PROJECT MANUAL

STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT

Project No: 023CPA-002

145 Pavilion Lane
Youngwood, Pennsylvania 15697

PREPARED FOR:

Westmoreland County Community College
145 Pavilion Lane
Youngwood, Pennsylvania 15697

TABLE OF CONTENTS

DIVISION 08 - OPENINGS

DIVISION 22 - PLUMBING

SECTION 00 01 07

SEALS PAGE

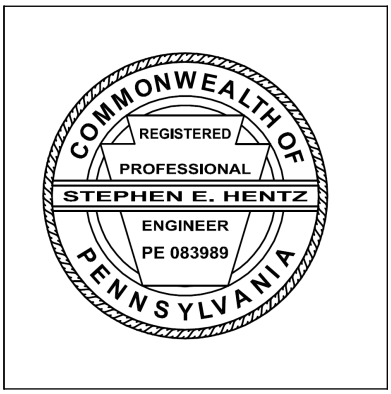
PART 1 - GENERAL

1.1 SUMMARY

A. Design Firm for STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT with Project Manual dated March 27, 2023March 27, 2023:

1. REI Engineers, Inc.
2. 503 Cocklin Street, Mechanicsburg, PA 17055

Professional Engineer



END OF SECTION

STEPHEN HENTZ Digitally signed by STEPHEN HENTZ Date: 2023.04.12 21:54:54 -04'00'

SECTION 00 01 15

LIST OF DRAWINGS

PART 1 - GENERAL

1.1 SUMMARY

A. The following drawings dated March 27, 2023 are included as part of the Contract Documents:

1. G-001 Cover
2. XR101 Roof Plan
3. XR102 Roof Wind Uplift Plan
4. XR103 Roof Insulation Plan
5. XR301 Roof Systems
6. XR501 Details
7. XR502 Details
8. XR503 Details
9. XR504 Details
10. XR505 Details

END OF SECTION

SECTION 00 11 13

ADVERTISEMENT FOR BIDS

PART 1 - GENERAL

1.1 PROJECT INFORMATION

A. Project Name: STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT

B. Project Address: 145 Pavilion Lane, Youngwood, Pennsylvania 15697

C. Owner: Westmoreland County Community College

D. General Scope of Work: Removal and replacement of approximately 4,490 square feet of low slope roof, preparation and recovery of approximately 114,480 square feet of existing low slope roof and the removal and replacement of curb mounted skylights. The work required is specified and detailed in the contract document prepared by REI Engineers, Inc. dated March 27, 2023.

1.2 BIDS

A. Sealed bids for the project will be received from bidders by the Owner at 145 Pavilion Lane Youngwood, Pennsylvania 15697 until 3:00 PM EDT on May 12, 2023, at which time they will be publicly opened and read.

1.3 PROJECT DOCUMENTS

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

1.4 BIDDING REQUIREMENTS

A. All bidders are hereby notified that they shall be properly licensed under the state laws governing their trades.

B. Refer to Section 00 21 13 "Instructions to Bidders" for bid security and bonding requirements.

C. Submit questions to Jill Budny Director of Purchasing at Westmoreland County Community College in writing to the email address listed above no later than 2:00 PM EDT on May 3, 2023. Responses to questions will be provided by 4:00 PM EDT on May 5, 2023.

1.5 PRE-BID MEETING

A. A Pre-Bid Meeting is scheduled for10:00 AM EDT on April 28, 2023 at 145 Pavilion Lane, Youngwood, Pennsylvania 15697. Meet at the north building entrance.

B. Attendance is mandatory.

END OF SECTION

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS

PART 1 - GENERAL

1.1 DEFINITIONS

A. The Bidding Documents consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Bid Form, and other sample bidding and contract forms.

B. The proposed Contract Documents consist of the Form of Agreement between the Owner and Contractor, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications and Addenda issued prior to execution of the Contract.

C. Definitions set forth in Section 00 72 13 "General Conditions of the Contract" for Construction or in other Contract Documents are applicable to the Bidding Documents.

D. Addenda are written or graphic instruments issued by the Engineer prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections.

E. A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.

F. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.

G. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

H. A Unit Price is an amount stated in the Bid as a price per unit of measurement for materials, equipment or services or a portion of the Work as described in the Bidding Documents.

I. A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.

J. A Sub-bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

1.2 BIDS

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

B. Bids will be received until the date and time specified in Section 00 11 13 "Advertisement for Bids", at which time they will be publicly opened and read.

C. Fill in and sign the bid form correctly. Bids that show any omission, alterations of form, additions not called for, conditional Bids, or any irregularities of any kind may be rejected. If erasures are necessary and appear on the forms, each such erasure must be initialed by the person signing the proposal. Bid Bond shall be signed by the Bidder and notarized.

D. Bids that are non-responsive or fail to follow the Instructions to Bidders may be rejected.

E. No bid may be withdrawn after receipt of Bids for a period of sixty (60) days.

1.3 ACCEPTANCE OF BID (AWARD)

A. It is the Owner's intention to award a contract for work under this project to the lowest responsible Bidder; however, in the interest of suitability to the Owner's need and/or economy, equipment, materials and furnishings other than the lowest in price may be selected.

B. The Owner reserves the right to reject any or all Bids, to accept any bid submitted, to waive any formalities, and to negotiate with the low Bidder or Bidders any changes considered necessary or desirable. The Owner reserves the right to reject any Bid when such rejection is in the interest of the Owner to reject the bid of the bidder who has previously failed to perform or to complete on time Contracts of a similar nature; and to reject the bid of a bidder who is not, in the opinion of the Engineer, in a position to perform the Contract.

C. The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted. Alternates may be accepted at any time during the bid holding period.

1.4 PRE-BID MEETING

A. Refer to Section 00 11 13 "Advertisement for Bids" for the date, time and location of the mandatory Pre-Bid Meeting.

B. A Pre-Bid Meeting will be held for purposes of considering questions posed by Bidders. All interpretations and corrections to Contract Documents deriving from this meeting will be documented via Addendum.

1.5 DISQUALIFICATION

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

1.6 CONTRACTOR'S LICENSE

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

1.7 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

A. Examine Drawings and Specifications and all Addenda or other revisions thereto and thoroughly familiarize himself with the detailed requirements thereof prior to submitting a proposal.

B. Should a Bidder find discrepancies or ambiguities in, or omissions from the Specifications and Drawings bound herein, or should be in doubt as to their meaning, notify the Engineer in writing immediately. Engineer will issue an interpretation in the form of an addendum. This addendum will be forwarded to all Bidders of record.

C. Addenda will be issued no later than four days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.

D. Act promptly and allow sufficient time for a reply to be provided before the date established for submission of Bids.

E. Acknowledge receipt of all addenda on the Bid Form.

F. No oral interpretations will be made to any Bidder as to the meaning or intent of the Contract Documents or be effective to modify any of the provisions of the Contract Documents.

1.8 SUBSTITUTIONS

A. References are made to certain specific products solely to denote the quality standard of the desired product and are not intended to restrict Bidders to a specific brand, make, manufacturer, or name. These products have been noted to assist in establishing material types and acceptable products. Equivalent products will be considered acceptable provided that the approval of the specific product has been given in writing by the Engineer.

B. Written requests for substitution of equivalent products from prime bidders will be considered if received by the Engineer fourteen (14) calendar days prior to the bid opening.

C. Submit each request for substitution on the form contained in Section 00 63 25 "Substitution Request Form" for consideration in accordance with procedures required below.

D. Identify the product or the fabrication or installation method to be replaced in each request. Include related specification sections and drawing number.

E. Provide complete documentation on both the product specified and the proposed substitution including the following information as appropriate:

1. Comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
2. Samples where applicable or requested.
3. Detailed comparison of significant qualities of the proposed substitution with those of the work specified.
4. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.

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

G. Engineer's Action: The Engineer may request additional information or documentation necessary for evaluation of the request. The Engineer will notify the Bidders of acceptance of the proposed substitution by means of an addendum to the bid documents. If the proposed substitute is accepted through an addendum use the product specified by name. Engineer's Substitution Approval during bidding and subsequent addendums does not void the Bidder's responsibility to submit the required shop drawings and comply with the other contract documents and requirements.

1.9 SITE INVESTIGATION

A. Examine and thoroughly familiarize itself with existing conditions including applicable laws, ordinances, rules and regulations that will affect the work prior to submitting a proposal. Visit the site, examine the grounds and existing buildings, utilities and roads and ascertain by any reasonable means conditions that will in any manner affect its work. Ask the Engineer for any additional information that he deems necessary for it to be fully informed as to exactly what is to be expected prior to submitting a proposal. The drawings have been prepared on the basis of surveys and inspections of the site and physical conditions at the site. This, however, does not relieve the Bidder of the necessity for fully informing itself as to the existing physical conditions. Each Carefully examine the existing conditions as compared to the Contract Documents.

B. Secure on-site measurements for quantities upon which proposal is based and has observe existing conditions and limitations.

C. Upon arrival at the Project Site, immediately proceed to the main entrance/office and advise the administrative personnel of its presence and purpose. Sign the visitor's log, giving his name, his company and the time and date of the visit.

D. Inspection of the work areas shall occur between the hours of 8:00 AM and 5:00 PM. No inspections will be conducted on Saturdays, Sundays, or holidays.

1.10 BID SECURITY

A. Each Bidder shall file a bid bond in the amount equal to not less than 5% of the gross amount of the bid. Write bond on form contained in Section 00 43 13. In lieu thereof, each bid may be accompanied by a deposit of cash or a certified check drawn on a bank or trust company insured by the Federal Deposit Insurance Corporation in an amount equal to not less than five percent (5%) of the gross amount of the bid.

B. If the successful Bidder fails to execute the contract within 10 days after award, the above deposit will be retained by the Owner on the bid bond executed on liquidated damages.

1.11 PERFORMANCE BOND AND LABOR AND MATERIALS PAYMENT BOND

A. A Performance Bond and Payment Bond in the amount of the contract is required. Include the cost of providing Performance Bond and Payment Bond in the Base Bid.

B. Deliver the required bonds to the Owner not later than three days following the date of execution of the Contract. If the Work is to be commenced prior thereto in response to a letter of intent, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished and delivered in accordance with this Section.

C. Unless otherwise provided, write bonds on the forms contained in Section 00 61 13.13 "Performance Bond Form" and Section 00 61 13.16 "Payment Bond Form". Write both bonds in the amount of the Contract Sum.

D. Date bonds on the date of the Contract.

E. Issued by sureties and executed by an attorney-in-fact, on behalf of the surety, who are authorized to do business in the State of Pennsylvania.

F. Affix thereto a certified and current copy of the power of attorney.

1.12 PRIME CONTRACT

A. Perform all work under the single prime contract.

1.13 PERMITS, FEES AND TAXES

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

1.14 SUBCONTRACTORS

A. Names of subcontractors must be listed on Section 00 41 13 "Bid Form". The Bidder shall identify work by the general, subcontractor or not applicable for each trade; utilize parenthesis (_) blanks to list trades not provided in the table. Do not list suppliers. All blanks must be filled in. Failure to do so may result in bid being declared non-responsive. If there is more than one subcontractor per trade identified below, list all. If no subcontractors are to be utilized, indicate by signing at the appropriate place at the bottom of the table.

B. A Bidder whose bid is accepted shall not substitute any person as subcontractor in the place of the subcontractor listed in the original bid, except

1. if the listed subcontractor's bid is later determined by the successful Bidder to be nonresponsible or nonresponsive or the listed subcontractor refuses to enter into a contract for the complete performance of the bid work, or
2. with the approval of the awarding authority, the Owner, for good cause shown by the successful Bidder.

C. The terms, conditions, and requirements of each contract between the successful Bidder and a subcontractor performing work under a subdivision or branch of work listed in this subsection shall incorporate by reference the terms, conditions, and requirements of the contract between the contractor and the Owner.

1.15 FORM OF AGREEMENT

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

1.16 CONTRACTOR QUALIFICATIONS

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

B. Bidders shall be required to submit with their bid the following:

1. Bid Form
2. Non-collusion Affidavit
3. Certification of Contractor/Bidder

END OF SECTION

SECTION 00 31 26.23

EXISTING ASBESTOS INFORMATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. The attached Asbestos Sampling Test Results are provided.

a. Testing for the presence of asbestos containing materials has been conducted. Results of the testing are for information and bidding purposes only. Contractor is responsible for verification of field conditions affecting performance of this work and for determining the extent or presence of asbestos containing materials.

1.2 RELATED DOCUMENTS

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

Asbestos Assessment Form

BrightFields, Inc.
Environmental Services

Project Name:	Westmoreland Community College - Roof	**Brief Description of Task:**
Site Address:	145 Pavilion Lane	BrightFields was tasked by Mr. Steve Hentz (REI Engineers) to conduct a NESHAP asbestos assessment of the Student Achievement Center roof prior to roofing replacement.
City, State Zip:	Youngwood, Pennsylvania 15967	
Inspection Date:	5/2/2023	
BrightFields File:	4261.05.74	
The following suspect asbestos building components were sampled as per the building owner and / or owner's general contractor's direction during the time of the assessment:		
NAD = No Asbestos Detected, SF = Square Feet, LF = Linear Feet F = Friable, NF = Non-friable, D = Damaged, G = Good SD = Significantly Damaged, SA = Same As, TBD = To Be Determined		

HA Area No.	Material Description	Color	Cond.	Suspect ACM Locations	Est. Quantity	Friab-ility	% Asbestos
HA01	Asphalt rolled roofing built-up	Black	G	As roof A layer 1 over isofoam	TBD	NF	NAD
HA02	Roofing membrane	White	G	Over HA01	TBD	NF	NAD
HA03	Asphalt rolled roofing built-up	Black	G	As roof B layer 1	TBD	NF	NAD
HA04	Fiberboard	Brown	G	Underneath HA03 (as layer 2) - over isofoam	TBD	NF	NAD
HA05	Vapor barrier	Black	G	Underneath HA04 and isofoam as layer 4	TBD	NF	NAD
HA06	Gypsum board	White	G	Underneath HA05 as layer 5	TBD	F	NAD
HA07	Vapor barrier/coating	Black	G	Underneath HA06 as layer 6, over metal	TBD	NF	NAD
HA08	Mechanical flashing tar	Black	G	Associated with roof B mechanical systems	TBD	NF	NAD
HA09	Silver coat	Silver	G	Over HA08	TBD	NF	NAD
HA10	Asphalt rolled roofing built-up	Black	G	As roof C layer 1	TBD	NF	NAD
HA11	Fiberboard	Tan	G	Underneath HA10 as 2nd layer - over isofoam	TBD	F	NAD
HA12	Vapor barrier	Black	G	Underneath HA11 and isofoam, as layer 4	TBD	NF	NAD

Asbestos Assessment Form

BrightFields, Inc.
Environmental Services

HA Area No.	Material Description	Color	Cond.	Suspect ACM Locations	Est. Quantity	Friab-ility	% Asbestos
HA13	Gypsum board	White	G	Underneath HA12 as layer 5	TBD	F	NAD
HA14	Vapor barrier/coating	Black	G	Underneath HA13 as layer 6, over metal decking	TBD	NF	NAD
HA15	Edge flashing	Black	G	Along parapet between roof C and D	TBD	NF	NAD
HA16	Pourable sealer	Gray	G	Associated with roof C pitch pockets (2 pockets)	TBD	NF	NAD
HA17	Asphalt rolled roofing built-up	Black	G	As roof D layer 1, over isofoam, and roofing over canopies	TBD	NF	NAD
HA18	Pourable sealer	Black	G	Associated with roof D pitch pockets (5 pockets)	TBD	NF	NAD

Asbestos-containing material (ACM) was not detected within sampled roofing materials, as reported by the laboratory.
No other suspect ACM noted during the time of the assessment.

NOTE: See attached figure for locations of Roof A through D and Canopy.
END OF SUMMARY

Building Inspector Signature:

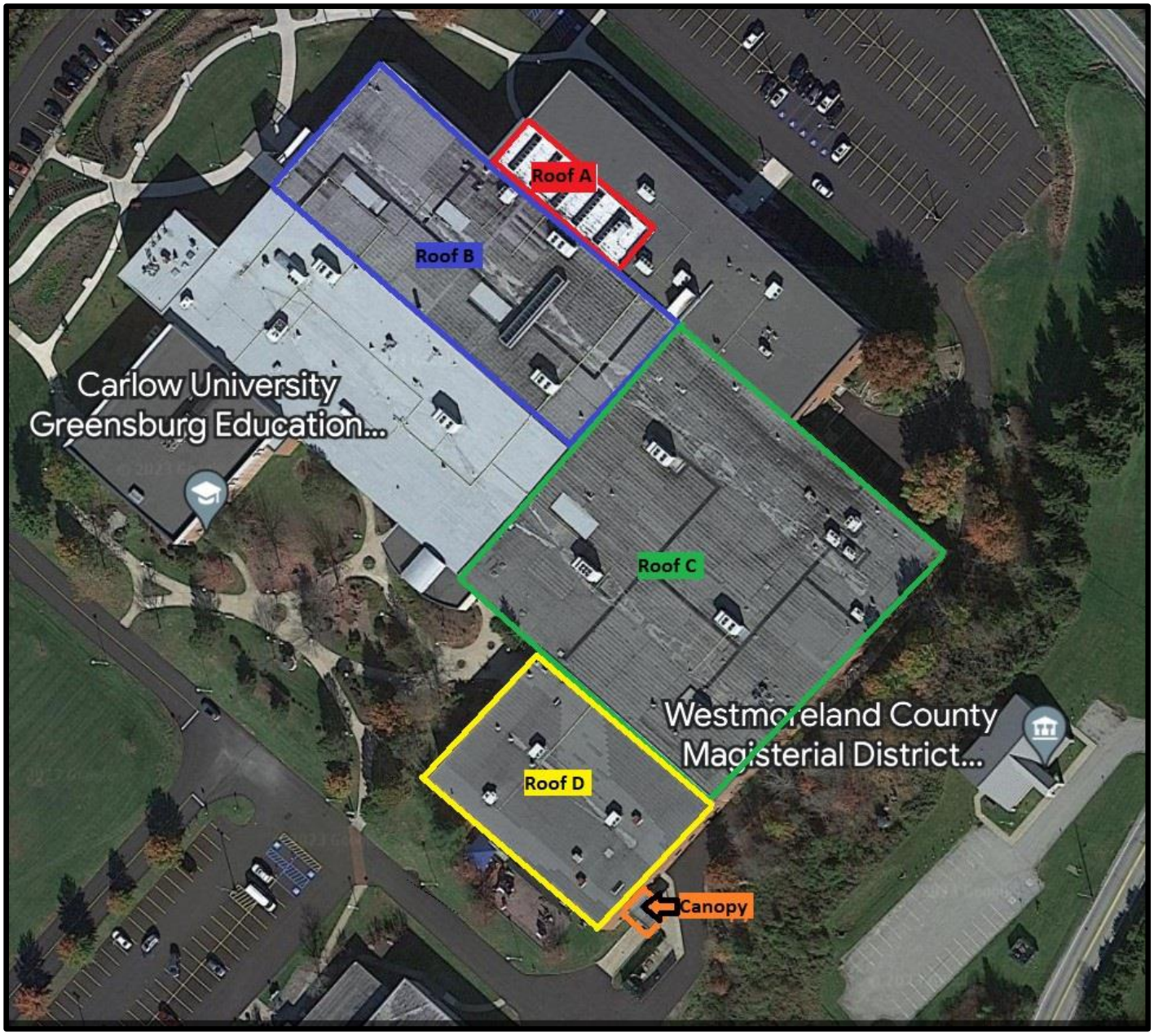
Kelli E. Beeson

Commonwealth of Pennsylvania Asbestos #: 056849

Attachments: Laboratory Analytical Data

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

Westmoreland Community College Student Achievement Center
Roof Idenfication
Youngwood, Pennsylvania



EMSL Analytical, Inc.

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

Attention:	Kelli Beeson	**Phone:**	(302) 985-1890
	BrightFields, Inc.	**Fax:**	
	801 Industrial Street	**Received Date:**	03/06/2023 11:00 AM
	Suite 1	**Analysis Date:**	03/13/2023
	Wilmington, DE 19801	**Collected Date:**	03/02/2023 - 03/03/2023
Project:	4261.05.74 / Westmoreland CC Student Achievement Center Roof		

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
B01A *042305529-0001*	As roof A layer 1 over isofoam (see figure) - HA-001 - Asphalt rolled roofing built-up / Black /Black	Black Fibrous Homogeneous	10% Glass HA: 001	90% Non-fibrous (Other)	None Detected
B01B *042305529-0002*	As roof A layer 1 over isofoam (see figure) - HA-001 - Asphalt rolled roofing built-up / Black /Black	Black Fibrous Homogeneous	15% Glass HA: 001	85% Non-fibrous (Other)	None Detected
B02A *042305529-0003*	Over HA01 - HA-002 - Roofing membrane coating / White /White	White Non-Fibrous Homogeneous	HA: 002	100% Non-fibrous (Other)	None Detected
B02B *042305529-0004*	Over HA01 - HA-002 - Roofing membrane coating / White /White	White Non-Fibrous Homogeneous	HA: 002	100% Non-fibrous (Other)	None Detected
B03A *042305529-0005*	As roof B layer 1 (see figure) - HA-003 - Asphalt rolled roofing built-up / Black / Speckled /Black / Speckled	Black Non-Fibrous Homogeneous	6% Synthetic HA: 003	94% Non-fibrous (Other)	None Detected
B03B *042305529-0006*	As roof B layer 1 (see figure) - HA-003 - Asphalt rolled roofing built-up / Black / Speckled /Black / Speckled	Black Non-Fibrous Homogeneous	HA: 003	100% Non-fibrous (Other)	None Detected
B03C *042305529-0007*	As roof B layer 1 (see figure) - HA-003 - Asphalt rolled roofing built-up / Black / Speckled /Black / Speckled	Black Fibrous Homogeneous	8% Synthetic HA: 003	92% Non-fibrous (Other)	None Detected
B04A *042305529-0008*	Underneath HA03 (as layer 2) - over isofoam - HA-004 - Fiberboard / Brown /Brown	Brown Fibrous Homogeneous	95% Cellulose HA: 004	5% Non-fibrous (Other)	None Detected

Initial report from: 03/13/2023 14:46:36

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
B04B *042305529-0009*	Underneath HA03 (as layer 2) - over isofoam - HA-004 - Fiberboard / Brown /Brown	Brown Fibrous Homogeneous	95% Cellulose HA: 004	5% Non-fibrous (Other)	None Detected
B04C *042305529-0010*	Underneath HA03 (as layer 2) - over isofoam - HA-004 - Fiberboard / Brown /Brown	Brown Fibrous Homogeneous	95% Cellulose HA: 004	5% Non-fibrous (Other)	None Detected
B05A *042305529-0011*	Underneath HA04 and isofoam as layer 4 - HA-005 - Vapor barrier / Black /Black	Black Non-Fibrous Homogeneous	3% Cellulose 5% Glass HA: 005	92% Non-fibrous (Other)	None Detected
B05B *042305529-0012*	Underneath HA04 and isofoam as layer 4 - HA-005 - Vapor barrier / Black /Black	Black Non-Fibrous Homogeneous	5% Cellulose 5% Glass HA: 005	90% Non-fibrous (Other)	None Detected
B05C *042305529-0013*	Underneath HA04 and isofoam as layer 4 - HA-005 - Vapor barrier / Black /Black	Black Fibrous Homogeneous	8% Cellulose 5% Glass HA: 005	87% Non-fibrous (Other)	None Detected
B06A *042305529-0014*	Underneath HA05 as layer 5 - HA-006 - Gypsum board / White /White	White Fibrous Homogeneous	4% Cellulose 8% Glass HA: 006	88% Non-fibrous (Other)	None Detected
B06B *042305529-0015*	Underneath HA05 as layer 5 - HA-006 - Gypsum board / White /White	White Fibrous Homogeneous	4% Cellulose 20% Glass HA: 006	76% Non-fibrous (Other)	None Detected
B06C *042305529-0016*	Underneath HA05 as layer 5 - HA-006 - Gypsum board / White /White	White Fibrous Homogeneous	10% Cellulose 10% Glass HA: 006	80% Non-fibrous (Other)	None Detected
B07A *042305529-0017*	Underneath HA06 as layer 6, over metal decking - HA-007 - Vapor barrier/coating / Black /Black	Black Non-Fibrous Homogeneous	5% Cellulose HA: 007	95% Non-fibrous (Other)	None Detected
B07B *042305529-0018*	Underneath HA06 as layer 6, over metal decking - HA-007 - Vapor barrier/coating / Black /Black	Black Non-Fibrous Homogeneous	8% Cellulose HA: 007	92% Non-fibrous (Other)	None Detected
B07C *042305529-0019*	Underneath HA06 as layer 6, over metal decking - HA-007 - Vapor barrier/coating / Black /Black	Black Fibrous Homogeneous	10% Cellulose HA: 007	90% Non-fibrous (Other)	None Detected

