Certificate: Signed by insulation manufacturer stating that polyisocyanurate insulation shipped to this project complies with requirements listed in Part 2.

E. Warranties: As specified in this Section.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials to site in original containers bearing manufacturers' name and type of material. All materials used in roof membrane must have appropriate Underwriters' Laboratories, Inc. labels.
- B. Supply and keep all materials dry at all times prior to application.
- C. Store all insulation and tapered edge strips in dry, covered storage, or on platforms, and with weatherproof coverings. Coverings shall be waterproof breathable type material such as heavy canvas. Insulation wrappers are not sufficient. Materials which are not stored under specified covers are subject to removal from the site at Engineer's or Owner's discretion.
- D. Store all roll goods on end on clean floors or platforms. Do not use flattened rolls or rolls with ends damaged.
- E. Materials which, in the opinion of the Engineer, have been prematurely exposed to the weather are subject to immediate removal by the contractor and replaced with new materials at contractor's expense. Engineer may, at Engineer's option, mark such materials with paint or other indelible materials while they remain on-site.
- F. Store solvent bearing materials in dry, cool storage and keep lids tight on partially used containers to prevent escape of solvents.

1.6 WARRANTIES

- A. Installer's Warranty: Installer's warranty, on form included in these specifications, signed by roofing Installer, properly executed and printed on Installer's letterhead form.
 1. Warranty Period: Two (2) years from date of Final Completion.
- B. Metal Finish Warranty as specified in Section 07620 – Sheet Metal Flashing and Trim.
- C. Roofing System Guarantee: Manufacturer's Standard Form without monetary limitation in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Period includes roof leaks.

1. Roofing system guarantee includes roofing membrane, base flashings, cover board, roof insulation, perimeter edge metal and other components of roofing system.
2. Guarantee Period: Twenty (20) years from date of final completion. Nothing herein is to be interpreted or construed as changing any provisions of the specifications except as stated herein.
3. System shall include a 72 mph warranty.
4. A separate membrane warranty shall be included.
5. Conflicts for all warranties shall be resolved in Buncombe County, North Carolina.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Listed in this section are specifications for materials required generally for use in accomplishing the work specified. Materials not listed may also be required.
- B. Except as specifically noted herein, all reference standards included herein are to be presumed to be the latest published editions of such standards available as of the issue date of these specifications.
- C. Brand or manufacturer names are used as standards of quality where no other appropriate reference is available. The Engineer (or Owner) will consider substitution of materials of equal quality and properties provided a written request accompanied by substantiating data is received by him at least 10 days prior to bid date.
- D. Where a generic product or a general manufacturer's product is specified and more than one such product is offered by the manufacturer, it is understood that only the manufacturer's premium materials are approved for this project.
- E. All roofing system components used on this project shall be compatible and approved for use by the roofing system manufacturer and shall qualify for the specified roofing system guarantee.

2.2 MANUFACTURERS

- A. For purposes of these documents, the roof system manufacturer is defined as the manufacturer of the primary roof membrane. The roof system is intended to encompass, but is not necessarily limited to, all components above the structure including roof insulation, metal panels, membrane and metal flashings and any proprietary flashing/components of the system manufacturer. Subject to compliance with the material specifications of these documents, all materials are to be supplied by the same manufacturer.
- B. All materials used in systems to be covered by a Manufacturer's Guarantee must be supplied by the same manufacturer, unless the manufacturer issuing the guarantee waives this requirement in writing.

- C. The following material manufacturers are approved for this project. Such approval does not relieve the Contractor from the requirement to supply materials which meet all other requirements of these Specifications.
 - 1. Firestone
 - 2. Carlisle
 - 3. Versico
 - 4. Johns Manville.
- D. Alternate manufacturers shall meet all requirements of these specifications, including warranty, fire rating and length of production.
- E. Manufacturer's Field Services for Johns Manville: During construction and until substantial completion, manufacturer's representative shall perform monthly quality assurance site visits to ensure materials are being properly installed and as required to obtain the specified warranty.
 - 1. The first site visit shall be performed within the first three (3) days of operations.
 - 2. Coordinate all site visits with Owner. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.
 - 3. Inspections to be performed by an employee of Johns Manville that is assigned full-time to their technical services department. Sales personnel will not be acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.
 - 4. Manufacturer's final inspections shall be performed only with the Owner in attendance. A minimum of seven days' written notice is required. Any manufacturer's final inspection conducted without Owner personnel in attendance will be repeated at no additional cost to the Owner.
 - 5. Any violation of this requirement will result in the removal of that manufacturer for a period of not less than one year from the Owner's accepted materials list.

