

# **SOMERSET CAREER & TECHNOLOGY CENTER**

281 TECHNOLOGY DRIVE

SOMERSET, PENNSYLVANIA 15501



## **2025 ROOF RENOVATION PROJECT PROJECT MANUAL**

**FEBRUARY 28<sup>TH</sup>, 2025**

**SOMERSET COUNTY TECHNOLOGY CENTER**

**281 TECHNOLOGY DRIVE**

**SOMERSET, PENNSYLVANIA 15501**

**NOTICE OF BID**

Sealed bids for a ROOF RENOVATION will be received by Somerset County Technology Center, 281 Technology Drive, Somerset, PA 15501 until **10:00 AM**, prevailing local time, **March 18<sup>th</sup>, 2025**. All envelopes containing bid proposals shall be sealed and clearly marked "ROOF BID". Bids received after the scheduled closing time for the receipt of bids will be returned unopened to the bidders.

A **mandatory** pre-bid meeting will take place at **10:00 AM on March 4<sup>th</sup>, 2025** at the Somerset County Technology Center, 281 Technology Drive, Somerset, PA 15501. The purpose of this meeting is to review the bid specifications and site conditions. Contractors failing to attend the pre-bid meeting will not be permitted to bid.

The scope of work for the renovation project involves removal and replacement of a portion of the roof on the district's E and C wing. Copies of the specifications will be provided at the pre-bid meeting, or available by contacting the business office.

The character and amount of security to be furnished by each bidder are stated in the above-mentioned contract documents. Participating contractors must be able to provide Criminal Background Checks, FBI Fingerprinting, and Child Abuse Clearances for all employees working on or around the property.

All applicable federal, state and local laws, rules and regulations apply. Somerset County Technology Center reserves the right to reject any or all bids, and/or to waive any informality, informality, omission, defect, irregularity and/or disqualifying error in any bid.

Somerset County Technology Center – Joint operating Committee

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PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Project Description
  - 2. Contract Requirements
  - 3. Submittal of Bids
  - 4. Additional Requirements

1.2 PROJECT INFORMATION

- A. Project Identification: Somerset County Technology Center 2025 Roof Renovation Project
  - 1. Address: 281 Technology Drive, Somerset, Pennsylvania 15501
  - 2. Project Overview: The base bid for the project is removal and replacement of a portion of the "C-Wing" roof. Bids on replacement of a portion of the "E-Wing" roof are also being solicited in addition to the base bid. The project is targeted for a summer, or fall start date based on the availability of the bidders, with substantial completion required before November 14<sup>th</sup>, 2025.
- B. Owner: Somerset County Technology Center
  - 1. Alan Conrad, Facility Director, Somerset County Technology Center
  - 2. Karen Remick, Administrative Director, Somerset County Technology Center
- C. Owner's Representative: The Garland Company
  - 1. Grant Kandabarow, Territory Manager, The Garland Company

1.3 CONTRACT REQUIREMENTS

- A. BID BOND: A bid bond, or certified check, for an amount not less than ten percent (10%) of the amount of the bid, shall accompany each bid. The check or bond from each unsuccessful bidder will be returned within thirty (30) days after the project has been awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may cause the forfeiture of its bid security.
- B. The successful contractor will be required to furnish a Performance Bond and a Labor & Materials Bond within thirty (30) days after the official notification of award of each contract. The premium for these bonds shall be included in each Contractor's bid.
  - 1. Performance and Labor and Material Payment Bonds: the contractor shall provide a performance bond and a labor and material payment bond, each in the amount of 100% of the contract price, before the award of the contract. (Sections 756 and 757 of the Public School Code of 1949, as amended, and the Public Works Contractors Bond Law of 1967).
- C. The form of the bonds and sureties shall be acceptable to the owner and for the following amounts:
  - 1. Performance Bond for the full amount (100%) of the contract insuring the faithful performance of all provisions of the contract and satisfactory completion of the specified work, within the time agreed upon and a maintenance bond for the full amount (100%) covering all guarantees against defective material and workmanship in any work under the contract for a period of three (3) years after the work has been accepted (Final Completion) by the Owner. A Labor and Material Bond for the full amount (100%) of the contract will also be required for the protection of all

Subcontractors and material suppliers. Bonds shall bear the same date as that of the contract.

- D. All on-site employees of the Contractor must provide the following clearances to the Owner prior to the start of the project:
  - 1. PA Child Abuse
  - 2. PA Criminal Background Check
  - 3. FBI Fingerprinting
- E. The Owner is not obligated it to accept the lowest or any bids, and particularly reserves the right to reject any or all bids and to waive any informalities in the bidding process.

#### 1.4 PRE-BID CONFERENCE

- A. A mandatory pre-bid conference shall be held on Tuesday, March 4<sup>th</sup>, 2025 at 10:00 AM EST. The meeting will be conducted at the Somerset County Technology Center, 281 Technology Drive, Somerset, Pennsylvania 15501. The purpose of this meeting is to review site conditions and the contents of this project manual. If a bidder is unable to attend the pre-bid meeting, a site-visit must be performed with the Owner and Owner's Representative at least 5 business days prior to the bid due date. Site visits can be scheduled by reaching out to the Owner. Contractors failing to attend the pre-bid conference or a site-visit will be disqualified from submitting a bid.
- B. No one individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.
- C. An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.
- D. All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in but are charged with knowing all matters discussed at the pre-bid.
- E. Questions submitted at least 24-hours prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

#### 1.5 RESPONSIBILITY FOR MEASUREMENTS AND QUANTITIES

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

#### 1.6 BID QUESTIONS

- A. Bidders may submit questions relating to this solicitation. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address

listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

B. Deadline for Questions: 4:00 PM E.S.T. on March 12, 2025

1. Questions to be submitted to:

Karen Remick, Administrative Director  
281 Technology Drive, Somerset, Pennsylvania 15501  
kremick@sctc.net (EMAIL PREFERRED)

1.7 VERBAL COMMUNICATION

- A. Any verbal communication between the bidder and personnel of Somerset County Technology Center is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Owner's Representative is binding.

1.8 DISCREPANCIES AND ADDENDA

- A. Should a Bidder find any discrepancies in the Drawings and Specifications, be in doubt as to their meaning, or feels that the Drawings or Specifications conflict with good construction practices, it shall notify the Owner's Representative at once, who will send a written Addendum to all Bidders concerned. Oral instructions or decisions, unless confirmed by Addenda, will not be considered valid, legal or binding.
- B. No extras will be authorized because of the Contractor's failure to include work called for in the Addenda in the bid.
- C. It shall be the responsibility of all Bidders to call to the Owner's Representative's attention at the pre-bid meeting, any discrepancies which may exist between or with any of the contract documents, or any questions which may arise as to their true meaning.
- D. Modifications to the specifications (if necessary) will be followed by an addendum; no verbal discussions or agreements shall be recognized.

1.9 SUBMITTAL OF BIDS

- A. Documents Required for Submitting a Formal Bid for this Project:
1. Standard Form of Bid
  2. Non-Collusion Affidavit
  3. Bid Bond or Certified Check
- B. Sealed envelopes containing bids should be clearly marked or "ROOF BID" and shall be sent or delivered to the address listed on the "Standard Form of Bid" as prepared and included in the Project Manual.
- C. It is the intent of the Somerset County Technology Center in conjunction with the "Base Bid" to purchase materials for the "Roof Renovation Project" located at 281 Technology Drive, Somerset, Pennsylvania 15501 directly from Garland/DBS, Inc., based upon the Agency's participation in the OMNIA Partners, Public Sector (U.S. Communities™) Government Purchasing Alliance's program for Roofing Supplies and Related Products and Services, as priced by and awarded to Garland/DBS, resulting from the competitively solicited Sealed Bid # PW1925 issued by the Racine County, WI Board of Commissioners.

1. It is understood that the bidder agrees to deliver all materials prepaid, F.O.B., Somerset, PA. Materials sold must have the shipping prices included in the unit price. The Owner will not be responsible for payment of collected shipping charges nor any shipping charges not included in the bid. Deviation from this condition will not be acceptable.
  - a. The Owner will be responsible for freight charges associated with direct purchases of material from the primary roofing material manufacturer. Freight charges will be based on shipment from the manufacturer's facility or warehouse direct to the project site via LTL or direct carriers.
  - b. The roof contractor will be responsible for receiving, handling and proper storage of these materials at the project site. Additional charges for shipping, handling, storage, or interruptions or delays in delivery caused by any means will not be allowed to be charged to the owner.
2. It is understood that the bidder agrees to furnish according to specifications all items for which a quotation is offered. The Owner will consider all items offered as "or equal" when offered at the same or at a lower price, but reserves the right to determine which is strictly "or equal" taking into consideration that which appears to best serve the purpose of the project. If a substitution is intended for any item, the bidder must clearly indicate its offering including manufacturer and product number in the body of the specifications and submit details.

D. Bid Form Completion

1. No bid will be recorded unless the Standard Form of Bid is completed and signed by the bidder.
2. Bidders must acknowledge receipt of all addendums they have received
3. Bidders are encouraged to bid all lump sum base bid items, alternates, and unit prices, but shall "no-bid" any bid items on the bid form. Failure to submit lump sum pricing for all bid items and unit prices may result in bid disqualification.
4. It is understood that the stated unit prices on the standard form of bid, shall prevail over the extended price and that the price per unit shall be the unit specifically indicated by the Owner. In the case of a price discrepancy, the indicated unit price, when multiplied by the number of units desired, shall be the acceptable bid price.
5. Bidders are required to disclose any known subcontractors that account for more than 10% of the total project cost at the time of bid.
6. The Solicitation contains the specifications that shall form the basis of a contractual agreement. Bidders shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

E. All bids will be effective for 60 days from the date of the bid opening and no bid may be withdrawn during that period except as permitted by law.

F. By submission of its proposal, the Contractor acknowledges that the Contract Documents are full and complete, are sufficient to have enabled it to determine the cost of the Work and that the Drawings, Specifications and all addenda are sufficient to enable the Contractor to construct the Work outlined therein in accordance with applicable laws, statutes, ordinances, building codes, and regulations, and otherwise to fulfill all of its obligations under the Contract Documents.

1. Having carefully studied and compared the Contract Documents with each other and with information furnished by the Owner and inspected the location of the Work and satisfied itself as to the condition thereof, except as to any reported error, inconsistency or omission, by executing the form of agreement, the Contractor represents the following:
  - a. Contractor has received all information it needs concerning the condition of the Project Site.

- b. Contractor has satisfied itself as to the condition of the location of the Work, including, without limitation, all structural, surface and subsurface conditions.
- c. Contract sum is just and reasonable compensation for all Work, including all risk, hazards and difficulties in connection therewith.
- d. Contract time is adequate for the performance of the Work.
- e. Contractor shall have no claims for surface or subsurface conditions encountered.
- f. Contract Documents are sufficiently complete and detailed for Contractor to perform the Work required to produce the results intended by the Contract Documents and to comply with all requirements of the Contract Documents.
- g. Work required by the Contract Documents, including, without limitation, all construction details, means, methods, procedures and techniques necessary to perform the Work, use of materials, selection of equipment, and requirements of product manufacturers are consistent with (i) good and sound practices within the construction industry, (ii) generally prevailing and accepted industry standards applicable to the Work, (iii) requirements of any warranties applicable to the Work, and (iv) all laws, ordinances, regulations, rules and orders which bear upon the Contractor's performance of the Work.

#### 1.10 BID OPENINGS

- A. All bids are due to the Somerset County Technology Center Main Office located at 281 Technology Drive, Somerset, Pennsylvania 15501, Somerset, Pennsylvania 15501; Attention Karen Remick, **by 10:00 AM (prevailing time), March 18<sup>th</sup>, 2025**. The bids will be opened and read aloud at that time.

#### 1.11 COMPETENCY OF THE BIDDERS

- A. In addition to the Contractor Qualification Questionnaire that is to be completed and submitted as part of the bidder's formal bid submission, the low Bidder shall, when requested by the Owner, furnish the information indicated below, which shall be sworn to under oath by the Bidder or by a properly authorized representative of the Bidder.
  - 1. The address and description of the Bidder's plant & place of business.
  - 2. The name and/or Articles of co-partnership or incorporation.
  - 3. Itemized list of equipment available for use on the project.
  - 4. A certified or authenticated financial statement, dated within sixty (60) days prior to the opening of the bids. The Owner may require that any items of such statements be further verified.
  - 5. A list of present contracts, including dollar values, percentages of completion and names of all owners involved.
  - 6. A list of projects completed during the previous twelve (12) months, including the contract values and names of the owners involved.
  - 7. A statement regarding any past, present or pending litigation with an Owner.
  - 8. Such additional information as may be requested that will satisfy the Owner that the Bidder is adequately prepared in technical experience, or otherwise to fulfill the contract.
  - 9. Sufficient documents to ensure that the Contractor is in compliance with current Fair Employment Practice requirements of the Owner.

#### 1.12 DISQUALIFICATION OF BIDDERS

- A. Any one or more of the following causes may be considered sufficient for the disqualification of a Bidder and the rejection of its bid(s) [This list is not intended to be an exclusive list of reasons for disqualification and rejection, and Owner reserves the right to reject any non-responsive bidder]:
  - 1. Failure to attend the pre-bid meeting or site-visit as described in section 1.4;

2. Evidence of collusion among Bidders;
3. Lack of responsibility as revealed by either financial, experience or equipment statements, as submitted;
4. Lack of expertise as shown by past work, and judged from the standpoint of workmanship and performance history;
5. Uncompleted work under other contracts which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional work if awarded; or
6. Being in arrears on existing contracts, in litigation with an Owner, or having defaulted on a previous contract.
7. Any deviation from the requirements in the specifications.

#### 1.13 WITHDRAWAL OR MODIFICATION OF BID

- A. Any Bidder may withdraw its bid at any time before the scheduled closing date of the bid by appearing in person or by sending an authorized representative of the Bidder. An appointment should first be scheduled by calling the Owner's Representative. The Bidder or its representative shall be asked to sign, in writing that the bid was returned after the withdrawal from the contract, the Bidding Contractor may not resubmit them.

#### 1.14 NOTICE OF AWARD

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

#### 1.15 CONSTRUCTION TIME AND LIQUIDATED DAMAGES

- A. For 2025 construction, Contractor must substantially complete the specified work by November 14<sup>th</sup> 2025.
- B. The Agreement will include a stipulation that Liquidated Damages will be established in the amount of \$250.00 per calendar day for each calendar day after the Work is not fully certified by the Owner's Representative as being substantially complete. Final terms of the liquidated damages clause will be established between the Owner and awarded bidder during contract development, and will be influenced by the bidder's proposed construction schedule that is to be detailed on page 3 of the standard bid form.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

**SECTION 00 41 00  
BID FORM**

**2/28/2025**

**Owners Information:**

Somerset County Technology  
Center  
281 Technology Drive,  
Somerset, Pennsylvania 15501

Attn: Karen Remick  
Administrative Director  
kremick@sctc.net  
(814)-443-3651, ext. 6126

**Bidder Information:**

Contractor: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State/Zip: \_\_\_\_\_

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

**Description of Work:** 2025 Roof Renovation Project

**Bid Due Date :** 3/18/2025 @ 10:00 AM

**Bid Items:**

*All bid pricing must be written in "WORDS AND NUMBERS." In the event of a difference between the written word amount and the number amount, the written word amount shall prevail.*

Base Bid #1: C2 Roof Replacement

Numeric Amount: \$ \_\_\_\_\_

Written Amount: \_\_\_\_\_

Base Bid #1 – Alternate #1: E2 Roof Replacement

Numeric Amount: \$ \_\_\_\_\_

Written Amount: \_\_\_\_\_

Contractor: \_\_\_\_\_ Initials: \_\_\_\_\_

**SECTION 00 41 00**  
**BID FORM**

**2/28/2025**

**Unit Price for Additions to Contract:**

Replacement of Metal Decking

Numeric Amount: \$ \_\_\_\_\_ / square foot

Written Amount: \_\_\_\_\_ / square foot

Replacement of existing wood nailers

Numeric Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 4" Nailer

Written Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 4" Nailer

Numeric Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 6" Nailer

Written Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 6" Nailer

Numeric Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 8" Nailer

Written Amount: \$ \_\_\_\_\_ / Lineal Foot – 2" x 8" Nailer

**Bidder's List of Subcontractors:**

*List all subcontractors that will be utilized for more than \$25,000.00 of work to complete the project:*

Subcontractor Company Name: \_\_\_\_\_

Subcontractor's trade: \_\_\_\_\_

Contact Name & Phone Number: \_\_\_\_\_

Subcontractor Company Name: \_\_\_\_\_

Subcontractor's trade: \_\_\_\_\_

Contact Name & Phone Number: \_\_\_\_\_

Subcontractor Company Name: \_\_\_\_\_

Subcontractor's trade: \_\_\_\_\_

Contact Name & Phone Number: \_\_\_\_\_

Contractor: \_\_\_\_\_ Initials: \_\_\_\_\_

**In submitting this Bid, the Bidder represents, as more fully set forth in the Agreement that:**

1. The undersigned agrees that the proposal is based on material and standards of construction of the makes or types called for in the project manual of Somerset County Technology Center. Any use of alternate materials without prior written approval will not be permitted.
2. It is hereby certified that the undersigned is the only person(s) interested in this proposal as a principal, and that the proposal is made without collusion with any person, firm, or corporation.
3. Bidder guarantees that, if awarded Contract, he will furnish and deliver all materials, tools, equipment, light, heat, tests, transportation, secure all permits, bonds and licenses, perform all labor, superintendence and all means of construction, pay all fees and do all incidental work, and to execute, construct, and finish in accordance with the procedures outlined in the "Project Manual" to the complete satisfaction and acceptance of the Owner for the price(s) stated on page 1 "Bid Items" & page 2 "Unit Price for Additions to Contract".
4. It is understood that the Owner reserves the right to reject any or all proposals, or part thereof or items therein, and waive technicalities required for the best interests of the Owner. It is further understood that competency and responsibility of bidders will receive consideration before the award of the Contract.
5. By executing this "Standard Form of Bid", the bidder is certifying that he has reviewed and understands the contents of this project manual and has received and understands any or all "addenda" that were issued during the course of the bid process and agrees to abide by same. It is the sole responsibility of the bidder to verify he has received all addenda. The contractor must acknowledge receipt of all addenda in the space provided on page 4 of 4 on this "Standard Form of Bid / Contract".
6. The Bidder has given the Owner's representative written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by Owner and Owner's Representative is acceptable to the Bidder.
7. The Bidder accepts all of the terms and conditions of the Invitation to Bid and Instructions to Bidders. The Bidder promises and agrees that this Bid will remain subject to acceptance for 60 days after the day of Bid opening. The Bidder will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within 30 days after the date of the Owner's Notice of Award.

**Bidder's exceptions, clarifications and proposed construction schedule:**

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Contractor: \_\_\_\_\_ Initials: \_\_\_\_\_

**Bidder acknowledges receipt of the following addenda:**

Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Mark a check next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Addenda No. 1 \_\_\_\_\_ Addenda No. 2 \_\_\_\_\_ Addenda No. 3 \_\_\_\_\_ Addenda No. 4 \_\_\_\_\_

Addenda No. 5 \_\_\_\_\_ Addenda No. 6 \_\_\_\_\_ Addenda No. 7 \_\_\_\_\_ Addenda No. 8 \_\_\_\_\_

*I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc. I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Bidder's representatives and Owner's personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.*

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Name of Authorized Bid Preparer**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Authorized Signature**

**Execution of Bid Form:**

As an officer of the company submitting this bid to the Owner, I certify that I (we) have thoroughly read and understand the contents of the project manual and addenda and are faithfully executing this "Standard Form of Bid / Contract" for the Owner's consideration:

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Name of Authorized Bid Preparer**

\_\_\_\_\_  
**Address**

\_\_\_\_\_  
**Authorized Signature**

\_\_\_\_\_  
**City**

\_\_\_\_\_  
**Position Held**

\_\_\_\_\_  
**State & Zip**

\_\_\_\_\_  
**Witness Name**

\_\_\_\_\_  
**Phone**

\_\_\_\_\_  
**Witness Signature**

Contractor: \_\_\_\_\_ Initials: \_\_\_\_\_

SECTION 00 72 00  
GENERAL CONDITIONS

PART 1 — GENERAL

1.1 DEFINITIONS

- A. The contract document consists of the AGREEMENT, the GENERAL CONDITIONS of the contract, the DRAWINGS and the SPECIFICATIONS, including all revisions hereto.
- B. The Owner, the Contractor and the Owner's Representative shall be indicated as such throughout these documents. The term Contractor as used herein shall designate the successful bidder to whom the contract is awarded.
- C. The term OWNER shall be understood to be the Somerset County Technology Center.
- D. The CONTRACTOR is the individual, group, partnership or corporation undertaking to do the work herein specified (including his or their heirs, legal representatives, successors or assigns) and is the party of second part of the contract contained herein.
- E. A SUB-CONTRACTOR is an individual group, partnership or corporation, having a direct contract with the Contractor to furnish a special service, labor or material towards the completion for the Contractors contract.
- F. The term OWNER'S REPRESENTATIVE shall be understood to mean the representative of the primary material manufacturer.
- G. The term INSPECTOR is an authorized representative of the Owner's Representative, assigned to inspect work performed and the materials supplied by the Contractor as to compliance with the Contract Documents.
- H. The CONTRACT DOCUMENTS consist of the Advertisement, Instructions to Bidders, Standard Form of Bid, General Conditions, Construction Specifications, Form of Agreement, Form of Bond, Construction Drawings, Standard Details and the plans.
- I. The term WORK, used herein, includes all labor and/or materials, equipment and any other facilities necessary for the Contractor to complete the contract.
- J. The term APPROVED, used herein, shall be held to mean as approved by the Owner's Representative.
- K. The term SUBSTANTIAL COMPLETION used herein shall be held to mean construction that is sufficiently completed in accordance with the Contract Documents and certified by the Engineer of the Borough, as modified by change orders agreed to by the parties, so that a project can be used, occupied or operated for its intended use. In no event shall a project be certified as substantially complete until at least 90% of the work on the project is completed.