Initial report from: 03/13/2023 14:46:36

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
B08A *042305529-0020*	Associated with roof B mechanical systems - HA-008 - Mechanical flashing tar / Black /Black	Black Non-Fibrous Homogeneous	HA: 008	100% Non-fibrous (Other)	None Detected
B08B *042305529-0021*	Associated with roof B mechanical systems - HA-008 - Mechanical flashing tar / Black /Black	Black Non-Fibrous Homogeneous	HA: 008	100% Non-fibrous (Other)	None Detected
B09A *042305529-0022*	Over HA08 - HA-009 - Silvercoat / Silver /Silver	Silver Non-Fibrous Homogeneous	HA: 009	100% Non-fibrous (Other)	None Detected
B09B *042305529-0023*	Over HA08 - HA-009 - Silvercoat / Silver /Silver	Silver Non-Fibrous Homogeneous	HA: 009	100% Non-fibrous (Other)	None Detected
B10A *042305529-0024*	As roof C layer 1 - HA-010 - Asphalt rolled roofing built-up / Black / Spotted /Black / Spotted	Black Non-Fibrous Homogeneous	4% Synthetic HA: 010	96% Non-fibrous (Other)	None Detected
B10B *042305529-0025*	As roof C layer 1 - HA-010 - Asphalt rolled roofing built-up / Black / Spotted /Black / Spotted	Black Non-Fibrous Homogeneous	4% Synthetic HA: 010	96% Non-fibrous (Other)	None Detected
B10C *042305529-0026*	As roof C layer 1 - HA-010 - Asphalt rolled roofing built-up / Black / Spotted /Black / Spotted	Black Fibrous Homogeneous	8% Synthetic HA: 010	92% Non-fibrous (Other)	None Detected
B11A *042305529-0027*	Underneath HA10 as second layer - over isofoam - HA-011 - Fiberboard / Tan /Tan	Tan Fibrous Homogeneous	95% Cellulose HA: 011	5% Non-fibrous (Other)	None Detected
B11B *042305529-0028*	Underneath HA10 as second layer - over isofoam - HA-011 - Fiberboard / Tan /Tan	Tan Fibrous Homogeneous	95% Cellulose HA: 011	5% Non-fibrous (Other)	None Detected
B11C *042305529-0029*	Underneath HA10 as second layer - over isofoam - HA-011 - Fiberboard / Tan /Tan	Brown Fibrous Homogeneous	95% Cellulose HA: 011	5% Non-fibrous (Other)	None Detected
B12A *042305529-0030*	Underneath HA11 and isofoam, as layer 4 - HA-012 - Vapor barrier / Black / Smooth /Black / Smooth	Black Fibrous Homogeneous	10% Glass HA: 012	90% Non-fibrous (Other)	None Detected

Initial report from: 03/13/2023 14:46:36

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
B12B *042305529-0031*	Underneath HA11 and isofoam, as layer 4 - HA-012 - Vapor barrier / Black / Smooth /Black / Smooth	Black Non-Fibrous Homogeneous	6% Glass HA: 012	94% Non-fibrous (Other)	None Detected
B12C *042305529-0032*	Underneath HA11 and isofoam, as layer 4 - HA-012 - Vapor barrier / Black / Smooth /Black / Smooth	Black Non-Fibrous Homogeneous	10% Glass HA: 012	90% Non-fibrous (Other)	None Detected
B13A *042305529-0033*	Underneath HA12 as layer 5 - HA-013 - Gypsum board / White / Smooth /White / Smooth	White Fibrous Homogeneous	3% Cellulose 7% Glass HA: 013	90% Non-fibrous (Other)	None Detected
B13B *042305529-0034*	Underneath HA12 as layer 5 - HA-013 - Gypsum board / White / Smooth /White / Smooth	White Fibrous Homogeneous	3% Cellulose 8% Glass HA: 013	89% Non-fibrous (Other)	None Detected
B13C *042305529-0035*	Underneath HA12 as layer 5 - HA-013 - Gypsum board / White / Smooth /White / Smooth	White Fibrous Homogeneous	10% Cellulose 5% Glass HA: 013	85% Non-fibrous (Other)	None Detected
B14A *042305529-0036*	Underneath HA13 as layer 6, over metal decking - HA-014 - Vapor barrier/coating / Black / Smooth /Black / Smooth	Black Non-Fibrous Homogeneous	8% Cellulose 5% Glass HA: 014	87% Non-fibrous (Other)	None Detected
B14B *042305529-0037*	Underneath HA13 as layer 6, over metal decking - HA-014 - Vapor barrier/coating / Black / Smooth /Black / Smooth	Black Non-Fibrous Homogeneous	7% Cellulose 3% Glass HA: 014	90% Non-fibrous (Other)	None Detected
B14C *042305529-0038*	Underneath HA13 as layer 6, over metal decking - HA-014 - Vapor barrier/coating / Black / Smooth /Black / Smooth	Black Non-Fibrous Homogeneous	10% Cellulose 5% Glass HA: 014	85% Non-fibrous (Other)	None Detected
B15A *042305529-0039*	Along parapet between roof C and D - HA-015 - Edge flashing / Black /Black	Black Non-Fibrous Homogeneous	HA: 015	100% Non-fibrous (Other)	None Detected

Initial report from: 03/13/2023 14:46:36

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

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

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
B15B *042305529-0040*	Along parapet between roof C and D - HA-015 - Edge flashing / Black /Black	Black Non-Fibrous Homogeneous	HA: 015	100% Non-fibrous (Other)	None Detected
B16A *042305529-0041*	Associated with roof C pitch pockets (2 pockets) - HA-016 - Pourable sealer / Gray /Gray	Gray Non-Fibrous Homogeneous	HA: 016	100% Non-fibrous (Other)	None Detected
B16B *042305529-0042*	Associated with roof C pitch pockets (2 pockets) - HA-016 - Pourable sealer / Gray /Gray	Gray Non-Fibrous Homogeneous	HA: 016	100% Non-fibrous (Other)	None Detected
B17A *042305529-0043*	As roof D layer 1, over isofoam - HA-017 - Asphalt rolled roofing built-up / Black / Dots /Black / Dots	Black Non-Fibrous Homogeneous	4% Cellulose 3% Glass HA: 017	93% Non-fibrous (Other)	None Detected
B17B *042305529-0044*	As roof D layer 1, over isofoam - HA-017 - Asphalt rolled roofing built-up / Black / Dots /Black / Dots	Black Non-Fibrous Homogeneous	4% Cellulose 4% Glass HA: 017	92% Non-fibrous (Other)	None Detected
B17C *042305529-0045*	As roof D layer 1, over isofoam - HA-017 - Asphalt rolled roofing built-up / Black / Dots /Black / Dots	Black Fibrous Homogeneous	8% Cellulose 5% Glass HA: 017	87% Non-fibrous (Other)	None Detected
B18A *042305529-0046*	Associated with roof D pitch pockets (5pockets) - HA-018 - Pourable sealer / Black /Black	Black Non-Fibrous Homogeneous	HA: 018	100% Non-fibrous (Other)	None Detected
B18B *042305529-0047*	Associated with roof D pitch pockets (5pockets) - HA-018 - Pourable sealer / Black /Black	Black Non-Fibrous Homogeneous	HA: 018	100% Non-fibrous (Other)	None Detected

Initial report from: 03/13/2023 14:46:36

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

EMSL Order:	042305529
Customer ID:	WIK50
Customer PO:	18082
Project ID:	

Analyst(s)

Corinne Lunden (29)
Christopher Ratcliffe (18)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

Initial report from: 03/13/2023 14:46:36

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

FRXY-39WH-YTHW

Client Information
BrightFields, Inc.
Wilmington, DE

Project Overview

PO Number	
Project Name	Westmoreland CC Student Achievement Center Roof
Project ID	4261.05.74
Client	REI Engineers
Special Instructions	**POSITIVE STOP**
Bill To	WIK50
Report to Contact	Kelli Beeson
Report to Email	kbeeson@brightfieldsinc.com

Project Site

Building Type	Commercial
Address 1	145 Pavilion Lane
Address 2	
City	Youngwood
State	PA
Country	US

Testing Laboratory
EMSL Analytical
200 Route 130 North
Cinnaminson, NJ

042305529

HA	Sample ID	Material	Location	Date/Time Collected	Matrix / Test Method	TAT	Notes
001	B01A	HA-001 - Asphalt rolled roofing built-up / Black	As roof A layer 1 over isofoam (see figure)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
001	B01B	HA-001 - Asphalt rolled roofing built-up / Black	As roof A layer 1 over isofoam (see figure)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
002	B02A	HA-002 - Roofing membrane coating / White	Over HA01	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
002	B02B	HA-002 - Roofing membrane coating / White	Over HA01	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
003	B03A	HA-003 - Asphalt rolled roofing built-up / Black / Speckled	As roof B layer 1 (see figure)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
003	B03B	HA-003 - Asphalt rolled roofing built-up / Black / Speckled	As roof B layer 1 (see figure)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
003	B03C	HA-003 - Asphalt rolled roofing built-up / Black / Speckled	As roof B layer 1 (see figure)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
004	B04A	HA-004 - Fiberboard / Brown	Underneath HA03 (as layer 2) - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
004	B04B	HA-004 - Fiberboard / Brown	Underneath HA03 (as layer 2) - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
004	B04C	HA-004 - Fiberboard / Brown	Underneath HA03 (as layer 2) - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
005	B05A	HA-005 - Vapor barrier / Black	Underneath HA04 and isofoam as layer 4	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	

RECEIVED 2023 MAR -6 A 11:03 EMSL CINNAMINSON, NJ

47RH

Page 1 Of 4

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

FRXY-39WH-YTHW

042305529

HA	Sample ID	Material	Location	Date/Time Collected	Matrix / Test Method	TAT	Notes
005	B05B	HA-005 - Vapor barrier / Black	Underneath HA04 and isofoam as layer 4	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
005	B05C	HA-005 - Vapor barrier / Black	Underneath HA04 and isofoam as layer 4	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
006	B06A	HA-006 - Gypsum board / White	Underneath HA05 as layer 5	Mar 03, 2023 12:55 PM	Asbestos Bulk / PLM EPA 600	1 Week	
006	B06B	HA-006 - Gypsum board / White	Underneath HA05 as layer 5	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
006	B06C	HA-006 - Gypsum board / White	Underneath HA05 as layer 5	Mar 03, 2023 12:55 PM	Asbestos Bulk / PLM EPA 600	1 Week	
007	B07A	HA-007 - Vapor barrier/coating / Black	Underneath HA06 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
007	B07B	HA-007 - Vapor barrier/coating / Black	Underneath HA06 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
007	B07C	HA-007 - Vapor barrier/coating / Black	Underneath HA06 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
008	B08A	HA-008 - Mechanical flashing tar / Black	Associated with roof B mechanical systems	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
008	B08B	HA-008 - Mechanical flashing tar / Black	Associated with roof B mechanical systems	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
009	B09A	HA-009 - Silvercoat / Silver	Over HA08	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
009	B09B	HA-009 - Silvercoat / Silver	Over HA08	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
010	B10A	HA-010 - Asphalt rolled roofing built-up / Black / Spotted	As roof C layer 1	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
010	B10B	HA-010 - Asphalt rolled roofing built-up / Black / Spotted	As roof C layer 1	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
010	B10C	HA-010 - Asphalt rolled roofing built-up / Black / Spotted	As roof C layer 1	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	

RECEIVED 2023 MAR 6 AM 11:03 EMSL CINNAMINSON, NJ

Page 2 of 4

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

FRXY-39WH-YTHW

042305529

HA	Sample ID	Material	Location	Date/Time Collected	Matrix / Test Method	TAT	Notes
011	B11A	HA-011 - Fiberboard / Tan	Underneath HA10 as second layer - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
011	B11B	HA-011 - Fiberboard / Tan	Underneath HA10 as second layer - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
011	B11C	HA-011 - Fiberboard / Tan	Underneath HA10 as second layer - over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
012	B12A	HA-012 - Vapor barrier / Black / Smooth	Underneath HA11 and isofoam, as layer 4	Mar 03, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
012	B12B	HA-012 - Vapor barrier / Black / Smooth	Underneath HA11 and isofoam, as layer 4	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
012	B12C	HA-012 - Vapor barrier / Black / Smooth	Underneath HA11 and isofoam, as layer 4	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
013	B13A	HA-013 - Gypsum board / White / Smooth	Underneath HA12 as layer 5	Mar 02, 2023 9:30 PM	Asbestos Bulk / PLM EPA 600	1 Week	
013	B13B	HA-013 - Gypsum board / White / Smooth	Underneath HA12 as layer 5	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
013	B13C	HA-013 - Gypsum board / White / Smooth	Underneath HA12 as layer 5	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
014	B14A	HA-014 - Vapor barrier/coating / Black / Smooth	Underneath HA13 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
014	B14B	HA-014 - Vapor barrier/coating / Black / Smooth	Underneath HA13 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
014	B14C	HA-014 - Vapor barrier/coating / Black / Smooth	Underneath HA13 as layer 6, over metal decking	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
015	B15A	HA-015 - Edge flashing / Black	Along parapet between roof C and D	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
015	B15B	HA-015 - Edge flashing / Black	Along parapet between roof C and D	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
016	B16A	HA-016 - Pourable sealer / Gray	Associated with roof C pitch pockets (2 pockets)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	

RECEIVED
EMSL
CINNAMINSON, NJ
MAR 03 2023
AM 11:03

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

FRXY-39WH-YTHW

042305529

HA	Sample ID	Material	Location	Date/Time Collected	Matrix / Test Method	TAT	Notes
016	B16B	HA-016 - Pourable sealer / Gray	Associated with roof C pitch pockets (2 pockets)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
017	B17A	HA-017 - Asphalt rolled roofing built-up / Black / Dots	As roof D layer 1, over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
017	B17B	HA-017 - Asphalt rolled roofing built-up / Black / Dots	As roof D layer 1, over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
017	B17C	HA-017 - Asphalt rolled roofing built-up / Black / Dots	As roof D layer 1, over isofoam	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
018	B18A	HA-018 - Pourable sealer / Black	Associated with roof D pitch pockets (5pockets)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	
018	B18B	HA-018 - Pourable sealer / Black	Associated with roof D pitch pockets (5pockets)	Mar 02, 2023 9:30 AM	Asbestos Bulk / PLM EPA 600	1 Week	

Sampled By / Date — Mar 03, 2023

Relinquished By / Date — Mar 03, 2023

Received (Lab) / Date — Fx 3/6/23 11:00AM

RECEIVED
EMSL
CINNAMINSON, NJ
2023 MAR -6 A 11:03

Page 4 of 4

SECTION 00 41 13

BID FORM

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

PART 1 - GENERAL

1.1 BASE BID

A. The undersigned, as bidder, hereby declares that the only person or persons interested in this bid as principal or principals is or are named herein and that no other person than herein mentioned has any interest in this bid or in the contract to be entered into; that this proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith without collusion or fraud. The Bidder further declares that he has examined the site of the work and the contract documents relative thereto dated March 27, 2023 as prepared by REI Engineers, Inc., and has read all special provisions furnished prior to the opening of bids; that he has satisfied himself relative to the work to be performed. The Bidder proposes and agrees if this bid is accepted to contract with the Owner in the form of contract specified, to furnish all necessary materials, equipment, machinery, tools apparatus, means of transportation and labor necessary to complete the construction of the project with a definite understanding that no money will be allowed for extra work except as set forth in the General Conditions and the Contract Documents.

1. Words: _____

2. Figures: $_____._____

1.2 ALLOWANCES:

A. Include in the Base Bid the Ten thousand dollar ($10,000.00) Contingency Allowance specified in Section 01 21 00 "Allowances" of the Project Manual.

B. Include in the Base Bid the Quantity Allowances specified in Section 01 21 00 "Allowances" of the Project Manual.

1. Repair 500 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Repair 50 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
3. Overlay 50 SF of Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
4. Replace 20 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement"
5. Replace3,500 BF of Wet or Deteriorated Existing Insulation. Refer to Section 07 22 16 "Roof Insulation"

6. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"
7. Replace 320 SF of Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry"
8. Provide 150 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 53 23 "Thermoset EPDM Roofing".

1.3 UNIT PRICES:

A. Unit prices quoted and accepted shall apply throughout the life of the contract, except as otherwise specifically noted. Unit prices shall be applied, as appropriate, to compute the total value of changes in the scope of the work all in accordance with the contract documents. Refer to Section 01 22 00 "Unit Prices".

1. Repair Corroded Steel Deck with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".

   a. Cost: $_____ per SF

2. Repair Steel Deck with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".

   a. Cost: $_____ per SF

3. Overlay Deteriorated Steel Deck with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".

   a. Cost: $_____ per SF

4. Replace Deteriorated Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".

   a. Cost: $_____ per SF

5. Replace Wet or Deteriorated Existing Insulation. Refer to Section 07 22 16 "Roof Insulation".

   a. Cost: $_____ per BF

6. Replace Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry"

   a. Cost: $_____ per BF

7. Replace Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry"

   a. Cost: $_____ per SF

8. Provide Additional Manufacturer's Walk Pad Material. Refer to Section 07 53 23 "Thermoset EPDM Roofing".

   a. Cost: $_____ per LF

1.4 BID HOLDING TIME AND ACCEPTANCE:

A. 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 during the bid holding period as specified in Section 00 21 13 "Instructions to Bidders".

1.5 SCHEDULE OF COMPLETION:

A. The undersigned understands that time is of the essence and agrees to the Contract Time and liquidated damages as indicated in General Conditions of the Contract for Construction and Supplementary Conditions apply to this Work. The undersigned hereby agrees to commence work on this project within thirty (30) days following receipt of an Executed Agreement between Owner and Contractor. Date of commencement will be established in a Notice to Proceed issued to Contractor. Complete work under the Base Bid and all alternates accepted within 163 calendar days from the date of commencement.

B. Applicable liquidated damages shall be stated in the Section 00 73 00 "Supplementary Conditions".

1.6 ADDENDUM:

A. Addendum received and used in computing bid:

1. Addendum No. 1: _____
2. Addendum No. 2: _____
3. Addendum No. 3: _____
4. Addendum No. 4: _____

1.7 SUBCONTRACTORS:

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

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

1.8 ENCLOSURES:

A. Provide the following enclosures with submitted bid:

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

Respectfully submitted this _____ day of _____, _____.

Company: _____

Printed Name: _____

Signature: _____

Title: _____

_____(State)

County of _____

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

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

_____ (OFFICIAL SEAL)
Notary Public

My commission expires _____, 20___.

END OF SECTION

INSTRUCTIONS FOR NON-COLLUSION AFFIDAVIT

1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this RFP. According to the Pennsylvania Antibid-Rigging Act, 73 P.S. § 1611 et seq., governmental agencies may require Non-Collusion Affidavits to be submitted together with bids.

2. This Non-Collusion Affidavit must be executed by the member, officer or employee of the bidder who makes the final decision on prices and the amount quoted in the RFP.

3. RFP rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of proposals are unlawful and may be subject to criminal prosecution. The person who signs the affidavit should examine it carefully before signing and assure himself or herself that each statement is true and accurate, making diligent inquiry, as necessary, of all other persons employed by or associated with the vendor with responsibilities for the preparation, approval or submission of the RFP.

4. In the case of an RFP submitted by a joint venture, each party to the venture must be identified in the RFP documents, and an affidavit must be submitted separately on behalf of each party.

5. The term "complementary RFP" as used in the affidavit has the meaning commonly associated with that term in the RFP process, and includes the knowing submission of proposals higher than the proposal of another firm, any intentionally high or noncompetitive proposal, and any other form of proposal submitted for the purpose of giving a false appearance of competition.

6. Failure to submit an affidavit with the RFP in compliance with these instructions may result in disqualification of the proposal.

Westmoreland County Community College
Request for Proposal #989
Student Achievement Center Roof Replacement

NON-COLLUSION AFFIDAVIT

Contract Name : Student Achievement Center Roof Replacement Contract/Bid No. 989

State of _____ County of _____

I state that I am _____(Name and title) of

_____ (Name of firm) and that I am authorized to make this affidavit on behalf of my firm, and its owners, directors, and, officers. I am the person responsible in my firm for the price(s) and the amount of this RFP.

I state that:

(1) The price(s) and amount(s) of this RFP have been arrived at independently and without consultation, communication or agreement with any other contractor, vendor or potential vendor.

(2) Neither the price(s) nor the amount(s) of this proposal, and neither the approximate price(s) nor approximate amount(s) of this proposal, have been disclosed to any other firm or person who is a bidder or potential bidder, and they will not be disclosed before bid opening.

(3) No attempt has been made or will be made to induce any firm or person to refrain from responding to this contract, or to submit a proposal higher than this proposal, or to submit any intentionally high or non-competitive proposal or other form of complementary proposal.

(4) The proposal of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive proposal.

(5) _____ (Name of firm), its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last four years been convicted or found liable for any act prohibited by state or federal law in any jurisdiction, involving conspiracy or collusion with respect to submitting a proposal on any public contract, except as follows:*

I state that _____ (Name of firm) understands and acknowledges that the above representations are material and important, and will be relied on by ***Westmoreland County Community College*** in awarding the contract(s) for which this proposal is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the Purchasing Agency of the true facts relating to the submission of this RFP.

_____

(Name and Company Position)

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____, 20____

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

CERTIFICATION OF CONTRACTOR/BIDDER

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

NAME OF CONTRACTOR/BIDDER

SIGNATURE OF CONTRACTOR/BIDDER

TITLE

DATE

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

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

SECTION 00 43 13

BID BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

END OF SECTION

SECTION 00 52 13

STANDARD FORM OF AGREEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

SECTION 00 60 00

PROJECT FORMS

PART 1 - GENERAL

1.1 SUMMARY

A. The following documents are hereby incorporated into the Contract Documents by reference:

1. AIA Documents: Properly licensed forms are available for purchase from the American Institute of Architects at www.aia.org/documents.

   a. G701, Change Order Form, 2017 Edition
   b. G702, Application and Certificate for Payment,
   c. G703, Continuation Sheet, 1992 Edition
   d. G704, Certificate of Substantial Completion, 2017 Edition
   e. G706, Contractor's Affidavit of Payment of Debts and Claims, 1994 Edition
   f. G706A, Contractor's Affidavit of Payment of Release of Liens, 1994 Edition
   g. G707, Consent of Surety to Final Payment, 1994 Edition
   h. G710 Architect's Supplemental Instruction Form, 2017 Edition
   i. G714 Construction Change Directive, 2017 Edition

B. The following documents are included in the Project Manual:

1. Section 00 63 13 "Request for Interpretation"
2. Section 00 63 25 "Substitution Request Form"
3. Section 00 65 16 "Certificate of Substantial Completion"
4. Section 00 65 36 "Contractor's Warranty"
5. Section 00 65 37 "Asbestos Free Warranty"
6. Section 00 73 43.01 Form LLC-25 "Weekly Payroll Certification Form For Public Works Projects"

END OF SECTION

SECTION 00 61 13.13

PERFORMANCE BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

END OF SECTION

SECTION 00 61 13.16

PAYMENT BOND FORM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

END OF SECTION

SECTION 00 63 13

REQUEST FOR INTERPRETATION

Project:	STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT	RFI Number:	
From:		Date:	
Engineer:	REI Engineers	REI Project No.:	023CPA-002

Specification Section: Paragraph: Drawing Reference:

Request:

Signed By:

Response:

Attachments:

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

Signed By: _____ Date: _____

Copies: __ Owner __ Contractor __ Engineer __ Other

END OF SECTION

SECTION 00 63 25

SUBSTITUTION REQUEST FORM

Project Name: STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT

Date: _____

Product and/or Fabrication Method: _____

Specification Section: _____

Related Drawings: _____

Criteria or Specified Product	Included
Product Data	
Fabrication Drawings	
Samples Where Applicable	
List of changes or Modifications Needed to Work as Specified	

Criteria or Specified Product	Included
Product Data	
Fabrication Drawings	
Samples Where Applicable	
List of changes or Modifications Needed to Work as Specified	

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

Signed: _____

END OF SECTION

SECTION 00 65 16

CERTIFICATE OF SUBSTANTIAL COMPLETION

Project:	STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT Westmoreland County	Contractor:	
Owner:	Community College		
Engineer:	REI Engineers	REI Project No.:	023CPA-002

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

<Insert exceptions or delete paragraph>

REI Engineers		
Engineer	By	Date of Issuance

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

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

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

Contractor	By	Date

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

Westmoreland County Community College		
Owner	By	Date

END OF SECTION

SECTION 00 65 36

CONTRACTOR'S WARRANTY

Know all men by these presents, that we, (Contractor) _____, having installed roofing system, flashings and sheet metal on the STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT under contract between Westmoreland County Community College (Owner) and Contractor, warrant to the Owner with respect to said work that for the period specified below, the work shall be watertight and free from defects, provided however the following are excluded from this Warranty:

1) defects or failures resulting from abuse by the Owner
2) damages caused by fire, tornado, hail, hurricane, acts of God, wars, vandalism, riots or civil commotion
3) defects in design involving failure of structural frame, load bearing walls, and/or foundations

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

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

Signature: _____ Title: _____

_____(State), County of _____

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

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

_____ (OFFICIAL SEAL)
Notary Public

My commission expires _____, 20___.