2.3 FLEXIBLE SHEET MEMBRANE MATERIALS

- A. Membrane: Reinforced thermoplastic polyolefin (TPO) membrane, white color, minimum thickness to be 80 mil complying with ASTM D 6878 on Areas H, J and O.
- B. Adhesive: Solvent-based contact adhesive.
- C. Base Flashing: 60 mil TPO.
- D. Walkpads: Vinyl slip-resistant pad, heat-welded to membrane.
- E. Pre-fabricated Flashing Components: Provide other pre-fabricated components as required, such as corner flashing, vent stacks, etc.
- F. Miscellaneous Products: Sealants, primers and cleaners supplied by the membrane manufacturer.

2.4 ROOF INSULATION MATERIALS

- A. Polyisocyanurate Roof Insulation: Rigid, cellular polyisocyanurate thermal insulation with core formed by using HCFCs as blowing agents complying with ASTM C 1289, Type II, with glass-fiber mat on both major surfaces. Maximum board size shall be 4' x 4' for adhered boards and 4x8 for mechanically attached boards. No organic facers shall be used.
- B. Polyisocyanurate insulation shall be manufactured to meet the following requirements in addition to the requirements above:
 - 1. Min. Compressive Strength: 20 psi
 - 2. Dimensional Stability: 2% maximum linear change when conditioned at 158°F and 97% relative humidity
 - 3. Min. Curing Time: 24 hrs. plus 24 hrs. for each inch of thickness at a minimum of 60°F before shipment from manufacturer
 - 4. Maximum Board thickness: 3 inches
- C. Contractor shall submit a statement from manufacturer of polyisocyanurate insulation stating they will certify compliance of material shipped to this project with these requirements.
- D. High Density cover Board: ASTM C 1289, Type II, Class 4, Grade 2, minimum compressive strength 120 psi: Board size: 4'x4'.
- E. Gypsum Underlayment: ASTM C 1177, non-structural board, glass mat embedded, water-resistant gypsum core, factory primed, 5/8 inch thick.
 - 1. Maximum board size: 4' x 8'.
- F. Tapered Edge Strips: ASTM C 208, wood fiberboard, 1-1/2 inch at thick edge.
- G. Insulation Adhesive: Two component, low rise polyurethane foam, approved by membrane manufacturer for insulation and substrates on this project.

2.5 FASTENING DEVICES

- A. Termination Bar: Extruded aluminum bar, 1 inch by 1/8 inch, with pre-punched holes at 6 inches on center.
- B. Insulation Fasteners and Plates: Plated steel fastener and 3 inch diameter round or 3 inch square steel plate as manufactured by or specifically recommended by the roof system manufacturer. Fasteners should be capable of resisting specified uplift pressure.
- C. Masonry Anchors: Stainless steel screw anchor for use in concrete, brick or concrete masonry units manufactured with threads for cutting into walls of pre-drilled opening to provide tight friction fit, 1/4 inch diameter, 1.5 inch minimum length.

PART 3 - EXECUTION**3.1 SYSTEM SCHEDULE**

- A. Refer to Table 1 for a general schedule of the primary roof components (described from the bottom up) for the roof area. Methods of installation and related materials are in other sections of these specifications.

TABLE 1

Areas H and O	Area J
Existing metal deck	Existing metal deck
5/8" gypsum underlayment (loose laid)	5/8" gypsum underlayment (loose laid)
3" polyisocyanurate insulation (mechanically attached)	3.5" polyisocyanurate insulation (mechanically attached)
2" polyisocyanurate insulation (adhered)	1/4" per ft. tapered polyisocyanurate starting at 1.5 (adhered)
1/2" thick high density cover board (adhered)	1/2" thick high density cover board (adhered)
Fully adhered single ply membrane	Fully adhered single ply membrane

3.2 EXAMINATION

- A. Inspect all surfaces to receive work specified herein. Application of materials constitutes approval of the substrate as being satisfactory.
- B. Do not proceed with roofing until all vents, drains, curbs, cants, blocking, nailing strips, and projections through the roof deck have been installed.