1.2 OWNER'S REPRESENTATIVE STATUS

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

1.3 CONTRACT DOCUMENTS

- A. Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with all existing site conditions, site access, physical characteristics of the site and other relevant local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Contractor acknowledges and agrees that Contract Documents have been thoroughly reviewed and inspected, that it has had the opportunity to seek, and has sought, clarification or explanation of any perceived ambiguity, discrepancy, error or omission in the Contract Documents, and that the Contract Documents are adequate and sufficient to provide for the completion of the Work. Furthermore Contract Documents include all Work, whether or not shown or described, which reasonably may be inferred to be required or useful for the completion of the Work in accordance with all applicable laws, codes and professional standards.

#### 1.4 CONDITION OF SITE

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

#### 1.5 VERIFICATION OF DIMENSIONS AND ELEVATIONS

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

#### 1.6 PROTECTION OF OWNER'S OPERATIONS

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

#### 1.7 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall maintain adequate protection of all in progress or completed Work from damage and shall protect the Owner's and adjacent property from injury or loss arising from this contract. Contractor shall provide and maintain at all times any danger signs, guards and/or obstructions necessary to protect the public and workmen from any dangers inherent with or created by the work in progress. Contractor shall hold the Owner harmless from any loss arising due to injury or accident to the public or workmen, or from theft of materials stored at the job site.
- B. Should the Contractor suffer injury or damage to person or property because of an act or omission of the Owner or of any of the Owner's employees or agents for whose act the Owner is legally liable, the claim shall be made in writing to the Owner within thirty (30) days after the first observance of such injury or damage, otherwise such claim shall be waived. This clause shall not allow claims for injury or damages, which are otherwise precluded by these Contract Documents. Owner shall not be responsible for actions or inactions of other Contractors.
- C. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

- D. In those areas where materials and/or hot asphalt will be raised to the roof area, a protective covering shall be placed from the base of the wall extending up and over the top edge of the roof. This coverage shall be wide enough to assure that the exterior walls do not become stained or soiled during roofing operations.
- E. Any areas of the building or grounds which have become stained or damaged in any way shall be repaired or replaced by the Contractor prior to the final inspections. The method of repair used must be acceptable to both the Owner and the Owner's Representative.

#### 1.8 MATERIAL STORAGE AND CLEAN-UP

- A. The Contractor shall keep the premises free from rubbish at all times and shall arrange material storage so as not to interfere with the Owner's operations. At the completion of the job, all the unused material and rubbish shall be removed from the site. The ground shall be raked clean and the building shall be broom cleaned.
- B. If the Contractor refuses at any time to remove Work debris from the premises, or to keep the working area clean, such cleaning will be completed by the Owner and deducted from the balance due the Contractor provided twenty-four (24) hours written notice by the Owner.
- C. The Contractor shall also remove drippage of bitumen or adhesive from all walls, windows, floors, ladders and finished surfaces. Failure to do so will result in the work being done by others and the cost shall be deducted from the balance due the Contractor.
- D. Materials must be delivered with manufacturer's label in tact and legible. Labels must be affixed to the outside of the package stating the type of product, name and address of the manufacturer. All materials shall be stored and protected against weather, vandalism, and theft. Any materials found to be damaged or missing shall be replaced by the Contractor at no cost to the Owner.

#### 1.9 INSPECTION OF WORK

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

#### 1.10 INSPECTION OF WORK IN PROGRESS AND UPON COMPLETION

- A. If directed by the Owner's Representative, the Contractor shall cut not more than four (4) cores, of approximately 200 square inches each, from every newly constructed roof area, in order to establish the amount of materials used per square foot, and shall restore all such areas to sound and watertight conditions as prior to the core testing.
- B. In the event that such core cuts disclose any deficiency in materials, or soundness of construction, the Contractor shall, at its own expense, apply additional materials or otherwise correct the deficiencies to the satisfaction of the Owner's Representative.
- C. Noncompliance with the terms of this specification and ensuing contract can result in either the cancellation of the contract, or complete replacement of the defective areas at the

Contractor's expense. In the event of cancellation, the Owner will not be obligated to compensate the Contractor for any work undertaken in a defective manner.

- D. If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents or fails to carry out Work in accordance with the Contract Documents, the Owner, by written order signed personally or by an agent specifically so empowered by the Owner in writing may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.
- E. If the Contractor fails within twenty-four hours after receipt of written notice from the Owner to commence and continue correction of any default or neglect to Work as required in the Contract Documents, the Owner may, without prejudice to other remedies the Owner may have, commence and continue to carry out or correct deficiencies in the Work. In such case, the Contract Sum shall be adjusted for all costs incurred by the Owner in the correction of such deficiencies. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. The right of the Owner to correct the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.
- F. The Contractor shall promptly correct Work rejected by the Owner or failing to conform to the requirements of the Contract Documents, whether observed before or after completion and whether or not fabricated, installed or completed. The Contractor shall bear costs of correcting such rejected Work, including additional testing and inspection services and expenses made necessary thereby.
- G. Damages caused by water infiltration resulting from the failure of the Contractor to secure each day's work in a weather tight manner, will be corrected at the Contractor's expense. Included as damages will be all labor costs incurred by the Owner as a result of such water infiltration.
- H. The Owner will require the Owner's Representative to examine the work in progress, as well as upon completion, in order to ascertain the extent to which the materials and procedures conform to the requirements of these specifications and to the published instructions of the Manufacturer.
- I. The authorized Owner's Representative shall be responsible for:
  - 1. Keeping the Owner informed on a periodic basis as to the progress and quality of the work.
  - 2. Calling to the attention of the Contractor those matters is considered to be in violation of the contract requirements.
  - 3. Reporting to the Owner any failure or refusal of the Contractor to correct unacceptable practices.
  - 4. Conducting preliminary and subsequent job-site meetings with the Contractor's official job representative.
  - 5. Supervising the taking of test cuts, and the restoration of such areas.
  - 6. Rendering any other inspection services which the Owner may designate; and
  - 7. Certifying, after completion of the work, the extent to which the Contractor has complied with these specifications as well as to the published instructions of the Manufacturing Company.
- J. The presence and activities of the Owner's Representative shall in no way relieve the Contractor of contractual responsibilities.
- K. Tests, inspections and approvals of portions of the Work required by the Contract Documents or by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction shall be made at an appropriate time. Unless otherwise provided, the Contractor

shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority. Contractor shall bear all related costs of such tests, inspections and approvals, including the cost of retesting for verification of compliance with the requirements of the Contract Documents, and all such costs shall be included in the Contract Sum.

#### 1.1 MISCELLANEOUS UTILITIES

- A. Electrical power will be furnished by the Owner for small tools only. All connections to the electrical system will be furnished by the Contractor.
- B. Water for concrete, mortar, washing and drinking purposes will be furnished by the Owner. Any connections to the water system shall be completed by the Contractor.
- C. At the completion of the work, or when the above connections are no longer required, the Contractor shall remove all connections and leave the facilities in a condition at least as satisfactory as prior to the commencement of Work.
- D. Toilet facilities will be provided by the Contractor. The Contractor will be responsible for supplying a portable toilet on the job-site. The Contractor's personnel are not permitted to enter the building without proper authorization from the Owner or Owner's Representative.

#### 1.11 CHANGES OR EXTRA WORK

- A. The Owner may, without invalidating the original contract, order such changes or additions as may from time to time be deemed desirable. In so doing, the contract price shall be adjusted, as stated below, with all work being done under the conditions of the original contract except for such adjustments in extension of time as may be acceptable to the Owner. The value of such extra work shall be determined in one of the following ways:
  - 1. By firm adjustment.
  - 2. By cost plus with a guaranteed maximum.
  - 3. By cost with a fixed fee; or
  - 4. By unit cost.
- B. If agreement is reached that the extra cost shall be handled as per methods 2, 3, or 4, the Contractor shall keep and compile a correct amount of the cost together with such vouchers, etc., as may be necessary to substantiate same for presentation to the Owner. The Owner's Representative shall have authority to make minor job changes or additions as may be necessary to expedite the job providing such changes do not involve additional material cost. No major change or addition shall be made except upon receipt by the Contractor of a signed order from the Owner authorizing such a change. No claims for an extra to the contract price shall be valid unless so authorized.
- C. All work covered by unit prices submitted by the Contractor in the Bid must be covered by a written work order. The Owner's Representative will prepare the work order in triplicate covering the quantity of work and the total cost of the work. The work order which will be written at the end of each day, will be signed by the Owner's Representative and the Contractor's foreman and/or superintendent.

#### 1.12 CORRECTION OF WORK PRIOR TO FINAL PAYMENT

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

#### 1.13 CORRECTION OF WORK AFTER FINAL PAYMENT

- A. The Contractor shall guarantee all materials and workmanship for two (2) years from date of final payment of the contract by the Owner. Any defects which may arise during this period shall be promptly repaired by the Contractor including any damage done to the Owner's property due to such defects.

#### 1.14 DEDUCTION FOR UNCORRECTED WORK

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

#### 1.15 LIENS

- A. Neither the Contractor nor anyone furnishing labor or materials to the Contractor in connection with the Work shall have the right to file or otherwise assert any mechanic's or materialman's lien or other lien against the Work or the premises upon which the Work is to be located or against any other property of the Owner. The Contractor agrees to indemnify and hold harmless the Owner from all costs, attorneys' fees and other damages arising from any lien filed by anyone claiming by, on behalf of or through the Contractor and, upon notification from Owner of the filing of a lien, Contractor shall promptly take all necessary action to discharge or remove such lien.

#### 1.16 SAFETY

- A. Contractor shall conform to requirements as designated by the United States Federal Government (O.S.H.A.). Contractor shall abide by all regulations as outlined in the O.S.H.A. handbook and shall have a handbook on location at all times.
- B. Contractors hereby acknowledged that all its workmen have undergone Safety Training and shall at all times act in compliance with all NRCA recommended safety compliance rules and regulations.
- C. All on-site employees of the Contractor must provide the following clearances to the Somerset County Technology Center prior to the start of the project:
  - 1. PA Child Abuse
  - 2. PA Criminal Background Check
  - 3. FBI Fingerprinting

#### 1.17 INSURANCE

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

2. All Subcontractors are required to file Certificates of Insurance properly completed and signed by an authorized insurance company representative before Work commences on the job or job site. No monies will be paid until the acceptable certificates are on file with the Contractor. Such certificates shall provide that there will be no cancellation, reduction or modification of coverage without thirty (30) days prior written notice to the Contractor. In the event such certificates are not provided to the Contractor prior to commencement of work, Contractor's failure to demand such certificates shall not be deemed a waiver of Subcontractor's requirement to obtain the subject insurance.
3. The Contractor shall provide and maintain standard fire, extended coverage perils, vandalism and malicious mischief insurance to protect the interest of both the Contractor and the Owner for materials brought into the job or stored on the premises. Such insurance shall be for 100% of the insurable value of Work to be performed including all items of labor and materials incorporated therein, materials stored at the job-site to be used in completing Work, and such other supplies and equipment incidental to Work as are not owned or rented by the Contractor, the cost of which are included in the direct cost of the work. This insurance shall not cover any tools, derricks, machinery, tar buckets, ladders, engines, workmen's quarters, boilers, pumps, wagons, scaffolds, forms, compressors, shanties, or other items owned or rented by the Contractor, the cost of which are not included in the direct cost of the work.
4. In accordance with this Section, the Contractor and Subcontractor(s) shall maintain the following insurance:
  - a. Workmen's Compensation and Employer's Liability Insurance affording:
    - 1) Protection under the Workmen's Compensation Law of the States in which Work is performed; and
    - 2) Employer's Liability protection subject to a minimum limit of \$1,000,000.
  - b. Comprehensive General Liability Insurance in amounts not less than:
    - 1) General Aggregate: \$3,000,000
    - 2) Products/Completed Operations Aggregate: \$1,000,000
    - 3) Personal Injury: \$1,000,000 per occurrence
    - 4) Property Damage: \$1,000,000 per occurrence
  - c. Comprehensive Automobile Liability Insurance in the following minimum amounts:
    - 1) Combined Single Limit: \$1,000,000 per occurrence
  - d. This insurance shall:
    - 1) Include coverage for the liability assumed by the Contractor under this section (section 1.18.A.1) (Indemnity);
    - 2) Include Southmoreland School District and its employees as additional insureds under the Comprehensive General Liability policy.
    - 3) Includes coverage for:
      - a) Premises, operations and mobile equipment liability
      - b) Completed operations and products liability.
      - c) Contractual liability insuring the obligation assumed by the Subcontractor in this agreement.
      - d) Liability which Subcontractor may incur as a result of the operations, acts or omissions of Subcontractors, suppliers or material men and its agents or employees; and
      - e) Automobile liability including owned, non-owned and hired automobile.
  - e. All coverage will be on an occurrence basis and on a form acceptable to the Contractor.
    - 1) Include completed operation coverage which is to be kept in force by the Contractor for a period of not less than one year after completion of the work provided for or performed under these specifications;

- 2) Not be subject to any of the special property damage liability exclusions commonly referred to as the exclusions pertaining to blasting or explosion, collapse or structural damage and underground property;
  - 3) Not be subject to any exclusion of property used by the insured or property in the case, custody or control of the insured or property as to which the insured for any purpose is exercising physical control; and
  - 4) The Certificate of Insurance furnished by the Contractor shall show specific reference that each of the foregoing items have been provided for.
5. The Certificates of Insurance furnished by the Contractor as evidence of the Insurance maintained shall include a clause obligating the Insurer to give the Owner thirty (30) days prior written notice or cancellation of any material change in the insurance.

#### 1.18 WORK HOURS AND DAYS

- A. When the Contract is awarded, the Contractor will contact the Owner's Representative to arrange the work schedule and the hours of the day that the workmen may be on the building. The job is to be bid under the assumption that all work will be performed on a straight time basis.
- B. The Owner may restrict the Contractor's work hours so that all work must be performed during "second shift" or outside of the Owner's normal operational hours.

#### 1.19 COMPLIANCE WITH LAWS

- A. The Contractor shall give notices, pay all fees, permits and comply with all laws, ordinances, rules and regulations bearing on the conduct of work.
- B. It is the responsibility of the Contractor to determine what local ordinances, if any, will affect its work. The Contractor shall check for any county, city, borough or township ordinances, rules or regulations applicable to the area in which the Project is being constructed, and in addition, for any rules or regulations of other organizations having jurisdiction, such as chambers of commerce, planning commissions, industries or utility companies. Any cost of compliance with local control shall have been included in the Contract Sum as bid, notwithstanding that such local controls may not have been identified in the Contract Documents.
- C. It shall be the obligation of the Contractor to notify the Owner of any discrepancy between the Contract Documents and applicable building codes and regulations of which the Contractor has knowledge or should be reasonably able to determine. The Contractor shall not violate any requirements of applicable laws, codes and ordinances, or of any recorded covenants of which the Contractor has knowledge. If the Contractor observes that portions of the Contract Documents are at variance with applicable laws, statutes, ordinances, building codes, rules or regulations, the Contractor promptly shall notify the Owner in writing, and necessary changes shall be accomplished by appropriate modification.
- D. The Contractor at all times shall observe, comply with, and post as required all Federal, State, and Local laws, ordinances, and regulations in any manner affecting the conduct of the work or applying to employees on the project, as well as all orders or decrees which have been or may be promulgated or enacted by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees, or Contract. The Contractor shall defend, hold harmless and indemnify the Owner and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by the Contractor or its employees.

- E. The Contract shall be governed by the law of the Commonwealth of Pennsylvania. The venue of any legal proceedings arising from this project shall be the Court of Common Pleas of the jurisdiction governing the project site.
1. Claims and Dispute Resolution:
    - a. Claims, disputes and other matters in question between the Contractor and the Owner relating to the execution or progress of the Work or the interpretation of the Contract Documents including those alleging an error or omission shall be subject to dispute resolution.
      - 1) A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. Claims must be made by written notice, shall be identified as a Claim with a title or caption stating "Notice of Claim" and shall state in detail the nature of the Claim. The responsibility to substantiate Claims shall rest with the party making the Claim.
      - 2) Except as otherwise provided in the Contract Documents, the Contractor will be deemed to have waived any Claim against the Owner unless Contractor gives written notice of such Claim within twenty (20) days of the time that Contractor has knowledge or should have had knowledge of the facts giving rise to the Claim.
      - 3) Claims for Additional Cost: If the Contractor believes that additional cost is merited as a result of: (1) any written interpretation issued by the Owner; (2) any written order for a minor change to the Work issued by the Owner; or (3) other reasonable grounds where the Contractor was not at fault, the Contractor shall give written notice of such Claim as provided herein. Such notice of Claim shall be given before proceeding to execute the applicable Work.
      - 4) Claims for Additional Time: If the Contractor wishes to make a claim for an increase in the Contract Time, written notice as provided above shall be given. In the case of a continuing delay, only one claim is necessary. An increase in the Contract Time shall be the sole recourse for delays, disruptions and/or hindrances in the progress of the Work, as against Owner and shall not act an entitlement to Contractor for damages against Owner.
    - b. Any claim, dispute or other matter that has been referred to the Owner shall be subject to litigation in the Court of Common Pleas, and shall not be subject to arbitration, except for compulsory arbitration as provided by the applicable Rules of Civil Procedure.
    - c. In any event, claims, disputes or other matters and questions between the parties to the Contract arising out of or relating to the Contract or breach thereof, shall be exclusively litigated in the Court of Common Pleas.
    - d. All litigation shall be governed by the laws and statutes of the Commonwealth of Pennsylvania.
    - e. Pending final resolution of any claim or dispute, the Contractor shall proceed diligently with performance of the Contract, except as otherwise agreed in writing by the parties, and any failure to proceed diligently shall constitute a default.
    - f. To the extent the Contractor commences litigation against the Owner, and the Owner prevails, partially or completely, on any or all of its own claims or defenses to the Contractor's claims, leaving the Contractor with less than one hundred percent (100%) recovery, Owner shall be entitled to payment by Contractor of all reasonable professional fees, including attorneys' fees, architectural fees, engineering fees, and consulting fees, together with all other costs or expenses, including the cost of any of Owner's employees' time,

associated with analyzing any claim, pursuing litigation or defending the claim or litigation, which Owner may incur in connection with said litigation. This provision shall create no right to the Contractor or any other person or entity for payment of such costs or expenses.

- g. Upon receipt of a claim against the Contractor or at any time thereafter, the Owner may, but is not obligated to, notify the Contractor's surety of the nature and amount of the claim. If the claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.
- h. The Contractor waives claims against Owner for consequential damages arising out of or relating to this Contract. This waiver includes damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation and for loss of profit except anticipated profit arising directly from the Work. This waiver is applicable, without limitation, to all consequential damages due to Owner's termination of Contractor.

#### 1.20 OWNER'S RULES

- A. The Contractor and all its personnel/agent(s) shall abide by all rules created by the Owner. The Contractor must contact the Owner's Representative for specific information regarding the rules governing all operations of the project.
- B. The Contractor shall properly notify all employees of conditions relating to roof areas with very poor condition and upon which there will be Work. After such notification, the Contractor must take all necessary precautions to ensure the safety of its employees as well as the building personnel.
- C. The Contractor shall "Hold Harmless" the Owner's Representative against any litigation arising from any accidents during the course of the contract.

#### 1.21 CONCURRENT OPERATIONS

- A. Other Activities may be going on during the same time as the Work covered within these specifications. The Contractor shall cooperate with the Owner and its representatives to ensure that all Work does not interfere with other activities, within reason in regards to Work requirements.