END OF SECTION

SECTION 00 65 37

ASBESTOS FREE WARRANTY

Owner: Westmoreland County Community College
Project Name: STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT
Project Address: 145 Pavilion Lane, Youngwood, Pennsylvania 15697
Project Manual Date: March 27, 2023March 27, 2023

Date of Substantial Completion: _____

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

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

Signature: _____

Title: _____

_____(State)

County of _____

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

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

_____ (OFFICIAL SEAL)
Notary Public

My commission expires _____, 20___.

END OF SECTION

SECTION 00 72 13

GENERAL CONDITIONS OF THE CONTRACT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Utilize AIA Document A201 - 2017 General Conditions of the Contract for Construction

1.2 RELATED DOCUMENTS

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

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

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

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

Change to read: "for the following PROJECT: STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT

THE OWNER: Westmoreland County Community College

THE ENGINEER: REI Engineers, Inc.

ARTICLE 1 - GENERAL PROVISIONS

Add:

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

ARTICLE 3 - CONTRACTOR

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

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

Add:

"3.2.5 The Owner is entitled to reimbursement (in the form of reduced contract amount) from the Contractor for amounts paid to the Engineer for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

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

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

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

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

ARTICLE 4 - ARCHITECT

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

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

ARTICLE 5 - SUBCONTRACTORS

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

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

ARTICLE 7 - CHANGES IN THE WORK

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

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

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

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

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

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

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

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

7.3.9: Change the first sentence to read "Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment in a non-disputed amount or an

interim amount determined by the Engineer for Work completed under the Construction Change Directive in Applications for Payment"

ARTICLE 8 - TIME

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

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

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

Add:
"8.4 Liquidated Damages

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

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

ARTICLE 9 - PAYMENTS AND COMPLETION

9.7: Delete in its entirety.

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

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

9.9.1: Replace with: "The Owner may occupy premises and maintain normal building functions during the contract period. Contractor will cooperate with Owner to minimize conflict and facilitate Owner's operations. Safety of building occupants is of primary importance. Any areas subject to hazard and/or falling material/debris to be barricaded to prevent access."

9.9.2: Delete in its entirety.

9.9.3: Delete in its entirety.

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

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

ARTICLE 11 - INSURANCE AND BONDS
Add:
"11.1.1.1 Contractor shall maintain worker compensation insurance as required by Pennsylvania Statutes for all employees engaged in the Work. Contractor shal maintain commercial liability, bodily injury and property damage insurance against any claim(s), which might occur in carrying out the services, referenced in this RFP. Minimum coverage will be TWO MILLION DOLLARS ($2,000,000) liability for bodily injury and property damage including product liability and completed operations. Contractor shall provide motor vehicle insurance for all owned, non-owned and hired vehicles that are used in carrying out the services described in this RFP. Minimum coverage shall be TWO MILLION DOLLARS ($2,000,000) per occurrence combined single limit for automobile liability and property damage.
Add:
"11.1.5 The Contractor shall not commence work under this contract until obtaining all insurance required under the conditions of the contract, nor shall the Contractor allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained. The Contractor shall furnish the Owner with satisfactory evidence that he has secured and will maintain the required insurance coverage until final acceptance of the Project."
"11.4.3 The Contractor shall furnish a Performance and Payment Bond in an amount at least equal to one hundred percent (100%) of the contract price as security for the faithful performance of the contract and the payment of all persons performing labor on the project under the contract and furnishing materials, equipment or supplies in connection with the contract, including security for the payment of all unemployment contributions which become due and payable under Pennsylvania Law. The Performance and Payment Bond (AIA Document A312) shall be executed by a Surety Company authorized to do business in the State of Pennsylvania and the contract instrument of bonds must be countersigned by a duly appointed and licensed agent resident of Pennsylvania. Cost of said bond shall be included in the contract sum."
“Add:
"11.6 Indemnity Agreement: Contractor agrees to indemnify and hold harmless the Owner from and against claims, losses, liabilities, costs, expenses, charges, damages or judgment arising from, or relating to, this agreement, including but not limited to attorney's fees, with respect to any cause arising out of, resulting from, or in connection with (a) any breach by Contractor of any clause, condition or provision of this Agreement; (b) any breach or violation by Contractor of any Indemnity Agreement applicable criminal or civil law; (c) any bodily injuries, including death at any time resulting therefrom, and/or property damage from any cause whatsoever, arising out of, incidental to, or in connection with the on-going or completed work, whether or not due to any act of omission or commission including

negligence, excluding the sole negligence of The Owner, its employees or agents; and (d) any other cause resulting from any act or failure to act by Contractor in accordance with this Agreement. Contractor shall promptly assume the defense of any claim, suit or action within the scope of this indemnification at its expense, upon being notified thereof.
Contractor shall release The Owner from and indemnify and hold harmless The Owner from and against any claims for injuries, including death arising out of the use of equipment, tools, or facilities, whether or not based upon the condition thereof, or any alleged negligence of The Owner in permitting the use thereof of tools, equipment or facilities owned by The Owner. Contractor understands and agrees that such permitted use of any of The Owner's tools, equipment or facilities does not stop The Owner from limiting or denying such use as The Owner so decides.

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

ARTICLE 12 - UNCOVERING AND CORRECTION OF WORK

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

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

12.2.2.2: Delete the words "one year".

12.2.2.3: Delete in its entirety.

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

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

ARTICLE 13 - MISCELLANEOUS PROVISIONS

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

ARTICLE 14 - TERMINATION OR SUSPENSION OF THE CONTRACT

14.1.3: Change to read: "If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Engineer, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred that are documented, actually verifiable and proven as legitimate expenses up to the date of termination as allowed in the contract and acceptable to the Engineer for the reason of such termination and damages."

ARTICLE 15 - CLAIMS AND DISPUTES

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

END OF SECTION

WEEKLY PAYROLL CERTIFICATION FOR PUBLIC WORKS PROJECTS

☐ Contractor or ☐ Subcontractor (Please check one) **ALL INFORMATION MUST BE COMPLETED**

CONTRACTOR ADDRESS	SUBCONTRACTOR ADDRESS	DEPARTMENT OF LABOR & INDUSTRY COMMONWEALTH OF PENNSYLVANIA BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGE DIVISION 7TH & FORSTER STREETS HARRISBURG, PA 17120 1-800-932-0665

PAYROLL NUMBER	WEEK ENDING DATE	PROJECT AND LOCATION PROJECT SERIAL # PROJECT #

EMPLOYEE NAME	APPR. RATE (%)	WORK CLASSIFICATION	DAY AND DATE HOURS WORKED EACH DAY	S-TIME 0-TIME	BASE HOURLY RATE	TOTAL FRINGE BENEFITS (C=Cash) (FB=Contributions)*	TOTAL DEDUCTIONS	GROSS PAY FOR PREVAILING RATE JOB(S)	CHECK #
						C: FB:			
						C: FB:			
						C: FB:			
						C: FB:			
						C: FB:			

*SEE REVERSE SIDE

PAGE NUMBER _____ OF _____

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

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

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

1) Medical or hospital care _____
2) Pension or retirement _____
3) Life insurance _____
4) Disability _____
5) Vacation, holiday _____
6) Other (please specify) _____

CERTIFIED STATEMENT OF COMPLIANCE

1. The undersigned, having executed a contract with _____
(AWARDING AGENCY, CONTRACTOR OR SUBCONTRACTOR)

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

(a) The prevailing wage requirements and the predetermined rates are included in the aforesaid contract.

(b) Correction of any infractions of the aforesaid conditions is the contractor's or subcontractor's responsibility.

(c) It is the contractor's responsibility to include the Prevailing Wage requirements and the predetermined rates in any subcontract or lower tier subcontract for this project.

2. The undersigned certifies that:

(a) Neither he nor his firm, nor any firm, corporation or partnership in which he or his firm has an interest is debarred by the Secretary of Labor and Industry pursuant to Section 11(e) of the PA Prevailing Wage Act, Act of August 15, 1961, P.L. 987 as amended, 43 P.S.§ 165-11(e).

(b) No part of this contract has been or will be subcontracted to any subcontractor if such subcontractor or any firm, corporation or partnership in which such subcontractor has an interest is debarred pursuant to the aforementioned statute.

3. The undersigned certifies that:

(a) the legal name and the business address of the contractor or subcontractor are: _____
_____

(b) The undersigned is: ☐ a single proprietorship ☐ a corporation organized in the state of _____
☐ a partnership ☐ other organization (describe) _____

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

NAME	TITLE	ADDRESS

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

_____
(DATE)

_____
(SIGNATURE)

_____
(TITLE)

_____
SEAL

Taken, sworn and subscribed before me this _____ Day
of _____ A.D., _____

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

PART 1 - GENERAL

1.1 PENNSYLVANIA PREVAILING MINIMUM WAGE ACT

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

1.2 DEFINITIONS

A. The following words and terms, when used in this section, have the following meanings, unless the context clearly indicates otherwise:

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

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

1.3 REQUIREMENTS

A. The general prevailing minimum wage rates including contributions for employee benefits as determined by the Secretary of Labor and Industry shall be paid to the workmen employed in the performance of the contract.

B. The Contractor shall pay at least the wage rates as determined in the decision of the Secretary of Labor and Industry and shall comply with the conditions of the act approved August 15, 1961, and the regulations issued thereto, to assure the full and proper payment of the rates.

C. The prevailing minimum wage rate requirements apply to work performed on the contract by the Contractor and to work performed on the contract by Subcontractors.

D. The Contractor shall insert in each of his subcontracts the stipulations contained in these required provisions and other stipulations as may be required.

E. No workmen may be employed on the public work except in accordance with the classifications in the decision of the Secretary. If additional or different classifications are necessary the procedure in § 9.107 (relating to petition for review of rates and hearings) shall be followed.

F. Workmen employed or working on the project shall be paid unconditionally, regardless of whether a contractual relationship exists or the nature of a contractual relationship which may be alleged to exist between a Contractor, Subcontractor and workmen, at least once a week, without deduction or rebate, on any account, either directly or indirectly except authorized deductions, the full amounts due at the time of payment, computed at the rates applicable to the time worked in the appropriate classification. Nothing in the contract, the act or this title prohibits the payment of more than the general prevailing minimum wage rates as determined by the Secretary to a workman on public work.

G. The Contractor and each Subcontractor shall post for the entire period of construction the wage determination decisions of the Secretary, including the effective date of changes thereof, in a prominent and easily accessible place or places at the site of the work and at the places used by them to pay workmen their wages. The posted notice of wage rates shall contain the following information:

1. The name of project.
2. The name of the public body for which it is being constructed.
3. The crafts and classifications of workmen listed in the Secretary's general prevailing minimum wage rate determination for the particular project.
4. The general prevailing minimum wage rates determined for each craft and classification and the effective date of changes.
5. A statement advising workmen that if they have been paid less than the general prevailing minimum wage rate for their job classification or that the Contractor or Subcontractor are not complying with the act or this title, they may file a protest in writing with the Secretary within 3 months of the date of the occurrence, objecting to the payment to a Contractor to the extent of the amount due or to become due to them as wages for work performed on the public work project. A workmen paid less than the rate specified in the contract shall have a civil right of action for the difference between the wage paid and the wages stipulated in the contract, which right of action shall be exercised within 6 months from the occurrence of the event creating the right.

H. The Contractor and Subcontractors shall keep an accurate record showing the name, craft or classification, number of hours worked per day and the actual hourly rate of wage paid, including employee benefits, to each workman employed by him in connection with the public work. The record shall include deductions from each workman. The record shall be preserved for 2 years from the date of payment and shall be open at reasonable hours to the inspection of the public body awarding the contract and to the Secretary or his authorized representatives.

I. Apprentices shall be limited to numbers in accordance with a bona fide apprenticeship program registered with and approved by The Pennsylvania Apprenticeship and Training Council and only apprentices whose training and employment are in full compliance with The Apprenticeship and Training Act (43 P. S. §§ 90.1 - 90.10), approved July 14, 1961, and the regulations issued thereto shall be employed on the public work project. A workman using the tools of a craft who does not qualify as an apprentice within this subsection shall be paid the rate predetermined for journeymen in that particular craft or classification.

J. Wages shall be paid without deductions except authorized deductions. Employers not parties to a contract requiring contributions for employee benefits which the Secretary has determined to be included in the general prevailing minimum wage rate shall pay the monetary equivalent thereof directly to the workmen.

K. Payment of compensation to workmen for work performed on public work on a lump sum basis, or a piece work system, or a price certain for the completion of a certain amount of work, or the production of a certain result shall be deemed a violation of the act and this subchapter, regardless of the average hourly earnings resulting therefrom.

L. Each Contractor and each Subcontractor shall file a statement each week and a final statement at the conclusion of the work on the contract with the contracting agency, under oath, and in form satisfactory to the Secretary, certifying that workmen have been paid wages in strict conformity with the provisions of the contract as prescribed by this section or if wages remain unpaid to set forth the amount of wages due and owing to each workman respectively. The statement shall be submitted on Form LLC-25 which is attached.

M. The provisions of the Prevailing Wage Act and the PA Department of Labor and Industry regulations shall be incorporated by reference in the contract.

N. Before final payment is made, a final wage certification must be submitted by all Contractors and Subcontractors.

1.4 REMEDIES AND PENALTIES

A. For an unintentional failure to pay prevailing wages, the Contractor will pay the difference or provide adequate security for the payment of the amounts required to be paid as prevailing wages to the affected workers.

B. For an intentional failure, the Contractor shall not be awarded any public contracts for three years, and the Contractor shall be liable to the Commonwealth for liquidated damages, in addition to damages for any other breach of the contract, in the amount of the underpayment of wages.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

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

SECTION 01 11 00

SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Name: STUDENT ACHIEVEMENT CENTER ROOF REPLACEMENT

B. Project Address: 145 Pavilion Lane, Youngwood, Pennsylvania 15697

C. Owner: Westmoreland County Community College

D. Westmoreland County Community College RFP Number 989

E. Engineer: The Contract Documents, dated March 27, 2023, were prepared by REI Engineers, Inc.

F. This work includes the provision of labor, material, equipment, supervision and administration to integrate the work outlined in these specifications into the total building system such that no leakage into the system occurs. In general, the scope of work in the Base Bid includes:

1. Roof Area A:

    a. Remove and dispose of the roof system including flashings and sheet metal down to the steel deck.
    b. Secure the steel deck to structural framing members as specified in Section 05 01 30 "Steel Roof Deck Repair and Securement".
    c. Remove, dispose of and provide five new half round barrel vault skylights and raise the existing curbs.
    d. Provide tapered roof insulation system and cover board as specified in Section 07 22 16 "Roof Insulation".
    e. Adhere a fleece back thermoset (EDPM) single ply membrane along with flashings and accessories as specified in Section 07 53 23 "Thermoset EPDM Roofing".
    f. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
    g. Provide a complete, watertight, 20-year warrantable roof assembly.

2. Roof Areas B, C, D and E:

    a. Remove and dispose of the existing areas of wet insulation and infill areas flush with surrounding roof surfaces.
    b. Remove and dispose of abandoned curbs, pipes and equipment supports indicated and repair the metal roof deck as specified in Section 05 01 30 "Steel Deck Repair and Securement.
    c. Remove and dispose of edge metal, striping plies, membrane flashing at curbs, penetrations, walls and dividers, prepare surfaces to receive new flashing.

d. Remove and dispose of the roof system at each drain to allow new tapered insulation sumps to be installed at each drain.
e. Provide new tapered insulation crickets between drains as idnetified in the drawings and specifiied in Section 07 22 16 "Roof Insulation"
f. Properly prepare the existing modified bitumen roof membrane cap sheet to receive new roof membrane.
g. Adhere a fleece back thermoset (EDPM) single ply membrane along with flashings and accessories as specified in Section 07 53 23 "Thermoset EPDM Roofing".
h. Replace sheet metal flashings and trim as specified in Section 07 62 00 "Sheet Metal Flashing and Trim".
i. Replace edge metal with manufactured edge metal as specified in Section 07 71 19 "Manufactured Gravel stops and Fascias"
j. Provide a complete, watertight, 20-year warrantable roof assembly.

3. On Roof Area D, remove the lightning protection/grounding system prior to commencement of roof replacement work. Upon completion of flashing and sheet metal installation, reinstall or provide parts, components or materials to meet UL requirements at the time of initial installation. Provide a "Letter of Findings" from UL.
4.

G. Asbestos Containing Roofing Materials (ACRM):

1. Sample Testing Results:

a. No Asbestos Containing Roofing Materials (ACRM) have been detected in test samples of roof areas included in Contract.

2. It is the intention of these specifications that no asbestos bearing materials be incorporated into the work. In the event the contractor determines unanticipated asbestos bearing materials present in the building components, stop work in the affected area, notify the Engineer and Owner, and provide temporary protection as required. Costs incurred due to the presence of hidden or unanticipated asbestos bearing materials will be authorized by Change Order to this contract.

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

I. General requirements and specific recommendations of the material manufacturers are included as part of these specifications. The manufacturers' specifications are the minimum standards required for the completed systems. Where specific items listed herein improve the standards required by the manufacturers, they take precedence where their compliance does not affect the manufacturers' guarantee or warranty provisions.

1.2 RELATED DOCUMENTS

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

1.3 CONTRACT

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

1.4 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 49-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use section numbers and titles to cross-reference Contract Documents. Sections in the Project Manual are in numeric sequence.; however, the sequence is incomplete. Consult the Table of Contents at the beginning of the Project Manual.

B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Interpret words and meanings as appropriate. Infer words implied, but not stated, as the sense requires. Interpret singular words as plural and plural words as singular where applicable as the context of the Contract Documents indicates.
2. Imperative mood and streamlined language are generally used in the Specifications. Perform requirements expressed in the imperative mood. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

END OF SECTION

SECTION 01 14 00

WORK RESTRICTIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

1.4 WORK SEQUENCE

A. Conduct work in the following sequences unless construction phases are otherwise specified.

1. Construct Work in phases to accommodate the Owner's use; if applicable, of the premises during the construction period; coordinate the construction schedule and operations with the Owner and Engineer.
2. Construct the Work in phases to provide for public convenience. Do not close off public use of facility until completion of one phase of construction provides alternative usage.
3. Schedule construction in such a manner that once work has commenced on one facility, the work force to remain at that facility continuously each workday through final completion at that facility.
4. Keep areas at the facility, except areas under construction, safely accessible to vehicles.
5. Perform Work in a way that does not restrict parking lots or other locations outside the work area from the facility.

1.5 WORK RESTRICTIONS

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

B. The project may not begin until May 15, 2023 and must be complete by October 25, 2023.

1.6 OCCUPANCY REQUIREMENTS

A. Owner Occupancy:

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

1.7 SECURITY

A. Restrict the access of persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the site of the work.

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

1.8 USE OF PREMISES

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

1. Limits: Confine constructions operations to areas of work being renovated as approved by Engineer and Owner.
2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles. Do not use these areas for parking or storage of materials.

    a. Schedule deliveries to minimize use of driveways and entrances.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

3. Move stored materials and equipment that interfere with operations of the Owner.
4. Protect surface improvements including pavements, curbs, sidewalks, lawn and landscaped areas, utilities, etc.
5. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to surface improvements resulting from, or attributable to, the work operation.

    a. Repair damaged concrete by replacing full sections of concrete between control/expansion joints.
    b. Fill ruts in grass areas and grade to original conditions. Provide grass seed and straw.
    c. Replace disturbed landscaping in mulched or natural areas.

B. Use of Building

1. Maintain building in a weathertight condition throughout construction period.

2. Take precaution against injuries to persons or damage to property.
3. Protect building, its contents, and its occupants during construction period.
4. Do not overload or permit the structure to be loaded with such weights that endanger its safety or to cause excessive deflection. Equally distribute materials placed on the roof.
5. Properly secure materials or equipment placed on roof to prevent blow off during wind events. Ensure materials or equipment on roof does not interfere with roof drainage.
6. Repair to the Owner and Engineer's satisfaction, or to restore to condition at the time of award of Contract, or to make restitution acceptable to the Owner, damages to the building and its contents resulting from, or attributable to, the work operation.
7. Indoor Air Quality:

    a. Coordinate with the facility personnel to identify the area where roof work is performed daily and what HVAC equipment and personnel in the building may be affected by the work.
    b. Work with facility personnel to prevent odors or fumes from entering the building or where found to not be practical due to the work area, HVAC equipment limitations or other reasons; coordinate with facility personnel to have occupants relocated to an area of the building not affected by the work.
    c. When possible to safely shut down and seal HVAC equipment; as determined by the facility personnel, coordinate with facility personnel to have mechanical units affected by the planned work area and air intakes properly closed and sealed. After closing of mechanical units and air intakes, cover units and intakes with 6-mil polyethylene sheeting taped secure. Remove polyethylene sheeting before coordinating restart of units and intakes.
    d. Provide box carriage fans on rooftop during roof application to move and circulate air away from intakes and units.
    e. Where HVAC equipment is required to remain operational during roof work, coordinate with facility personnel to cover air intakes with charcoal filters prior to beginning work.
    f. When starting roof work using materials which have odors or emit fumes, communicate with facility personnel within the building in the area of the work to determine if fumes or odors are being experienced. If fumes or odors are experienced, stop work until the cause is determined and remediated or occupants can be moved to an area not affected by the work.

C. Transportation Facilities

1. Truck and equipment access:

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

2. Contractor's vehicles:

a. Require contractor's vehicles, vehicles belonging to employees of the contractor, and other vehicles entering the Owner's property in performance of the work the contract, to use only the designated access route.

b. Do not permit such vehicles to park on street or other area of the Owner's property except in the designated area.

1.9 OWNER POLICIES

A. Tobacco Policy

1. The Owner has adopted a Tobacco Free Policy which applies to school property. This is a total ban on tobacco products including cigarettes, cigars, pipes, chewing tobacco, snuff, etc. Contractor is responsible for employee's actions while they are on school property. Failure to follow this policy constitutes a breach of contract and said contract may be terminated without penalty to the school system.