3.3 INSTALLATION, GENERAL

- A. Do not apply materials on wet or damp surfaces, over dust, dirt, or other foreign matter.
- B. Accomplish application of roofing materials so that each area will be complete at the end of each workday.
- C. Protect edges and incomplete flashings against water entry at all times. Remove cut-offs and temporary protection prior to resumption of work.

3.4 GYPSUM UNDERLAYMENT APPLICATION

- A. Furnish and install new 5/8 inch thick gypsum underlayment over metal decks on Areas H, J and O.
- B. Clean deck surfaces of all dirt, dust and other foreign matter.

- C. On metal decks, apply gypsum insulation with long dimension of units across deck ribs. On open rib steel decks, ends of units must bear on deck surface.
- D. Apply gypsum with end joints staggered approximately one-half the length of units.
- E. Fit all gypsum units snugly to each other and to all vertical surfaces.

3.5 INSULATION APPLICATION

- A. Furnish and install new base insulation, tapered polyisocyanurate insulation, and cover board as specified herein.
- B. Refer to Roof System Schedule for all locations to receive base layer, tapered polyisocyanurate insulation and cover board.
- C. Clean surfaces of all dirt, dust and other foreign matter.
- D. Over metal decks, fasten 3-inch or 3.5-inch base layer insulation with specified fasteners through steel plates into deck at the following rates:
 - 1. Field: Minimum of 12 fasteners per 4' x 8' board.
 - 2. Perimeter (4 ft. from edge): Minimum of 18 fasteners per 4' x 8' board.
 - 3. Corner (4' x 4'): Minimum of 32 fasteners per 4' x 8' board.
- E. Provide insulation fasteners of lengths sized to engage top flange of metal deck a minimum of 3/4 inch and a maximum of 1-1/2 inches.
- F. Fasteners shall be a minimum of 6 inches away from any edge of board.
- G. Insulation Adhesive over Base Layer Insulation, Underlayment and Composite Decks:
 - 1. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced at 12 inches on center and continuous at edge of each board in the field.
 - 2. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced at 6 inches on center and continuous at edge of each board in the perimeter (4 feet from edges).
 - 3. Set each layer of insulation in cold fluid applied adhesive with ribbons spaced at 4 inches on center and continuous at edge of each board in the corners (4 feet from edges).
- H. Stagger all joints off those of preceding layer.
- I. Fit all insulation units snugly to each other and to all vertical surfaces.
- J. Apply insulation in two or more separate layers.
- K. Form crickets as specified herein:
 - 1. Form crickets along the upslope side of all curb mounted equipment with base widths exceeding 24 inches using factory tapered polyisocyanurate insulation and fill units and tapered edge strips.

2. Form crickets between drains using factory tapered polyisocyanurate insulation units, polyisocyanurate insulation fill units, and tapered edge strips.
 3. Start cricket construction by striking chalk lines for outer edges of tapered edge strips. Install edge strips along chalk lines, mitering and fitting at the points where lines break.
 4. Build crickets over the base layer insulation. Take special care to prevent water penetration into crickets during construction.
 5. Unless noted otherwise all crickets are to be fabricated from tapered stock as required to provide an installed slope matching that of the adjacent roof area. For example, where the roof slope is 1/4 inch per foot, crickets are to be fabricated from 1/2 inch per foot stock to provide an installed slope of 1/4 inch per foot.
 6. Adhere insulation units as described previously.
 7. Provide tapered edge strips as required along cricket edges to provide a smooth transition.
 8. Install crickets of sufficient size and slope as required to ensure complete drainage and prevent standing water. Fabricate full crickets between drains with a minimum width-to-length ratio of 0.5. Fabricate partial crickets with dimensions which would result in a minimum width-to-length ratio of 0.5 if they were extended to full size.
 9. Fabricate crickets sufficiently wide as to result in valleys with positive slopes of not less than 1/16 inch per foot.
- L. Taper insulation down to drains beginning at a point approximately 24 inches from drain. There is to be a 1 inch change from the top of the drain sump to the drain. Furnish and install drain extensions as required to elevate drain level.