#### 1.22 SAFETY AND ECOLOGY

- A. The Contractor(s) shall conform to the requirements as designated by the United States Federal Governments (e.g., O.S.H.A.).
- B. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract, including special safety precautions and programs for the protection of staff, visitors and others who use the premises.
- C. The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety, and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

#### 1.23 HUMAN RELATIONS ACT

- A. The provision of the Pennsylvania Human Relations Act, Act 222 of October 27, 1955 (P.L. 744) (43 P.S. Section 951, Et. Seq.) of the Commonwealth of Pennsylvania prohibit discrimination because of race, color, religious creed, ancestry, age, sex, national origin,

handicap or disability, by employers, employment agencies, labor organizations, contractors and others. The Contractor shall agree to comply with the provisions of this Act as amended that is made part of this specification. Your attention is directed to the language of the Commonwealth's non-discrimination clause in 16 PA. code 49.101.

#### 1.24 ANTI-DISCRIMINATION IN EMPLOYMENT

- A. Contractors and Subcontractors shall not discriminate against any employees or applicant for employment, to be employed in performance of its contract, with respect to potential hire, tenure, terms, conditions or privileges of employment because of race, color, gender, sexual preference, religion, national origin, or ancestry.
- B. According to 62, Pa. C.S.A. § 3701, the contractor agrees that:
  - 1. In hiring of employees for performance of work under the contract, or any subcontract, no contractor, subcontractor or any person acting on behalf of the contractor or subcontractor shall by reason of gender, race, creed or color discriminate against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.
  - 2. That no contractor, sub-contractor, or any person on their behalf shall in any manner discriminate against or intimidate any employee hired for the performance of work under the contract on account of gender, race, creed or color.
  - 3. This contract may be canceled or terminated by the government agency, and all money due or to become due under the contract may be forfeited for a violation of the term or conditions of that portion of the contracts

#### 1.25 SUBCONTRACTORS

- A. The Contractor shall not contract with any Subcontractor or any person or organization (including those who are to furnish materials or equipment fabricated to a special design) proposed for portions of the Work who has been rejected by the Owner. The Contractor will not be required to contract with any Subcontractor or person or organization against which it has a reasonable objection.
- B. If the Owner refuses to accept any Subcontractor, or person or organization on a list submitted by the Contractor in response to the requirements of the Contract Documents, the Contractor shall submit an acceptable substitute. No increase in the Contract Sum shall be allowed for any such substitution, provided the Owner shall have made reasonably prompt written objection of such proposed Subcontractor, person, or organization to the Contractor.
- C. The Owner shall not be a party to a claim, dispute or other matter in question between a Contractor and Subcontractor.

#### 1.26 START AND COMPLETION DATE

- A. Work shall begin on June 9, 2025 or anytime thereafter on approval of the Owner. The Owner reserves the right to request an earlier/later start date should contract approval come prior/after than anticipated.
- B. All specified work should be completed by December 31<sup>st</sup>, 2025, unless otherwise agreed to by all parties to the Contract in writing.
- C. The Contractor is responsible for supplying trained workmen in proper numbers and for scheduling and laying out the Work, so that it will be started and completed in a professional manner within the time period indicated on the bid form.

- D. Time limits stated in the Contract Documents are of the essence of the Contract. By bidding and executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.
- E. If the Contractor sets equipment onto the job-site without commencing work immediately, the action will be considered "Spiking the job" which is unacceptable and will be considered a breach of contract by the Contractor; thereby, the contract will be terminated and the Contractor at no cost to the Owner, must remove its equipment and possessions from the job-site upon notification by the Owner.

#### 1.27 PROHIBITION ON CASH ALLOWANCES

- A. No cash allowances for any purposes are included in the specifications of this project.

#### 1.28 CONDITION OF WAGES

- A. Projects where the total estimated cost is at least \$25,000, paid for in whole or in part out of funds of a public body, except for maintenance work or work performed under a rehabilitation program or manpower-training program, must specify "Prevailing Wages". Further information on implementation of the act, definition of maintenance work and prevailing wage rates may be requested from the Division of Prevailing Wage in the department of Labor and Industry (800-932-0665 or 717-787-4763). When applicable, use Davis-Bacon wage rates for federally assisted projects.
- B. Pennsylvania Prevailing Wage Rates: This regulation and the Pennsylvania prevailing minimum wage rates, (Act 422 of 1961, P.L. 987, amended by Act 342 of 1963, P.L. 653) as determined by the secretary of Labor and Industry, which shall be paid for each craft or classification of all workers needed to perform the contract during the anticipated term therefore in the locality in which public work is performed, are made part of this specification.

#### 1.29 COMPETENT WORKMEN

- A. No workman shall be regarded as competent first class, within the meaning of this Act, except those who are duly skilled in their respective branches of labor, and who shall be paid not less than such rates of wages and for such hours work as shall be established and current rates of wages paid for such hours by employers or organized labor in doing of similar work in the district where work is being done.

#### 1.30 COMPLIANCE WITH STEEL PRODUCTS PROCUREMENT ACT

- A. Provision For The Use of Steel and Steel Products Made In the U.S. in accordance with Act 3 of the 1978 General Assembly of the Commonwealth of Pennsylvania, if any steel or steel products are to be used or supplied in the performance of the contract, only those products produced in the United States as defined therein shall be used or supplied in the performance of the contract or any subcontracts thereunder.
- B. In accordance with Act 161 of 1982, cast iron products shall also be included and produced in the United States. Act 141 of 1984 further defines "steel products" to include machinery and equipment. The act also provides clarifications and penalties.

#### 1.31 TAXES

- A. Contractor must comply with all Federal, State and Local taxes. The Contractor shall accept sole and exclusive responsibility for any and all taxes with respect to Social Security, old age benefits, unemployment benefits, withholding taxes and sales taxes.

- B. The Contractor shall pay all wage and occupation taxes as required by the local municipality at the Project Site.
- C. The Contractor shall pay sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor hereby assigns and transfers to the Owner any and all rights to refunds of sales and use tax that may be paid for materials purchased in connection with this contract. The Contractor further agrees that it will not file a claim for refund for any sales or use tax that is the subject of this assignment. The Owner or its representative shall be afforded access to all the Contractor's records relating to this contract that may be reasonably necessary to the Owner's pursuit of sales and use tax refunds and, for such purpose, the Contractor shall preserve all such records for a period of three years after the date of final payment.
- D. The Owner is a tax exempt entity, and holds sales tax exemption.

#### 1.32 PAYMENT

- A. To be done in accordance with section 01 29 00.
- B. The Contractor's applications for payment shall be presented to the Owner between the first (1st) and the fifth (5th) day of each calendar month. Applications received prior to the first day of the month or subsequent to the fifth day of the month shall be deemed to have been received by the Owner as of the fifth (5th) day of the following calendar month. Payments are due and payable sixty (60) days from the date of receipt and approval of the application. Amounts unpaid sixty (60) days after the invoice date shall bear interest at the rate prevailing from time to time at the Pennsylvania Local Government Investment Trust (PLGIT).
- C. The contractor shall submit one invoice for materials and mobilization, after the Owner or its representatives have verified in writing, that all materials and equipment are on site and conform to the requirements set forth in this project manual. This invoice shall not exceed 50% of the total value of the contract.
- D. Additional invoices will be submitted on a monthly basis and will be considered a request for "progress payments". Progress payments will not be released until the Owner or its representatives have approved and verified the amount of work completed is commensurate with the payment request.
- E. A 10% retainage will be held until the contractor attains fifty-percent (50%) completion of installation, whereupon the retainage shall be reduced to five percent (5%) and held until all punch list items are completed; provided, however, that the Owner shall be entitled to withhold up to one and one-half times such amount as is required to complete or correct any remaining, uncompleted or non-conforming work.

#### 1.33 WARRANTY

- A. A written warranty, commencing from date of acceptance by the Manufacturer, must be supplied with the roof installation. This warranty will cover all defects in workmanship and materials. Damages caused by storm, vandalism and other trades are not included in the warranty. This warranty shall be from the Manufacturer. The length of the warranty shall be the maximum warranty available from the Manufacturer. Contractor shall complete all tasks necessary to secure the warranty.
- B. A two (2) year workmanship warranty is required from the Contractor for all remedial maintenance done under the terms of this contract.

#### 1.34 TERMINATION BY THE OWNER FOR CAUSE

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

#### 1.35 CONTRACTOR'S LICENSE

- A. All pertinent State and Local licenses will be required.

#### 1.36 CLEARANCES

- A. All workmen on this project must have Pennsylvania State Police **Act 24, 34, 114, & 151** Clearance Affidavits. Attesting to that Clearance should be carried by each individual workman when on the premises or in the building. A copy of the Affidavit must be filed with the Owner, prior to workmen performing Work on the site. The cost of obtaining this "Clearance" shall be the responsibility of the Contractor.

#### 1.37 BUILDING PERMITS

- A. The acquisition of all applicable permits and associated costs to obtain said permits is the responsibility of the Contractor.

#### 1.38 JOB COORDINATION

- A. Contractor is responsible for daily communication with the Owner or Owner's Representative relating to areas of roof work in that the Owner may adequately protect tenant's personal belongings, and the people themselves against possible damage or injury. Contractor is also responsible for policing and protecting areas involving removal and replacement of roof projections, defective decking or other work involving deck penetration.
- B. Seventy-Two (72) hours prior to starting of the project and/or delivery of materials, the Contractor shall notify the Owner and Owner's representative.

#### 1.39 JOB CONDITIONS

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

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

- P. Any isolated areas that must be torn off and replaced will be built-up to the height of the existing roof prior to the installation of the new roofing membrane system.

#### 1.40 QUALIFICATIONS

- A. Contractor or Contractor's staff if requirements are inherently limited to individuals rather than corporate entities, shall have the following minimum qualifications:
- B. The contractor's installer technicians must be factory trained, authorized to sell, and install what is specified that is being bid, with five (5) years' experience.
- C. At all times, contractor shall ensure appropriately trained and qualified technicians to do the installation.

#### 1.41 WORKMANSHIP

- A. All materials will be securely fastened and placed in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class or work upon which they are employed. All work shall be done in accordance with these specifications and shall meet the approval of the Owner and Owner's Representative. The Contractor's representative or job supervisor shall have a complete copy of specifications and drawings on the job-site at all times.
- B. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete and thoroughly protected before the close of work for that day.

#### 1.42 INSULATION

- A. Insulation shall have accurate dimensional stability so as to properly conform to the surfaces of the roof, cant, curbs, pipes, etc. Joints between boards shall be tight and insulation shall be held back 0.5" from vertical surfaces and sumps. Insulation shall be protected from the weather at all times. No more insulation shall be laid than can be completely covered with roof materials on the same day. A base sheet shall not be considered as a proper weather barrier.
- B. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation. If roofing is in place, the roofing shall be also replaced. All replacing work shall be done at no added cost to the Owner.

#### 1.43 ROOF DECK

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

#### 1.44 EXPERIENCE

- A. Contractor, or Contractor's supervisory staff assigned to this project, must have successfully completed at least five (5) projects that involved work similar to that described in these specifications or the Project Plans Manual. Compliance with this experience requirement will be determined prior to contract award by the State through references provided by the Contractor upon request, through knowledge or documentation of the Contractor's past projects, through confirmation of experience requirements from the architect assisting the State in this project, or some other method that the State determines to be

acceptable. Contractor must provide any documentation requested by the State to assist in confirmation of compliance with this provision. References, documentation, or other information to confirm compliance with this experience requirement may be requested after bid opening and prior to contract award.

#### 1.45 CLEAN-UP

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

#### 1.46 SUPERINTENDENT

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

#### 1.47 APPROVED CONTRACTORS

- A. The roof systems must be applied only by those contractors who have received approval from the Material Manufacturer for such installations. No guarantees will be issued when installation has been performed by a non-approved contractor.

PART 2 — PRODUCTS (not used)

PART 3 — EXECUTION (not used)

END OF SECTION 00 72 00

SECTION 01 11 00  
SUMMARY OF WORK

PART 1 – GENERAL

1.1 Related documents

- A. Drawings and general provisions of the contract, including general and supplementary conditions, apply to this section.

1.2 Summary

- A. Section includes:
  - 1. Scope of Work

1.3 Scope of Work

A. Base Bid #1: C2 Roof Replacement

1. Remove and discard the existing roof system including, gravel, membrane, coverboard, insulation, flashings and edge metal down to the metal deck.
2. Replace all drain bowls with new cast iron assemblies.
3. Mechanically attach two layers of 2.6" flat polyisocyanurate according to ASCE-7 wind uplift calculations.
  - a. Install ½:12 slope tapered crickets and premanufactured tapered drain sumps at all internal roof drains as indicated on roof plan.
4. Build up expansion joints, raise curbs, equipment supports, plumbing stacks, and perimeter blocking to provide sufficient flashing height to meet manufacturer's requirements and accommodate new insulation thicknesses.
5. Adhere a 1/2" gypsum coverboard to the insulation using high-rise insulation adhesive.
6. Adhere modified base and mineral cap sheet throughout the field.
  - a. Heat weld all side and end laps.
7. Install modified base and mineral cap flashings.
  - a. Three-course all vertical lap seams with aluminized mastic and mesh.
  - b. Install metal counterflashing over all terminations.
8. Install pre-manufactured ANSI/SPRI ES-1, aluminum flashless metal edge in owner's choice of color kynar finish.
9. Manufacturer's warranty will be provided upon completion of the job.

B. Base Bid #1 – Alternate #1: E2 Roof Replacement

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – NOT USED

END OF SECTION

SECTION 01 22 00  
UNIT PRICES

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.
- B. Items that require the use of unit prices, which will adjust the contract amount, must be documented, and approved by Owner prior to Work.
- C. List of Unit Prices: A schedule of unit prices is included in Part 3.

PART 2 — PRODUCTS (not used)

PART 3 — EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price 1: Replacement of Metal Decking
  - 1. Description: Replacement of existing metal decking which is deteriorated.
  - 2. Unit of measurement: Square feet
- B. Unit Price 2: Replacement of existing wood nailers
  - 1. Description: Replacement of existing wood nailers that are deteriorated.
  - 2. Units of measurement: Lineal foot.
    - a. 2" x 4" nailers
    - b. 2" x 6" nailers
    - c. 2" x 8" nailers

END OF SECTION

SECTION 01 25 00  
SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
  - 1. Section 01 33 00 – Submittal Procedures
  - 2. Section 01 60 00 – Product Requirements

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
  - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
  - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
  - 3. The following are not considered to be requests for substitutions:
    - a. Substitutions requested during the bidding period, and accepted by Addendum prior to award of the Contract, are included in the Contract Documents and are not subject to requirements specified in this Section for substitutions.
    - b. Revisions to the Contract Documents requested by the Owner or Architect.
    - c. Specified options of products and construction methods included in the Contract Documents.
    - d. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

1.4 ACTION SUBMITTALS

- A. Substitution Requests: Submit PDF electronic file or paper copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
  - 1. Substitution Request Form: Use facsimile of form provided in Project Manual as an attachment to the end of this Section.
  - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
    - a. Statement indicating why specified product or fabrication or installation cannot be provided, if applicable.
    - b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
  - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
  - e. Samples, where applicable or requested.
  - f. Certificates and qualification data, where applicable or requested.
  - g. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
  - h. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
  - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
  - j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
  - k. Cost information, including a proposal of change, if any, in the Contract Sum.
  - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
  - m. 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.
3. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within seven (7) calendar days of receipt of a request for substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within fifteen (15) calendar days of receipt of request, or seven (7) calendar days of receipt of additional information or documentation, whichever is later.
- a. The Owner, after evaluation of the submitted documentation and advisement, will decide whether to consider or reject a request for substitution.
  - b. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any proposed substitution.
  - c. Owner will record time required in evaluating substitutions proposed by Contractor and in making changes in the Contract Documents occasioned thereby. Whether or not Owner accepts proposed substitution, Owner shall request reimbursement from contractor for the charges of Owner's time for evaluating each proposed substitution.
  - d. Forms of Acceptance: Change Order, Construction Change Directive, or Owner's Supplemental Instructions for minor changes in the Work.
  - e. Use product specified if Owner does not issue a decision on use of a proposed substitution within time allocated.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

## 1.6 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

## PART 2 - PRODUCTS

### 2.1 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than fifteen (15) calendar days prior to time required for preparation and review of related submittals.
  - 1. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
    - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    - b. Substitution request is fully documented and properly submitted.
    - c. Requested substitution will not adversely affect Contractor's construction schedule.
    - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
    - e. Requested substitution is compatible with other portions of the Work.
    - f. Requested substitution has been coordinated with other portions of the Work.
    - g. Requested substitution provides specified warranty.
    - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Not permitted.
- C. The Contractor's submittal and the Owner's acceptance of Shop Drawings, Product Data, or Samples for construction activities not complying with the Contract Documents do not constitute an acceptable or valid request for substitution, nor do they constitute approval of any substitution.

## PART 3 EXECUTION (Not Used)

END OF SECTION 01 25 00

SECTION 01 26 00  
CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
  - 1. Section 01 25 00 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Owner will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Work Change Proposal Requests issued by Owner are not instructions either to stop work in progress or to execute the proposed change.
  - 2. Within time specified in Proposal Request or ten (10) days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include costs of labor and supervision directly attributable to the change.
    - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
    - e. Quotation Form: Use forms acceptable to Owner.

- B. Contractor-Initiated Work Change Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Owner.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  - 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  - 4. Include costs of labor and supervision directly attributable to the change.
  - 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
  - 6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
  - 7. Work Change Proposal Request Form: Use form acceptable to Owner.

#### 1.5 ADMINISTRATIVE CHANGE ORDERS

- A. Allowance Adjustment: See Section 01 21 00 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.
- B. Unit-Price Adjustment: See Section 01 22 00 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

#### 1.6 CHANGE ORDER PROCEDURES

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

#### 1.7 CONSTRUCTION CHANGE DIRECTIVE

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

## SECTION 01 29 00

### PAYMENT PROCEDURES

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

##### 1.3 Related Requirements:

- A. Section 01 26 00 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
- B. Section 01 32 00 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

##### 1.4 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.

##### 1.5 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
  - 1. Coordinate 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. Submittal schedule.
    - c. Items required to be indicated as separate activities in Contractor's construction schedule.
  - 2. Submit the schedule of values to Owner at earliest possible date, but no later than seven (7) days before the date scheduled for submittal of initial Applications for Payment.
  - 3. Subschedules for Phased Work: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values coordinated with each phase of payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
  - 1. Identification: Include the following Project identification on the schedule of values:
    - a. Project name and location.
    - b. Name of Owner.
    - c. Owner's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Arrange schedule of values consistent with format of AIA Document G703.
  - 3. Arrange the schedule of values in tabular form with separate columns to indicate the following for each item listed:
    - a. Related Specification Section or Division.
    - b. Description of the Work.

- c. Name of subcontractor.
- d. Name of manufacturer or fabricator.
- e. Name of supplier.
- f. Change Orders (numbers) that affect value.
- g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
  - 1) Labor.
  - 2) Materials.
  - 3) Equipment.
- 4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with Project Manual table of contents. Provide multiple line items for principal subcontract amounts in excess of five (5) percent of the Contract Sum.
- 5. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
- 6. 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.
  - a. Differentiate between items stored on-site and items stored off-site. If required, include evidence of insurance.
- 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. Each item in the schedule of values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the schedule of values or distributed as general overhead expense, at Contractor's option.
- 9. 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 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Owner and paid for by Owner.
  - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: Submit Application for Payment to Owner by the 25<sup>th</sup> of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
  - 1. Submit draft copy of Application for Payment a minimum of three (3) days prior to due date for review by Owner.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
- D. Application for Payment Forms: Use forms acceptable to Owner and Owner for Applications for Payment. Submit forms for approval with initial submittal of schedule of values.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner will return incomplete applications without action.
  - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.

2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
  3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
  4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. **Stored Materials:** Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment, for stored materials.
  2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
  3. Provide summary documentation for stored materials indicating the following:
    - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
    - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
    - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. **Transmittal:** Submit three (3) signed and notarized original copies of each Application for Payment to Owner by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- H. **Waivers of Mechanic's Lien:** With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
  2. When an application shows completion of an item, submit conditional final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
  4. **Waiver Forms:** Submit executed waivers of lien on forms acceptable to Owner.
- I. **Initial Application for Payment:** Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. Schedule of values.
  3. Contractor's construction schedule (preliminary if not final).
  4. Products list (preliminary if not final).
  5. Submittal schedule (preliminary if not final).
  6. List of Contractor's staff assignments.
  7. List of Contractor's principal consultants.
  8. Copies of building permits.
  9. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  10. Initial progress report.
  11. Report of preconstruction conference.