B. Weapons and Explosives Policy

1. Excluding law enforcement, persons are prohibited from possessing, carrying, using or threatening to use, or encouraging another person to possess, carry, use or threaten to use, weapons or explosives on school property or while attending curricular or extracurricular activities sponsored by the school. This policy applies to weapons or explosives carried openly or concealed. For purposes of this policy, a weapon includes, but is not limited to gun, rifle, pistol or other firearm; or BB gun, stun gun, air rifle, air pistol, bowie knife, dirk, dagger, slingshot, leaded cane, switchblade knife, blackjack, metallic knuckles, razors and razor blades (except solely for personal shaving), fireworks, or sharp-pointed or edged instrument except instructional supplies, unaltered nail files and clips and tools used solely for preparation of food, instruction and/or maintenance on educational property.

C. Conduct Policy

1. The conduct of contractor employees to be exemplary; profanity, drinking, lewd or suggestive comments or gestures or other acts of this nature are not tolerated.

1.10 CONTRACTOR CONDUCT

A. The possession and/or use of drugs and alcohol on district property are prohibited.

B. No improper language or fraternization by Contractor's employees with student and staff are prohibited.

C. Contract personnel required to wear long pants and sleeved shirts while on Owner's property.

END OF SECTION

SECTION 01 21 00

ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements governing allowances.

1.2 RELATED DOCUMENTS

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

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

1.3 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)
2. Square Yard (SY)
3. Cubic Foot (CF)
4. Board Foot (BF)
5. Linear Foot (LF)
6. Each (EA)
7. Tonnage (TON)

1.4 CONTINGENCY ALLOWANCE

A. Include the specified contingency allowance in the base bid.

B. Credit unused portion remaining at the completion of the contract back to the Owner.

C. The Owner reserves the right to modify the contingency allowance prior to award of Contract.

1.5 QUANTITY ALLOWANCES

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

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

A. Contingency Allowance:

1. Include a Ten thousand dollar ($10,000.00) contingency allowance in the base bid.

B. Quantity Allowances:

1. Repair 500 SF of Corroded Steel Deck (Corrosion Degree 1) with Coating. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
2. Repair 50 SF of Steel Deck (Corrosion Degree 2) with Steel Plates. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
3. Overlay 50 SF of Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
4. Replace 20 SF of Deteriorated Steel Deck (Corrosion Degree 4). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
5. Replace 3,500 BF of Wet or Deteriorated Existing Insulation. Refer to Section 07 22 16 "Roof Insulation".
6. Replace 250 BF of Deteriorated Wood Blocking. Refer to Section 06 10 00 "Rough Carpentry".
7. Replace 320 SF of Deteriorated Plywood. Refer to Section 06 10 00 "Rough Carpentry".
8. Provide 150 SF of Additional Manufacturer's Walk Pad Material. Refer to Section 07 53 23 "Thermoset EPDM Roofing".

END OF SECTION

SECTION 01 22 00

UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and procedural requirements for unit prices.

1.2 RELATED DOCUMENTS

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

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

1.3 DEFINITION

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

1.4 ABBREVIATIONS

A. Abbreviations for typical units of measurement:

1. Square Foot (SF)
2. Square Yard (SY)
3. Cubic Foot (CF)
4. Board Foot (BF)
5. Linear Foot (LF)
6. Each (EA)
7. Tonnage (TON)

1.5 UNIT PRICE MEASUREMENT

A. Prior to performing work under a unit price as specified herein, notify the Engineer to allow for measurement of the actual quantities of work. Work performed under these items without prior approval and measurement is at the Contractor's expense.

B. Maintain a daily log including visual documentation (i.e. digital photographs) showing dates, location and exact quantities of unit price work.

C. Owner and Engineer reserve the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent party.

1.6 UNIT PRICE PAYMENT

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

1.7 UNIT PRICE PERFORMANCE

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

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. Provide a unit price for:

1. Repair Corroded Steel Deck (Corrosion Degree 1) with Coating. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
2. Repair Steel Deck (Corrosion Degree 2) with Steel Plates. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
3. Overlay Deteriorated Steel Deck (Corrosion Degree 3) with Steel Deck. Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
4. Replace Deteriorated Steel Deck (Corrosion Degree 4). Unit of Measurement: Square Foot (SF). Refer to Section 05 01 30 "Steel Roof Deck Repair and Securement".
5. Replace Wet or Deteriorated Existing Insulation. Unit of Measurement: Board Foot (BF). Refer to Section 07 22 16 "Roof Insulation".
6. Replace Deteriorated Wood Blocking. Unit of Measurement: Board Foot (BF). Refer to Section 06 10 00 "Rough Carpentry".
7. Replace Deteriorated Plywood. Unit of Measurement: Square Foot (SF). Refer to Section 06 10 00 "Rough Carpentry".
8. Provide Additional Manufacturer's Walk Pad Material. Unit of Measurement: Linear Foot (LF). Refer to Section 07 53 23 "Thermoset EPDM Roofing".

END OF SECTION

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Substitutions: Requests for changes in products, materials, and equipment, of construction required by Contract Documents proposed by the Contractor are considered requests for "substitutions". The following are not considered substitutions:

1. Revisions to Contract Documents requested by the Owner or Engineer.
2. Specified options of products and construction methods included in Contract Documents.
3. Determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 SUBMITTALS

A. Submit requests for acceptance of equivalent items in writing to the Engineer during the submittal process. No substitutions considered after acceptance of project submittals. Refer to Section 01 33 00 "Submittal Requirements".

B. Substitutions after award are considered solely for convenience and approved by Change Order in form of credit to the Owner. Bear additional costs related to making the substituted material or system work including additional engineering, material or system modifications, and time considerations relating to material or system installation requirements.

C. Provide information sufficient for the Engineer to make a determination of equivalent items. Engineer's determination of the equivalency of a product is final. The Engineer reserves the right to request information or documentation for evaluation including but not limited to the following:

1. Provide a letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturer's specifications.
2. A written explanation of why substitutions should be considered is required.
3. Statement indicating why specified product cannot be provided.

4. Coordination of information, including a list of modifications needed to other parts of the work necessary to accommodate proposed substitution.
5. Product data including drawings, descriptions, and fabrication/installation procedures.
6. Samples where applicable.
7. Material test reports from a qualified testing agency indicating the interpreting test results for compliance with requirements.
8. Contractor's certification that proposed substitution complies with requirements in the contract documents and is appropriate for applications indicated.
9. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
10. If requesting product substitution after bid award, provide cost information including proposal of change in the contract sum.

END OF SECTION

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: A detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time will be issued by the Engineer along with supplemental or revised Drawings and Specifications.

1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
2. Within 5 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Division 1 if the proposed change requires substitution of one product or system for product or system specified.

C. Proposal Request Approval:

1. If sufficient contingency allowance funds remain, written approval will be provided by the Engineer in the form of an Allowance Authorization signed by the Engineer, Contractor and Owner.
2. If contingency allowance funds are not available; upon Owner's approval, written approval will be provided by the Engineer in the form of a Change Order as provided in the Conditions of the Contract.

    a. Form of Change Order: AIA Document G701 or Owner or Engineer Standard Form submitted by the Engineer signed by the Contractor and Owner.
    b. Do not commence work or purchase materials for such change orders until written approval is received from the Owner in the form of an executed Allowance Authorization or Change Order.
    c. An executed Change Order is the only legal document which can change the Contract Sum or Time.

1.4 SUPPLEMENTAL INSTRUCTIONS

A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Engineer on AIA G710 - Architect's Supplemental Instructions or Engineer's Supplemental Instructions form.

1.5 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: When the Owner and Contractor are not in total agreement on the terms of a Proposal Request; the Engineer may issue a Construction Change Directive on AIA G714 or Engineer's Standard Form, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. The Construction Change Directive will contain a description of the change in the Work and designate the method followed to determine the change in the Contract Sum or Contract Time.
2. Submit unit costs, equipment rates and labor rates as requested by the Engineer and agree upon submitted rates before the work progresses unless the Contractor is directed to proceed in the absences of an agreement or in an emergency.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive. Provide a copy of those records the Engineer.

1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

END OF SECTION

SECTION 01 29 00

PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

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

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Application for Payment Cover on AIA G702.

C. Schedule of Values: A schedule of values on AIA G703 Continuation Sheet consisting of a detailed breakdown of the Contract amount showing separate figures for labor and materials. The work listed under the various sections and subsections of the Specifications serve as the format for preparation.

1.5 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Submittals.

1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:

   a. Application for Payment Forms with Continuation Sheets
   b. Submittals Schedule
   c. Contractor's Construction Schedule

2. Submit the Schedule of Values to Engineer along with Submittals.
3. Sub schedules: Where the Work is separated into phases requiring separately phased payments, provide sub schedules showing values correlated with each phase of payment.

B. Format and Content: Provide one line item for labor and one line item for material for each Specification Section.

1. Identification: Include the following Project identification on the Schedule of Values:

   a. Application for Payment Number.
   b. Application for Payment Date.
   c. Engineer's project number.
   d. Period to for Schedule of Values.

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

1.6 APPLICATION FOR PAYMENT

A. Submit one electronic pdf of the application for payment on AIA Document G702 and G703, current editions.

1. Indicate the date for each progress payment. The period of Work covered by each application is the period indicated in the Agreement
2. Provide on original AIA forms.
3. Complete, notarize and execute each Application for Payment by a person authorized to legally sign documents.
4. Show breakdown of the work with separate labor and material amounts on Document G703 in accordance with the accepted Schedule of Values.
5. Make each application consistent with previous applications and payments as certified by Engineer and paid for by Owner.

6. Engineer will return incomplete applications without action.

B. Payment Terms:

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

C. Retainage:

1. To ensure the proper performance of this Contract the Owner shall retain 5% of the amount of each estimate.

D. Match data of entries on the schedule of values and construction schedule. Include amounts of change orders issued before last day of construction period covered by the application.

E. The Engineer reserves the right to contact material manufacturers directly, without contractor consent, to verify material invoices. Make material invoices available to the Engineer upon his request from the contractor or material manufacturer.

F. When requesting payment for materials stored on site, submit with request an invoice for the materials and a certificate of insurance showing proof of coverage for the materials stored on site. Payment will be made only for stored materials. No payment will be made for anticipated overhead and/or profit.

G. Prior to initial application for payment, include the following items with submittals:

1. List of subcontractors
2. Schedule of values

H. With each application for payment, also submit the following:

1. Unit Price Daily Logs: Submit copies of unit price daily logs and appropriate change order forms with each application for payment unless no unit price work was accomplished during the period covered by the application.
2. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
3. AIA Document G706A, Contractor's Affidavit of Release of Liens

I. At substantial completion, submit an application for payment showing 100% completion for portion of the work claimed as substantially complete. Include documentation supporting claim that the work is substantially complete.

J. At final completion, submit final application for payment with releases and supporting documentation not previously submitted and accepted, including but not limited to the following. Final payment not due until required documents have been submitted.

1. Project Closeout Submittals
2. AIA Document G706, Contractor's Affidavit of Payment of Debts and Claims
3. AIA Document G706A, Contractor's Affidavit of Release of Liens
4. [AIA Document G707,]Consent of Surety to Final Payment

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

a. Project Schedule
b. General project coordination procedures.
c. Coordination.
d. Administrative and supervisory personnel
e. Project meetings

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Emergency contact list: Key personnel including home, office and mobile numbers, for the following:

1. Owner
2. Contractor
3. Subcontractor(s)
4. Engineer

C. Work schedule:

1. Indicate start date, crew size, production rate, completion date, etc.

1.4 COORDINATION

A. Coordinate construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Coordinate its operations with those included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.

2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Contact Progress Reporting: Coordinate the scheduling and sequence of operations with the Owner and Engineer.

C. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

D. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

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

1.5 PROJECT MEETINGS

A. Pre-Construction Meeting

1. A Pre-Construction Meeting will be scheduled as soon as possible after the award of the contract. The Engineer's Representative will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
2. Attendance: Project Manager, Job Superintendent and Job Foreman, Owner, Engineer's Representative, manufacturer's representatives, installers of related work and other persons concerned with the installation and performance.

a. Provide 3 telephone numbers to contact the Contractor or his authorized representative in the event of an emergency after normal business hours.

3. Minimum Agenda: Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and the Project Manager; channels and procedures for communication; construction schedule, including sequence of critical work; contract documents, including distribution of required copies of Drawings and revisions; processing of Shop Drawings and other data submitted to the Project Manager for review; rules and regulations governing performance of the work and procedures for safety, first aid, security, quality control, housekeeping and related matters.

B. Progress Meetings:

1. Attend monthly progress meetings for the purpose of informing the Owner and the Engineer regarding the status of the project. The Engineer will compile minutes of the meeting and will furnish a copy of the minutes to each person present.
2. Attendance: Owner, Engineer, Contractor, Job Superintendent, material Supplier, and Subcontractors, as appropriate. Provide an updated job progress schedule at each weekly meeting. Be thoroughly familiar with the status of the project and be prepared to discuss and act upon situations that arise. The time, date and location of these meetings will be established during pre-construction conference.
3. Minimum Agenda: Review of work progress; field observations, problems, and decisions; identification of problems which impede planned progress; maintenance of progress schedule; corrective measures to regain projected schedules; planned progress during succeeding work period; coordination of projected progress; maintenance of quality and work standards; processing of field decisions and Change Orders; effect of proposed changes on progress, schedule, and coordination; other business relating to work.

C. Substantial Completion Inspection Meeting

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

D. Final Inspection Meeting

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

END OF SECTION

SECTION 01 33 00

SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTAL PROCEDURE

A. General: The Contractor is responsible for providing the submittals to the Engineer. Each submittal is required to be accepted in writing prior to commencement of work.

B. Submission Requirements:

1. Submit required submittals electronically in pdf format to the Engineer for review. The submittals will then be returned electronically to the Contractor with comments. Final submittals require written responses to submittal comments.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as specified below, commencing on Engineer's receipt of submittal.

1. Initial Review: Allow 7 work days for initial review of submittals.
2. Allow 7 work days for processing each resubmittal.
3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.

D. Identification:

1. Submit as one pdf file with bookmarks for each scheduled item.

E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals and provide letter describing in detail proposed changes, substitutions, or deviations from the project or manufacturer's specifications. Include a written explanation of why substitutions should be considered under the appropriate tab.

F. Transmittal: Package submittals appropriately for transmittal. Engineer will discard submittals received from sources other than Contractor. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.

G. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.

1.4 SCHEDULE OF SUBMITTALS

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

B. Submit the following submittal items electronically with a title page and/or pdf bookmark for each submittal item to meet the requirements specified herein:

1. Owner/Contractor Agreement:
    a. Copy of Executed Owner/Contractor Agreement
    b. Copy of Contractor's Certificate of Insurance
    c. Copy of Performance and Payment Bonds
        1) Section 00 61 13.13 "Performance Bond Form"
        2) Section 00 61 13.16 "Payment Bond Form"
2. Section 00 73 43.01 "Wage Rate Requirements for the State of Pennsylvania"
3. Section 01 25 00 "Substitution Procedures"
4. Section 01 29 00 "Payment Procedures"
5. Section 01 31 00 "Project Management and Coordination"
6. Section 01 40 00 "Quality Requirements"
7. Section 01 73 00 "Execution Requirements"
8. Section 01 77 00 "Closeout Procedures"
9. Section 05 01 30 "Steel Roof Deck Repair and Securement"
10. Section 06 10 00 "Rough Carpentry"
11. Section 07 01 50 "Preparation for Reroofing"
12. Section 07 22 16 "Roof Insulation"
13. Section 07 53 23 "Thermoset EPDM Roofing"
14. Section 07 62 00 "Sheet Metal Flashing and Trim"
15. Section 07 71 19 "Manufactured Gravel Stops and Fascias"
16. Section 08 62 00 "Unit Skylights"
17. Shop Drawings: Shop drawings or letter stating installation of materials as detailed in the Contract Drawings unless properly authorized by the Engineer.
18. Existing Damage Documentation: Existing damaged/dysfunctional components documentation (videotape, photos, etc.) including but not limited to asphalt spills, windows, walls, sidewalks, paving, ceilings, etc. Lack of submission prior to commencement of work indicates no existing damaged components and Contractor takes responsibility for damages caused by operations.
19. Physical color samples as specified in the applicable specification section.

PART 2 - PRODUCTS

2.1 SUBMITTALS

A. General: Prepare and submit Submittals required herein and by individual Specification Sections.

B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information is specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's written recommendations.
    b. Manufacturer's product specifications.
    c. Manufacturer's installation instructions.
    d. Manufacturer's catalog cuts.
    e. Wiring diagrams showing factory-installed wiring.
    f. Printed performance curves.
    g. Operational range diagrams.
    h. Compliance with recognized trade association standards.
    i. Compliance with recognized testing agency standards.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Include the following information, as applicable:

    a. Dimensions.
    b. Identification of products.
    c. Fabrication and installation drawings.
    d. Roughing-in and setting diagrams.
    e. Shopwork manufacturing instructions.
    f. Templates and patterns.
    g. Schedules.
    h. Notation of coordination requirements.
    i. Notation of dimensions established by field measurement.

2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.

D. Samples: Prepare physical units of materials or products, including the following:

1. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show range of color and texture variations expected. Samples include, but are not limited to, partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
2. Submit three sets of Samples. Engineer will retain two Sample sets; remainder will be returned.
3. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineer's sample where so indicated. Attach label on unexposed side.

4. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and component as delivered and installed.
5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity and used to determine final acceptance of construction associated with each set.

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.

F. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.

G. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.

H. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.

I. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

J. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.

K. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.

L. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software used for calculations. Include page numbers.

M. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer.

N. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, and term of the coverage.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

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

3.2 ENGINEER'S ACTION

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

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

END OF SECTION

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.

B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.

C. Authority Having Jurisdiction: AHJ

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Permit: Provide copy of construction permits along with required licenses or certifications required by the AHJ.

C. Manufacturer Report Release: Provide copy of request from Contractor to Manufacturer requesting REI Engineers be added to the manufacturer's report distribution list.

1.5 QUALITY ASSURANCE

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

B. Solely responsible for supervising and directing the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise necessary to perform the Work in accordance with the Contract. Solely responsible for the means, methods, techniques, sequences and procedures of construction and for coordinating portions of the Work under the Contract, except where otherwise specified in the Contract Documents. Solely responsible to the Owner that the finished Work complies with the Contract Documents.

C. It is the intent under this contract that workmanship be of the best quality consistent with the materials and construction methods specified. The presence or absence of the Owner's or Engineer's representative in no way relieves the Contractor of his responsibility to furnish materials and construction in compliance with the drawings and specifications. The Owner and Engineer have the authority to judge the quality and require replacement of unacceptable work or personnel.

D. Cooperate in the execution of work and plan work in such manners as to avoid conflicting schedules or delay of work. If the work depends upon the work of another Contractor, report defects affecting the work to the Engineer. Commencement of work where such condition exists constitute acceptance of the other Contractor's work as being satisfactory to receive the work commenced. Coordinate work of trades under this contract in such a manner to obtain the best possible workmanship for the project. Install components of the work in accordance with the best practices of the particular trade. Notify the Owner sufficiently in advance of operations to allow for assignment of personnel.

E. Solely responsible for health and safety precautions and programs for workers and others in connection with the Work. No inspection by, knowledge on the part of, or acquiescence by the Engineer, the Owner, the Owner's employees and agents, or other entity whatever relieves the Contractor from its sole responsibility for compliance with the requirements of the Contract or its sole responsibility for health and safety programs and precautions.

F. Materials or methods described by words which, when applied, have a well-known technical or trade meaning are held to refer to such recognized standard. Standard specifications or manufacturer's literature, when referenced, are of the latest revision or printing unless otherwise stated, and are intended to establish the minimum requirements acceptable.

G. Provide new materials unless otherwise indicated.

H. Provide workmanship in accordance with the best modern practice.

I. When special makes or grades of material which are normally packaged by the supplier or manufacturer are specified or accepted, deliver materials to the site in original packages or containers with seals unbroken and labels intact and do not open until reviewed and accepted by the Engineer. Notify the Engineer prior to such material's delivery.

J. Verify dimensions and conditions at the site prior to starting work and notify the Engineer immediately of any errors or inconsistencies.

K. Maintain one set of the contract documents and accepted submittals at the job site.

L. Correct deficiencies identified by Engineer and non-conforming work within 24 hours of receipt of notification, either verbally or written, and submit a plan of action for addressing the deficiencies and non-conforming work. Do not proceed with further tear-off or commencement of other work until deficiencies and non-conforming work are properly addressed.

M. Control of Installation

1. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce work of specified quality.
2. Comply with manufacturers' instructions, including each step in the sequence
3. Request clarification from Engineer before proceeding in the event manufacturers' instructions conflict with Contract Documents.
4. Comply with specified standards as the minimum quality for the Work, except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
5. Only allow Work performed by person qualified to produce workmanship of specified quality.
6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

N. Tolerances:

1. Monitor tolerance control of installed products to produce acceptable work. Do not permit tolerances to accumulate.
2. Comply with manufacturers' tolerances. Request clarification from Engineer in the event manufacturers' tolerances conflict with Contract Documents.
3. Adjust products to appropriate dimensions; position before securing products in place.

O. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

1. Maintain applicable federal, state and municipal licenses.
2. Be certified in writing for a minimum of two years by the roofing materials manufacturer to install the primary roofing products.
3. Have a minimum of five (5) years' experience in installing the same or similar materials specified under the same firm name as that submitting the bid. If requested, submit a copy of firm's Articles of Incorporation to verify years in business. Crew workers on site are experienced and have a working knowledge of the system being installed.
4. Principals of the firm to have a minimum of ten (10) years' experience in the estimating, supervision, management and administration of a contracting firm engaged in work similar to work as specified.
5. Licensed by state work is occurring in for the type and dollar amount of work contemplated by these Contract Documents.
6. Never filed bankruptcy or filed for protection from creditors.

7. During the construction and completion of work covered by these Specifications, if the conduct of workers of the various crafts is determined unsuitable or a nuisance to the Owner or Engineer, or if the workman is considered incompetent or detrimental to the work, order such party removed from the grounds with the person not returning during the course of work on the project.
8. Superintendent: During the performance of work by the Contractor or subcontractors, provide a full-time onsite superintendent/representative meeting the following requirements:

    a. For the purpose of these Specifications the designation "superintendent" is hereby defined as the individual present on the job site while work is being performed, and whose primary responsibility is to supervise and direct the performance of the Work.
    b. Be in attendance at the project site during the progress of the work and duties as superintendent limited to this project only. Supervise and instruct workmen without engaging in the work process.

        1) If superintendent is absent temporarily from the project, designate a competent foreman to assume duties. During the superintendent's absence, foreman cannot engage in the work process; supervise and instruct only. Likewise, communications given to the foreman are binding as if given to the Contractor.

    c. Communicate matters pertaining to the Work with the Owner and Engineer. Do not make decisions regarding changes in the Work without the Owner and Engineer's knowledge.
    d. Decision making authority and ability.
    e. Able to demonstrate knowledge of work being installed.
    f. Fluent in the English language (i.e. reading, writing and speaking).
    g. In possession of mobile telephone.
    h. Employed by the Contractor at least six months prior to project commencement.
    i. Owner approval and Engineer acceptance.
    j. Once approved, do not change the superintendent except with the consent of the Owner unless he proves unsatisfactory to the Owner or Contractor or is no longer employed.
    k. Minimum of five (5) years continuous experience as a job superintendent.

9. No later than ten days prior to the pre-construction conference, provide the Owner, in writing, the names of the proposed project manager, superintendent, and foreman for approval. If he so determines, the Owner, without giving cause, may request an additional name, or names, be submitted for approval. The Owner will notify the Contractor of his acceptance at least 48 hours prior to the pre-construction conference.