3.6 HIGH DENSITY COVER BOARD INSTALLATION

- A. Install cover board in specified adhesive as described herein.
1. Follow ribbon spacing specified for insulation adhesives.
 2. Set cover board into cold adhesive immediately after application while adhesive is still soft and tacky.
 3. Stagger all joints off those of preceding layer.
 4. Apply high density cover board with end joints staggered approximately one-half the length of units.
- B. Ensure full adhesion of all layers of insulation and take whatever steps necessary to achieve full adhesion including, if necessary, temporary ballasting of insulation until adhesive sets.
- C. Provide an insulation thickness at eaves as required to maintain gravel stop-fascia at uniform elevation and with uniform face widths. Install additional tapered edge strips at eaves, etc. as required to meet this requirement.

3.7 MEMBRANE INSTALLATION

- A. Install membrane in strict accordance with manufacturer's recommendations.
- B. Unroll membrane and allow to relax before installing.
- C. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer.

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- D. Apply bonding adhesive to substrate and underside of roofing membrane at rate(s) required by roofing manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
 - E. Mechanically fasten roofing membrane securely at terminations, penetrations and perimeter of roofing.
 - F. Apply membrane with side laps shingled with slope of roof where possible.
 - G. Seams: Clean seam areas, overlap roofing membrane and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.
 - 1. Test lap edges with probe to verify seam weld continuity.
 - H. Repair tears, voids and lapped seams in roofing that do not meet requirements.
 - I. Contractor must perform pull tests daily to verify proper bonding at seams and maintain a daily log.
 - J. Cut edge sealant shall not be used. Uncut reinforced membrane stripping shall be used instead of cut edge sealant. Stripping shall be welded a minimum of 2 inches on either side of lap.

3.8 FLASHING APPLICATION

- A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate(s) and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Weld side and end laps to ensure a watertight seam installation.
- E. At vertical terminations, terminate and seal top of sheet flashings and mechanically anchor to substrate with specified fasteners through specified termination bar approximately 1 inch below top edge and spaced not over 6 inches on center.
- F. Unless specifically stated otherwise in these specifications or on drawings all base flashings are to extend a minimum of 8 inches above finished roof level. Costs for modifications to parapets, equipment curbs, expansion joint curbs, etc. are to be included in the contractor's bid.
- G. Fasten base flashing using specified fasteners and termination bar.
- H. Follow roofing system manufacturer's instructions for installation and securement of wall flashings when wall height exceeds maximum for base flashing material.

3.9 DRAIN FLASHING INSTALLATION

- A. Provide a smooth transition from the roof surface to drain clamping ring. Prepare the substrate around each roof drain to avoid membrane bridging at the sump area and possible distortion at the drain clamping ring. Use drain extensions as necessary.
- B. Locate membrane field splices a minimum of 24 inches outside drain sump.
- C. Cut the membrane so it extends approximately ½ inch beyond the attachment points of the drain clamping ring. Ensure hole is no smaller than drain leader.
- D. Provide water cut-off mastic under compression between membrane and drain base.

3.10 WALKWAY APPLICATION

- A. Install new walkway at all locations indicated on Drawings as specified herein.
- B. Install new walkway on all sides of all major equipment (motorized equipment, scuttles, or any rooftop unit with any single dimension greater than 4 feet).
- C. Adhere flexible walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

END OF SECTION 07450

SECTION 07620 – SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Sheet metal flashing and trim.
- B. Related Sections include the following:
 - 1. Division 7 Section "Thermoplastic Membrane Roofing."

1.3 SUBMITTALS

- A. Materials List: Give written notification of the brand name and manufacturer of each material proposed for use and include a statement that all proposed materials meet the specification requirements. Obtain approval prior to placing orders.
 - 1. Submittal of catalog cut sheets, etc. in lieu of the materials list required above is not acceptable.
- B. Submit shop drawings of all specified types of metal shapes, showing details of proposed installation where appropriate.
- C. Submit two 6-inch long samples of each metal shape.
- D. Manufacturer Certificates: Original document signed by a responsible officer of the manufacturing firm, notarized, on manufacturer's standard letterhead, certifying materials furnished for project comply with the referenced standard. Certificate shall specifically reference the project and applicable compliance standard.
- E. Color Chart: Manufacturer's standard range of colors for prefinished metals, including available gauges.
- F. Obtain approval of shop drawings, samples and certifications prior to fabrication and installation.
- G. Do not purchase, fabricate or install any sheet metal item until all required shop drawings and related submittals for each item are approved. Items purchased, fabricated and/or installed

which are not in compliance with approved shop drawings are subject to immediate removal from the project at contractor's expense.