12. Certificates of insurance and insurance policies.
  13. Performance and payment bonds.
  14. Data needed to acquire Owner's insurance.
- J. Application for Payment at Substantial Completion: After Owner issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- K. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  3. Updated final statement, accounting for final changes to the Contract Sum.
  4. AIA Document G706-1994, "Contractor's Affidavit of Payment of Debts and Claims."
  5. AIA Document G706A-1994, "Contractor's Affidavit of Release of Liens."
  6. AIA Document G707-1994, "Consent of Surety to Final Payment."
  7. Evidence that claims have been settled.
  8. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
  9. Final liquidated damages settlement statement.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 33 00  
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
  - 1. Submittal schedule requirements.
  - 2. Administrative and procedural requirements for submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Owner's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Owner's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Owner and additional time for handling and reviewing submittals required by those corrections.

1.4 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
  - 1. Project name.
  - 2. Date.
  - 3. Name of Owner.
  - 4. Name of Contractor.
  - 5. Name of firm or entity that prepared submittal.
  - 6. Names of subcontractor, manufacturer, and supplier.
  - 7. Category and type of submittal.
  - 8. Submittal purpose and description.
  - 9. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
  - 10. Drawing number and detail references, as appropriate.
  - 11. Indication of full or partial submittal.
  - 12. Location(s) where product is to be installed, as appropriate.
  - 13. Other necessary identification.
  - 14. Remarks.
  - 15. Signature of transmitter.
- B. Options: Identify options requiring selection by Owner.

- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Owner on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

## 1.5 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
  - 1. Email: Prepare submittals as PDF package, and transmit to Owner by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Owner.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  - 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
  - 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
  - 1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
  - 2. Resubmittal Review: Allow 15 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Owner's action stamp.

## 1.6 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard published data are unsuitable 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 catalog cuts.
    - b. Manufacturer's product specifications.
    - c. Standard color charts.
    - d. Statement of compliance with specified referenced standards.
    - e. Testing by recognized testing agency.
    - f. Application of testing agency labels and seals.
    - g. Notation of coordination requirements.
    - h. Availability and delivery time information.
  4. For equipment, include the following in addition to the above, as applicable:
    - a. Wiring diagrams that show factory-installed wiring.
    - b. Printed performance curves.
    - c. Operational range diagrams.
    - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
  5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.
- B. 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: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
    - a. Identification of products.
    - b. Schedules.
    - c. Compliance with specified standards.
    - d. Notation of coordination requirements.
    - e. Notation of dimensions established by field measurement.
    - f. Relationship and attachment to adjoining construction clearly indicated.
    - g. Seal and signature of professional engineer if specified.
- C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
  2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
    - a. Project name and submittal number.
    - b. Generic description of Sample.
    - c. Product name and name of manufacturer.
    - d. Sample source.
    - e. Number and title of applicable Specification Section.
    - f. Specification paragraph number and generic name of each item.
  3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
    - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

- 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, contact information of Owners and owners, and other information specified.
- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.
- G. Certificates:
  - 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
  - 2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
  - 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
  - 4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
  - 5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

#### 1.7 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Owner.

#### 1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
  - 1. Owner will not review submittals received from Contractor that do not have Contractor's review and approval.

#### 1.9 OWNER'S REVIEW

- A. Action Submittals: Owner will review each submittal, indicate corrections or revisions required.

1. PDF Submittals: Owner will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Owner will review each submittal and will not return it or will return it if it does not comply with requirements. Owner will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Owner.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Owner will return without review submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Owner without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 01 40 00  
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Owner, or authorities having jurisdiction are not limited by provisions of this Section.
  - 4. Specific test and inspection requirements are not specified in 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 substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Owner.
- C. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- D. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- E. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

- F. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- G. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- H. Installer/Applicator/Erector: 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. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- I. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five (5) previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

#### 1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: 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 conflicting requirements that are different, but apparently equal, to Owner for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly 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 Owner for a decision before proceeding.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Schedule of Required Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Entity responsible for performing tests and inspections.
  - 3. Description of test and inspection.
  - 4. Identification of applicable standards.
  - 5. Identification of test and inspection methods.
  - 6. Number of tests and inspections required.
  - 7. Time schedule or time span for tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.

## 1.6 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
1. Date of issue.
  2. Project title and number.
  3. Name, address, and telephone number of testing agency.
  4. Dates and locations of samples and tests or inspections.
  5. Names of individuals making tests and inspections.
  6. Description of the Work and test and inspection method.
  7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of technical representative making report.
  2. Statement on condition of substrates and their acceptability for installation of product.
  3. Statement that products at Project site comply with requirements.
  4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
  5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  6. Statement whether conditions, products, and installation will affect warranty.
  7. Other required items indicated in individual Specification Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Name, address, and telephone number of factory-authorized service representative making report.
  2. Statement that equipment complies with requirements.
  3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
  4. Statement whether conditions, products, and installation will affect warranty.
  5. Other required items indicated in individual Specification Sections.
- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

## 1.7 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. 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.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of Maryland and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
  - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
  - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

## 1.8 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
  2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
  3. Notify testing agencies at least twenty-five (24) hours in advance of time when Work that requires testing or inspecting will be performed.
  4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 33 00 "Submittal Procedures."
- C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Owner and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Owner and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
  2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
  3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
  4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
  6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested.

Notify agency sufficiently in advance of operations to permit assignment of personnel.  
Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.

## PART 2 - PRODUCTS (Not Used)

## PART 3 - EXECUTION

### 3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
  2. Description of the Work tested or inspected.
  3. Date test or inspection results were transmitted to Owner.
  4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Owner's and Owner's reference during normal working hours.

### 3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
- 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 01 40 00

SECTION 01 60 00  
PRODUCT REQUIREMENTS

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
  - 1. Section 01 25 00 – Substitution Procedures

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
  - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
  - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
  - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.4 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
1. Requests can be submitted only by contractors that attended the mandatory pre-bid meeting. Requests from entities not permitted to bid on the project will not be accepted.
  2. Requests for consideration must be received 10 business days prior to the bid due date.
  3. Include data to indicate compliance with the requirements specified in "Comparable Products" Article. This data should include, but is not limited to:
    - a. Product Data: Provide manufacturer's technical product data for each type of roofing product specified. Include data substantiating that materials comply with specified requirements.
    - b. Specimen Warranty: Provide an unexecuted copy of the warranty specified for this Project, identifying the terms and conditions required of the Manufacturer and the Owner.
    - c. Roofing Maintenance Instructions: Provide a roof care and maintenance manual of manufacturer's recommendations for maintenance of installed roofing systems.
    - d. Roofing System Manufacturer's Evaluation: Provide a comprehensive written assessment comparing available roofing solutions with validation of why the roofing system selection for the specific project is suitable and appropriate.
    - e. Roofing System Manufacturer's Report Form: Provide a copy of the report form utilized by the roofing system manufacturer for progress inspections to monitor installation and quality.
    - f. Manufacturer's Installation Instructions: Submit installation instructions and recommendations indicating special precautions required for installing the membrane.
    - g. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual Global, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class [A or B or C] for external fire and meets local or nationally recognized building codes.
    - h. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
    - i. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.
    - j. Field Quality Control: Provide a letter from the manufacturer verifying that they can meet all of the requirements for weekly QA/QC inspections and reporting as outline in the specification.
  4. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Owner will notify Contractor of approval or rejection of

proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

- a. Form of Approval: As specified in Division 01 Section "Submittal Procedures."
- b. Use product specified if OWNER does not issue a decision on use of a comparable product request within time allocated.

## 1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

## 1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
  1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
  2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
  3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
  4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
  1. Store products to allow for inspection and measurement of quantity or counting of units.
  2. Store materials in a manner that will not endanger Project structure.
  3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
  4. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
  5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
  6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
  7. Protect stored products from damage and liquids from freezing.

8. Coordinate with other contractor's working on the project site that are contracted separately to the Owner.

## 1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
  1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
  2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
  1. Manufacturer's Standard Form: Modified to include Project-specific information and requirements and properly executed.
  2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
  3. Refer to Divisions 02 through 33. Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Division 01 Section "Closeout Procedures."

## PART 2 — PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
  1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
  2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
  3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
  4. Where products are accompanied by the term "as selected," owner will make selection.
  5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
  6. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," "or equivalent," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

7. All products shall be free from asbestos.
- B. Product Selection Procedures:
1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
  3. Products:
    - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - b. Nonrestricted List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
  4. Manufacturers:
    - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
    - b. Nonrestricted List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
  5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
- C. Visual Matching Specification: Where Specifications require "match Owner's sample", provide a product that complies with requirements and matches Owner's sample. Owner's decision will be final on whether a proposed product matches.
1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Division 01 Section "Substitution Procedures" for proposal of product.

- D. Visual Selection Specification: Where Specifications include the phrase "as selected by owner from manufacturer's full range" or similar phrase, select a product that complies with requirements. Owner will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

## 2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Client will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Client may return requests without action, except to record noncompliance with these requirements:
1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
  2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
  3. Evidence that proposed product provides specified warranty.
  4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
  5. Samples, if requested.

## PART 3 — EXECUTION (Not Used)

SECTION 01 77 00  
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Substantial Completion procedures.
  - 2. Final completion procedures.
  - 3. Warranties.
  - 4. Final cleaning.
  - 5. Correction/repair of the Work.
- B. Related Requirements:
  - 1. Section 01 33 00 - Submittals

1.3 ACTION SUBMITTALS

- A. Product Data: For cleaning agents.
- B. Contractor's List of Incomplete Items (Punch List): Initial submittal at Substantial Completion.
- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: Final inspection.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items specified in other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items (Punch List): Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

- B. Submittals Prior to Requesting Inspection for Determining Date of Substantial Completion: Complete the following a minimum of ten (10) calendar days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include use and occupancy (U&O) permits, operating certificates, and similar releases.
  2. Submit closeout submittals specified in other Division 01 and Division 07 Sections, including project record documents, operation and maintenance manuals, photographic documentation, damage or settlement surveys, property surveys, and similar final record information.
  3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number where applicable.
    - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Owner's signature for receipt of submittals.
  5. Submit test/adjust/balance records.
  6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Requesting Inspection for Determining Date of Substantial Completion: Complete the following a minimum of ten (10) calendar days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
  2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  3. Complete startup and testing of systems and equipment.
  4. Perform preventive maintenance on equipment used prior to Substantial Completion.
  5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
  6. Advise Owner of changeover in heat and other utilities.
  7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
  8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  9. Complete final cleaning requirements, including touchup painting.
  10. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of ten (10) calendar days prior to date the work will be completed and ready for

final inspection and tests. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner, that must be completed or corrected before certificate will be issued.

## 1.7 FINAL COMPLETION PROCEDURES

- A. Preliminary Procedures: Before requesting final inspection for determining final completion, complete the following:
  - 1. Submit a final Application for Payment according to Section 01 29 00 "Payment Procedures."
  - 2. Certified List of Incomplete Items: Submit certified copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Owner. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  - 3. Certificate of Insurance: 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.

## 1.8 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  - 1. Organize list of spaces in sequential order.
  - 2. Organize items applying to each space by major element.
  - 3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Owner.
    - d. Name of Contractor.
    - e. Page number.
  - 4. Submit list of incomplete items (Punch List) in one of the following formats:
    - a. PDF electronic file. Owner will return annotated file.

## 1.9 SUBMITTAL OF PROJECT WARRANTIES

- A. Time of Submittal: Submit written warranties on request of Owner for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated, or when delay in submittal of warranties might limit Owner's rights under warranty.
- B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
  - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
  - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the

product or installation, including the name of the product and the name, address, and telephone number of Installer.

3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

- C. Provide additional copies of each warranty to include in operation and maintenance manuals.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

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

## PART 3 EXECUTION

### 3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
  1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. 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.
    - f. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    - g. Sweep concrete floors broom clean in unoccupied spaces.
    - h. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean according to manufacturer's recommendations if visible soil or stains remain.

- i. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
- j. Remove labels that are not permanent.
- k. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
- l. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
- m. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
- n. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.

### 3.2 CORRECTION/REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Repair components that do not operate properly. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
  - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
  - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
    - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.
  - 3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.

END OF SECTION 01 77 00

SECTION 06 10 00  
ROUGH CARPENTRY

PART I - GENERAL

1.1. RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions, Special Conditions and other Division-0 and Division-1 Project Manual Sections, apply to this Section.

1.2. SUMMARY

- A. This Section includes the following: Wood grounds, nailers, and blocking.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
- C. Division 6 Section "Finish Carpentry" for non-structural carpentry items exposed to view and not specified in another Section.

1.3. DEFINITIONS

- A. Rough carpentry includes carpentry work not specified as part of other Sections and generally not exposed, unless otherwise specified.

1.4. SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Material certificates for dimensional lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected.
- C. Wood treatment data as follows including chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
  - 1. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
  - 2. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.

1.5. DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

PART 2 - PRODUCTS

## 2.1 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Grade Stamps: Provide lumber with each piece of factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
  - 1. For exposed lumber furnish with grade stamps applied to ends or back of each piece; or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.
- C. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
  - 1. Provide dressed lumber, S4S, unless otherwise indicated.
  - 2. Provide lumber with 15 percent maximum moisture content at time of dressing and shipment sizes 2 inches or less in nominal thickness, unless otherwise indicated.

## 2.2. DIMENSION LUMBER

- A. For light framing (2 to 4 inches thick, 2 to 12 inches wide) provide the following grade and species:  
"Construction" grade.

## 2.3. MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown.
- C. Grade: "Standard" grade light-framing-size lumber of any species or board-size lumber as required. "No. 3 Common" or "Standard" grade boards per WCLIB or WWPA rules or "No. 2 Boards" per SPIB rules.

## 2.4. FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
  - 1. Where rough carpentry is exposed to weather, in ground contact, roofing work, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or AISI Type 304 stainless steel.
  - 2. Nails, Wire, Brads, and Staples: FS FF-N-105.  
Screws: FS FF-S-111.

Bolts and Screws: FS FF-B-575.  
Nuts: FS FF-B-836.  
Washers: FS FF-W-92.

## 2.5. PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General: All lumber or plywood is to be Preservative-treated wood or is specified herein to be treated, comply with applicable requirements of AWPB Standards C2 (Lumber) and C9 (Plywood) Mark each treated item with the AWPB or SPIB Quality Mark Requirements. All wood blocking used for roofing work is to be preservative-treated.
- B. Pressure-treat above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
  - 1. Wood cants, nailers, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
  - 3. Wood framing members less than 19 inches above grade.
- C. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWPB M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces

## PART 3 - EXECUTION

### 3.1. INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other construction
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.

- G. Under base bid, add wood blocking to all curbs as required to raise the top of the curb a minimum of 8" above the finished roof surface.

### 3.2. WOOD GROUNDS, NAILERS, BLOCKING, AND SLEEPERS

- A. Install wood grounds, nailers, blocking, and sleepers where shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to formwork before concrete placement

END OF SECTION 06 10 00

SECTION 07 22 00  
ROOF DECK, INSULATION AND COVERBOARDS

PART 1 — GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes roof insulation over the properly prepared deck substrate.
- B. Related Sections:
  - 1. Section 07 31 13 – Fiberglass-based Asphalt Shingles
  - 2. Section 07 52 00 – Modified Bituminous Membrane Roofing.

1.3 REFERENCES

- A. American Society for Testing and materials (ASTM):
  - 1. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation.
  - 2. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
- B. Factory Mutual Research (FM):
  - 1. Roof Assembly Classifications.
- C. National Roofing Contractors Association (NRCA):
  - 1. Roofing and Waterproofing Manual.
- D. Insulation Board, Polyisocyanurate (FS HH-I-1972)

1.4 SUBMITTALS

- A. Product Data: Provide manufacturer's specification data sheets for each product.
- B. Shop Drawings
  - 1. Submit manufacturer's shop drawings indicating complete installation details of tapered insulation system, including identification of each insulation block, sequence of installation, layout, drain locations, roof slopes, thicknesses, crickets and saddles.
  - 2. Shop drawing shall include: Outline of roof, location of drains, complete board layout of tapered insulation components, thickness and the average "R" value for the completed insulation system.

1.5 QUALITY ASSURANCE

- A. Fire Classification, ASTM E-108.
- B. Pre-installation meeting: Refer to Division 07 roofing specifications for pre-installation meeting requirements.

1.6 DELIVERY, STORAGE AND HANDLING

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

## PART 2 — PRODUCTS

### 2.1 APPROVED EQUIVALENT

- A. Contractor must submit any product not specified a minimum five days before the bid date to Owner in order for product to be considered for approval. The Owner will notify Contractor, in writing, of decision to accept or reject request.

### 2.2 INSULATION MATERIALS

- A. Thermal Insulation Properties and Approved Insulation Boards.
  - 1. Rigid Polyisocyanurate Roof Insulation; ASTM C1289:
    - a. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
    - b. Thickness: Minimum 1.0", Maximum: 3.0"
    - c. R-Value: Minimum 5.7 per inch.
    - d. Compliances: UL, WH or FM listed under Roofing Systems
    - e. Federal Specification HH-I-1972, Class 1.
      - 1) Acceptable Products:
      - 2) Wise Products Group, VPG-Flat
      - 3) ENRGY-3; Johns Manville
      - 4) Hytherm; Dow
      - 5) EnergyGuard; GAF
      - 6) Approved Equivalent
  - 2. Tapered Polyisocyanurate Roof Insulation; ASTM C1289:
    - a. Qualities: Factory Tapered, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
    - b. Thickness: Minimum 0.5"
    - c. Average R-Value: Minimum 5.7 per inch
    - d. Tapered Slope: 1/2:12
    - e. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1
      - 1) Acceptable Products:
      - 2) Wise Products Group, VPG-Tapered CG
      - 3) ENRGY 3; Johns Manville
      - 4) EnergyGuard; GAF
      - 5) Approved Equivalent
  - 3. Gypsum Roof Cover Board
    - a. Qualities: Nonstructural, noncombustible, water-resistant treated gypsum core panel.
    - b. Board Size: Four feet by four feet (4'x4').
    - c. Thickness: One half (1/2) inch.
    - d. Compliances: UL, WH or FM listed under Roofing Systems.
    - e. Acceptable Products:
      - 1) Dens Deck Prime; Georgia Pacific

2) Approved Equivalent

2.3 RELATED MATERIALS

- A. Fiber Cant and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated, matching insulation board or of perlite or organic fiberboard, as per the approved manufacturer.
  - 1. Acceptable Manufacturers:
    - a. Celotex
    - b. Johns Manville
    - c. GAF
    - d. Approved Equivalent
- B. Roof Deck Insulation Adhesive: high-rise foam adhesive as recommended by insulation manufacturer and approved by FM indicated ratings.
  - 1. Tensile Strength (ASTM D412).....250 psi
  - 2. Density (ASTM D1875).....8.5 lbs./gal.
  - 3. Viscosity (ASTM D2556).....22,000 to 60,000 cP.
  - 4. 2" Peel Strength (ASTM D903).....17 lb/in.
  - 5. 3" Flexibility (ASTM D816).....Pass @ -70°F
  - 6. Acceptable Manufacturer:
    - a. The Garland Company: Insul-Lock HR
- C. Protection Board: Pre-molded semi-rigid asphalt composition board one half (1/2) inch.
- D. Insulation Fasteners:
  - 1. Corrosion resistant screw fastener as recommended by roof membrane manufacturer.
  - 2. Factory Mutual Tested and Approved with three (3) inches coated disc for I-90 rating, length required to penetrate metal deck one inch.

PART 3 — EXECUTION

3.1 INSPECTION OF SURFACES

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

3.2 INSULATION AND COVERBOARD INSTALLATION

- A. Attachment with Mechanical Fasteners
  - 1. Approved insulation board shall be fully attached to the deck with an approved mechanical fastening system. As a minimum, the amount of fasteners shall be in accordance with manufacturer's recommendation for FM I-90 system. Otherwise, a minimum of one fastener per two square feet shall be installed.

2. Filler pieces of insulation require at least two fasteners per piece if size of insulation is less than four square feet.
3. Spacing pattern of fasteners shall be as per manufacturer's recommendations to meet the FM requirements. Placement of any fastener from edge of insulation board shall be a minimum of three inches, and a maximum of six (6) inches.
4. Minimum penetration into deck shall be as recommended by the fastener manufacturer. There is a one (1) inch minimum for metal, wood and structural concrete decks where not specified by the manufacturer. For gypsum and cement-wood fiber decks, penetration shall be determined from pull-out test results with a minimum penetration of one and one-half (1 ½) inches.