1.6 QUALITY CONTROL

A. The authorized representatives and agents of Owner permitted to inspect work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

B. Contractor's Responsibilities:

1. Repair and protection of work and materials.
2. Replace work or materials not conforming with requirements of the Specifications or damaged during the progress of the work before completion and acceptance of the project.
3. Coordinate documents with manufacturer and perform such testing, reporting, and communication incidental to provisions of the warranty procedures.
4. Inclement Weather

    a. In the event of temporary suspension of work during inclement weather, or whenever the Engineer recommends, protect carefully its work and materials against damage or injury from weather. If work or materials have been damaged by reason of failure to protect the work, replace such materials.
    b. During inclement weather and temporary suspension of work, inspect the facility no later than 9:00 AM each day for leaks and perform temporary repairs if necessary. Make inspections daily during extended periods of inclement weather. Upon arrival at the facility, inform the Owner of his presence and purpose.
    c. If inspection of the facility does not occur by 9:00 AM on days of inclement weather and there is one or more leaks attributable to the Work, at 9:15 AM the Owner can exercise his right to contact an outside contractor to perform temporary repairs as necessary to prevent damage to the building, its contents and to minimize disruption. Reimburse the outside contractor an equitable amount as determined solely by the outside contractor. If the Contractor arrives at the project site after the outside contractor has been contacted, but before temporary repairs are made, reimburse the amount contractor the fixed amount of $500.00, each occasion, for mobilization and/or travel expenses.
    d. In the event inclement weather occurs after normal business hours, Saturday, Sunday or holidays, make arrangements with the Owner to provide access to the building to inspect for leaks. Compensate Owner for providing personnel for the service on an hourly rate basis as determined solely by the Owner.

C. Manufacturer's Field Services: During construction and until substantial completion, perform quality assurance site visits monthly by manufacturer's technical representative to ensure materials are being properly installed and as required to obtain the specified warranty.

1. The first site visit performed within the first three (3) days of operations.
2. Coordinate site visits with Engineer. Submit reports of findings within one week of inspection. Payment applications will be rejected until applicable reports are received.

    a. If required by manufacturer, Contractor shall request REI Engineers be added to the report distribution list.

3. Inspections to be performed by an employee of the selected manufacturer that is assigned full time to their technical services department. Sales personnel are not acceptable for this function and may result in rejection of the work installed that does not fulfill this requirement.

4. Manufacturer's final inspections performed only with REI personnel in attendance. A minimum of seven days' written notice is required. Manufacturer's final inspection conducted without REI personnel in attendance will be repeated at no additional cost to the Owner.
5. Violation of these requirements results in the removal of that manufacturer for a period of not less than one year from the Engineer's accepted materials list.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION

SECTION 01 42 00

REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Requirements relating to Referenced Standards.
2. Building Code

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Engineer. Other terms including "requested," "authorized," "selected," "approved," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

H. "Provide": Furnish and install, finished and ready for the intended use.

I. "Installer": Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.

1. Using the term "carpentry" does not imply that certain construction activities are required to be performed by accredited or unionized individuals of a corresponding generic name like "carpenter." It also does not imply that requirements specified apply exclusively to trades people of the corresponding generic name.

J. "Experienced": When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

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

1.4 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.

C. Conflicting Requirements: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

1. Minimum Quantity or Quality Levels: Meet minimum quantity or quality level shown or specified. Comply with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.5 REFERENCED CODES

A. Building Code in effect at time of project design unless otherwise indicated in project manual.

1. 2018 International Building Code with Pennsylvania Amendments

B. Energy Conservation Code and ASHRAE 90.1 Energy Standard for Buildings in effect at time of project design unless otherwise indicated in project manual.

1. 2018 International **Energy Conservation** Code with Pennsylvania Amendments
2. ASHRAE 90.1, edition referenced by Building Code referenced above in effect at time of project design.

1.6 ABBREVIATIONS AND ACRONYMS

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

B. Federal Governmental Agencies and Standards:

1. ADA, Accessibility Guidelines for Buildings and Facilities, www.access-board.gov
2. CFR, Code of Federal Regulations, www.ecfr.gov
3. CPSC, Consumer Product Safety Commission, www.cpsc.gov
4. EPA, Environmental Protection Agency, www.epa.gov
5. FS, Federal Specification, www.gsa.gov
6. NIBS, National Institute of Building Sciences, www.nibs.org
7. OSHA, Occupational Safety & Health Administration, www.osha.gov
8. USDA, US Department of Agriculture

C. Local Governmental Agencies and Standards:

1. State Department of Transportation

D. Code Agencies:

1. IAPMO, International Association of Plumbing and Mechanical Officials
2. ICC, International Code Council, www.iccsafe.org

E. Industry Organizations:

1. AA, The Aluminum Association, Inc., www.aluminum.org
2. AAMA, American Architectural Manufacturer's Association
3. AASHTO, American Association of State Highway and Transportation Officials
4. AATCC, American Association of Textile Chemists and Colorists
5. ACI, American Concrete Institute/ACI International, www.concrete.org
6. AGC, The Associated General Contractors of America, www.agc.org
7. AI, Asphalt Institute, www.asphaltinstitute.org
8. AIA, The American Institute of Architects, www.aia.org
9. AISC, American Institute of Steel Construction, www.aisc.org
10. AISI, American Iron and Steel Institute, www.steel.org
11. ALSC, American Lumber Standard Committee, www.alsc.org
12. ANLA, American Nursery & Landscape Association, www.anla.org
13. ANSI, American National Standards Institute, www.ansi.org
14. APA, The Engineered Wood Association, www.apawood.org
15. APA, Architectural Precast Association, www.archprecast.org
16. ARMA, Asphalt Roofing Manufacturers Association
17. ASCE, American Society of Civil Engineers, www.asce.org
18. ASHRAE, American Society of Heating, Refrigerating & Air-Conditioning Engineers, www.ashrae.org
19. ASME International, The American Society of Mechanical Engineers International, www.asme.org
20. ASTM, ASTM International, www.astm.org
21. AWPA, American Wood-Preservers' Association, www.awpa.com

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

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 USE CHARGES

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

1.4 QUALITY ASSURANCE

A. Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.

B. Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

C. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

D. Develop and supervise an overall fire-prevention and first-aid fire-protection program for personnel at Project site. Review needs with local fire department and establish procedures. Instruct personnel in methods and procedures. Post warnings and information.

PART 2 - PRODUCTS

2.1 MATERIALS

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

B. Fencing:

1. Portable Chain-Link Fencing: Minimum 2-inch 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet high with galvanized steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- OD top and bottom rails. Provide non-permanent bases for support.

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

D. Water: Potable.

E. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material with a self-contained or standalone exterior handwashing station.

F. Electrical Outlets: Properly configured, NEMA-polarized outlets to prevent insertion of 110 to 120-V plugs into higher-voltage outlets; equipped with ground-fault circuit interrupters, reset button, and pilot light.

G. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.

1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure and the requirements of the local Governing agency.

PART 3 - EXECUTION

3.1 TEMPORARY UTILITIES

A. Water Service:

1. Water for construction purposes is available from the Owner at no charge.

a. Operate exterior hose bids only with properly fitted handles. Remove at the end of each workday. Repair damage to hose bids or hose bib stems. Do not operate hose bibs with pliers.

B. Electrical Power Service: Provide portable generators for electrical power requirements.

C. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths do reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.

3.2 CONSTRUCTION FACILITIES

A. Temporary construction facilities include the following:

1. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities. Located facilities at sites approved by Owner. Access inside the facility is not available.

    a. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
    b. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
    c. Wash Facilities: Provide adequate hand washing stations.
    d. Drinking-Water Facilities: Provide bottled-water, drinking-water units.

2. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations at a location approved by the Owner. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Use of Owner's waste disposal facilities is not acceptable.

    a. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material.
    b. Comply with Section 01 74 00 "Cleaning and Waste Management" for progress cleaning requirements.

3.3 TEMPORARY BARRIERS AND ENCLOSURES

A. Provide temporary barriers and enclosures for protection from exposure, foul weather, construction operations and other activities. Protect buildings and grounds from damages during construction.

B. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.

C. Provide chain link fencing with lockable gates and green mesh to enclose the materials storage and staging area.

D. Protection of adjacent roof areas: Provide protection to adjacent roof systems in the form of 3/4 inch CDX plywood over 1.5 inch rigid insulation with warning flags on both sides. Limit foot and equipment traffic to protected walkways.

3.4 PROTECTION FACILITIES INSTALLATION

A. Provide environmental protection by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

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

3.5 CRANES, HOISTS AND LIFTING

A. Where cranes and other lifting equipment are required, develop and maintain a plan to execute the work in a safe manner including the following items at a minimum:

1. Erection, climbing and dismantling process
2. Inspection process for equipment and rigging
3. Exclusion zones
4. Maintenance processes
5. Identification of Qualified/Competent persons
6. Lifting plan
7. Process for identifying and working around aerial hazards
8. Signalmen communication
9. Working around energized lines
10. Ground conditions and underground hazards

B. Ensure that cranes and lifting equipment are certified for use by a Qualified/Competent person prior to first use and annually (at a minimum).

C. Ensure that cranes and lifting equipment are inspected as required by a third party Qualified/Competent person.

D. Do not operate or travel lifts over curbs or sidewalks. Where necessary to travel equipment over curbs or sidewalks, provide adequate protection to prevent damage.

3.6 TEMPORARY CONTROLS

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

3.7 PROJECT SIGNAGE

A. Provide temporary signs to provide information to building occupants directing them away from construction operations.

B. Provide signage inside adjacent buildings alerting occupants of the Work Area.

3.8 VEHICULAR ACCESS AND PARKING

A. Parking for vehicles available only in the approved Set-up and Staging area. No other vehicle parking on site is allowed.

B. Owner Personnel vehicles will be removed from the construction area prior to the start of construction.

3.9 TRAFFIC CONTROLS

A. Obtain and erect street/parking lot signage as necessary to divert traffic away from staging areas, work area, etc. Coordinate signage requirements with the Owner and Engineer.

B. Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.

END OF SECTION

SECTION 01 73 00

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General procedural requirements governing execution of the Work.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Safety Data Sheets (SDS):

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Material storage area designated by the Owner at the Pre-Bid and Pre-Construction Meetings and/or indicated in Contract Drawings.

1. Store materials as required by the manufacturer and indicated in their installation instructions.
2. Store materials as required by their respective specification section.
3. Properly secure materials to resist wind events.

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

C. Delivery, scheduling, loading/off loading, storing and protecting of the materials and equipment is the responsibility of the Contractor. The Owner will not be responsible for delivery, scheduling, loading, off loading, storing or protecting materials or equipment.

D. Hazardous Materials:

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions:

1. The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of construction affecting the Work.

B. Existing Utilities:

1. The existence and location of utilities and construction indicated as existing are not guaranteed.
2. Before construction, verify the location and points of connection of utility services.
3. Before beginning work, investigate and verify the existence and location of utilities and other construction affecting the Work.

C. Acceptance of Conditions:

1. Examine areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
2. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

    a. Description of the Work.
    b. List of detrimental conditions.
    c. List of unacceptable installation tolerances.
    d. Recommended corrections.

3. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

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

B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

C. Review of Contract Documents and Field Conditions: Upon discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

3.3 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

B. Install products at the time and under conditions that ensure the best possible results. Maintain conditions required for product performance until Final Acceptance.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

D. Tools and Equipment:

1. Do not use tools or equipment that produces harmful noise levels.
2. Restrict use of noisemaking tools and equipment to hours that minimize complaints from persons or firms near Project Site.

3.4 STARTING AND ADJUSTING

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

3.5 PROTECTION OF INSTALLED CONSTRUCTION

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

3.6 CORRECTION OF THE WORK

A. Restore permanent facilities used during construction to their specified condition.

B. Replace components that are not up to specification standards.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

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

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

A. Engineer's Acceptance: Obtain acceptance of cutting and patching before cutting and patching. Acceptance does not waive right to later require replacement of unsatisfactory work.

B. Structural Elements: Do not cut and patch structural elements in a manner that changes their load-carrying capacity or load-deflection ratio. Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations sealed by a licensed Engineer in the state of the project showing integration of reinforcement with original structure.

C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.

D. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that change their load-carrying capacity that results in reducing their capacity to perform as intended, or that result in increased maintenance or decreased operational life or safety.

E. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that, in the Engineer's opinion, reduces the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

F. Cutting and Patching Conference: If extensive cutting and patching is required, before proceeding, meet at Project site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.5 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces and conditions under which cutting and patching are performed.

1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are removed, relocated, or abandoned, bypass such services before cutting to minimize interruption of services to occupied areas.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete or Masonry: Cut using an abrasive saw or a diamond-core drill.
4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
5. Proceed with patching after construction operations requiring cutting are complete.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that eliminate evidence of patching and refinishing.
3. Floors and Walls: Where walls or partitions that are removed extend from one finished area into another, patch and repair floor and wall surfaces. Provide an even surface of uniform finish, color, texture, and appearance. Replace floor and wall coverings, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over unbroken surface containing the patch to the nearest joint or delineation between materials. Provide additional coats until patch blends with adjacent surfaces.

4. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weather tight condition.
5. Ceilings: Patch, repair, or re-hang existing ceilings as necessary to provide an even-plane surface of uniform appearance.

D. Renovation Project Procedures

1. Materials: As specified in technical sections, match existing products and Work.
2. Employ skilled and experienced installer to perform cutting and patching.
3. Remove, cut and patch materials in a manner to minimize damage and to provide a means of restoring products and finishes to original condition.
4. Refinish existing visible surfaces to remain in renovated rooms and spaces, to renewed condition for each material, with a neat transition to adjacent finishes.
5. Where work abuts or aligns with existing construction, provide a smooth and even transition. Patch work to match existing adjacent work in texture and appearance.
6. When a smooth transition with Work is not possible, submit recommendation to Engineer for review. Terminate existing surface along a straight line at a natural line of division when possible.
7. Patch or replace portions of surfaces, which are damaged, lifted, discolored or showing other imperfections.
8. Finish surfaces as specified in individual Product sessions.
9. Cutting and patching completed in a manner such that the patched surfaces are compatible with the surfaces in which the repairs were made, both structurally and aesthetically as deemed appropriate by the Project Engineer.

E. Restoration: Restore existing work, including concealed work not indicated or specified to be modified, and which is damaged or otherwise affected by construction operations, to a condition which existed before the work was commenced. Use workers skilled in reconstruction and alteration work where construction adjoins, connects to, or abuts existing work. Join Work in such a manner as to make the joining as inconspicuous as possible. Obvious patching of damaged Work is not acceptable. At the completion, ensure that the buildings and grounds are in first-class condition within the intent of these specifications, with parts well joined as required, connections completed, and facilities in working condition.

3.4 CLEANING

A. Clean areas and spaces where cutting and patching is performed where required for construction or used as access.

B. Remove paint, mortar, oils, putty and similar materials.

C. Leave work in an acceptable completed condition.

END OF SECTION

SECTION 01 74 00

CLEANING AND WASTE MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Administrative and Procedural requirements for progress cleaning and construction waste management.

1.2 RELATED DOCUMENTS

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

1.3 DEFINITIONS

A. Waste: Material that has reached the end of its intended use. Waste includes salvageable, returnable, recyclable and reusable material.

B. Construction waste: Solid wastes including, but not limited to, building materials, packaging materials, debris and trash resulting from construction operations.

C. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others.

D. Hazardous waste: Material or byproduct of construction that is regulated by the Environmental Protection Agency and cannot be disposed in a landfill or other waste end-source without adherence to applicable laws.

E. Trash: Product or material unable to be returned, reused, recycled or salvaged.

F. Landfill: Public or private business involved in the practice of trash disposal.

G. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site.

1.4 CLOSEOUT SUBMITTALS

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

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials in a legal manner.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

B. Site:

1. Maintain Project site free of waste materials and debris.
2. Keep site free of nails, screws, fasteners and scrap metal. Utilize magnets as necessary to sweep parking lots, driveways and sidewalks. Responsible for repair or replacement of punctured tires of site occupants.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust impairs proper execution of the Work, broom-clean or vacuum the work area, as appropriate.
3. If necessary, have a heavy-duty vacuum on site to remove small, loose debris from work area.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and do not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Final Acceptance.

G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. remove paint, mortar, oils, putty, and similar materials. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

H. Waste Disposal: Burying or burning waste materials on-site is not permitted. Washing waste materials down sewers or into waterways is not permitted.

I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Final Acceptance.

J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

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

3.2 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials to accumulate on-site.
2. Remove and transport debris in a manner that prevents spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

C. Disposal: Remove waste materials from Owner's property and legally dispose of them.

D. Separate, store and dispose of hazardous wastes in accordance with local and EPA regulations and additional criteria listed below:

1. Do not incinerate building products manufactured with PVC or containing chlorinated compounds.
2. Disposal of fluorescent tubes to open containers is not permitted.
3. Do not co-mingle unused fertilizers with construction waste.

3.3 FINAL CLEANING

A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Final Acceptance.
2. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including, waste material, litter, and other foreign substances.
3. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
4. Remove tools, construction equipment, machinery, and surplus material from Project site. Properly dispose of unwanted surplus material.
5. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
6. Remove debris and surface dust from roofs and walls.
7. Clean transparent materials and glass in windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
8. Remove labels that are not permanent.
9. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
10. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess foreign substances.
11. Replace parts subject to unusual operating conditions.
12. Leave Project clean and ready for occupancy.

C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

   a. Inspection Procedures.
   b. Project Record Documents.
   c. Warranties.

1.2 RELATED DOCUMENTS

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

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

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

1.4 SUBSTANTIAL COMPLETION

A. Submit written certification to the Engineer that the Project is substantially complete along with the following:

1. Prepare a list of items to be completed and corrected (Contractor's punch list), the value of items on the list, and reasons why the Work is not complete.
2. Notify Owner of pending insurance changeover requirements.
3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
4. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
5. Notify Owner of changeover in heat and other utilities.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
7. Complete final cleaning requirements, including touchup painting.
8. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

B. Substantial Completion Inspection: On receipt of written substantial completion certification, the Engineer will make a substantial completion inspection within seven (7) days after receipt of certification.

1. Should the Engineer consider the Work not substantially complete, he will notify the Contractor, in writing, stating the reasons. Complete the Work and send a second written notice to the Engineer, certifying the Project is substantially complete, at which time the Engineer will re-inspect the work.
2. Should the Engineer consider the Work substantially complete, he will prepare and issue a Certificate of Substantial Completion (AIA G704) accompanied by the list of items to be completed or corrected (Punch List).
3. A punch list of items will be prepared for correction and completion before the Final Inspection. Complete the punch list items within fifteen (15) days of the punch list inspection. If the Contractor fails to complete the punch list within this period, the Owner has the right to impose liquidated damages in the amount of five hundred ($500.00) dollars for each consecutive day until the items are completed.

1.5 FINAL COMPLETION

A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:

1. Submit a final Application for Payment according to Division 01.
2. Submit signed copy of Engineer's inspection list of items to be completed or corrected (punch list) certifying each item has been completed or otherwise resolved for acceptance.
3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.

B. Final Inspection: The submission of the signed punch list constitutes as written request for final inspection for acceptance. On receipt of request, Engineer along with the Owner's Representative will conduct a final inspection within seven (7) days of receipt of certification.

1. Should the Engineer consider that the Work is finally complete in accordance with requirements of the Contract Documents, Project Closeout Submittals will be requested.
2. Should the Engineer consider that the Work is not finally complete, notification to the Contractor, in writing, stating the reasons will be made.
3. Take steps to remedy the stated deficiencies and send a second written notice to the Engineer certifying that the Work is complete, at which time the Engineer will re-inspect the Work.

1.6 PROJECT RECORD DOCUMENTS

A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.

1. Submit required record documents and warranties within thirty (30) days of the punch list inspection. If the Contractor fails to properly submit required items within this period, the Owner has the right to impose liquidated damages in the amount of five hundred ($500.00) dollars for each consecutive day until the items are properly submitted.

B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.

1. Mark Record Prints to show where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
3. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
4. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.

C. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate where installation varies from that indicated in Specifications, addenda, and contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Note related Change Orders and Record Drawings, where applicable.

D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1. Completed and signed Engineer's Punch List
2. Copy of Manufacturer's Final Inspection Report

1.7 WARRANTIES

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

B. Thermoset EPDM Roofing System warranty as outlined in Section 07 53 23 "Thermoset EPDM Roofing".

C. Pre-finished Sheet Metal finish warranty as outlined in Section 07 62 00 "Sheet Metal Flashing and Trim".

D. Skylight warranty as outlined in Section 08 62 00 "Unit Skylights".

E. Section 00 65 36 "Contractor's Warranty"

F. Section 00 65 37 "Asbestos Free Warranty"

END OF SECTION

SECTION 05 01 30

STEEL ROOF DECK REPAIR AND SECUREMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Steel Deck Repair: Inspect, evaluate and remediate steel roof deck as follows:

   a. Repair of surface rust in steel decking.
   b. Repair of through holes in steel decking.
   c. Overlay of damaged or deteriorated steel decking.
   d. Replacement of damaged or deteriorated steel decking.

2. Steel Deck Securement: Provide mechanical fasteners to secure steel decking to steel framing and to secure deck side and end laps.

1.2 RELATED DOCUMENTS

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

1. Section 06 10 00 "Rough Carpentry"
2. Section 07 01 50 "Preparation for Reroofing"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 53 23 "Thermoset EPDM Roofing"

1.3 REFERENCES

A. American Iron and Steel Institute (AISI) Standard- North American Specification for the Design of Cold-Formed Steel Structural Members, 2001 Edition with Supplement 2004.

B. Steel Deck Institute, Inc. (SDI) Design Manual for Composite Decks, Form Decks, and Roof Decks (No. 31, 2007).

C. American Institute of Steel Construction (AISC) Steel Construction Manual.

D. FM Global:

1. Data Sheet 1-28 Wind Design.
2. Data Sheet 1-29 Roof Deck Securement and Above Roof Deck Components.

E. American Welding Society (ANSI/AWS) D1.3 Structural Welding Code/Sheet Steel - 98 Structural Welding Code - Sheet Steel.

F. ASTM International

1. A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy - Coated (Galvannealed) by the Hot-Dip Process.

2. A924/A924M Standard Specification for General Requirements for Steel Sheet, Metallic Coated by the Hot-Dip Process.
3. A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished.

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

1.5 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Steel Deck Repair:

1. Steel Deck: FM Approved or UL listed 22 gauge minimum; galvanized steel profile to conform to existing deck profile at end and side laps.
2. Deck Repair Plates: 16 gauge, galvanized steel plates sized to extend a min. 8" beyond the through hole in existing decking with plate edges resting on a rib.
3. Deck Repair Coating: High solids, low VOC, self-priming epoxy coating for use on steel structures.

    a. PPG Amerlock 400
    b. Devoe Bar-Rust 231
    c. Kryon Industrial High Build Epoxy Mastic 100
    d. Benjamin Moore & Co. Surface Tolerant Epoxy Mastic Coating V160

B. Steel Deck Securement:

1. Deck-to-structural steel fasteners: FM Approved, self-drilling deck fasteners of length and type as required by fastener manufacturer for thickness of structural steel.

    a. ITW Buildex Corp. 12-24 Tek 5
    b. SFS Intec Impax 12-24 SD5
    c. Blazer 1/4-20 DP5

2. Deck-to-deck side lap fasteners: FM Approved self-drilling deck side lap fasteners of length and type as required by fastener manufacturer for thickness of steel deck.

a. ITW Buildex Corp. 10-16 Tek 3
b. SFS Intec #10-16 SD3
c. Blazer #10-16 DP3

3. Washers: 3/4 inch diameter of same material as fastener or integral 1/2 inch diameter washer.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Before removing decking, cutting decking or fastening decking, inspect interior conditions under the deck to prevent cutting or damaging the joists, electrical conduit, sprinkler piping, fixtures and utilities. Ensure conditions are satisfactory before proceeding with the work, and continuously monitor interior and exterior work conditions during demolition and construction operations.

C. Commencement of work signifies acceptance of conditions. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

D. The following descriptions indicate roof deck corrosion levels by degree. Inspect roof deck areas and assess corrosion level of 1 through 5. Following the assessment, conduct the appropriate Remediation Method in accordance with the deck corrosion level descriptions. Refer to Section 01 22 00 "Unit Prices"

1. Corrosion Degree 1

a. Red rust or dark brown rust scaling on top flange only.
b. Dark brown rust scale removed by scraping/wire brushing to indicate minor pitting of the metal surface.
c. Deck flutes discolored.

2. Corrosion Degree 2

a. Red rust or dark brown rust scale present on the deck surface.
b. Deck sections (flanges and flutes) have been or can be readily removed during examination or areas of decking are missing, up to 13" in any one direction.

3. Corrosion Degree 3

a. Red rust or dark brown rust scale present on the deck surface.
b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, from 13" to 24" in one dimension.