1.4 STORAGE

- A. Restrict on-site storage to minimum for work in progress. Protect all stored metal from exposure to weather and physical damage.

1.5 WARRANTIES

- A. Upon completion of the work, furnish from manufacturer a standard twenty (20) year finish warranty.
- B. Finish: Deterioration includes, but is not limited to, the following:
 - 1. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - 2. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - 3. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

- A. Aluminum Sheet: ASTM B 209.
- B. Prefinished Galvalume Steel: Aluminum-zinc alloy-coated steel sheet meeting ASTM A 792, Class A 750, coating designation, Grade 40 (Class AZM 150 coating designation, Grade 275), structural quality with Kynar 500®. Color to be selected by Owner.
- C. Exposed Finish Kynar ® 500 Based fluoropolymer coating, containing not less than 70% polyvinylidene fluoride resin by weight. Mask metal with protective film.
- D. Color: As selected by Owner from manufacturer's full range.

2.2 PRE-FABRICATED EDGE METAL

- A. Pre-fabricated edge metal shall meet ANSI/SPRI ES-1 Roof Edge Standard.
- B. Pre-fabricated edge metal shall be covered under roofing manufacturer's 20 year, 72 mph warranty.
- C. Base flange shall be a minimum of 3 inches wide.
- D. Retainer base plate shall be 0.100 extruded aluminum
- E. Exterior fascia covers shall be 24 ga. galvalume.

- F. Pre-fabricated edge metal shall be approved by roof manufacturer and included in system warranty.

2.3 AUXILIARY MATERIALS

- A. Sealant: ASTM C 920, Type S, Grade NS, Class 25, one-part polyurethane sealant.
- B. Self-Adhering High-Temperature Underlayment: Sanded face, ASTM D 1970, minimum of 40 mil thick sheet, slip-resisting, sanded top, surface laminated to SBS-modified asphalt adhesive, with backing, cold applied.

2.4 SHEET METAL SCHEDULE

- A. Counterflashing: 0.040 aluminum
- B. Expansion Joint Cover: 0.040 aluminum
- C. Base Flashing Closure: 0.040 aluminum

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Inspect all surfaces to which metal is to be applied. Do not install metal unless surfaces are even, sound, clean, dry and free from defects that might affect the application.
- B. Follow recommendations of Sheet Metal and Air Conditioning Contractors National Association Architectural Sheet Metal Manual (Seventh Edition, 2012) for fabricating in-shop and on-site, and for installation, unless otherwise specified herein or on Drawings.
- C. Follow published instructions of the product manufacturer for installation of extruded or proprietary metal products, unless otherwise specified herein or on Drawings.
- D. Use nails, screws, bolts, cleats or other fasteners of the same material or, if approved by Engineer, of material chemically compatible with the contacted metal.
 - 1. Use stainless steel fasteners at all locations in contact with pressure-treated lumber.
- E. Fabricate cleats to be one gauge heavier than metal to be secured by cleat unless otherwise noted.
 - 1. Secure cleats to substrate with fasteners specifically manufactured for the purpose at spacings of 6 inches, on center. Fasteners are to be manufactured of metal chemically compatible with the contacted metal. Fasteners to be used in wood substrates are to be ring shank. Fasteners are to be located as close to hem of cleat as practical but no more than 2 inches from hem unless specifically indicated otherwise herein or on drawings.