B. Attachment with Insulation Adhesive

1. Ensure all surfaces are clean, dry, free of dirt, debris, oils, loose ore embedded gravel, unadhered coatings, deteriorated membrane and other contaminants that may inhibit adhesion.
2. Apply insulation adhesive directly to the substrate using a ribbon pattern with one quarter to one half (1/4-1/2) inch wide beads 12 inches o.c., using either the manual applicator or an automatic applicator, at a rate of one (1) gallon per one hundred (150) square feet per cartridge.
3. Immediately place insulation boards into wet adhesive. Do not slide boards into place. Do not allow the adhesive to skin over before installing insulation boards.
4. Briefly step each board into place to ensure contact with the adhesive. Substrates with irregular surfaces may prevent the insulation board from making positive contact with the adhesive. Relief cuts or temporary weights may be required to ensure proper contact.
5. All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of one quarter (1/4) inch away from the vertical surface.
6. Weigh down all boards until foam ceases rising.
7. Cant Strips/Tapered Edge Strips: Install preformed forty five (45) degree cant strip at junctures of vertical surfaces. Provide preformed, tapered edge strips at perimeter of edges of roof that do not terminate at vertical surfaces and/or indicated on the drawings. Provide 6" wide (0.5" thick to 0.0" thick) Fiberboard Tapered edge strips at the edge of all 0.5" thick tapered insulation boards to eliminate 0.5" drops in insulation height.
8. Approved coverboards to be installed over top layer of insulation.

### 3.3 CLEANING

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

### 3.4 CONSTRUCTION WASTE MANAGEMENT

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

END OF SECTION 07 22 00

SECTION 07 52 00  
MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cold Applied 2-Ply Asphalt Roofing.
- B. Accessories.
- C. Edge Treatment and Roof Penetration Flashings.

1.2 RELATED SECTIONS.

- A. Section 07 22 00 - Roof Board Insulation.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.3 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
- B. ASTM D 1970 - Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection.
- C. ASTM D 1475 – Standard Test Method for Density of Liquid Coatings, Inks, and Related Products
- D. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- E. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings
- F. ASTM D 2824 Standard Specification for Aluminum-Pigmented Asphalt Roof Coating.
- G. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- H. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- I. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- J. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- K. Factory Mutual Research (FM): Roof Assembly Classifications.
- L. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- M. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- N. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- O. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.

- P. ASCE 7, Minimum Design Loads for Buildings and Other Structures

#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Design Requirements:
  - 1. Uniform Wind Uplift Load Capacity
    - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
      - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
  - 2. Live Load: 30 psf, or not to exceed original building design, whichever is greater.
  - 3. Dead Load: 20 psf, or not to exceed original building design, whichever is greater.
    - a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation instructions.
- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.
- E. Manufacturer's Certificate: Certify that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
- G. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Testing must be performed at 77 deg. F. Tests at 0 deg. F will not be considered.
- H. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.
- I. Written certification from the roofing system manufacturer certifying the applicator is currently authorized for the installation of the specified roof system.

#### 1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience.

- C. Installer Qualifications: Company specializing in modified bituminous roofing installation with not less than 5 years' experience and authorized by roofing system manufacturer as qualified to install manufacturer's roofing materials.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress. Supervisor/Foremen must be fluent in the English language and maintain proper supervision of workmen.
- E. Maintain a copy of the Contract Documents in the possession of the Supervisor/Foreman and on the roof at all times.
- F. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- G. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer.
  - 1. Upon request of the Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.
  - 2. Manufacturer shall have direct authority and control over all fabrication of steel components as well as the raw materials used in their fabrication.
  - 3. Source Quality Control: Manufacturer shall have in place a documented, standardized quality control program such as ISO-9001 approval.
  - 4. Engage the Manufacturer's Field Representative to conduct required periodic inspections of work in progress as described herein and shall furnish written documentation of all such inspections.
  - 5. Manufacturer shall provide the project Owner with a written statement that they will provide site inspections three days per week that confirms that the project is being constructed as specified, by an experienced, full-time employee of the company.

#### 1.7 PRE-CONSTRUCTION & PROGRESS MEETINGS

- A. Conduct preconstruction and progress meeting as outlined in section 01 31 00.
- B. Conduct Pre-construction meeting at project site:
  - 1. Meet with Owner, roofing installer and major subcontractors, roofing system manufacturer's representative, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
  - 2. Review methods and procedures related to roofing installation, including set up and mobilization areas for stored material and work area.
  - 3. Review safety procedures and site-specific requirements relating to the work and areas to be accessed.
  - 4. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 5. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
  - 6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
  - 7. Review governing regulations and requirements for insurance and certificates if applicable.
  - 8. Review temporary protection requirements for roofing system during and after installation.
  - 9. Review roof observation and repair procedures after roofing installation.
  - 10. Review notification procedures for weather or non-working days.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods less than 4' in length on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50-degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the owner.
- F. Adhesive storage shall be between the range of above 50-degree F (10 degree C) and below 80-degree F (27 degree C). Area of storage shall be constructed for flammable storage.
- G. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

## 1.9 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

## 1.10 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.

## 1.11 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the roof system manufacturer shall be assigned to the project to conduct field observations during the installation phase.
- B. Regularly scheduled site observations shall be required by the manufacturer's field representative a minimum of three (3) days per week during the roofing installation period; exceptions being made for inclement weather, holidays, etc.
- C. Observation reports shall include the following:
  - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to owner within 5 business days of the site visit.
  - 2. This report shall include documentation of any issues/question and resolution.
  - 3. This report shall include record of directives given to the roofing contractor.
  - 4. Digital photographic documentation of the roofing progress; including documentation of specific issues and areas of concern.
  - 5. Each report shall contain project name, owner's project number, and date/time/duration of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:

1. Attend the roofing trade start-up meeting.
  2. Inspect and approve the roof substrate/deck prior to the start of roofing work.
- E. All observation reports shall be kept current and shall be delivered electronically to the owner and contractor within five (5) calendar days after the observation. Progress payments for roofing work may be withheld if observation report submissions are not current.
- F. After completion of all roofing work, and prior to acceptance of the roofing installation, the manufacturer's representative shall conduct an observation to document all roofing work to be corrected as a condition of acceptance.
1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
  2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the roof alone shall not be acceptable.
- G. Any failure by the Owner's Representative, the Project Manager, or the roofing manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Roofing Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details.

#### 1.12 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed 30 year NDL, edge-to-edge Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
1. Warranty Period: 30 years from date of acceptance.
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
1. Warranty Period: 2 years from date of acceptance.
- C. The material manufacturer will provide an annual inspection for the duration of the warranty at the request of the owner at no additional charge.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Inc.
1. 3800 E. 91st St., Cleveland, OH 44105.
  2. Manufacturer's Representative:
    - a. Grant Kandabarow, [GKandabarow@garlandco.com](mailto:GKandabarow@garlandco.com), 412-352-2912
- B. Basis of Design Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. The products specified are intended and the standard of quality for the products required for this project. If other products are proposed, the bidder must disclose in the attached

alternate bid form the manufacturer and the products that they intend to use on the project. If no manufacturer or products are listed, the bid may be accepted only with the use of the products specified.

1. Bidder will not be allowed to change materials after the bid submittal date.
2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to the bid due date.
3. In making a request for substitution, the bidder represents that it has:
  - a. Personally, investigated the proposed product or method, and determined that it is equal to or greater than the products specified.
  - b. Will provide the same guarantee for substitution as for the product and method specified.
  - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
  - d. Will waive all claims for additional costs related to substitution.
  - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by substitution.
  - f. Will reimburse the Owner for all redesign costs for the substitution.
4. The Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that have met all specified requirement criteria.
5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for the particular contractor's request for manufacturer substitution.

## 2.2 COLD APPLIED 2-PLY ROOF SYSTEM

- A. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
  1. StressBase 80 Plus: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
      - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
      - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
      - 2) 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F ( -40 deg. C)
- B. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
  1. StressPly Plus FR Mineral: 155 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced, rubber modified roofing membrane reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 8% XD 8%
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)

- C. Interply Adhesive: (1 and 2)
  - 1. Weatherking: Rubberized, polymer modified cold process asphalt roofing bitumen V.O.C. compliant ASTM D 3019. Performance Requirements:
    - a. Non-Volatile Content ASTM D 4479 70%
    - b. Density ASTM D1475 8.9 lbs./gal.
    - c. Viscosity Stormer ASTM D562 400-500 grams
    - d. Flash Point ASTM D 93 100 deg. F min. (37 deg. C)
    - e. Slope: up to 3:12
- D. Flashing Base Ply: One ply bonded to the prepared substrate with Interply Adhesive:
  - 1. StressBase 80 Plus: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass scrim, performance requirements according to ASTM D 5147.
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 100 lbf/in XD 100 lbf/in
      - 2) 50mm/min. @ -17.78 +/- 2 deg. C MD 17.5 kN/m XD 17.5 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 110 lbf XD 100 lbf
      - 2) 50mm/min. @ 23 +/- 2 deg. C MD 489 N XD 444 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 0 +/- 3.6 deg. F MD 4 % XD 4 %
      - 2) 50mm/min @ -17.78 +/- 2 deg. C MD 4 % XD 4 %
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -40 deg. F ( -40 deg. C)
- E. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
  - 1. StressPly Plus FR Mineral: 155 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced, rubber modified roofing membrane reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G
    - a. Tensile Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
    - b. Tear Strength, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
    - c. Elongation at Maximum Tensile, ASTM D 5147
      - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 8% XD 8%
      - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
    - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34 deg. C)
- F. Flashing Ply Adhesive:
  - 1. Flashing Bond: Asphalt roofing mastic V.O.C. compliant, ASTM D 4586, Type II trowel grade flashing adhesive.
    - a. Non-Volatile Content ASTM D 4479 70 min.
    - b. Density ASTM D 1475 8.3 lbs./gal. (1kg/l)
    - c. Flash Point ASTM D 93 103 deg. F (39 deg. C)

## 2.3 ACCESSORIES:

- A. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless-steel nails shall be used with aluminum; and stainless-steel nails shall be used with stainless steel, Fasteners shall be self-clinching type of penetrating type as recommended by the deck manufacturer. Fasten nails and fasteners flush-driven through flat metal discs not less than 1 inch (25 mm) diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than 1 inch (25 mm) diameter are used. Use of plastic cap nails is not permitted.
- B. Urethane Sealant Hybrid:

1. Tuff-Stuff MS: One-part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
  - a. Tensile Strength, ASTM D 412: 250 psi
  - b. Elongation, ASTM D 412: 450%
  - c. Hardness, Shore A ASTM C 920: 35
  - d. Adhesion-in-Peel, ASTM C 92: 30 pli
- C. Three coursing materials
  1. Silver Flash: Cold-applied, silver trowel-grade mastic designed for three course applications on flashings, patching and leak repair.
    - a. Flash Point, ASTM D 93
      - 1) 100 deg. F (37.7 deg C).
    - b. Density @ 77 deg. F (25 deg C), ASTM D 1475
      - 1) 8.3 lb/gal (1.0 g/cm<sup>3</sup>)
    - c. Non-Volatile, ASTM D 2369
      - 1) 70% min
    - d. Viscosity @ 77 deg. F (25 deg C), Mobilometer 1500 g
      - 1) 9-11 seconds
  2. GarMesh: Reinforcement for repairs to roofing blisters, fractures, punctures and other defects. SBR coated, woven, fiberglass scrim with a distinct orange color.
- D. Glass Fiber Cant - Glass Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.
- E. Roof Traffic Pads:
  1. W.R. Meadows, WhiteWalk: Multi-ply asphaltic panels consisting of a reinforced carrier sheet, fortified asphaltic core, and non-slip resistant top surface of white mineral granules.
    - a. Thickness: ½"

## 2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

- A. Metal Coping: As specified in Section 07 62 00.
- B. Pre-manufactured flashless edge metal: As specified in Section 07 62 00.
- C. Flashing Boot - Rubbertite Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- D. Pitch pans, Rain Collar 26 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.
- E. Drain Flashings should be 4lb (1.8kg) sheet lead formed and rolled.
- F. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.
- G. Pitch Pocket Sealer:
  1. Seal Tite: Two part, 100% solids, self-leveling, polyurethane sealant for filling pitch pans as recommended and furnished by the membrane manufacturer.
    - a. Durometer, ASTM D 2240: 40-50 Shore
    - b. Elongation, ASTM D 412: 250%
    - c. Tensile Strength, ASTM D 412: 200 @ 100 mil
- H. Asphalt Primer:
  1. Garla-Prime VOC

- a. Viscosity by Zahn Cup #2 (ASTM D 4212): 18-21 Sec
    - b. Flash Point (ASTM D 93): 100 deg F (37.7 deg C).
    - c. Non-Volatile (ASTM D 2369): 47.6%
    - d. Wet Film Thickness @ ½-1 gal.: 8 – 16 mils
  - I. Liquid Flashing:
    - 1. Tuff-Flash LO: An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
      - a. Tensile Strength, ASTM D 412: 400 psi
      - b. Elongation, ASTM D 412: 300%
      - c. Density @77 deg. F 8.5 lb/gal typical
    - 2. Grip Polyester Soft: Soft polyester reinforcing fabric.
      - a. Tensile Strength ASTM D 3766, 57.1 lbs (25.9 kg).
      - b. Tear Strength, 16.1 lbs (7.30 kg).
      - c. Elongation ASTM D 3786, 61.65%
      - d. Weight per Area, 3 oz./sq yd. (102 g/m2)
      - e. Mullen Burst, ASTM D 3786: 176 lbs. (80.2 kg)
  - J. Mastic Sealant:
    - 1. Garla-Flex: Polyisobutylene, plain or modified bitumen; non-hardening, non-migrating, non-skinning, and non-drying.
      - a. Non-Volatile Content ASTM D 4479 75% min.
      - b. Density ASTM D 1475 8.25 lbs./gal. (1kg/l)
      - c. Flash Point ASTM D 93 102 deg. F (39 deg. C)
      - d. Viscosity @ 77 deg. F. 400,000 to 600,000 cP
      - e. Elongation, 14-day cure @ 77 deg. F. 800% min
      - f. Free of Asbestos
      - g. VOC 250 g/L
  - K. Fabricated Flashings: Fabricated flashings and trim are specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
    - 1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.
  - L. Self-Adhering, Vapor Impermeable, High-Temperature Sheet:
    - 1. R-Mer Seal: 45-mill thick minimum, consisting of slip-resisting top surface cross-laminated to high temperature SBS-modified asphalt adhesive, with split release backing film.
      - a. Maximum Temperature Rating: 250 deg F (121.11 deg C) ASTM D 1970.
      - b. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
      - c. Seams shall be lapped in accordance with manufacturer's recommendations.
- 2.5 PERFORMANCE REQUIREMENTS
- A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.
  - B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify that deck surfaces and project conditions are ready to receive work of this Section.
- B. Verify that deck is supported and secured to structural members.
- C. Verify that deck is clean and smooth, free of depressions, projections or ripples, and is properly sloped.
- D. Verify that adjacent roof substrate components do not vary more than  $[\frac{1}{4}]$  inch in height.
- E. Verify that deck surfaces are dry.
- F. Verify that openings, curbs, pipes, conduit, sleeves, ducts, and other items which penetrate the roof are set solidly, and that cant strips, wood nailing strips, and reglets are set in place.

### 3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
  - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
  - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
  - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
  - 4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
  - 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
  - 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
  - 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Metal Deck: Metal deck shall be installed as specified in Section
  - 1. Fastening of the deck should comply with the anticipated live and dead loads pertaining to the building as well as applicable Code.
  - 2. Steel decks shall be minimum 22-gauge factory galvanized or zinc alloy coated for protection against corrosion.
  - 3. Suitable insulation shall be mechanically attached as recommended by the insulation manufacturer.
  - 4. Decks shall comply with the gauge and span requirements in the current Factory Mutual FM Approval Guide and be installed in accordance with Loss Prevention Data Sheet 1-28 or specific FM approval.
  - 5. When re-roofing over steel decks, surface corrosion shall be removed, and repairs to severely corroded areas made. Loose or inadequately secured decking shall be fastened, and irreparable or otherwise defective decking shall be replaced.
- C. Insulation: Roof insulation is specified in Section 07 22 20 - Roof Deck and Insulation
  - 1. All joints between layers should be staggered when multiple layers of insulation are installed. Insulation greater than 2.5 inches shall be installed in multiple layers.
  - 2. Insulation shall be kept dry at all times. Install only as much insulation as can be covered with completed roofing membrane before the end of the day's work or prior to onset of inclement weather.
  - 3. Edges shall butt tightly, and all cuts shall fit neatly against adjoining surfaces to provide a smooth overall surface. Gaps of greater than 1/4-inch width shall be filled

- with insulation.
  - 4. Install tapered insulation around roof drains and penetrations to provide adequate slope for proper drainage.
  - 5. When asphalt or cold adhesive attachment is specified, the proposed insulation shall be compatible with the roof substrate, the proposed bitumen and the requirements of the specific membrane.
- D. Re-Roofing Applications:
- 1. Remove existing roof flashings from curbs and parapet walls down to the surface of the roof. Remove existing flashings at roof drains and roof penetrations.
  - 2. Remove all wet, deteriorated, blistered or delaminated roofing membrane or insulation and fill in any low spots occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
  - 3. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
  - 4. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
  - 5. Re-roofing over coal tar pitch requires a mechanically attached recovery board or insulation and a base sheet prior to the application of roofing system.
  - 6. Existing roof surfaces shall be primed as necessary with asphalt primer meeting ASTM D 41 and allowed to dry prior to installing the roofing system.

### 3.3 INSTALLATION - GENERAL

- A. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
- B. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
- C. Protect other work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore other work damaged by installation of the modified bituminous roofing system.
- D. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
  - 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
  - 2. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.
  - 3. Remove and discard temporary seals before beginning work on adjoining roofing.
- E. Substrate Joint Penetrations: Prevent bitumen from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.
- F. Apply roofing materials as specified by manufacturer's instructions:
  - 1. Keep roofing materials dry before and during application.
  - 2. Do not permit phased construction.
  - 3. Complete application of roofing plies, modified sheet and flashing in a continuous operation.
  - 4. Begin and apply only as much roofing in one day as can be completed that same day.
- G. Cut-Offs (Water stops): At end of each day's roofing installation, protect exposed edge of incomplete work, including ply sheets and insulation.

- H. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- I. Cold Temperature Considerations:
  - 1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
  - 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- J. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- K. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber can't strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
- L. Wood Blocking, Nailers and Cant Strips:
  - 1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
  - 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
  - 3. Nailer lengths should be spaced with a minimum 1/8-inch gap for expansion and contraction between each length or change of direction.
  - 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- M. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07 62 00. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- N. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.

### 3.4 INSTALLATION COLD APPLIED ROOF SYSTEM

- A. Base Ply: Cut base ply sheets into 18-foot lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
  - 1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
  - 2. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
  - 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
  - 4. Install subsequent rolls of modified across the roof as above with a minimum of 4-inch

- side laps and 8-inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
5. Extend plies 2 inches beyond top edges of cants at wall and projection bases. Seal top edge of base ply with roof cement.
  6. Install base flashing ply to all perimeter and projection details.
  7. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Modified Cap Ply(s): Cut cap ply sheets into 18-foot lengths and allow plies to relax before installing. Install in interplay adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of ply's specified. Shingle in proper direction to shed water on each large area of roofing.
1. Before installing cap membrane, sweep or blow away any dust, dirt, sand or debris off the base sheet.
  2. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
  3. Solidly bond to the base layers with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
  4. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Care should be taken to eliminate air entrapment under the membrane.
  5. Install subsequent rolls of modified across the roof as above with a minimum of 4-inch side laps and 8-inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
  6. Allow cold adhesive to set for 5 to 10 minutes before installing the top layer of modified membrane.
  7. Extend membrane 2 inches beyond top edge of all cants in full mopping's of the cold adhesive as shown on the Drawings.
- C. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps. Stagger end laps. Completely bond and seal laps, leaving no voids. Repair voids in laps and lapped seams not completely sealed.
- D. Fibrous Cant Strips:
1. Provide non-combustible or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.
  2. Provide 6" wide wood fiber tapered edge strips at all edges of 0.5" thick tapered polyisocyanurate insulation boards to eliminate gaps.
- E. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
  2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
  3. Nailer lengths should be spaced with a minimum 1/8-inch gap for expansion and contraction between each length or change of direction.
  4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- F. Flashing Base Ply: Install flashing sheets by similar application method used for the base ply. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions. Minimum base-flashing height of 8 inches (200 mm) is required. Install modified bituminous roofing sheet and cap sheet according to roofing

manufacturer's written instructions, starting at low point of roofing system. Extend roofing membrane sheets over and terminate beyond cants, installing as follows:

1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
3. Adhere to the underlying base ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces using simplex nails.
4. Solidly adhere the entire flashing ply to the substrate.
5. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
6. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.