4. Corrosion Degree 4

a. Red rust or dark brown rust scale present on the deck surface.
b. Deck sections (flanges and/or flutes) have been or can be readily removed during examination or areas of decking are missing, 24" or greater in one dimension.

3.2 PREPARATION

A. Remove and vacuum debris from deck surface and ribs to allow for inspection of deck, and to fasten decking.

B. Remove and properly dispose of damaged decking (Corrosion Degree Level 4) and remove deck fasteners in the repair area.

C. Take necessary precautions to prevent debris from entering building space, and coordinate operations with Engineer and Owner.

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

3.3 STEEL DECK REMEDIATION

A. General:

1. Remove loose dirt, rust, moisture, grease or other contaminants from the surface with a power wire brush.
2. Vacuum the roof deck surface clean.

B. Corrosion Degree 1:

1. Properly mix deck repair coating according to manufacturer's recommendations.
2. Do not mix more material than can be used in the materials expected pot life.
3. Apply material at temperatures from 50Ú? F to 90Ú? F for optimum application.
4. Brush or roller apply deck repair coating as recommended by manufacturer.
5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.

C. Corrosion Degree 2:

1. Properly mix deck repair coating according to manufacturer's recommendations.
2. Do not mix more material than can be used in the materials expected pot life.
3. Apply material at temperatures from 50˚ F to 90˚ F for optimum application.
4. Brush or roller apply deck repair coating as recommended by manufacturer.
5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.
6. Mechanically attach deck repair plate to deck ribs with deck to side lap fasteners 6 inches on center maximum or a minimum of 2 screws per side.

D. Corrosion Degree 3:

1. Properly mix deck repair coating according to manufacturer's recommendations.
2. Do not mix more material than can be used in the materials expected pot life.
3. Apply material at temperatures from 50˚ F to 90˚ F for optimum application.
4. Brush or roller apply deck repair coating as recommended by manufacturer.

5. Allow coating to dry a minimum of 30 minutes. Do not install roof insulation until coating is dry.
6. Overlay steel deck to match existing profile extending a minimum of 6 inches beyond the deficient area.
7. Mechanically attach perimeter of overlay deck to existing deck ribs with deck to side lap fasteners 6 inches on center.

    a. Where structural support is present, secure overlay deck to structural framing in accordance with the steel deck securement pattern.
    b. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.
    c. Follow deck Manufacturer's instructions and the latest edition of the Steel Deck Institute (SDI) Specifications and Commentary.

E. Corrosion Degree 4:

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

3.4 STEEL DECK SECUREMENT

A. Fasten steel deck panels to steel framing and steel deck side laps as indicated in the contract drawings.

B. Fastener position/location:

1. Drive deck fasteners in the center of the bottom of the deck rib. Drive the fasteners within +/-1/4 inch of the center of the structural steel bearing surface. Drive fasteners along the center of the structural steel member, not near the edge of the structural steel.
2. Drive deck side lap fasteners into the deck rib such that both panels are penetrated. Locate the side lap fasteners along the center of the bottom of the rib.

C. Utilize fastener with integral washer or provide washer for fasteners in Zone 2 (perimeter) and Zone 3 (corner).

D. Apply weight over the area being fastened to prevent deck deflection and ensure contact between fasteners, deck and/or structural steel.

3.5 FIELD QUALITY CONTROL

A. Monitor the inside of the building during removal and replacement of damaged steel decking to prevent damage to building, equipment and occupancy.

B. Monitor hot work operations in strict accordance with the Owners requirements and local Code. These operations include, but are not limited to, cutting, welding, soldering, brazing, grinding, etc. and other spark or flame producing operations.

END OF SECTION

SECTION 06 10 00

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rough Carpentry work required to facilitate installation of roof assembly including:

    a. Provide wood nailers/blocking and plywood sheathing.
    b. Resecure rough carpentry to remain in place.
    c. Replace damaged, rotted or deteriorated rough carpentry with rough carpentry.

1.2 RELATED DOCUMENTS

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

1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Section 07 01 50 "Preparation for Reroofing"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 53 23 "Thermoset EPDM Roofing"
5. Section 07 62 00 "Sheet Metal Flashing and Trim"
6. Section 07 71 19 "Manufactured Gravel Stops and Fascias"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

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

1. American Society for Testing and Materials (ASTM)
2. American Wood-Protection Association (AWPA)

    a. AWPA E12 - Standard Method of Determining the Corrosion of Metal in Contact with Wood.
    b. AWPA M4 - Standard for the Care of Preservative Treated Wood Products.
    c. AWPA P5 - Standard for Waterborne Preservatives.
    d. AWPA T1 - Use Category System: Processing and Treatment Standard.
    e. AWPA U1 - Use Category System: User Specification for Treated Wood.
3. American National Standard

a. ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems

4. Underwriters Laboratories, Inc. (UL)
5. FM Global (FM)

a. Data Sheet 1-49 Perimeter Flashing

1.4 DEFINITIONS

A. Rough Carpentry includes carpentry work not specified as part of other Sections and generally not exposed.

B. KDAT: Kiln Dried After Treatment.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

1.6 QUALITY ASSURANCE

A. Inspect wood for damage, warping, splits, and moisture content as defined by the applicable wood products industry standards. Reject materials that do not comply.

B. Rough carpentry to present a smooth, consistent substrate for roof system and flashing installation.

C. Qualifications of workers: Provide sufficient, competent and skilled carpenters in accordance with accepted practices and supervisors present during execution of the work. Be thoroughly familiar with type of construction involved and related work and techniques specified.

D. Label: Bear the stamp of the AWPA Quality Mark, indicating compliance with the requirements of the AWPA Quality Control Program.

E. Lumber Standards: Comply with PS 20 and applicable rules of respective grading and inspecting agencies for species and products indicated.

F. Plywood Product Standards: Comply with PS 1 (ANSI A 199.1) or, for products not manufactured under PS 1 provisions, with applicable APA Performance Standard for type of panel indicated.

G. Installation of rough carpentry for roofing and flashing terminations to ensure plumb, uniform and level metal flashings.

H. Install rough carpentry to ensure roof membrane flashing transitions are smooth for positive roof drainage and appearance.

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

1.7 DELIVERY, STORAGE, AND HANDLING

A. Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Store a minimum of four inches above ground on framework or blocking. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks. Cover with protective waterproof covering providing for adequate air circulation and ventilation

B. Avoid exposure to precipitation during shipping, storage or installation. If material does become wet, replace or permit to dry prior to covering or enclosure by other roofing, sheet metal or other construction materials (except for protection during construction).

C. Upon delivery to job site, place materials in area protected from weather.

D. Do not store seasoned materials in wet or damp portions of building.

E. Protect sheet materials from corners breaking and damaging surfaces, while unloading.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Wood Nailers or Blocking:

1. No. 2 or better spruce or southern yellow pine lumber.
2. Sound, thoroughly seasoned, dressed to nominal finish dimension, and free of warpage, cupping, and bowing.
3. Dimensions determined by job conditions or as indicated in detail drawings.

B. Plywood Sheathing:

1. Structural 1 rated.
2. APA RATED SHEATHING grade-C or better and manufactured with exterior glue (exposure 1).
3. Minimum thickness as indicated in Contract Drawings or as required to match existing.

2.2 FASTENERS

A. General:

1. Stainless steel or as accepted by Engineer.
2. Do not use nails at roof edges to fasten rough carpentry, lumber, plywood, etc. Use screws, anchors, and/or machine bolts to secure rough carpentry at roof perimeter edges.
3. Do not use masonry screws, spikes, and drive-pins to fasten edge/perimeter nailers to concrete. Utilize minimum 1/2 inch diameter anchors or bolts to secure roof edge nailers to concrete.

4. Do not secure or fasten edge/perimeter wood nailers to hollow core concrete masonry; grout concrete masonry units and provide minimum embedment of fasteners to meet anchor manufacturer's installation instructions.
5. Do not secure edge/perimeter wood nailers to brick masonry as the primary securement method.

B. Nails: 8, 10 or 16 penny, stainless steel, ring shank nails. Length to embed into base substrate a minimum 1-1/2 inches.

1. Maze Nails
2. Anchor Staple and Nail
3. Simpson Strong Tie
4. Manasquan Premium Fasteners
5. Engineers accepted equivalent.

C. Screws: No. 10 or greater, stainless steel wood screws with flat head, or insulation screws. Length to embed into base substrate a minimum of 1-1/2 inches.

D. Self-Drilling Screws:

1. For steel deck and light gauge steel framing (16-ga. or less): #14-13 DP1, pancake or panhead, corrosion resistant, ASTM A153, FM Approved, self-drilling and self-tapping screw, length to provide minimum 3 pitches of thread through metal thicknesses or 3/4 inch through top flange of steel deck.

a. ITW Buildex Teks
b. Triangle Fasteners
c. SFS Intec
d. Engineers accepted equivalent.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspect substrates to receive rough carpentry, and ensure substrates are in satisfactory condition prior to installation of rough carpentry.

B. Inspect rough carpentry including fasteners for material condition before proceeding with installation. Replace deteriorated, rotted, damaged, split, warped, twisted or wet materials.

1. Refer to Section 01 22 00 "Unit Prices".

C. Remove cants, tapered edge strips, debris, fasteners, etc. that interfere with the installation of rough carpentry.

D. Notify Engineer in writing of unsatisfactory conditions.

E. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

A. Roof Deck and Structure:

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

3.3 INSTALLATION

A. Replace damaged or deteriorated wood blocking, nailers, and curbs.

B. Re-secure wood nailers at roof edges that are to remain with fastener type and spacing to comply wiht this section.

C. Install wood blocking, nailers, and curbs to achieve a minimum 8 inch flashing height above the roof membrane.

D. Install wood nailers at perimeter roof edges and low profile expansion joints to match insulation height while maintaining a constant nailer height along perimeter edges.

E. Install wood blocking and nailers concurrently with roof system installation. Removal of insulation and/or folding back of roof membrane to install wood blocking and nailers at a later date is not acceptable.

F. Set rough carpentry to required levels and lines, with members plumb, true to line, material cut to fit, and braced to hold work in proper position. Use a belt sander to remove obtrusive surface irregularities. Drive nails and spikes home; and pull bolt nuts tight with heads and washers in close contact with the wood.

G. Fit rough carpentry to other construction, scribe and cope for accurate fit. Correlate location of furring, nailers, blocking, grounds, and similar supports to allow attachment of other construction. Install joints between wood for a smooth transition.

H. Attachment:

1. Consult the fastener manufacturer's published literature and follow the recommended requirements for pre-drilling, cleaning, placement and compatibility of substrates. Follow manufacturer's requirements for fasteners spacing, substrate preparation and substrate embedment where not specified.
2. Securely attach rough carpentry work to substrate with fasteners anchored to resist the required upward and outward design wind loads.
3. Meet the requirements herein and that of the current FM Loss Prevention Data Sheet 1-49, Perimeter Flashing, for rough carpentry attachment.
4. Install bolts flush with the top surface of nailers where possible to avoid countersinking. Bolt bottom nailers then fasten above nailers where possible. Countersink bolts, nuts and screws flush with wood surfaces only as detailed; countersink a maximum of one half the board thickness.

5. Install fasteners without splitting wood. Pre-drill where necessary. Replace split or damaged wood to provide acceptable conditions.
6. For anchors, pre-drill concrete and masonry units to prevent damage or cracking of the masonry. Consult fastener manufacturer's published guides. Repair or replace damaged masonry with fasteners re-installed in an acceptable location.
7. Fastener spacing: Staggered in two rows 1/3 the board width when board is wider than 6 inches and installed within 3 to 4 inches of each end.

    a. Nails: Securing wood to wood spaced 12 inches on center in Perimeter (Zone 2) and 6 inches on center in Corner (Zone 3), staggered, with two nails installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.
    b. Screws: Securing wood to wood spaced as indicated below, staggered, with two screws installed within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.

    c. Self-Drilling Screws: Securing wood to steel spaced as indicated below, staggered, with one screw within 3 to 4 inches of each end of nailer lengths to prevent wood from twisting at board joints.

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

J. Thickness of wood nailers flush with adjacent insulation and other materials. Install additional fasteners to ensure nailers are flush.

K. Unless otherwise detailed, install plywood used as blocking or shim below dimensional lumber such that the fastener head terminates at the dimensional lumber surface.

L. Do not utilize wood nailers at roof perimeters, expansion joints, roof area dividers, etc. less than 3 feet long.

M. When multiple nailers are installed stacked two high or more, offset nailers no less than 12" such that joints at nailer end do not line-up vertically.

N. Fasten each end of nailers with additional fasteners to ensure a smooth transition at butted joints, and to prevent warping and/or twisting.

O. Shims:

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

P. Curbs:

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

3.4 CLEANING

A. Ensure the site and building are cleaned to meet pre-construction conditions, as accepted by the Owner.

B. Clean the site and building of saw dust from lumber, fasteners and other debris.

C. Repair or replace damages to the building, grounds, equipment and site to meet pre-construction conditions, as accepted by the Owner.

END OF SECTION

SECTION 07 01 50

PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Complete preparatory work prior to roof installation including but not limited to:

a. Removal of roof assemblies down to the steel deck at Roof Area A.
b. Removal and disposal of wet insulation on Roof Areas B and C.
c. Removal of flashing and edge metal on Roof Areas B, C and D.
d. Adhesive bonded field uplift tests on Roof Areas B, C and D.
e. Raising of mechanical units and/or HVAC units to meet the required minimum flashing height.
f. Under Roof Deck Survey

1.2 RELATED DOCUMENTS

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

1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 22 16 "Roof Insulation"
4. Section 07 53 23 "Thermoset EPDM Roofing"

1.3 DEFINITIONS

A. Removal: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain property of the Owner.

B. Existing to remain: Protect construction indicated to remain against damage and soiling during demolition. When accepted by Engineer, items may be removed to a suitable, protected storage location during demolition, cleaned and reinstalled in their original locations.

C. Material ownership: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the Owner's property, demolished items become the Contractor's property. Remove demolished items from the site.

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Test Reports:

1. Adhesive Bonded Field Uplift Test: Provide a report along with a roof plan showing test locations and corresponding results of each uplift test.

1.5 EXISTING ROOF ASSEMBLIES

A. Existing Roof Assemblies are provided in the project Drawings.

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

1.6 QUALITY ASSURANCE

A. Qualifications: Previous experience removing roof systems.

B. Requirements: Comply with governing EPA regulations and hauling/disposal regulations of authorities having jurisdiction.

1.7 SCHEDULING

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

1.8 WARRANTIES

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Soil Pipe Extensions:

1. No-Hub:

a. Provide no-hub coupling with coupling conforming to CISPI 310 and ASTM C 1277. Gasket to be made from elastomeric compound meeting ASTM C 564. 5/16" hex-head screw band assembly. Inside diameter to match outside diameter of soil pipe being raised.

b. Solid-wall white PVC pipe of diameter to match existing and length as necessary to provide minimum 8" and maximum 12" flashing height.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Survey conditions to determine extent of demolition.

B. Record the conditions of items to be removed/reinstalled and items to be removed/salvaged.

C. Do not remove elements that result in structural deficiency or collapse the structure or adjacent structures during demolition.

D. Inspect substrate for soundness and notify Engineer in writing of deficiencies. Commencement of work signifies acceptance of site conditions.

3.2 PREPARATION

A. Do not begin demolition until utilities have been disconnected/sealed and have been verified as such in writing.

B. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner and authorities having jurisdiction.

C. Provide safe conditions for pedestrians. Erect temporary protection, walkways, fences, railings and canopies as required by OSHA and other governing authorities.

D. Provide protection for adjacent building, appurtenances and landscaping to remain. Erect temporary fencing around trees to remain.

E. Provide temporary weather protection as required to prevent water leakage and damaged to exterior or interior of adjacent structures.

3.3 UTILITIES/SERVICES

A. Maintain utilities that are to remain in service and protect them against damage during selective site demolition unless authorized in writing by the Owner and authorities having jurisdiction.

1. Locate conduits and equipment attached to the underside of the decking prior to reroofing. Do not disturb conduits or interior components/equipment with insulation fasteners.
2. If utilities serving occupied portions of the site are shut down, provide temporary services.
3. Provide 72 hours' notice to Owner if shut down is required.
4. Where services are removed, relocated or abandoned, provide necessary bypass connections to remaining occupied buildings and areas.

3.4 POLLUTION CONTROLS

A. Use water, mist, temporary enclosures and other suitable methods to limit the spread of dust and dirt. Comply with local EPA regulations.

1. Do not use water where there is potential for damage to occur or where hazardous conditions, ice or flooding are created.

3.5 UNDER ROOF DECK SURVEY

A. Prior to work being performed, complete a survey of the under deck components.

B. Locate and mark conduit, utilities, etc. that interfere with the replacement roof system.

C. Determine the presence of spray applied fireproofing on the underside of the roof deck and utilize caution during roof operations. If fireproofing is present, monitor the building interior during roof operations and notify the Owner/Engineer if fireproofing is observed to be displaced.

D. Notify Owner and Engineer prior to survey being performed.

3.6 REMOVALS

A. Coordinate and sequence roof removal such that tear-off debris and materials are not stored on or trafficked over the replacement roof system and such that varying heights between roof assemblies does not adversely affect roof drainage.

B. Demolish and remove construction only to the extent required.

C. Remove roof membrane, flashings, roof insulation, vapor retarder, sheet metal, substrate board and discard at Roof Area A.

D. Remove and dispose of the skylights at Roof Area A.

E. Remove and dispose of the edge metal, counterflashing, membrane flashing, flashing boots at all roof curbs, drains, wall, dividers and other flashed penetrations at Roof Areas B, C and D.

F. Remove or correct obstructions which interfere with the proper application of materials.

G. Lift or remove equipment so that flashings can be replaced.

H. Remove debris to provide clean, dry substrate.

I. Remove and transport debris in a manner that prevents damage/spills to adjacent buildings and areas.

J. Prepare existing modified bitumen roof membrane on Roof Sections B, C, D and E by power brooming. All loose granules, dirt and debris must be removed.

K. Areas of wet insulation identified shall be removed down to the existing roof deck. If the existing gypsum substrate board moisture content is less than 0.5% moisture by weight when measured using a Delmhorst pin type moisture meter read on a gypsum scale the existing vapor barrier and substrate board may remain. If moisture exceeds 0.5%, the vapor barrier and substrate board shall be removed and disposed of.

L. Dispose of demolished items and materials on a daily basis. On-site storage of removed items is not permitted.

M. Transport demolished materials off-site and dispose of materials in a legal manner.

N. Perform progress inspections to detect hazards resulting from demolition activities.

3.7 FLASHING HEIGHTS

A. Permanently raise roof top equipment as required to achieve 8" minimum flashing height.

B. Provide additional wood blocking to top of parapet walls and expansion joints to achieve minimum 8" flashing height.

C. Soil Pipe Extensions: Extend sanitary vents to height required by the applicable Plumbing Code, but no less than 8 inches and no more than 12 inches above the finished roof system.

1. Preparation

a. For soil pipes that do not provide minimum 8" flashing height, cut existing pipe so that no-hub coupling can be located within roof insulation system.

2. Installation

a. Provide no-hub coupling installed and torqued in accordance with manufacturer's installation instructions.
b. Provide PVC pipe extension to provide a minimum 8" and maximum 12" flashing height

3.8 ADHESIVE BONDED UPLIFT TESTS

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

3.9 CLEANING

A. Inspect the site daily and clean up debris and hazards at the end of each day. Keep adjacent roads, drives and walkways in operation and free from construction materials debris.

B. Clean adjacent structures of dust dirt and debris. Return adjacent areas to original conditions to the satisfaction of the Owner.

END OF SECTION

SECTION 07 22 16

ROOF INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Roof Area A:

a. Provide Tapered Insulation System and Crickets mechanically attached.
b. Provide Cover Board adhered in foam adhesive

Copy and edit below text for each different roof insulation construction.

2. Roof Areas B, C and D:

a. Provide Roof Insulation to replace existing wet insulation mechanically attached.
b. Provide Tapered Insulation Crickets / Saddles mechanically attached.
c. Provide Cover Board adhered in foam adhesive to match height of adjacent roof membrane

1.2 RELATED DOCUMENTS

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

1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 01 50 "Preparation for Reroofing"
4. Section 07 53 23 "Thermoset EPDM Roofing"
5. Section 22 14 26 "Roof Drains"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

B. Refer to the following references for specification compliance:

1. National Roofing Contractors Association (NRCA)
2. FM Global
3. Underwriters Laboratories, Inc. (UL)

1.4 PERFORMANCE REQUIREMENTS

A. R Value

1. In accordance with the referenced Energy Conservation Code and ASHRAE 90.1.
2. Minimum continuous R-value at Roof Area A: 30
3. R value based on Long-Term Thermal Resistance (LTTR) for polyisocyanurate insulation and manufacturer's published data for other insulation components, as tested in accordance with ASTM C177, C236, C518 or C976.

B. Wind Design: Install insulation system to meet the required wind uplift pressures as specified in Section 07 53 23 "Thermoset EPDM Roofing".

1.5 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Shop Drawings: Tapered insulation plan from material supplier with minimum R-value for each roof area.

1.6 QUALITY ASSURANCE

A. Install insulation in accordance with their respective manufacturer's requirements.

B. Reject insulation not bearing UL label at point of delivery.

C. Remove insulation damaged or wetted before, during, or after installation from the job site no later than the next working day from the day such damage or moisture contamination is noted.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.

B. Storage: Store materials out of direct exposure to the elements on pallets or dunnage at least 4 inches above ground level at location acceptable to Owner.

1. Utilize tarps that cover materials to prevent moisture contamination. Remove or slit factory shrouds and/or visqueen; do not use these materials as tarps.
2. Install vapor retarders under material storage areas located on the ground.
3. Remove damaged or deteriorated materials from the job site.

C. Handling: Handle material in such a manner to prevent damage and contamination with moisture or foreign matter.

1.8 PROJECT CONDITIONS

A. Do not apply insulation during precipitation. Take responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Take necessary action to restrict dust, asphalt, and debris from entering the structure.

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. Insulation Boards:

1. Roof Insulation (Repairs at Roof Areas B and C):

a. Rigid polyisocyanurate roof insulation board with factory applied coated polymer bonded glass fiber mat facers on the top and bottom complying with ASTM C1289 Type II, Class 2, Grade 2 3 and meeting the following requirements:

1) 24 hours minimum curing time, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
2) 2 percent maximum linear change dimensional stability when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
3) Maximum permissible insulation board size for mechanical attachment is 4 feet by 8 feet and for foam adhesive and hot asphalt attachment is 4 feet by 4 feet. Field cutting of larger boards is not acceptable.
4) Thickness: As required to match height of adjacent roof surface less cover board thickness.

2. Tapered Insulation System:

a. Rigid polyisocyanurate roof insulation board with factory applied coated polymer bonded glass fiber mat facers on the top and bottom complying with ASTM C1289 Type II, Class 2, Grade 2 3 and meeting the following requirements:

1) Curing time: 24 hours minimum, plus an additional 24 hours minimum per inch thickness, at a minimum of 60 degrees F before shipment from the manufacturer.
2) Dimensional stability: 2 percent maximum linear change when conditioned at 158 degrees F and 97 percent relative humidity for seven days.
3) Board size s: 4 feet by 4 feet.
4) Slope: 1/4 inch1/8 inch per foot
5) Minimum thickness: 4 inches .
6) Fill Insulation: Rigid polyisocyanurate meeting the above requirements with board size of 4 feet by 4 feet and thickness of 2 inches.

7) Crickets and Saddles: Rigid polyisocyanurate meeting the above requirements with a board size of 4 feet by 4 feet and 1/2 inch per foot slope.

3. Cover Board:

a. Lightweight, high-density polyisocyanurate roof board with coated fiberglass facers, minimum compressive strength of 90 psi, R-value of 2.5 and 1/2 inch thick.

B. Insulation Accessories:

1. Tapered Edge Strip:

a. Polyisocyanurate: Closed-cell polyisocyanurate foam core integrally bonded to non-asphaltic, fiber-reinforced organic felt or inorganic coated-glass facers. Fabricated with 1 inch per foot slope and "zero edge" to provide transitions as required by field conditions.