- F. Install metal to be water and weathertight with lines, arrises and angles sharp and true and with plane surfaces free of waves or buckles. All raw edges of exposed or finish sheet metal shall be hemmed.
- G. Install shop-formed flashings in 10 foot lengths maximum and with minimum number of pieces in each straight run.
- H. Do not place dissimilar metals in direct contact or in positions where water sheds across both metals.
- I. Miter and seal all inside and outside corners of coping cap. Shop fabricated corner pieces are preferable
- J. Shop form all metal shapes, which are to be formed of prefinished metal, with protective plastic film in place. Do not remove plastic film until just prior to (or, if possible, after) installation.
- K. At all corners, shop form corner pieces of coping caps, eave and rake flashings with 18 inch legs (joints no more than 18 inches from corner). Seal joint of corner piece.
- L. Form faces of coping cap with vertical faces of sufficient width to extend to specified length as shown in the details.

3.2 ROOF EDGING INSTALLATION

- A. Submit design drawing for review and approval to Engineer before fabrication.
- B. Installing contractor shall check as-built conditions and verify the manufacturer's roof edging details for accuracy to fit the wall assembly prior to fabrication. The installer shall comply with the roof edging manufacturer's installation guide when setting edging.
- C. Installer shall use stainless steel screw type fasteners, provided by edge manufacturer to assure minimum 240# pull-out resistance is achieved for the substrates to which being installed.
- D. Install waterproof sealant to underside of retainer base plate as recommended by the roofing membrane manufacturer.

3.3 COUNTERFLASHING INSTALLATION

- A. Install new counterflashing at various wall and equipment locations as specified herein. Refer to Drawings for additional information.
- B. Refer to sheet metal schedule for gauge and metal type.
- C. Install new counterflashing at all roof mounted equipment. Extend new counterflashing across top of curb beneath seating flange of unit. Extend flange down a minimum of 4 inches over base flashing. Secure counterflashing to top of curb, or to integral flange of unit with appropriate fasteners at 4 inches on center.

- D. Notch and lap joints and inside corners. Notch and seam outside corners. Do not rivet or otherwise secure joints and corners.
- E. Lap ends 4 inches. Crimp hem of overlapping section around hem of underlapping section.
- F. At walls, insert counterflashing into existing receivers. Rivet at 12 inches on center.

3.4 MISCELLANEOUS FLANGED FLASHING INSTALLATION

- A. Set flange on top of roofing membrane in solid bed of roofing cement.
- B. Except at plumbing vents or other locations where flashing is turned into top of pipe or otherwise integrally secure against water entry, install bonnet flashing extending below and beyond edges of flashing riser and secure mechanically to roof penetration so that connection is watertight. Securement by sealant alone is not acceptable.
- C. Strip flange with one ply of membrane manufacturer's premium grade modified bitumen cap sheet or base flashing in accordance with membrane manufacturer's latest printed instructions. Extend cap sheet a minimum of 12 inches beyond edge of flange.

3.5 EXPANSION JOINT COVER INSTALLATION

- A. Install new expansion joint covers at locations as specified herein. Refer to SMACNA Architectural Sheet Metal Manual Figures 5-5 A and 5-6 B. Refer to Drawings.
- B. Refer to sheet metal schedule for gauge and metal type.
- C. At all eaves, walls and vertical surfaces, if new or existing wood blocking and/or cants are continuous, cut blocking and/or cants completely through its thickness. Remove a section the same width as the space between the expansion joint curbs, blocking or cants.
- D. Prior to installation of expansion joint cover, fill joint with fiber glass batt insulation in polyethylene envelope.
- E. Prior to installation of the expansion joint cover, apply over the joint a self-adhering underlayment extending across the joint and terminating at the top edge of the joint cover flange. Use strips as long as practical, lapping the ends 6 inches.
- F. Join sections with drive cleat and sealant.
- G. Install intersections, terminal flashing, end closures, etc. neatly and in a manner to provide complete and permanent protection against water entry.
- H. Secure vertical section of continuous flange to substrate at 18 inches on center through waterproof washers.

3.6 BASE FLASHING CLOSURE INSTALLATION

- A. Install new base flashing closures where base flashings abruptly end as specified herein. Refer to Drawings.
- B. Refer to sheet metal schedule for gauge and metal type.
- C. Rivet at 1 inch on center and completely seal all joints to be watertight.
- D. Install closures over roof membrane and under base flashings.
- E. Extend closures up under counterflashings, where present or specified.
- F. Install closures to completely seal ends of base flashings, membrane and cants as well as end joints of gravel stop-fascia or drip edge, if present.

END OF SECTION 07620