G. Flashing Cap Ply:

1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
6. All stripping shall be installed prior to flashing cap sheet installation.
7. Secure the top edge of the flashing sheet using a termination bar every 8" on center.
8. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
9. Seal all vertical laps of flashing ply with a three-course application of trowel-grade mastic and fiberglass mesh.

H. Flood Coat/Aggregate:

1. Install after cap sheets and modified flashing, tests, repairs and corrective actions have been completed and approved.
2. Apply flood coat materials in the quantities recommended by the manufacturer.
3. Uniformly embed aggregate in the flood coat of cold adhesive at a rate recommended by the manufacturer.
4. Aggregate must be dry and placed in a manner required to form a compact, embedded overlay. To aid in embedment, lightly roll aggregate.

### 3.5 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

A. Pre-Manufactured Flash-less Snap-On Metal Edge System:

1. Position base ply of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations. Cap sheet shall stop at the edge of the roof and shall not turn over the edge of the nailer.
2. Prior to installing the base anchor, assure a level plane is present. If not, shim the

roof edge surface as required.

3. Extruded base anchor: Apply two 1/4" beads of urethane hybrid sealant or equal on the bottom surface of the top flange of the extruded anchor.
4. Set the extruded anchor on the edge and face fasten through pre-punched slots every 18 inches o.c. for 5.75 inch face fascia, and 18 inches o.c. staggered for any fascia size greater than 5.75 inches. Begin fastening 6 inches from ends.
5. Install Green-Lock Sealant XL or equal at the ends of the base frame to prevent water from running between base anchor joints.
6. Install compression seals every 40 inches on center in the slots located at the top of the extruded anchor.
7. Install fascia cover setting the top flange over the top flange and compression seals of the base anchor. Assure compression seals are in place during this process. Beginning on one end and working towards the opposite end, press downward firmly (do not rotate) until "snap" occurs and cover is engaged along entire length of miter.
8. Install splice plate at each end of the base anchor and fascia cover prior to the installation of the next adjacent ten foot piece.

B. Snap On Coping Cap:

1. Install miters first.
2. Position base flashing of the Built-Up and/or Modified Roofing membrane over the wall edge covering nailers completely, fastening 8 inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
3. Install minimum 16-gauge, 16 inch long by specified width anchor chair at [Contact Manufacturer's Representative] feet on center.
4. Install 6-inch-wide splice plate by centering over 16 inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately 2 inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

C. Roof Drain:

1. Plug drain to prevent debris from entering plumbing.
2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
3. Run base plies over drain. Cut out plies inside drain bowl.
4. Set lead flashing (30-inch square minimum) in 1/4-inch (6 mm) bed of elastomeric sealant. Run lead into drain a minimum of 2 inches (50 mm). Prime lead at a rate of 100 square feet per gallon and allow to dry.
5. Install one base flashing ply (39-inch square minimum) in bitumen. Run ply into drain a minimum of 2 inches.
6. Run cap plies over drain. Cut out plies inside drain bowl.
7. Install clamping ring and assure that all plies are under the clamping ring.
8. Remove drain plug and install strainer.

D. Exhaust Fan:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering curb with 6 inches (152 mm) on to field of the roof.
4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
5. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.

- E. Expansion Joint:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Chamfer top of curb. Prime vertical curb at a rate of 100 square feet per gallon and allow to dry.
  2. Mechanically attach wood cant to expansion joint nailers. Run all field plies over cant a minimum of 2 inches (50 mm).
  3. Install compressible insulation in neoprene cradle.
  4. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  5. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  6. Install pre-manufactured expansion joint cover. Fasten sides at 12 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
- F. Surface Mounted Counterflashing:
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
  4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  5. Secure termination bar through flashing into wall.
  6. Secure counterflashing at top of flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.
- G. Reglet Mounted Counterflashing:
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches. Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
  2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
  4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  5. Secure termination bar through flashing and into wall.
  6. Cut reglet in masonry one joint above flashing.
  7. Secure reglet counterflashing with expansion fasteners and caulk reglet opening.
- H. Curb Detail/Air Handling Station:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
  2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  3. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  5. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
  6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

- I. Equipment Support:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
  2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
  3. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
  4. Install a second ply of modified flashing ply in bitumen over the base flashing ply, 9 inches (228 mm) on to the field of the roof. Attach top of membrane to top of curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  5. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
  6. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- J. Passive Vent/Air Intake:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical at a rate of 100 square feet per gallon and allow to dry.
  2. Set cant in bitumen. Run all plies over cant a minimum of 2 inches (50 mm).
  3. Install base flashing ply covering curb with 6 inches (152mm) on to the field of the roof.
  4. Install a second ply of modified flashing ply installed over the base flashing ply, 9 inches (228 mm) on to field of the roof. Attach top of membrane to top of wood curb and nail at 8 inches (203 mm) o.c. Apply a three-course application of mastic and mesh at all vertical seams and allow to cure and aluminize.
  5. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.
- K. Pitch Pocket:
1. Run all plies up to the penetration.
  2. Place the pitch pocket over the penetration and prime all flanges.
  3. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.
  4. Install second layer of modified membrane extending 9 inches (228 mm) onto field of the roof.
  5. Fill pitch pocket half full of non-shrink grout. Let this cure and top off with pourable sealant.
  6. Caulk joint between roof system and pitch pocket with roof cement.
- L. Plumbing Stack:
1. All Copper piping must be liquid flashed.
  2. Minimum stack height is 12 inches (609 mm).
  3. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
  4. Prime flange of new sleeve. Install properly sized sleeves set in 1/4-inch (6 mm) bed of roof cement.
  5. Install base flashing ply in bitumen.
  6. Install membrane in bitumen.
  7. Caulk the intersection of the membrane with elastomeric sealant.
  8. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.
- M. Pitch Pocket Umbrella:
1. Run all plies up to the penetration.
  2. Place the pitch pocket over the penetration and prime all flanges.
  3. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.

4. Install second layer of modified membrane extending 9 inches (228 mm) onto field of the roof.
  5. Fill pitch pocket half full of non-shrink grout. Let this cure and top off with pourable sealant.
  6. Caulk joint between roof system and pitch pocket with roof cement.
  7. Place a watershedding type bonnet over the top of the pitch pocket and clamp the top with a drawband collar. Caulk the upper edge of the band with an elastomeric sealant.
- N. Two-Part Asphalt-Based Liquid Flashing:
1. Mask target area on roof membrane with tape.
  2. Clean all non-porous areas with isopropyl alcohol.
  3. Apply 32 wet mil base coat of liquid flashing over masked area.
  4. Embed polyester reinforcement fabric into the base coat of the liquid flashing.
  5. Apply 48-64 wet mil topcoat of the liquid flashing material over the fabric extending 2 inches (51 mm) past the scrim in all directions.
  6. Apply minerals immediately or allow the liquid flashing material to cure 15-30 days and then install reflective coating.

### 3.6 FIELD QUALITY CONTROL

- A. Perform manufacturer's field inspection and as required a minimum of three (3) days per week.
- B. Correct defects or irregularities discovered during field inspection.
- C. Require attendance of roofing materials manufacturers' representatives at site during installation of the roofing system. A copy of the specification should also be on site at all times.

### 3.7 PROTECTION AND CLEANING

- A. Repair or replace defaced or disfigured finishes caused by Work of this section.
- B. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- C. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- D. Protect exposed surfaces of finished walls with tarps to prevent damage.
- E. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- F. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.
- G. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- H. Remove bitumen adhesive drippings from all walls, windows, floors, ladders and finished surfaces. In areas where finished surfaces are soiled by asphalt or any other sources of soiling caused by work of this Section, consult manufacturer of surfaces for cleaning instructions and conform to their instructions.

### 3.8 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Walk roof surface areas of the building, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. The roofing system manufacturer reserves the right to request a thermographic scan of the roof during final inspection to determine if any damp or wet materials have been installed. The thermographic scan shall be provided by the Roofing Contractor.
- D. If core cuts verify the presence of damp or wet materials, the Roofing Contractor shall be required to replace the damaged areas at his own expense.
- E. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- F. Notify the Owner upon completion of corrections.
- G. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- H. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION 07 52 00

SECTION 07 62 00  
EDGE METAL, SHEET METAL FLASHING, AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Provide all labor, equipment, and materials to fabricate and install the following.
  - 1. Fascia, scuppers and trim
  - 2. Coping cap at parapets
  - 3. Expansion joint and area divider covers
  - 4. Gutters, scuppers and downspouts
- B. Related Sections:
  - 1. Section 07 22 00 – Roof Deck, Insulation and Coverboards
  - 2. Section 07 52 00 – Modified Bituminous Membrane Roofing

1.3 REFERENCES

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

1.4 SUBMITTALS FOR REVIEW

- A. Product Data:
  - 1. Provide manufacturer's specification data sheets for each product.
  - 2. Metal material characteristics and installation recommendations.
  - 3. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.

- B. Shop Drawings
  - 1. For manufactured and ANSI/SPRI ES-1 compliant shop fabricated gravel stops, fascia, snap-on coping, scuppers, and all other sheet metal fabrications.
  - 2. Indicate material profile, jointing details, fastening methods, flashing, terminations, and installation details.
  - 3. Indicate type, gauge and finish of metal

#### 1.5 SUBMITTALS FOR INFORMATION

- A. Design Loads: Any material submitted as equal to the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the wind uplift and perimeter attachment requirements according to ASCE 7 and that the submitted equal edge metal system is compliant with the ANSI/SPRI ES-1 standard.
- B. Factory Mutual Research Corporation's (FMRC) wind uplift resistance classification: The roof perimeter flashing shall conform to the requirements as defined by the FMRC Loss Prevention Data Sheet 1-49.

#### 1.6 CONTRACT CLOSEOUT SUBMITTALS

- A. Special Project Warranty: Provide specified warranty for the Project, executed by the authorized agent of the Manufacturer.
- B. Roofing Maintenance Instructions. Provide a manual of manufacturer's recommendations for maintenance of installed roofing systems.

#### 1.7 QUALITY ASSURANCE

- A. Engage an experienced roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years' experience.
- B. Maintain a full-time supervisor/foreman who is on the jobsite at all times during installation. Foreman must have a minimum of five (5) years' experience with the installation of similar system to that specified.
- C. Source Limitation: Obtain components from a single manufacturer. Secondary products which cannot be supplied by the specified manufacturer shall be approved in writing by the primary manufacturer prior to bidding.
- D. Upon request fabricator/installer shall submit work experience and evidence of financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.
- E. Reference Standards
  - 1. Comply with details and recommendations of SMACNA Manual for workmanship, methods of joining, anchorage, provisions for expansion, etc.
  - 2. Factory Mutual Loss Prevention Data Sheet 1-49 windstorm resistance 1-90.

#### 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened containers or packages with labels intact and legible.

- B. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials which may cause discoloration or staining.

#### 1.9 PROJECT CONDITIONS

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

#### 1.10 DESIGN AND PERFORMANCE CRITERIA

- A. Thermal expansion and contraction:
  - 1. Completed metal edge flashing system, shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.
- B. Wind Uplift Resistance in compliance with ANSI SPRI ES-1 testing protocol.

#### 1.11 MANUFACTURER'S FIELD REPRESENTATION

- A. Manufacturer's Field Representative: An authorized, full-time employee of the roof system manufacturer shall be assigned to the project to conduct field observations during the installation phase.
- B. Regularly scheduled site observations shall be required by the manufacturer's field representative a minimum of two (2) days per week during the roofing installation period; exceptions being made for inclement weather, holidays, etc.
- C. Observation reports shall include the following:
  - 1. Written report/documentation of the installation progress at the time of the site visit to be delivered to the owner within 48 hours of the site visit.
  - 2. This report shall include documentation of any issues/question and resolution.
  - 3. This report shall include record of directives given to the roofing contractor.
  - 4. Digital photographic documentation of the roofing progress; including documentation of specific issues and areas of concern.
  - 5. Each report shall contain project name and date/time of site visit.
- D. In addition to the progress observations, the manufacturer's representative must:
  - 1. Attend the roofing trade pre-construction meeting.
  - 2. Inspect and approve the roof substrate/deck prior to the start of roofing work.
- E. All observation reports shall be kept current and shall be delivered electronically to the owner and contractor within five (5) calendar days after the observation. Progress payments for roofing work may be withheld if observation report submissions are not current.
- F. After completion of all roofing work, and prior to acceptance of the roofing installation, the manufacturer's representative shall conduct an observation to document all roofing work to be corrected as a condition of acceptance.
  - 1. Each item requiring corrective work shall be identified (including specific location) and required corrective action shall be noted.
  - 2. The final observation report must be produced in writing with photographic back-up. Marking corrective items on the roof alone shall not be acceptable.

- G. Any failure by the Owner's Representative, the Project Manager, or the roofing manufacturer's Technical Field Representative to observe, detect, pinpoint, or object to any defect or noncompliance with the requirements of the Roofing Manufacturer's requirements, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details – of work in progress or completed work – shall not relieve the Contractor of, or reduce, or in any way limit, his responsibility of full performance of the work required of him under the requirements of the Roofing Manufacturer, the Contract Documents, the Project Specifications, the approved Shop Drawings and Engineering Data, and/or the Roofing Manufacturer's standard details.

## 1.12 WARRANTIES

- A. Owner shall receive one (1) warranty from manufacturer of roofing materials covering all of the following criteria. Multiple warranties are not acceptable.
1. Edge metal system to comply with "No Dollar Limit" warranty requirements stated in Section 07 52 00.
  2. Pre-finished metal material shall require a written thirty (30)- year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a color change greater than 5 NBS color units per ASTM D2244 or chalking excess of 8 units per ASTM D659. If either occurs material shall be replaced per warranty, at no cost to the Owner.
  3. Installing contractor shall certify that the edge metal system has been installed per the manufacturer's printed details and specifications.
- B. Contractor's Warranty
1. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two (2) years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop and make good any damage to other work or equipment caused by such leaks or the repairs thereof.
- C. The material manufacturer will provide an annual inspection for the duration of the warranty at the request of the owner at no additional charge.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis of Design: The Garland Company, Inc.
1. 3800 E. 91st St., Cleveland, OH 44105.
  2. Manufacturer's Representative:
    - a. Grant Kandabarow, [GKandabarow@garlandco.com](mailto:GKandabarow@garlandco.com), 412-352-2912
- B. Basis of Design Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.
- C. The products specified are intended and the standard of quality for the products required for this project. If other products are proposed, the bidder must disclose in the attached alternate bid form the manufacturer and the products that they intend to use on the project. If no manufacturer or products are listed, the bid may be accepted only with the use of the products specified.
1. Bidder will not be allowed to change materials after the bid submittal date.

2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Owner for approval prior to the bid due date.
3. In making a request for substitution, the bidder represents that it has:
  - a. Personally, investigated the proposed product or method, and determined that it is equal to or greater than the products specified.
  - b. Will provide the same guarantee for substitution as for the product and method specified.
  - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
  - d. Will waive all claims for additional costs related to substitution.
  - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by substitution.
  - f. Will reimburse the Owner for all redesign costs for the substitution.
4. The Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that have met all specified requirement criteria.
5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for the particular contractor's request for manufacturer substitution.

## 2.2 MATERIALS

- A. Materials: Minimum gauge of steel or thickness of Aluminum to be specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations.
- B. Shop Fabricated, Snap-On Coping System:
  1. Coping Cap Cover and Splice Plate
    - a. Aluminum, ASTM B209, alloy 3105-H14, in thickness of .040" nom., kynar finish.
  2. Coping Chairs
    - a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0635 nom./ 16 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
- C. Flash-less Snap-On Edge Metal System: R-Mer Force
  1. Flash-less Snap-On Fascia Cover and Splice Plate
    - a. Aluminum, ASTM B209, alloy 3105-H14, in thickness of .040" nom., kynar finish.
    - b. Color: Owner's choice of standard color.
  2. Flash-less Snap-on Fascia Extruded Base Anchor
    - a. Base Anchor and Anchor Splice Plates: 6005A-T61 extruded aluminum
    - b. Compression Seal for top of anchor: TPE thermoplastic elastomer.
    - c. Sealant for Flange: Green-Lock Sealant XL: Single-component high performance 100% solids, interior and exterior polyether joint sealant.
- D. Fascia Extenders
  - a. Aluminum, ASTM B209, alloy 3105-H14, in thickness of .040" nom., kynar finish.
  - b. Cleats: Continuous, minimum thickness of 24 GA galvanized steel.
  - c. Color: To match Flash-less Snap-On Edge metal system.
- E. Shop Fabricated Counterflashing
  - a. Stainless Steel as stated below

- F. Through-wall flashings
  - 1. Copper or stainless steel as stated below.
- G. Shop fabricated pitch pans.
  - 1. Copper or Stainless Steel as specified below.
  - 2. All joints to be fully welded/soldered. Use of rivets, screws or fasteners will not be permitted.
  - 3. All pitch pans to be covered with metal umbrellas.
- H. Termination Bar: 1/8" thick, 1" wide extruded aluminum bar with flat profile, factory punched holes spaced 6-inches on center.
- I. Miscellaneous Metals and Flashings
  - 1. Sheet Lead: FS QQ-L-201, Grade B; 2-1/2 pounds per square foot, 0.0391-inches thick minimum used for sanitary vent flashing.
  - 2. Stainless Steel Sheet: Type 302/304, ASTM A167, 26 gage, annealed except dead soft where fully concealed by other work, 2D (dull) finish.
  - 3. Copper Sheet: ASTM B370, 16 oz. (0.0216), temper H00 (cold-rolled).
  - 4. Lead-Coated Copper Sheet: ASTM B101. Type I, Class A (12-15 1 lb. of lead coating per 100 sq. ft.), 17.1 oz. (0.022").
  - 5. Zinc Alloy Sheet: Zinc with 0.6% copper and 0.14% titanium; 0.27" thick (21 gauge); standard (soft) temper, mill finish.
- J. Finishes
  - 1. Exposed surfaces for coated panels:
    - a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer. Weathering finish as referred by National Coil Coaters Association (NCCA).
    - b. Color: Owner's choice of custom color.
  - 2. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, shall be as shipped from the mill.

## 2.3 RELATED MATERIALS AND ACCESSORIES

- A. Fasteners:
  - 1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
  - 2. Washers: Steel washers with bonded rubber sealing gasket.
  - 3. Screws: Self-tapping sheet metal type compatible with material fastened.
- B. Self-Adhering, Vapor Impermeable, High-Temperature Sheet: 45-mil thick minimum, consisting of slip-resisting top surface cross-laminated to high temperature SBS-modified asphalt adhesive, with split release backing film.
  - 1. Maximum Temperature Rating: 250 deg F (121.11 deg C) ASTM D 1970.
  - 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
  - 3. Seams shall be lapped in accordance with manufacturer's recommendations.
- C. Metal Primer: Zinc chromate type.
- D. Plastic Cement: ASTM D 4586
- E. Sealant: Specified in Section 07900 or on drawings.

## PART 3 - EXECUTION

### 3.1 PROTECTION

- A. Isolate metal products from dissimilar metals, masonry or concrete with bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive reactions.

### 3.2 GENERAL

- A. Secure fascia to wood nailers at the bottom edge with a continuous cleat.
- B. Fastening of metal to walls and wood blocking shall comply with building code standards.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
- D. Allow sufficient clearances for expansion and contraction of linear metal components. Secure metal using fasteners as required by the system. Exposed face fastening will be rejected.

### 3.3 INSPECTION

- A. Verify that curbs are solidly set and nailing strips located.
- B. Perform field measurements prior to fabrication.
- C. Verify that substrate is dry, clean and free of foreign matter.
- D. Commencement of installation shall be considered acceptance of existing conditions.

### 3.4 MANUFACTURED SHEET METAL SYSTEMS

- A. Furnish and install manufactured fascia and coping cap systems in strict accordance with manufacturer's printed instructions.
- B. Provide factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc. refer to Source limitation provision in Part 1.

### 3.5 SHOP-FABRICATED SHEET METAL

- A. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- B. Hem exposed edges.
- C. Angle bottom edges of exposed vertical surfaces to form drip.
- D. Lap corners with adjoining pieces fastened and set in sealant.
- E. Form joints for gravel stop fascia system, coping cap with a 3/8" opening between sections. Back the opening with an internal drainage plate formed to the profile of fascia piece.
- F. Install sheet metal to comply with referenced ANSI/SPRI, SMACNA and NRCA standards.