1) Install at edges to make transitions as detailed in Contract Drawings.
2) Provide to form crickets in front of curbs wider than 12 inches.
3) Provide slope transition at the outside of drainage sumps.
4) Provide slope at top of parapet walls below coping.
5) Use 1/2 inch by 6 inch tapered edge strips in front of tapered insulation crickets and saddles to provide smooth transition.

C. Insulation Attachment Materials:

1. Steel Deck Mechanical Fasteners and Stress Plates: Corrosion resistant 3-inch galvalume stress plate and corrosion resistant screw type fasteners for use with steel decks; approved by the insulation manufacturer for the insulation type, thickness and board size specified; fastener length as required by the fastener manufacturer for the insulation thickness specified, and to penetrate the deck a minimum of 3/4 inch and a maximum of 1 inch.
2. Foam Adhesive: One or two part, VOC compliant, moisture-cured polyurethane foamable adhesive designed as roof insulation adhesive and approved by insulation manufacturer.

a. Primer: Provide as required by adhesive manufacturer and substrate conditions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspect substrate for soundness and notify Engineer in writing of deficiencies.

B. Commencement of work signifies acceptance of substrates. Correct defects in work resulting from accepted substrates at no additional expense to the Owner.

3.2 PREPARATION

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

3.3 APPLICATION

A. General

1. Apply in accordance with the insulation and roof system manufacturer's instructions and these specifications.
2. Install insulation in full boards, carefully fitted and pushed against adjoining sheets to form tight joints. Gaps exceeding 1/4 inch are not acceptable.
3. Saw cut or knife cut insulation and cover boards in a straight line, not broken. Utilize chalk lines to cut insulation. Uneven or broken edges are not acceptable.
4. Remove insulation dust and debris that develops during insulation cutting operations.
5. Offset joints between successive and adjacent layers of insulation a minimum of six inches.
6. Stagger joints of cover boards one foot (vertically and laterally) to ensure that joints do not coincide with joints from the previous or adjacent layer.
7. On steel decks, apply insulation boards with long dimension of units across deck ribs. Bear ends of insulation boards on top flange of steel deck.
8. For torch application, continue coverboard over combustible substrates.
9. Install crickets, saddles and tapered edge strips before the cover board.
10. Adhere tapered edge strips at transitions, terminations and/or penetrations as detailed or required in ribbons of foam adhesive to ensure smooth transitions are provided for the roof membrane and flashings.
11. Provide necessary modifications to insulation system or nailers at roof edges as required to ensure a flush and smooth transition is provided for the roof membrane and flashing.
12. Make field modifications of insulation, tapered insulation, tapered edge strips and cants where required to accommodate roof and flashing conditions and to prevent water dams and ponding water. Ponding water at scuppers and cricket valleys is not acceptable.
13. Provide necessary modifications to prevent standing water which is defined as 1/4 inch of water in a 4-square foot or larger area 24 hours or more after precipitation.

B. Tapered Insulation System:

1. Install tapered insulation system to provide positive slope for roof drainage without ponding water.
2. Size crickets as shown in the Contract Drawings. Provide modifications to ensure positive slope and prevent standing water along the cricket valley.

    a. Minimum length to width ratio of 2:1. Fabricate partial crickets with dimensions which result in a minimum length to width ratio of 2:1 if they were extended to full size.

b. Unless otherwise noted, fabricate crickets from tapered stock as required to provide the specified minimum slope. For example, when roof slope is indicated as 1/4 inch per foot minimum, fabricate crickets with slope of 1/2 inch per foot minimum.
c. Construct crickets on up slope side of curbs to ensure positive drainage.
d. Install tapered edge strips at cricket edges to provide a smooth transition between the cricket and insulation system below.

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

C. Roof Drainage:

1. Install drainage sumps as detailed.
2. Carefully lay out the tapered insulation, sumps, drain bowls and scuppers to ensure the finished roof provides drainage with no ponding water.
3. Fabricate miter-cut sumps at drains/scuppers to provide smooth transitions between the insulation system and the drains/scuppers.
4. Ensure sumps provide roof drainage and prevent water dams.
5. Adjust insulation, drains and scuppers to ensure roof drainage and satisfactory substrates for membrane and flashings.
6. Secure drain sump components using specified insulation fasteners or adhesives.
7. Circular sumps and sumps that do not provide smooth transition or that create standing water at the drains are not allowed.

D. Ponding Water: The ponding of water on the roof surface after installation of the roofing system is not acceptable and is grounds for rejection of the roof. Ponding is herein defined as precipitation remaining in a four-square foot area or larger, 1/4 inch or deeper for a period of 24 hours from the termination of precipitation. Provide modifications to roof system to ensure proper drainage including but not limited to reinstallation of roof system or installation of additional tapered insulation.

E. Insulation Mechanical Attachment:

1. Fastener quantity and spacing as required to comply with the requirements of roof system manufacturer's approved, tested assembly.
2. Install fasteners using manufacturer's recommended equipment and in accordance with the manufacturer's requirements.
3. Set fasteners and stress plates secure and tight against the insulation surface and do not over drive.
4. Fasteners to engage the top flange of steel decks only.

F. Foam Adhesive:

1. Position and space adhesive beads as required to comply with the requirements of the roof system manufacturer's approved, tested assembly.
2. Size adhesive beads in accordance with the adhesive manufacturer's guidelines.
3. Place insulation boards onto the beads and "walk" and/or "weight" into place. Place insulation boards into the adhesive in accordance with the adhesive manufacturer's guidelines.
4. Ensure adhesion of insulation and take whatever steps necessary to achieve adhesion, including but not limited to temporary ballasting of insulation until adhesive sets.

END OF SECTION

SECTION 07 53 23

THERMOSET EPDM ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

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

1.2 RELATED DOCUMENTS

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

1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 01 50 "Preparation for Reroofing"
4. Section 07 22 16 "Roof Insulation"
5. Section 07 62 00 "Sheet Metal Flashing and Trim"
6. Section 07 71 19 "Manufactured Gravel Stops and Fascias"
7. Section 22 14 26 "Roof Drains"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

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

1. ASTM International (ASTM):

a. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
b. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
c. ASTM D 816 - Standard Test Methods for Rubber Cements.
d. ASTM D 4637 - Standard Specification for EPDM Sheet Used In Single-Ply Roof Membrane.
e. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.

2. FM Global

a. FM 4470 - Approval Standard for Class 1 Roof Covers.

3. National Roofing Contractors Association (NRCA)

a. Low Slope Roofing and Waterproofing Manual, Current Edition.

4. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA)

   a. Architectural Sheet Metal Manual.

5. Underwriters Laboratories (UL):

   a. UL-790 - Standard Test Method for Fire Tests of Roof Coverings.

6. Single Ply Roofing Institute

1.4 DEFINITIONS

A. PS: Pressure-Sensitive

B. RUSS: Reinforced Universal Securement Strip

1.5 PERFORMANCE REQUIREMENTS

A. Install roofing system to meet UL 790 Class A Fire Rating.

B. Wind Design: Provide an approved, tested roof assembly to resist the design wind uplift pressures specified in the Contract Drawings.

1.6 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Roof System Assembly Letter: Letter from roof system manufacturer listing roof assembly components along with their method of attachment and acceptance of the specified roof system warranty terms. Assembly letter should match the submitted test report documentation and specified assembly.

E. Test Reports: Submit documentation of approved, tested roof system to meet the specified requirements for the following:

1. Wind uplift pressures
2. UL Fire Resistance Rating

F. Shop Drawings:

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

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Supply products specified by a single manufacturer with a minimum of twenty (20) years' experience.
2. Upon completion of the installation, provide manufacturer's inspection by a technical representative of the manufacturer to review the installed roof system and document deficiencies.

B. Installer Qualifications:

1. Minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.
2. Capable of extending the specified Manufacturer's Labor and Materials guarantee.
3. Approved by the membrane manufacturer prior to bid.
4. Application of the roofing system accomplished by a primary roofing contractor, his roofing foreman, and sufficient applicator technicians who have been trained and approved by the manufacturer. Submit evidence of qualification from the manufacturer.

C. Do not make deviations from the Contract Documents or the accepted shop drawings without prior written acceptance by the Engineer.

1.8 DELIVERY, STORAGE, AND HANDLING

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

B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1. Proceed with roofing work only when weather conditions are in compliance with the manufacturer's recommended limitations, and when conditions permit the work to proceed in accordance with the manufacturer's requirements and recommendations.
2. Do not apply roofing during precipitation. Contractor assumes responsibility for starting installation in the event there is a probability of precipitation occurring during application.

B. Maintain Material Safety Data Sheets (MSDS) on location during the transportation, storage and application of materials.

C. When positioning membrane sheets, exercise care to locate field splices away from low spots and out of drain sumps. Shingle field splices to prevent bucking of water.

D. Arrange work sequence to avoid use of new roof as a walking surface or for equipment movement and storage. Where such access is absolutely required, provide necessary protection and barriers, consisting of plywood over rigid insulation, to segregate the work area and to prevent damage to adjacent areas.

E. Ensure substrate is clean, smooth, dry, and free of projections, fins, sharp edges, foreign materials, oil, grease and contaminants that prevents proper application of or is incompatible with the installation.

F. Complete roofing and make weathertight at the end of the work day. Install only as much of the roofing as can be made weathertight each day, including flashings and detail work. Clean and seal seams before leaving the job site that day.

G. Do not allow contaminants, grease, fats and oils to come in direct contact with the roofing membrane.

H. Take precautions when using membrane adhesives at or near rooftop vents or air intakes as adhesive odors could enter the building. Refer to Section 01 14 00 "Work Restrictions" for requirements.

1.10 WARRANTY

A. Manufacturer's Guarantee: Manufacturer's standard form, non-pro-rated, without monetary limitation or deductibles, in which manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period. Failure includes roof leaks or breaches in the primary roof membrane causing moisture to enter the substrate below (even if visible leaks are not observed inside the facility).

1. Warranty to include but not be limited to membrane, insulation, adhesives, fasteners, sealants, flashings, accessories, etc.
2. Warranty Period: Twenty years from date of Substantial Completion
3. Warranty to remain in effect for wind speeds up to 90 mph.
4. Warranties requiring the Owner's signature are not acceptable.

B. Contractor's Warranty:

1. Two Year Warranty: Manufacturer's Representative and Contractor's Representative will attend post construction field inspection no earlier than one month prior to the expiration date of the Contractor's Warranty. Submit a written report within seven (7) days of the site visit to the Engineer listing observations, conditions and recommended repairs or remedial action.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. Carlisle SynTec
2. Versico
3. Engineers accepted equivalent

2.2 ETHYLENE PROPYLENEDIENE TERPOLYMER (EPDM) MEMBRANE

A. EPDM Roof Membrane: Extruded, cured, EPDM membrane meeting the requirements of ASTM D 4637, Type III, fabric backed membranes.

1. Color: Black.
2. Membrane Thickness: 115 mil nominal total thickness with 60 mils EPDM membrane over 55 mil fleece backing.
3. Sheet Dimensions:

    a. Width: 10 feet
    b. Length: 100 feet

4. Factory inseam tape, 6 inch width.
5. Factory applied fleecebacking

B. Membrane Foamable Adhesive: Low-VOC, spray applied aerosol contact adhesive and primer used for adhering EPDM membranes to horizontal and vertical substrates.

C. Flashing Membrane: Self-curing, non-reinforced membrane composed of nonvulcanized EPDM rubber, complying with ASTM D 4811 Type II, with thickness of 55 mils.

2.3 FLASHING ACCESSORIES

A. Seam Tape: Self-adhering, cured EPDM rubber seam tape with clear polyethylene release line for slicing EPDM sheets.

B. RUSS:

1. Nominal 9 inch wide, 60-mil thick reinforced EPDM membrane with a 55 mil fleece fabric backing or as required by primary membrane manufacturer.

C. PS Cover Strip: Nominal 60-mil black, cured EPDM membrane laminated to a nominal 28-mil cured, synthetic rubber pressure-sensitive adhesive for flashing metal edgings, stripping in seams and sealing end laps of Fleeceback membranes. Width in 6 inch, 9 inch or 12 inch and as indicated in Contract Drawings.

D. PS Overlayment Strip: 40-mil semi-cured EPDM laminated to 30-mil fully cured, syntheic rubber-based, pressure-sensitive adhesive for stripping in metal edge, fleeceback membrane end laps and seam fastening plates. Width in 6 inch, 9 inch or 12 inch and as indicated in Contract Drawings.

E. PS EPDM Flashing: 20 inch wide, 60-mil thick EPDM Flashing laminated to a pressure sensitive, factory-applied tape used in conjunction with primer.

F. PS Curb Flashing: 60-mil thick, 20 inch wide cured EPDM membrane with 6 inch wide, pressure sensitive, factory-applied tape along one edge used to flash curbs/skylights, etc.

G. PS Inside/Outside Corner: 7 inch by 9 inch precut 60-mil thick uncured EPDM flashing with a 30-mil fully cured pressure sensitive adhesive.

H. PS "T" Joint Covers: Factory cut uncured 40-mil uncured EPDM flashing laminated to a nominal 30-mil fully cured pressure sensitive adhesive, size 6 inches by 6 inches with pre-cut rounded corners.

I. PS Pipe Seals: Pre-manufactured with factory-applied tape on the deck flange.

J. PS Elastoform Flashing: 60-mil uncured EPDM membrane lamintated to 30-mil fully cured pressure sensitive adhesive in widths of 6 inch, 9 inch or 12 inch as indicated in Contract Drawings.

K. Pourable Sealer Pocket: Prefabricated pourable sealer pocket consisting of a 2 inch wide plastic support strip with factory-applied, adhesive backed uncured EPDM flashing.

2.4 RELATED MATERIALS

A. Weathered Membrane Cleaner: Clear, solvent-based cleaner used to loosen and remove contaminants from the surface of exposed EPDM membrane prior to applying EPDM Primer.

B. Splice Tape: 3 inch or 6 inch wide by 100 foot long splice tape used for splicing adjoining sections of EPDM membrane.

C. Primer: Solvent-based primer used to prepare the surface of EPDM membrane for application of splice tape or PS products.

D. Splicing Cement: High-strength, butyl-based contact cement which is used for splicing adjoining sections of EPDM membrane (cured or uncured).

E. Lap Sealant: Black, heavy-bodied material (trowel or gun-consistency) used to seal the exposed edges of a membrane splice.

F. Bonding Adhesive: High-strength, yellow colored, synthetic rubber adhesive used for bonding EPDM membranes to various surfaces.

G. Water Cut-Off Mastic: One-component, low viscosity, self-wetting, butyl blend mastic used as a compression sealing agent between EPDM membranes and applicable substrates.

H. Pourable Sealer: Black, two-component, solvent-free, polyurethane based product used for tie-ins and as a sealant around hard-to-flash membrane penetrating objects, clusters of pipes and for a daily seal when the completion of flashings and terminations cannot be completed by the end of each work day.

I. Sealant: 100 percent solids, solvent free, one-part, polyether sealant that provides a weather tight sealant to a variety of building substrates; used as a termination bar sealant.

J. Walkway Pads: EPDM pressure-sensitive walkway pads, 30 inch by 30 inch with total thickness of 0.375 inches.

2.5 FASTENING COMPONENTS

A. RUSS Strip Securement Screws and Plates:

1. Screw: #21, threaded, black epoxy electro-deposition coated (E-Coat) fastener for use with 22-gauge steel. Length as required to penetrate top flange of steel deck a minimum of 3/4 inch; maximum penetration of 1-1/4 inch through top flange of steel deck.
2. Seam Plate: A 2-3/8 inch diameter, polymer, barbed plate designed to accommodate the specified #21 screw.

B. Masonry Anchors: A 1-1/4inch long expansion anchor with threaded drive pin used for fastening Termination Bar to concrete, brick or block walls.

C. Termination Bar: 1 inch by 10 foot long galvalume-coated steel fastening bar pre-punched 6 inches on center.

D. Counter Flashing Bar: 1 inch wide, .098 inch thick extruded aluminum bar pre-punched 6 inches on center with sealant ledge.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that the substrate is dry, clean, smooth, and free of loose material, oil, grease, or other foreign matter. Remove sharp ridges and other projections to ensure a smooth surface before roofing. Do not begin installation until substrates have been properly prepared.

B. Beginning installation means acceptance of prepared substrate.

C. Provide necessary protection from adhesive vapors to prevent interaction with foamed plastic insulation.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Do not commence work until other work trades have completed jobs that require them to traverse the deck on foot or with equipment.

D. Power broom cap ply of existing roof membranes to remove existing loose granules. Remove all loose granules, dirt and debris immediately prior to installing membrane.

3.3 MEMBRANE INSTALLATION

A. Placement:

1. Position EPDM membrane over the acceptable substrate without stretching with laps shingled with flow of water.
2. Allow the membrane to relax approximately 1/2 hour prior to splicing.

3. Place adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum splice width. Shingle splices to avoid bucking of water.

B. Foamable Adhesive:

1. Adhere membrane to substrate in accordance with manufacturer's installation instructions.
2. Apply primer if required by manufacturer.
3. Apply adhesive to substrate only and roll membrane into wet adhesive once it has foamed to 1/8 inch to 3/4 inch and begins to string when touched.
4. Broom and roll membrane with a weighted steel roller

C. Bonding Adhesive:

D. Splicing:

1. Overlap adjacent sheets and mark a line 1/2 inch out from the top sheet.
2. Fold the top sheet back and clean the dry splice area (minimum 2 1/2 inches wide) of both membrane sheets with primer as required by the membrane manufacturer.
3. Where splice tape is not factory-applied, apply splice tape to bottom sheet with the edge of the release film along the marked line. Press tape onto the sheet using hand pressure. Overlap tape roll ends a minimum of 1 inch.
4. Remove the release film and press the top sheet onto the tape using hand pressure.
5. Roll the seam toward the splice edge with a 2-inch-wide steel roller.
6. Install PS "T" Joint Cover over field splice intersections.
7. When using non-PS EPDM Flashing, seal edges of flashing with lap sealant.
8. The use of lap sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane where lap sealant is required.

3.4 FLASHING INSTALLATION

A. Follow manufacturer's typical flashing procedures for wall, curb, and penetration flashings including metal edging/coping and roof drain applications. Continue the deck membrane at wall flashing where practicable.

B. Provide mechanical termination at angle changes. Mechancial termination is required regardless of whether manufacturer does not require for issuing specified warranty.

3.5 WALKWAYS

A. Install walkways where indicated in the Contract Drawings.

B. Adhere walkway pads to the EPDM membrane in accordance with the manufacturer's current application guidelines.

C. Provide walk pads where indicated in Contract Drawings and at the following locations:

1. Around roof hatches.
2. At base and top of fixed wall access ladders.
3. Around HVAC units.

3.6 DAILY SEALS

A. Install flashings concurrently with the membrane in order to maintain a watertight condition as the work progresses.

B. When a break in the day's work occurs, install a temporary watertight seal. Utilize pourable sealer to adhere the roof membrane to the existing roof membrane. Provide PS Cover Strip or EPDM Cover Strip as necessary to maintain tie-in in a watertight condition. When work resumes, remove and dispose of the contaminated membrane. Do not re-use these materials.

C. If inclement weather occurs while a temporary water stop is in place, provide the labor necessary to monitor the situation to maintain a watertight condition.

D. If water is allowed to enter under the completed system, replace the affected area.

3.7 CLEAN UP

A. Perform daily clean-up to collect wrappings, empty containers, paper, and other debris from the project site. Upon completion, dispose of debris in a legally acceptable manner.

B. Prior to the manufacturer's inspection for warranty, perform a pre-inspection to review work and to verify flashing has been completed as well as the application of caulking.

3.8 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Sheet metal flashings and trim to provide a permanently watertight condition.

1.2 RELATED DOCUMENTS

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

1. Section 06 10 00 "Rough Carpentry"
2. Section 07 53 23 "Thermoset EPDM Roofing"
3. Section 07 71 19 "Manufactured Gravel Stops and Fascias"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

B. Refer to the following references for specification compliance:

1. ASTM International
2. National Roofing Contractors Association (NRCA)
3. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

    a. Architectural Sheet Metal Manual, Seventh Edition - January 2012

4. ANSI/SPRI ES-1
5. FM Global

    a. Data Sheet 1-49, Perimeter Flashing

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Shop Drawings: For any transitions and/or terminations not depicted in Contract Drawings.

E. Color Charts:

1. Pre-finished Sheet Metal
2. Sealants

1.5 QUALITY ASSURANCE

A. Install in accordance with the Contract Drawings.

B. Ensure work is free of leaks.

C. Provide first-class workmanship. Assemble and secure sheet metal work in accordance with these specifications, roof system manufacturer's requirements and referenced standards.

1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.

B. Storage: Store materials within areas designated by the Owner. Ensure materials remain dry, covered and not in contact with the ground.

C. Handling: Handle material in such manner as to preclude damage and contamination with moisture or foreign matter.

1.7 PROJECT CONDITIONS

A. Environmental: Protect building and its components from the elements.

B. Coordination and Scheduling: Coordinate phases of work to allow continuity of work without delays.

1.8 WARRANTY

A. Provide pre-finished sheet metal manufacturer's thirty (30) year finish warranty from the date of substantial completion.

PART 2 - PRODUCTS

2.1 PRIMARY SHEET METAL

A. Pre-finished Aluminum: 040 inch (40-mil), ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14, primed and finished on one side with Kynar/Hylar based fluoropolymer coating of 1.0 mil total dry film thickness, and on the reverse side, with a wash coat of 0.3 to 0.4 mil dry film thickness. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.

1. Slip Flashing
2. Receiver Flashing

3. Counterflashing
4. Expansion Joint Cover
5. Expansion Joint Cleat
6. Fascia Closure
7. Face Plate
8. Gutter
9. Downspouts
10. Skylight Curb Closure

B. Pre-finished Aluminum: .063 inch (63-mil), ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14, primed and finished on one side with Kynar/Hylar based fluoropolymer coating of 1.0 mil total dry film thickness, and on the reverse side, with a wash coat of 0.3 to 0.4 mil dry film thickness. Protect the finish during fabrication and installation with a strippable plastic film. Manufacturer's standard color selected by Owner.
1. Coping

C. 0.050 inch (50-mil) Mill Finished Aluminum, ASTM B209 Aluminum Alloy Sheet and Plate, alloy and temper 3003-H14:

1. Continuous Cleat

2.2 ALUMINUM

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

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

2.3 STAINLESS STEEL

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

1. Scupper Liner

2.4 FASTENERS

A. Roofing Nails: Minimum 12-gauge stainless steel ring shank roofing nails with diamond point, minimum 3/8 inch diameter head and length as required to penetrate substrate a minimum of 1-1/4 inches.

B. Screws:

1. Sheet metal to wood attachment (exposed): #12 stainless steel, 5/16 HWH with length to penetrate substrate a minimum of 1-1/2 inches. Provide with bonded EPDM washer or washer specified below. Factory painted heads to match the sheet metal color.
2. Sheet metal to wood attachment (concealed): #10 stainless steel, low profile pancake head with length to penetrate substrate a minimum of 1-1/2 inches.

3. Sheet metal to sheet metal attachment (exposed): 1/4 inch x 7/8 inch carbon steel, self-drilling point, self-tapping, zinc alloy hex head screws with bonded EPDM tubular washer under head of fastener; screw heads to match color of wall panel by means of factory applied coating. Factory painted heads to match the sheet metal color.
4. Sheet metal to light gauge steel attachment (concealed): #14-13 DP1 stainless-steel low-profile pancake head of length as required for three threads to penetrate metal substrate or min. 1 inch penetration though wood substrates.

C. Concrete and Masonry Anchors: 1/4 inch diameter metal-based expansion anchor with stainless steel pin of length to penetrate substrate a minimum of 1-1/2 inches. Factory painted heads to match the sheet metal color.

D. Washers: Stainless steel with neoprene gasket backing.

1. 9/16 inch diameter for use with #12 screws
2. 5/8 inch diameter for use with 1/4 inch diameter concrete and masonry anchors.

E. Rivets: #44 stainless steel rivets with stainless steel mandrel and factory painted head to match adjacent sheet metal. Length to properly fasten particular sheet metal components.

2.5 RELATED MATERIALS

A. PVC Flashing: 20 mil corrosion resistant, waterproof PVC flashing.

B. Compressible Insulation: Un-faced friction-fit fiberglass building insulation, cut to fit from 3-1/2 inch x 15 inch x 48 inch batts.

C. Polyurethane Sealant: One-component elastomeric gun grade polyurethane sealant conforming to ASTM C 920, Type S, Grade NS, Class 25, and use NT, M, A, G, or O as required by substrate conditions. Color to match sheet metal color selected by Owner.

D. Silicone Sealant: One-component, non-sag, neutral cure, low-modulus, UV resistant, high performance silicone sealant meeting ASTM C 920, Type S, Grade NS, Class 100/50, Use NT, M, G, A or O. Color to match sheet metal color selected by Owner. Acceptable Manufacturers include:

1. Dow 790 Building Sealant
2. Pecora 890 NST Silicone
3. Sikasil-WS 290
4. Triangle Fastener Corporation Ultra 1000

E. Sealant Tape: Minimum 1/2 inch wide, non-skinning, butyl sealant tape.

F. Butyl Sealant: Gun grade, non-skinning, non-hardening, flexible blend of butyl rubber and polyisobutylene sealant.

G. Backer Rod: Closed-cell polyethylene or polyurethane rods sized approximately 25% larger than joint opening.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Coordinate with other work for correct sequencing of items.

B. Ensure substrates are installed, secured and modified to accommodate sheet metal flashings.

C. Report deficiencies associated with the sheet metal substrates to Engineer before beginning sheet metal work. Correct deficiencies before installing sheet metal flashings.

3.2 INSTALLATION

A. General:

1. Lock and seal joints of pre-finished sheet metal.
2. Provide for thermal movement (expansion and contraction) of sheet metal.
3. Where dissimilar metals contact, prevent galvanic action by means of heavy coat of asphalt primer or separate with sheet metal underlayment.
4. Provide uniform sheet metal sections with corners, joints and angles mitered, sealed and secured.
5. Hem (return) exposed edges for strength and appearance.
6. Fit sheet metal close and neat.
7. Provide cleats or stiffeners and other reinforcements to make sections rigid and substantial.
8. Fabricate, support, cleat, fasten and join sheet metal to prevent warping, "oil canning", and buckling.

B. Sheet Metal Laps: Unless otherwise indicated:

1. Notch and lap ends of adjoining sheet metal sections not less than 4 inches; apply sealant tape or two bead of butyl sealant between sections.
2. Lap miters at corners a minimum of 1 inch and apply sealant between laps. Rivet at 2 inches on center.

C. Fasteners:

1. Size and type required.
2. Fasteners compatible with materials being joined.
3. Exposed Fasteners:

    a. Install screws with 5/16 inch predrilled, oversized holes.
    b. Install Concrete and Masonry Anchors with 11/32 inch predrilled, oversized holes.
    c. Exposed horizontal surface fasteners are not acceptable.

D. Slip Flashing:

1. Fabricate at curbs as shown in detail drawings in 10 foot lengths.
2. Extend a minimum of 2 inches below base flashing termination and fit tightly against curb.

3. Secure at 12 inches on center of a minimum of two fasteners per side of the curb. If slip flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

E. Receiver Flashing:

1. Fabricate receiver flashing as shown in detail drawings in 10 foot lengths.
2. Attachment:

    a. Install receiver flashing into saw-cut reglet where indicated in Drawings and secure with soft metal wedges at 18 inches on center set deep into joint. If receiver flashing is located within Corner (Zone 3) secure at 9 inches on center maximum.
    b. Install receiver flashing surface mounted at 12 inches on center where indicated in Drawings. If receiver flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.

3. Install sealant properly tooled to ensure adhesion and slope to shed water in saw-cut reglet. Cover soft metal wedges with sealant.

F. Counterflashing:

1. Fabricate counterflashing as shown in detail drawings in 10 foot lengths.
2. Install counterflashing as indicated in detail drawings and secure to receiver flashing 12 inches on center. If counter flashing is located within Corner (Zone 3) secure at 6 inches on center maximum.
3. Stagger receiver anchors with counter flashing fasteners.
4. Extend counter flashing a minimum of 1.5 inches below base flashing termination.

G. Expansion Joint:

1. Fabricate expansion joint cover and cleat as shown in detail drawing in 10 foot lengths. Refer to SMACNA Architectural Sheet Metal Manual Figure 5-5A.
2. Prior to installation of expansion joint cover, install compressible insulation in PVC flashing envelope.
3. Provide continuous expansion joint cleat fastened to the expansion curb 8 inches on center.
4. Lock expansion joint cover onto cleat and fasten remaining vertical leg of cover to wood blocking 12 inches on center. If expansion joint is within Corner (Zone 3), secure at 6 inches on center maximum.
5. Notch and lap ends of adjoining expansion joint cleat sheet metal sections not less than 4 inches; apply sealant tape or butyl sealant between sections.
6. Expansion Joint Seams:

    a. Provide 1 inch high single lock standing seam at adjoining expansion joint cover sections. Provide sealant on both sides of 1 inch turn up for standing seam. Refer to SMACNA Architectural Sheet Metal Manual Figure 3-2, type 22.

H. Coping:

1. Fabricate coping in 10 foot lengths. Fabricate coping a maximum of 1/2 inch wider than the width of the wall; field verify parapet wall width prior to sheet metal fabrication. Refer to SMACNA Architectural Sheet Metal Manual Figure 3-4A.
2. Install continuous cleat fastened to substrate 6 inches on center in vertical leg. Locate fasteners no greater than 2 inches from the bottom hem.
3. Lock outside face of coping onto continuous cleat and secure inside face as follows:

    a. For coping widths greater than 12 inches, secure inside face with continuous cleats. Secure cleat through vertical face of cleat to blocking with fasteners at 6 inches on center. Locate fasteners no greater than 2 inches from the bottom hem.

4. Coping Seams:

    a. Provide six inch wide back-up plates at laps. Apply two beads of polyurethane sealant along each side of lap, extend sealant down vertical leg of splice plate. Refer to SMACNA Architectural Sheet Metal Manual Type J2.

I. Through Wall Scupper:

1. Fabricate through wall scupper flange, liner, and faceplate as shown in detail drawings. Scuppers dimensions as indicated in the Contract Drawings with flange extending a minimum of 4 inches on top and sides of scupper and extends a minimum of 4 inches onto the horizontal membrane.
2. Strip in scupper liner as specified.
3. Provide faceplate which extends 1.5 inches around the scupper and secure to wall substrate 12 inches on center with minimum of four fasteners (one in each corner). Set faceplate in a bead of sealant.
4. Extend scupper liner 1 inch beyond the exterior wall face and lock onto faceplate.

J. Gutters:

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

    a. Lap joints in gutters a minimum of 1 inch, riveted 1 inch on center. Install sealant tape between gutter sections and sealant at exposed inside edge and on rivets. Lap joints in the direction of water flow.

3. Provide downspout outlet tubes in downspout locations. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-33B and Detail 1. Tab gutter outlet tubes a minimum of 1 inch, set in a bead of sealant and secure to gutter with a minimum of two rivets per tab.
4. Provide coated gutter brackets and spacers as shown in detail drawings by air dried kynar paint or powder coated to match sheet metal finish color. Provide certification delivered to site with materials indicating method of finish utilized. Evenly stagger the placement of brackets and spacers. Space brackets and spacers 36 inches on center, staggered.

5. Rivet spacers to both sides of the gutter only.
6. Secure brackets to wood blocking with two stainless steel fasteners.
7. Space straps 24 inches on center, secure to front edge of gutter and secure to perimeter roof edge through slotted, pre-drilled holes.
8. Fabricate gutter with leading edge 1 inch below the back edge as shown in detail drawing.
9. Hang gutters level.

K. Downspouts:

1. Fabricate downspouts in 10 foot lengths. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-32B.
2. Paint hangers with air dried kynar painted or powder coat to match sheet metal finish of downspouts.
3. Secure downspout to the structure with two-piece hangers spaced no more than 8 foot apart with a minimum of two hangers per downspout with a hanger located within 12 inches from bottom. Refer to SMACNA Architectural Sheet Metal Manual Figure 1-35H.
4. Fashion downspouts to run back to (at overhangs) and be parallel to the facility walls.
5. Tie downspouts into below grade storm drainage system or if no below grade system is applicable kick-out downspouts above grade onto concrete splash blocks. Fill in soil to provide slope away from building.

    a. Provide square to round transition to tie into below grade system as necessary.

3.3 CLEANING AND PROTECTION

A. Clean sheet metal work of asphalt, flux, scrapes and dust.

B. Replace sheet metal components with scratches through the metal finish.

END OF SECTION

SECTION 07 71 19

MANUFACTURED GRAVEL STOPS AND FASCIAS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Provide factory fabricated and finished roof edging.

1.2 RELATED DOCUMENTS

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

1. Section 06 10 00 "Rough Carpentry"
2. Section 07 53 23 "Thermoset EPDM Roofing"
3. Section 07 62 00 "Sheet Metal Flashing and Trim"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

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

1. FM Global
2. ANSI/SPRI ES-1

1.4 PERFORMANCE REQUIREMENTS

A. ANSI/SPRI/FM 4435/ES-1 to design pressure listed in Contract Drawings.

1.5 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Test Reports: Documentation of performance design pressure.

E. Shop Drawings: Show profiles, joining method, location of accessory items, anchorage and flashing details, adjacent construction interface, and dimensions.

1.6 QUALITY ASSURANCE

A. Certified by the manufacturer to comply with ANSI/SPRI Standard ES-1. Meet performance design criteria according to the following test standards:

1. ANSI/SPRI ES-1 Test Method RE-1 Test for Roof Edge Termination of Single-ply Roofing Membranes: Tested to secure the membrane to minimum 100 lbs/ft in accord with the ANSI/SPRI ES-1 Test Method RE-1. Use the current edition of ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.
2. ANSI/SPRI ES-1 Test Method RE-2 Pull-Off Test for Fascia: Tested in accord with the ANSI/SPRI ES-1 Test Method RE-2. Use the current edition of ANSI/SPRI ES-1 Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.
3. UL Classified by Underwriters Laboratories, Inc. or other 3rd party verification of compliance with the ANSI/SPRI ES-1 Wind Design Standard.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver materials in the manufacturer's original sealed, labeled containers.

B. Store materials in a dry, protected, well-vented area. Report damaged material to the delivering carrier and note such damage on the carrier's freight bill of lading.

C. Remove protective plastic surface film after installation.

1.8 PROJECT CONDITIONS

A. Verify other trades are complete before installing the roof edging.

B. Verify mounting surfaces are straight and secure and substrates have proper width.

C. Refer to the construction documents, shop drawings and manufacturer's installation instructions.

D. Coordinate installation with roof membrane manufacturer's installation instructions.

E. Observe appropriate OSHA safety guidelines for this work.

1.9 WARRANTY/GUARANTEE

A. Included in Roof System Warranty as specified in :

1. Guarantee roof edge system will not blow off, leak, or cause membrane failure in wind conditions up to 215 mph (extruded aluminum cleat), or the manufacturer will replace its materials for a period of twenty years.
2. Finish Warranty: Thirty (30) years.

PART 2 - PRODUCTS

2.1 MANUFACTURER:

A. Manufacturers:

1. Hickman Edge Systems
2. Metal Era
3. Drexel Metal
4. Engineer's accepted equivalent

2.2 ROOF EDGE:

A. Pre-manufactured Edge Metal: Decorative metal fascia with continuous extruded aluminum bar.

1. Construction:

a. Fascia metal gauge: .040 inch thick formed aluminum.
b. Aluminum Finish: Standard color Kynar-500 as selected by the Owner from roof edge manufacturer's color chart.
c. Fascia: Standard 12 feet lengths.
d. Extruded bar: Continuous 6063-T6 alloy aluminum at 12 feet standard lengths with pre-punched slotted holes and welded miters.

1) Injection Molded EPDM Bar Splice to allow thermal movement expansion of extruded aluminum anchor bar.
2) Fasteners: 2 inch stainless steel with driver.

e. Model: Hickman Edge Systems: Terminedge XT Fascia, Metal Era Anchor Tite HG, Drexel Metal: Fascia EC .
f. Performance:

1) Lifetime, 215 mph Wind Warranty.
2) Tested per ANSI/SPRI ES-1 Standard to a design pressure of 290 lbs./ft^2 to comply with the International Building Code.

2.3 ACCESSORIES:

A. Fabricate corners, end caps, fascia sumps, or spillouts, etc. by the roof edging manufacturer.

1. Provide factory fabricated mitered corners with 12" nominal leg lengths.

B. Provide matching ledgecaps, downspouts, or other special fabrications as detailed.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify roof edging installation does not disrupt other trades. Verify substrate is dry, clean and free of foreign matter. Report and correct defects prior to installation.

3.2 INSTALLATION

A. Submit design drawings for review and acceptance by Engineer before fabrication.

B. Check as-built conditions and verify the manufacturer's roof edging details for accuracy to fit the wall assembly prior to fabrication. Comply with the roof edging manufacturer's installation guide when setting edging.

C. Use stainless steel screw type fasteners as provided by manufacturer, nominal 1-1/4 inch length, with minimum 240 lb. pull-out resistance; suitable for the substrates to which being installed.

D. Install waterproof sealant to underside of retainer base plate as recommended and suppled by the roofing membrane manufacturer.

END OF SECTION

SECTION 07 72 00

ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide roof accessory assemblies as indicated and required by the Contract Drawings:

a. Provide pipe supports for rooftop conduit, gas lines, electrical lines, condensation lines, etc.

1.2 RELATED DOCUMENTS

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

1. Section 07 53 23 "Thermoset EPDM Roofing"
2. Section 07 62 00 "Sheet Metal Flashing and Trim"

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

D. Shop Drawings:

1.4 DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping: Deliver materials to site in Manufacturer's original unopened packaging with labels intact.

B. Storage: Protect against damage while stored at the site.

C. Handling: Comply with Manufacturer's instructions.

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions required.

1.6 WARRANTIES

A. Include roof accessories provided through roof system manufacturer in the specified roof system manufacturer's warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Pipe Supports: Smooth EPDM rubber pipe support sized to fit the diameter of the pipe being supported and height adjustable.

1. Products:

a. OMG Roofing Products Pipe Guard
b. nVent Caddy Pyramid ST
c. PHP Systems PP10
d. Miro Industries Base Strut

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions: Examine subsurfaces to receive Work and report detrimental conditions in writing to Engineer. Commencement of work signifies acceptance of substrates.

B. Coordination: Coordinate with other Work which affects, connects with, or is concealed by this Work

3.2 INSTALLATION

A. Pipe Supports:

1. Provide pipe supports at rooftop gas, electrical conduit and condensation lines with a 5 foot maximum spacing and within 2 feet of all direction changes.

3.3 CLEANING

A. During the course of the Work and on completion, remove and dispose of excess materials, equipment and debris away from premises.

END OF SECTION 07 72 00

SECTION 08 62 00

UNIT SKYLIGHTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Replace unit skylights with curb mounted plastic skylights.

1.2 RELATED DOCUMENTS

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

1. Section 06 10 00 "Rough Carpentry"
2. Section 07 53 23 "Thermoset EPDM Roofing"
3. Section 07 62 00 "Sheet Metal Flashing and Trim"
4. Section 07 71 19 "Manufactured Gravel Stops and Fascias"

1.3 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

B. Product Data: Manufacturer's Product Data Sheets for materials specified certifying material complies with specified requirements.

C. Manufacturer's Instructions: Latest edition of the Manufacturer's current material specifications and installation instructions.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide unit skylights capable of withstanding loads indicated without failure. Failure includes the following:

1. Thermal stresses transferred to the building structure.
2. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing.
3. Noise or vibration created by thermal and structural movement and wind.
4. Weakening of fasteners, attachments, and other components.

B. Structural Loads: Provide unit skylights that meet the requirements of American Architectural Manufacturer's Association (AAMA) publication "Voluntary Uniform Load Structural Standard for Plastic Domed Skylights" (AAMA 1606-82) which requires acrylic thickness adequate to withstand a positive and negative test pressure of 60 PSF.

C. Fire-Test-Response Characteristics: Provide Thermoformed domes fabricated from sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.

1. Self-Ignition Temperature: 651 deg For greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.
2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.
3. Relative-Burning Characteristics: As follows, when tested per ASTM D 635:

    a. Polycarbonate: (when specified) Burning extent of 1 inch or less when tested on plastic glazing indicated below with a nominal thickness of 0.060 inchor the thickness intended for use.

1.5 WARRANTY

A. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. "Defects" is defined as uncontrolled leakage of water and abnormal aging or deterioration.

1. Warranty Period: 2 years from date of Substantial Completion.

B. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. "Defects" is defined as abnormal aging or deterioration.

1. Warranty Period for Acrylic: 2 years from date of Substantial Completion against breakage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by:

1. Velux America LLC
2. American Skylights
3. Engineers accepted equivalent

2.2 PLASTIC SKYLIGHT UNITS

A. Products:

1. Wasco-Velux Half Round Continuous Vault Curb Mount with Vertical Ends
2. Plasteco Structural Half Round Barrel Vaulted with Vertical Ends

B. American Skylights Model BV Half Round Barrel Vault Curb Mount with Vertical EndsShape and Size: As indicated by model number and to properly fit on roof curb.

C. Curb Frame: Bright white high-performance PVC with Bronze cap stock and minimum effective thickness of 0.060 inch. Provide integral condensation gutter and weep system with corners welded for waterproof quality.

D. Retainer Frame: Extruded aluminum alloy 6063-T5. ASTM B 221 (ASTM B 221 M) with minimum effective thickness of 0.60 inch.

E. Plastic Sheets: Monolithic, formable, transparent (colorless and tinted) or translucent (white) sheets with good weather and impact resistant.

F. Thermal Break: Fabricate skylight units with thermal barrier separating interior metal framing from materials exposed to outside temperature.

G. Glazing:

1. Double Domed.
2. Thermoformed acrylic: (Bronze half round outer dome .
3. Thermoformed acrylic inner dome (clear).

H. Fasteners: Same metal as metals being fastened, or non-magnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

2.3 FABRICATION

A. Framing Components:

1. Factory fit and assemble components.
2. Fabricate components that, when assembled, have accurately fitted joints with ends coped or mitered to produce hairline joints free of burrs and distortion.
3. Fabricate components to drain water passing joints and to drain condensation and moisture occurring or migrating within skylight system to the exterior.
4. Fabricate components to accommodate expansion, contraction, and field adjustment, and to provide for minimum clearance and shimming at skylight perimeter.
5. Fabricate components to ensure that glazing is thermally and physically isolated from framing members.
6. Form shapes with sharp profiles, strait and free of defects or deformations, before finishing.
7. Fit and secure joints by heliarc welding.

2.4 ALUMINUM FINISHES

A. General: Comply with NAAMM "Metal Finishes Manual" recommendations for application and designations of finishes.

B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.

C. Mill Finish: Manufacturer's standard mill finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with requirements for installation tolerances and other conditions affecting skylight performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Where aluminum contacts dissimilar metals, protect against galvanic action by paining contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

B. Where aluminum contacts concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Where aluminum contacts pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

3.3 INSTALLATION

A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.

B. Coordinate with installation of roof deck and other substrates to receive skylight units.

C. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that elements of the work perform properly and that combined elements are waterproof and weather tight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

D. Counter Flashing: Where counter flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

3.4 CLEANING

A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.

B. Clean plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion.

END OF SECTION

SECTION 22 14 26

ROOF DRAINS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Water test of below grade storm drain leaders and roof drains.
2. Replacement of existing roof drain components.

1.2 RELATED SECTIONS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications sections apply to this section, including but not limited to:

1. Section 05 01 30 "Steel Roof Deck Repair and Securement"
2. Section 06 10 00 "Rough Carpentry"
3. Section 07 01 50 "Preparation for Reroofing"
4. Section 07 22 16 "Roof Insulation"
5. Section 07 53 23 "Thermoset EPDM Roofing"
6. Section 07 62 00 "Sheet Metal Flashing and Trim"

1.3 REFERENCES

A. Refer to Section 01 42 00 "References" for referenced standards and applicable building code.

B. Refer to the following references for specification compliance:

1. American Society of Mechanical Engineers - ASME

    a. ASME A112.21.2 Roof Drains

2. International Association Plumbing & Mechanical Officials - IAPMO
3. ASTM International

1.4 SUBMITTALS

A. Refer to Section 01 33 00 "Submittal Procedures".

1.5 QUALITY ASSURANCE

A. Ensure plumbing systems and components are installed by licensed, qualified personnel.

B. Ensure roof drains, couplings, piping, supports, fixtures, pipe hangers, fasteners, fittings, etc. are installed in compliance with the referenced plumbing code, and installed in accordance with the component manufacturer's published guidelines and instructions, and referenced standards.

C. Field test completed storm drain systems as required by the referenced plumbing code.

1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery: Deliver materials in the manufacturer's original sealed and labeled packaging.

B. Storage: Store materials to prevent damage and not encumber Owner's operations.

C. Handling: Handle materials in such a manner as to prevent damage and contamination.

1.7 PROJECT CONDITIONS

A. Environmental Requirements:

1. Install roof drains and associated plumbing during periods of no precipitation to prevent water from entering the building.
2. Prevent damage to the building and contents during roof drain and associated plumbing installations.
3. Comply with applicable rules and regulations of Authorities Having Jurisdiction pertaining to storm sewage systems.
4. Flood test roof drain systems to verify functional operation prior to roof replacement operations and report deficiencies to Engineer and Owner.

B. Protection:

1. Ensure roof drainage systems remain in service and restore to operational before leaving the site.
2. Protect building interior and exterior surfaces during construction.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Existing Roof Drains: Replace clamping ring and strainer dome to match existing drain manufacturer and model with cast iron clamping ring and strainer dome. Replace bolts with stainless steel clamping ring bolts. Restore threads as necessary using taps to ensure positive fastening; clean metal shavings, chips and debris before fastening clamping ring.

PART 3 - EXECUTION

3.1 INSPECTION

A. Conduct a pre-job conference including the Engineer, Contractor, and the Owner's representative prior to the installation of roof drains and associated piping and plumbing fixtures.

B. Verify that conditions are acceptable to begin the installation.

C. Inspect daily the plumbing installation to ensure conditions remain satisfactory.

3.2 PREPARATION

A. Inspect building components and conditions before proceeding with plumbing installation.

B. Inspect the piping route and hanger attachment points to ensure conditions are satisfactory to install piping and associated plumbing fixtures for the completed drainage system.

C. Do not route piping and fixtures to interfere with the service of in-place equipment and systems.

D. Do not close off or obstruct streets, walks or other adjacent occupied facilities without permission from Owner, Engineer, and Authorities Having Jurisdiction.

E. DRAIN LEADERS Prior to commencement of work on the project inspect leaders for damage and water flow.

1. Clean drains of accumulated debris and loose gravel.
2. Clean drain bowl and drain outlet of bitumen build-up to bare metal by hand scraping.
3. Power vacuum debris, loose gravel, and bitumen scrapping down to the first elbow in the drain line.
4. Flood test leaders to determine that there are no plumbing leaks unrelated to the existing roof system and to verify proper function and flow.
5. Complete inspection and testing prior to roofing tear-off. If deficiencies or damages are observed, record the deficiency on a Roof Plan and forward to the Engineer. The Engineer will notify the Owner accordingly. Allow 48 hours after notification for corrective work by the Owner.
6. If no deficiencies or damages are reported to the Owner prior to commencement of work, assume responsibility for the condition and operation of the leaders .

F. Install temporary drain plugs during roofing activities to prevent foreign materials from entering drainage system. Remove drain plugs at the end of each workday to maintain drains in operational condition.

G. Reinstall clamping rings, bolts and strainer domes at the end of each working day.

H. Repair drain piping clogged by construction debris at no cost to the Owner.

I. Repair leaks associated with damage, following successful flood testing, to the roof drain connection to associated plumbing at no cost to the Owner.

3.3 ROOF DRAIN INSTALLATION

A. Install roof drains and associated components in accordance with the drain manufacturer's published instructions.

B. Install roof drains, piping and associated plumbing to meet applicable requirements of the local plumbing, building and fire code.

3.4 CLEANING

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

END OF SECTION