### 3.6 FLASHING MEMBRANE INSTALLATION

- A. Flash-less Snap-On Fascia Detail with Extruded Aluminum Base Anchor
  1. Position base ply of the Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations. Cap sheet shall stop at the edge of the roof and shall not turn over the edge of the nailer.
  2. Prior to installing the base anchor, assure a level plane is present. If not, shim the roof edge surface as required.
  3. Extruded base anchor: Apply two 1/4" beads of Green-Lock Sealant XL or equal on the bottom surface of the top flange of the extruded anchor.
  4. Set the extruded anchor on the edge and face fasten through pre-punched slots every 18 inches o.c. for 5.75-inch face fascia, and 18 inches o.c. staggered for any fascia size greater than 5.75 inches. Begin fastening 6 inches from ends.
  5. Install Green-Lock Sealant XL or equal at the ends of the base frame to prevent water from running between base anchor joints.
  6. Install compression seals every 40 inches on center in the slots located at the top of the extruded anchor.
  7. Install fascia cover setting the top flange over the top flange and compression seals of the base anchor. Assure compression seals are in place during this process. Beginning on one end and working towards the opposite end, press downward firmly (do not rotate) until "snap" occurs and cover is engaged along entire length of miter.
  8. Install splice plate at each end of the base anchor and fascia cover prior to the installation of the next adjacent ten-foot piece.
- B. Shop Fabricated Coping Cap
  1. Copings shall be provided with factory fabricated welded watertight coping accessories such as miters, transitions, end caps, etc. and finished to match coping system. No exposed fasteners will be accepted throughout the entire project.
  2. Accessories: Joint covers, corners, supports, strip flashing at joinings, fastening, and other accessories shall be included.
  3. Install continuous cleat fasten 6" O.C.
  4. Install new coping cap hooked to continuous cleat.
- C. Surface/Slip Mounted Counterflashing
  1. Counterflashing shall be provided with watertight accessories such as miters, transitions, end caps, etc. and finished to match counterflashing.
  2. Accessories: Joint covers, corners, fasteners, strip flashing at joinings, fastening, and other accessories shall be included.
  3. Secure termination bar through both base and cap flashing and into wall every 8" O.C., caulk top of termination bar.
  4. Secure new counterflashing directly above flashing termination bar every 24" O.C., caulk top of counterflashing if counterflashing is not slipped beneath existing coping.
- D. Reglet Mounted Counterflashing
  1. Reglet shall be provided with watertight accessories such as miters, transitions, end caps, etc. and finished to match.
  2. Accessories: Joint covers, corners, fasteners, strip flashing at joinings, fastening, and other accessories shall be included.
  3. Cut reglet in masonry one joint above flashing.

4. Secure termination bar through both base and cap flashing and into wall every 8" O.C., caulk top of termination bar.
  5. Secure reglet counterflashing with expansion fasteners and caulk reglet opening.
- E. Roof Drain
1. Prime lead at a rate of 100 square feet per gallon and allow to dry.
  2. Set lead flashing (30" square minimum) in a 1/4" bed of mastic.
  3. Install clamping ring and strainer assure all plies are under the clamping ring.
- F. Plumbing Stack with lead flashing
1. Prime flange and sleeve at a rate of 100 square feet per gallon and allow to dry.
  2. Install properly sized sleeves in a 1/4" bed of elastomeric mastic.
  3. Turn sleeve a minimum of 1" down inside of stack.
  4. Caulk intersection of the membrane and flange with elastomeric sealant.

### 3.7 CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work that cannot be restored by normal cleaning methods.

### 3.8 CONSTRUCTION WASTE MANAGEMENT

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

### 3.9 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Inspect work and flashing of roof penetrations, walls, curbs, and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify Owner upon completion of corrections.
- E. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

END OF SECTION 07 62 00

SECTION 22 14 23  
STORM DRAINAGE PIPING SPECIALTIES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
  - 1. Roof drains.
  - 2. Piping above grade.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.

PART 2 – PRODUCTS

2.1 METAL ROOF DRAINS

- A. Cast-Iron, Large-Sump, General-Purpose Roof Drains
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Zurn Plumbing Products Group; Specification Drainage Operation; **Z100** or comparable product by one of the following:
    - a. Josam Company.
    - b. MIFAB, Inc.
    - c. Smith, Jay R. Mfg. Co.
    - d. Tyler Pipe, Wade Div.
    - e. Watts Water Technologies, Inc.
  - 2. Standard: ASME A112.6.4, for general-purpose roof drains.
  - 3. Body Material: Cast iron
  - 4. Dimension of Body: Nominal 14-inch (357-mm)
  - 5. Outlet: Bottom
  - 6. Dome Material: Cast iron

2.2 PIPING ABOVE GRADE

- A. Cast Iron Pipe: CISPI 310, hubless
  - 1. Fittings: Cast iron
  - 2. Joints: CISPI 310 neoprene gaskets and stainless steel clamp-and shield assemblies.
- B. PVC Schedule 40 Solid Wall Pipe and PVC DWV Fitting System.
  - 1. Fittings: Schedule 40 PVC

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Remove scale and dirt, on inside and outside, before assembly.

### 3.2 INSTALLATION

- A. Install in accordance with manufacturers instructions and in accordance with all local building code.
- B. Use fittings for all changes in direction and branch connections.
- C. Install exposed piping at right angles or parallel to building walls. Diagonal runs are not permitted unless expressly indicated.
- D. Conceal all pipe installations in walls, pipe chases, utility spaces, above ceilings, below grade or floors, unless indicated to be exposed to view.
- E. Fire Barrier Penetrations: Where pipes pass through fire rated walls, partitions, ceilings and floors, maintain fire rated integrity.
- F. Install piping with 1/32 inch per foot (1/4 percent) downward slope to drain point.
- G. Provide non-conducting dielectric connections wherever jointing dissimilar metals
- H. Route piping in orderly manner and maintain gradient.
- I. Install piping to conserve building space and not interfere with use of space.
- J. Group piping wherever practical at common elevations.
- K. Install piping to allow for expansion and contraction without stressing pipe/joints
- L. Provide clearance for installation of insulation and access to valves and fittings.
- M. Provide access where valves and fittings are not exposed.
- N. Where pipe support members are welded to structural building framing, scrape, brush, clean, and apply one coat of zinc rich primer to welding.
- O. Install bell and spigot pipe with bell end upstream.

### 3.3 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION



# SOMERSET COUNTY TECHNOLOGY CENTER

## 2025 ROOF RENOVATION PROJECT



THE GARLAND COMPANY  
3800 E. 91<sup>ST</sup> STREET  
CLEVELAND, OH 44105

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NO.	DATE	DESCRIPTION
0	2/28/2025	FIRST ISSUE

SOMERSET COUNTY TECHNOLOGY CENTER  
281 TECHNOLOGY DRIVE  
SOMERSET, PENNSYLVANIA 15501



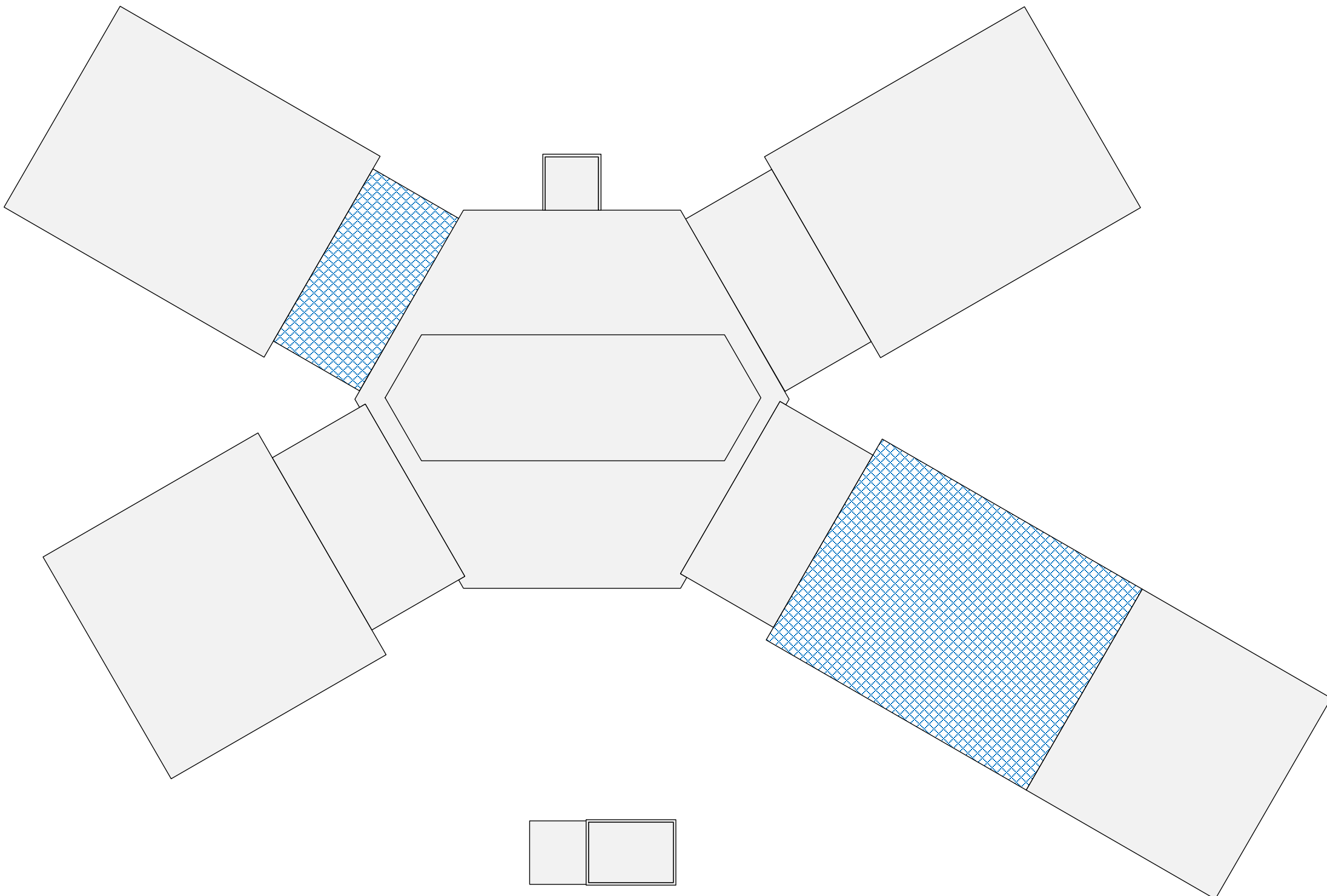
SHEET TITLE:

COVER SHEET

SHEET NO.

A-1

SITE MAP



ROOF AREAS IN PROJECT SCOPE

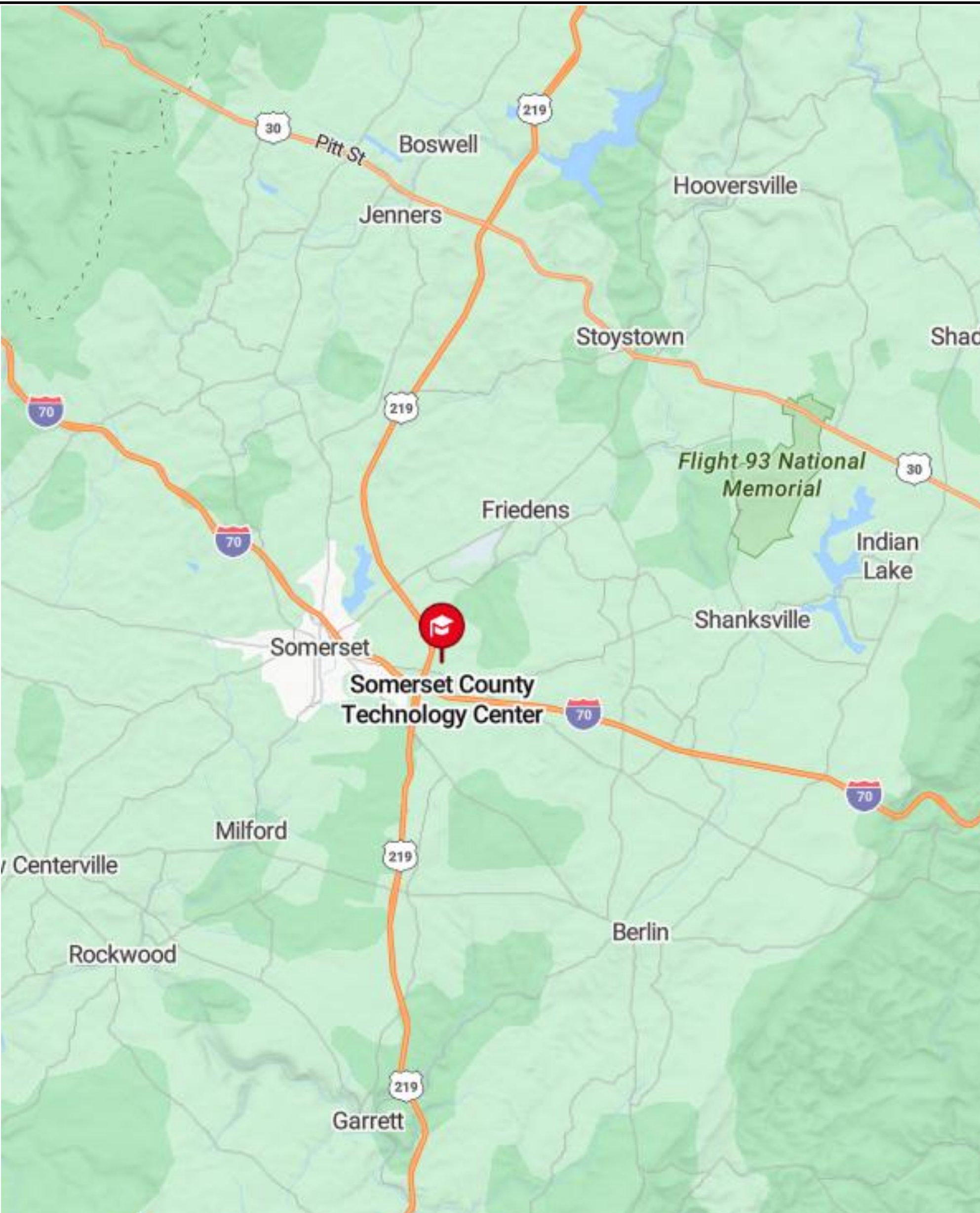
PROJECT TIMELINE

- 3/4/2025 @ 10:00 AM – MANDATORY PRE-BID MEETING AT SOMERSET COUNTY TECHNOLOGY CENTER.
- 3/11/2025 @ 1:00 PM – DEADLINE FOR SITE VISIT.
- 3/12/2025 @ 4:00 PM – DEADLINE FOR FINAL BID QUESTIONS.
- 3/14/2025 @ 9:00 AM – FINAL BID ADDENDUM ISSUED.
- 3/18/2025 @ 10:00 AM – BIDS ARE DUE TO SOMERSET COUNTY TECHNOLOGY CENTER MAIN OFFICE.
- 3/20/2025 – ANTICIPATED PROJECT AWARD DATE.
- 11/14/2025 – SUBSTANTIAL COMPLETION DEADLINE.

DRAWING INDEX

- A-1 – COVER SHEET  
B-1 – C-WING ROOF PLAN  
B-2 – E-WING ROOF PLAN  
C-1 – ROOF DETAILS  
C-2 – ROOF DETAILS

LOCATION MAP



GENERAL NOTES:

- 1.) IT IS THE ROOFING CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH ALL DETAILS INVOLVED IN THE ROOFING CONTRACT.
- 2.) ALL DRAWINGS ARE GRAPHIC REPRESENTATION OF APPROXIMATE LOCATIONS OF EXISTING AND NEW MATERIALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
- 3.) ROOFING CONTRACTOR TO PROTECT ALL ADJACENT SURFACES NOT SCHEDULED FOR WORK AND TO REPAIR ANY DAMAGED AREAS AS A RESULT OF CONTRACTOR WORK AT NO ADDITIONAL COST TO THE OWNER.
- 4.) ROOFING CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN WATER TIGHTNESS AND PROVIDE PROTECTION AT ANY/ALL OPENINGS IN THE ROOF LEFT AT THE END OF EACH CONSTRUCTION DAY.
- 5.) ROOFING CONTRACTOR TO VERIFY AT THE SITE THAT ALL ROOF DRAINS AND DRAIN PIPING ARE UNPLUGGED AND CLEAR AT THE COMPLETION OF THE PROJECT. ALL DRAIN LINES TO BE CAMERA SCOPED PRIOR TO COMPLETION OF PROJECT.
- 6.) CONTRACTOR TO REMOVE ANY OBSTACLES DURING ROOF REPLACEMENT AND REINSTALL AFTER NEW ROOFING HAS BEEN COMPLETED.
- 7.) CONTRACTOR SHALL NOT STORE OR STOCKPILE DEMOLISHED MATERIALS ON THE ROOF DURING CONSTRUCTION.
- 8.) THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD.
- 9.) CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND QUANTITIES.
- 10.) ALL CONTRACTORS, BOTH PRIME AND SUB, SHALL COORDINATE THEIR WORK WITH ALL ADJACENT WORK AND SHALL COOPERATE WITH ALL OTHER TRADES SO AS TO FACILITATE THE GENERAL PROGRESS OF THE WORK, AND TO AVOID CONFLICT. NO COMPENSATION WILL BE GIVEN FOR FAILURE OF CONTRACTOR TO COORDINATE THEIR CONTRACT WORK WITH ADJACENT TRADES.
- 11.) THE DRAWINGS SHOWN, COVERING EXISTING CONDITIONS, HAVE BEEN PREPARED FROM THE BEST INFORMATION AVAILABLE. ACTUAL CONDITIONS MAY VARY.
- 12.) PROVIDE TEMPORARY WEATHER PROTECTION DURING INTERVAL BETWEEN REMOVAL OF EXISTING ITEMS AND INSTALLATION OF NEW ITEMS TO INSURE THAT NO WATER LEAKAGE OR DAMAGE OCCURS TO THE EXISTING STRUCTURE OR BUILDING INTERIOR.
- 13.) ROOF CONTRACTOR IS RESPONSIBLE FOR RAISING CURBS, MECHANICAL EQUIPMENT, EQUIPMENT SUPPORTS, PLUMBING STACKS, DRAIN SCUPPERS, AND PERIMETER BLOCKING TO PROVIDE SUFFICIENT FLASHING HEIGHT TO MEET MANUFACTURER'S REQUIREMENTS AND ACCOMMODATE NEW INSULATION THICKNESS.
- 14.) ROOFING CONTRACTOR TO EMPLOY A CERTIFIED MECHANICAL CONTRACTOR TO REMOVE AND REINSTALL MECHANICAL EQUIPMENT AND RECHARGE SYSTEMS AS REQUIRED. TEST AND CERTIFY OPERATION OF EQUIPMENT.
- 15.) ROOFING CONTRACTOR TO EMPLOY A CERTIFIED ELECTRICAL CONTRACTOR TO DISCONNECT AND RECONNECT ALL POWER LINES AND DEVIECS AS REQUIRED. TEST AND CERTIFY OPERATION OF EQUIPMENT.
- 16.) ALL TAPERED CRICKETS AND SADDLES TO BE CONSTRUCTED WITH A L/W RATIO OF 3:1.
- 17.) THE FULL SPECIFICATION AND DRAWING SET TO BE KEPT ON-SITE, HARDCOPY OR DIGITAL, THROUGHOUT THE PROJECT.
- 18.) USE OF PROVIDED TAPERED INSULATION LAYOUTS CONFIRMS AGREEMENT WITH DESIGN. ADDITIONAL TAPERED PANELS MAY BE NECESSARY TO DIVERT RUNOFF AROUND UNITS OR OTHER ROOFTOP OBSTRUCTIONS.
- 19.) ALL BLOCKING FOR RAISED CURBS AND PERIMETER BLOCKING TO BE LEVEL.

SOMERSET COUNTY TECHNOLOGY CENTER – “C” WING ROOF PLAN

SCALE: 1/8" = 1'-0"

SCOPE OF WORK:

BASE BID#1: C2 ROOF REPLACEMENT

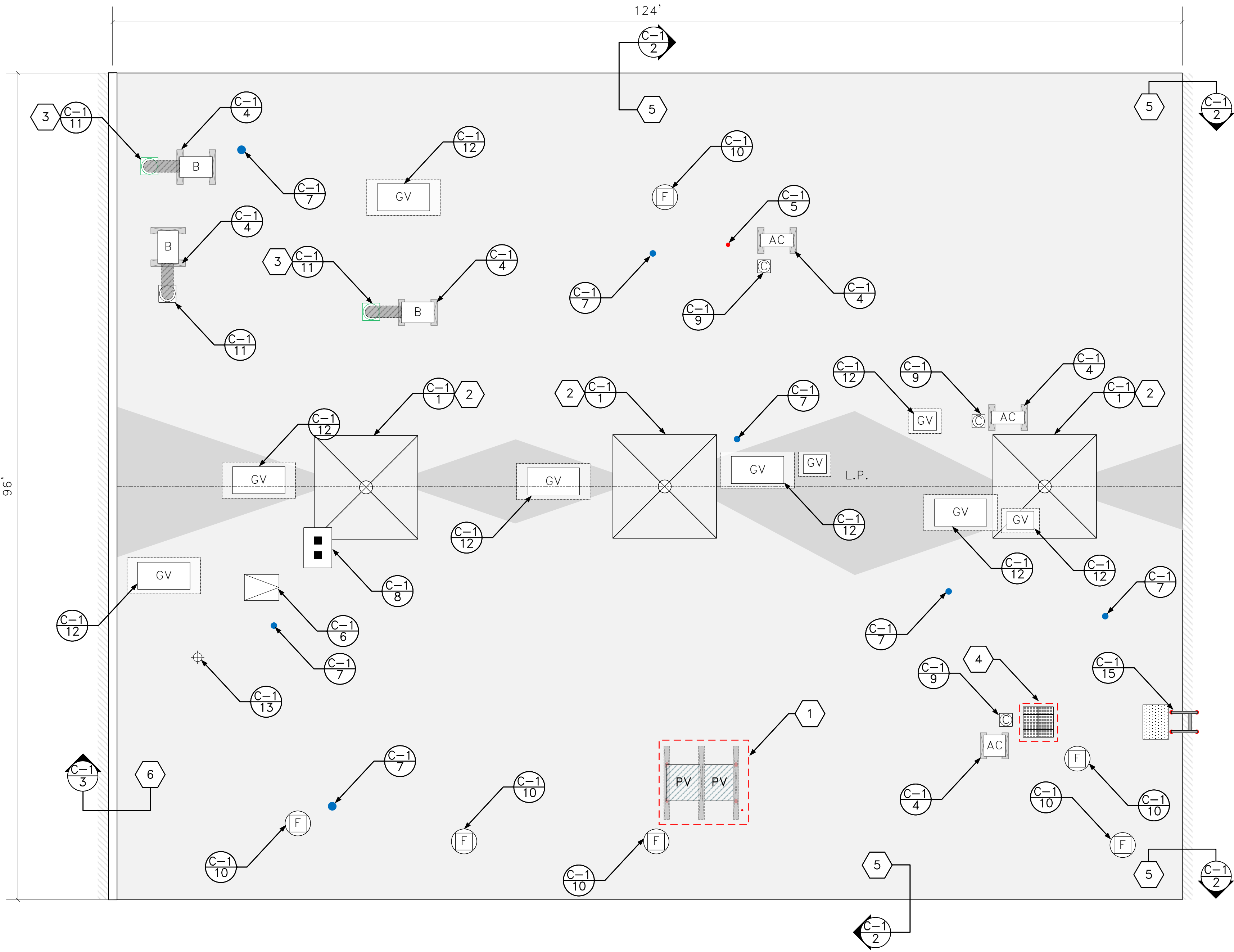
- REMOVE AND DISCARD THE EXISTING ROOF SYSTEM INCLUDING, GRAVEL, MEMBRANE, COVERBOARD, INSULATION, FLASHINGS AND EDGE METAL DOWN TO THE METAL DECK.
- REPLACE ALL DRAIN BOWLS WITH NEW CAST IRON ASSEMBLIES.
- MECHANICALLY ATTACH TWO LAYERS OF 2.6" FLAT POLYISOCYANURATE ACCORDING TO ASCE-7 WIND UPLIFT CALCULATIONS.  
A) INSTALL ½:12 SLOPE TAPERED CRICKETS AND PREMANUFACTURED TAPERED DRAIN SUMPS AT ALL INTERNAL ROOF DRAINS AS INDICATED ON ROOF PLAN.
- BUILD UP EXPANSION JOINTS, RAISE CURBS, EQUIPMENT SUPPORTS, PLUMBING STACKS, AND PERIMETER BLOCKING TO PROVIDE SUFFICIENT FLASHING HEIGHT TO MEET MANUFACTURER'S REQUIREMENTS AND ACCOMMODATE NEW INSULATION THICKNESSES.
- ADHERE A 1/2" GYPSUM COVERBOARD TO THE INSULATION USING HIGH-RISE INSULATION ADHESIVE.
- ADHERE MODIFIED BASE AND MINERAL CAP SHEET THROUGHOUT THE FIELD.  
1) HEAT WELD ALL SIDE AND END LAPS.
- INSTALL MODIFIED BASE AND MINERAL CAP FLASHINGS.  
1) THREE-COURSE ALL VERTICAL LAP SEAMS WITH ALUMINIZED MASTIC AND MESH.  
2) INSTALL METAL COUNTERFLASHING OVER ALL TERMINATIONS.
- INSTALL PRE-MANUFACTURED ANSI/SPRI ES-1, ALUMINUM FLASHLESS METAL EDGE IN OWNER'S CHOICE OF COLOR KYNAR FINISH.
- MANUFACTURER'S WARRANTY WILL BE PROVIDED UPON COMPLETION OF THE JOB.

DRAWING REFERENCE NOTES:

- ROOF CONTRACTOR TO REMOVE EXISTNG STRUCTURAL SUPPORTS DOWN TO DECK LEVEL. OWNER TO DISPOSE OF PV ARRAY PRIOR TO START OF ROOF CONSTRUCTION.
- ROOF CONTRACTOR TO INSTALL 12' X 12' – ½:12 TAPERED DRAIN SUMP.
- ROOF CONTRACTOR CONSTRUCT CURB AROUND DUCTWORK WITH WOOD BLOCKING.
- OWNER TO DISPOSE OF COMMUNICATION EQUIPMENT AND SUPPORTS PRIOR TO START OF ROOF CONSTRUCTION.
- METAL FASICA EXTENDER TO REMAIN.
- ROOF CONTRACTOR TO SUPPLY NEW EXPANSION JOINT COVER AS SHOWN ON DETAIL DRAWINGS.

CORE ANALYSIS:

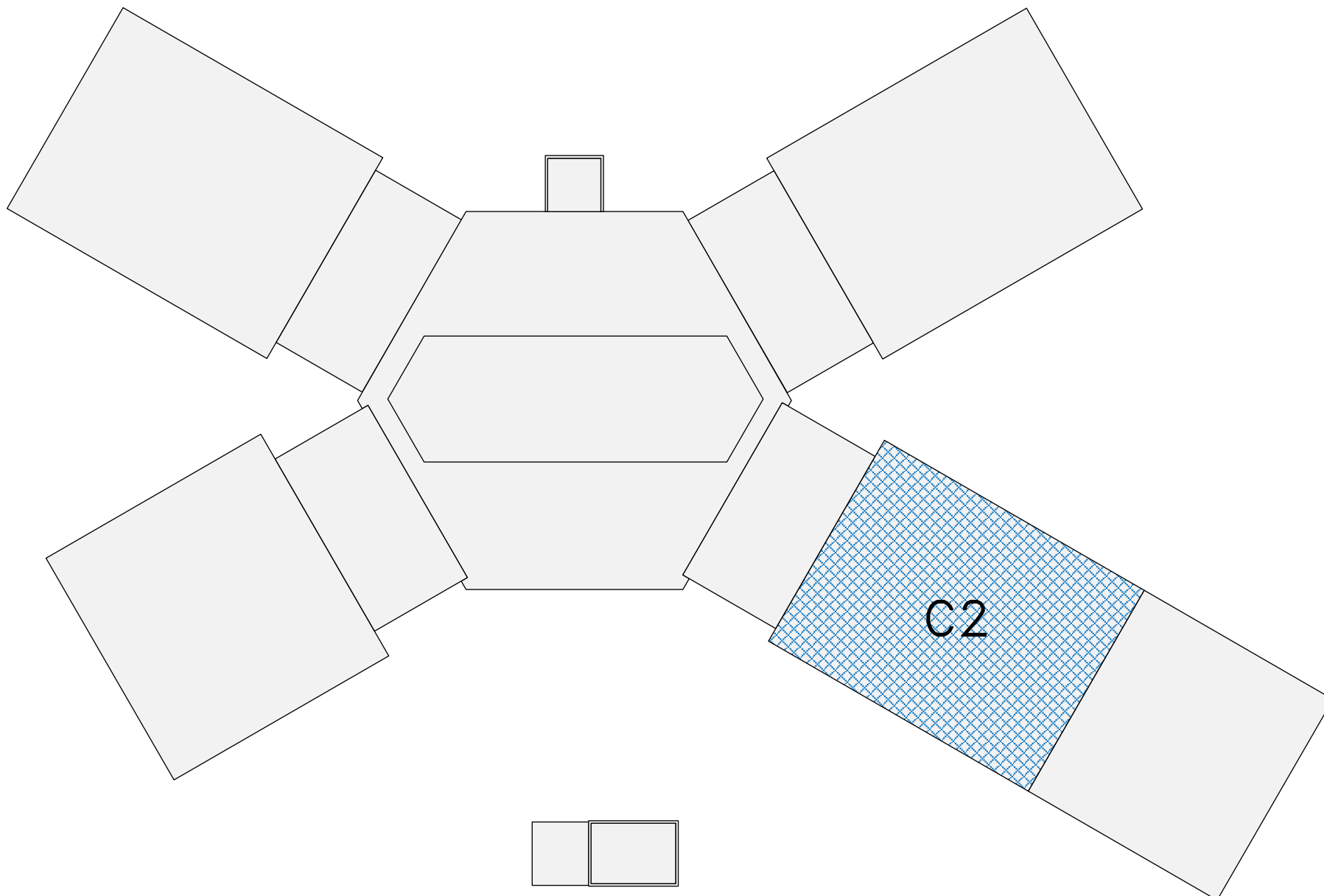
- TYPE "B" STEEL DECKING
- STRUCTURALLY SLOPED
- 3.5" OF POLYISOCYANURATE
- ONE LAYER 1.5"
- ONE LAYER 2.0"
- MECHANICALLY ATTACHED
- ½" WOOD FIBER COVERBOARD
- HOT APPLIED TO ISO
- 3-PLY BUR
- HOT APPLIED
- ASPHALT FOOD COAT AND SLAG



ROOF PLAN LEGEND:

- (F) EXHAUST FAN
- (X) INTERNAL DRAIN
- (AC) ROOF TOP UNIT
- (B) BLOWER
- (H) ROOF HATCH
- (C) CONDUIT PORTAL
- (GV) GRAVITY VENT
- (L) LADDER
- (H) HEAT STACK
- (•) PIPE PENETRATION
- (•) SOIL STACK
- (S) EQUIPMENT SUPPORT
- (Hatched) DUCTWORK

SITE MAP:



THE GARLAND COMPANY  
3800 E. 91<sup>ST</sup> STREET  
CLEVELAND, OH 44105

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NO.	DATE	DESCRIPTION
0	2/28/2025	FIRST ISSUE

SOMERSET COUNTY TECHNOLOGY CENTER  
281 TECHNOLOGY DRIVE  
SOMERSET, PENNSYLVANIA 15501



SHEET TITLE:

C-WING  
ROOF  
PLAN

SHEET NO.

B-1

1. IT IS THE ROOFING CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH ALL DETAILS INVOLVED IN THE ROOFING CONTRACT.

2.) ALL DRAWINGS ARE GRAPHIC REPRESENTATION OF APPROXIMATE LOCATIONS OF EXISTING AND NEW MATERIALS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.

3.) ROOFING CONTRACTOR TO PROTECT ALL ADJACENT SURFACES NOT SCHEDULED FOR WORK AND TO REPAIR ANY DAMAGED AREAS AS A RESULT OF CONTRACTOR WORK AT NO ADDITIONAL COST TO THE OWNER.

4.) ROOFING CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN WATER TIGHTNESS AND PROVIDE PROTECTION AT ANY/ALL OPENINGS IN THE ROOF LEFT AT THE END OF EACH CONSTRUCTION DAY.

5.) ROOFING CONTRACTOR TO VERIFY AT THE SITE THAT ALL ROOF DRAINS AND DRAIN PIPING ARE UNPLUGGED AND CLEAR AT THE COMPLETION OF THE PROJECT. ALL DRAIN LINES TO BE CAMERA SCOPED PRIOR TO COMPLETION OF PROJECT.

6.) CONTRACTOR TO REMOVE ANY OBSTACLES DURING ROOF REPLACEMENT AND REINSTALL AFTER NEW ROOFING HAS BEEN COMPLETED.

7.) CONTRACTOR SHALL NOT STORE OR STOCKPILE DEMOLISHED MATERIALS ON THE ROOF DURING CONSTRUCTION.

8.) THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD.

9.) CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND QUANTITIES.

10.) ALL CONTRACTORS, BOTH PRIME AND SUB, SHALL COORDINATE THEIR WORK WITH ALL ADJACENT WORK AND SHALL COOPERATE WITH ALL OTHER TRADES SO AS TO FACILITATE THE GENERAL PROGRESS OF THE WORK, AND TO AVOID CONFLICT. NO COMPENSATION WILL BE GIVEN FOR FAILURE OF CONTRACTOR TO COORDINATE THEIR CONTRACT WORK WITH ADJACENT TRADES.

11.) THE DRAWINGS SHOWN, COVERING EXISTING CONDITIONS, HAVE BEEN PREPARED FROM THE BEST INFORMATION AVAILABLE. ACTUAL CONDITIONS MAY VARY.

SOMERSET COUNTY TECHNOLOGY CENTER – “E” WING ROOF PLAN

SCOPE OF WORK:

BASE BID#1 - ALTERNATE #1: E2 ROOF REPLACEMENT

- (1) REMOVE AND DISCARD THE EXISTING ROOF SYSTEM INCLUDING, GRAVEL, MEMBRANE, COVERBOARD, INSULATION, FLASHINGS AND EDGE METAL DOWN TO THE METAL DECK.
- (2) REPLACE ALL DRAIN BOWLS WITH NEW CAST IRON ASSEMBLIES.
- (3) MECHANICALLY ATTACH TWO LAYERS OF 2.6" FLAT POLYISOCYANURATE ACCORDING TO ASCE-7 WIND UPLIFT CALCULATIONS.
  - A) INSTALL 1/2:12 SLOPE TAPERED CRICKETS AND PREMANUFACTURED TAPERED DRAIN SUMPS AT ALL INTERNAL ROOF DRAINS AS INDICATED ON ROOF PLAN.
- (4) BUILD UP EXPANSION JOINTS, RAISE CURBS, EQUIPMENT SUPPORTS, PLUMBING STACKS, AND PERIMETER BLOCKING TO PROVIDE SUFFICIENT FLASHING HEIGHT TO MEET MANUFACTURER'S REQUIREMENTS AND ACCOMMODATE NEW INSULATION THICKNESSES.
- (5) ADHERE A 1/2" GYPSUM COVERBOARD TO THE INSULATION USING HIGH-RISE INSULATION ADHESIVE.
- (6) ADHERE MODIFIED BASE AND MINERAL CAP SHEET THROUGHOUT THE FIELD.
  - 1) HEAT WELD ALL SIDE AND END LAPS.
- (7) INSTALL MODIFIED BASE AND MINERAL CAP FLASHINGS.
  - 1) THREE-COURSE ALL VERTICAL LAP SEAMS WITH ALUMINIZED MASTIC AND MESH.
  - 2) INSTALL METAL COUNTERFLASHING OVER ALL TERMINATIONS.
- (8) INSTALL PRE-MANUFACTURED ANSI/SPRI ES-1, ALUMINUM FLASHLESS METAL EDGE IN OWNER'S CHOICE OF COLOR KYNAR FINISH.
- (9) MANUFACTURER'S WARRANTY WILL BE PROVIDED UPON COMPLETION OF THE JOB.











DRAWING REFERENCE NOTES:

- 1 ROOF CONTRACTOR TO REMOVE AND DISCARD GRAVITY VENT.
- 2 ROOF CONTRACTOR TO INSTALL 8' X 8' - 1/2:12 TAPERED DRAIN SUMP.
- 3 INSTALL SLIP COUNTERFLASHING BEHIND EXISTING EDGE METAL.
- 4 OWNER TO DISPOSE OF COMMUNICATION EQUIPMENT AND SUPPORTS PRIOR TO START OF ROOF CONSTRUCTION.
- 5 METAL FASICA EXTENDER TO REMAIN.

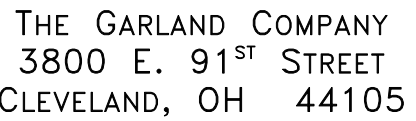
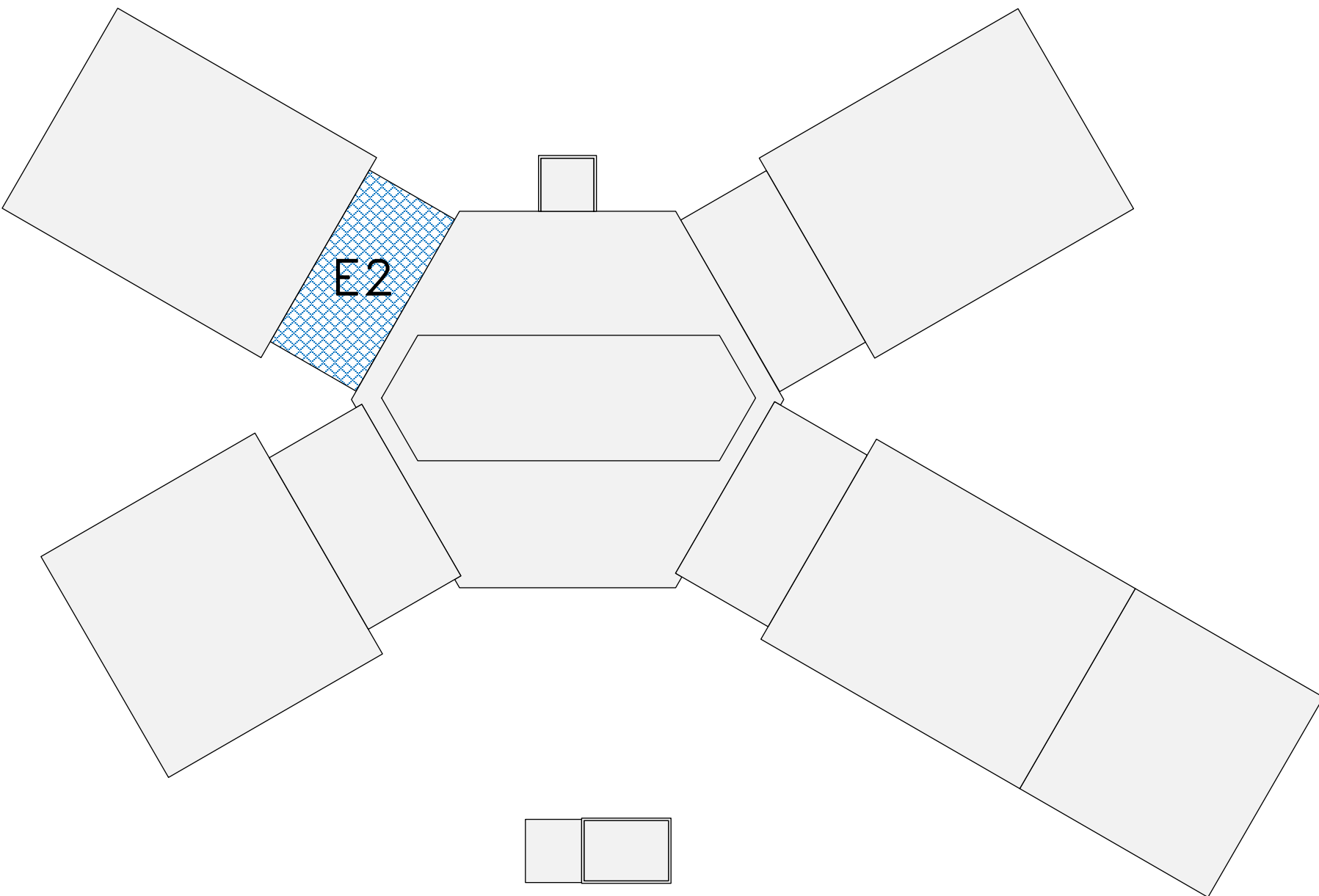
### CORE ANALYSIS:

- TYPE "B" STEEL DECKING
- STRUCTURALLY SLOPED
- 3.5" OF POLYISOCYANURATE
- ONE LAYER 1.5"
- ONE LAYER 2.0"
- MECHANICALLY ATTACHED
- ½" WOOD FIBER COVERBOARD
- HOT APPLIED TO ISO
- 3-PLY BUR
- HOT APPLIED
- ASPHALT FOOD COAT AND SLAG

ROOF PLAN LEGEND:

- |   |                   |
|---|-------------------|
|  | EXHAUST FAN       |
|  | INTERNAL DRAIN    |
|  | ROOF TOP UNIT     |
|  | BLOWER            |
|  | ROOF HATCH        |
|  | CONDUIT PORTAL    |
|  | GRAVITY VENT      |
|  | LADDER            |
|  | HEAT STACK        |
|  | PIPE PENETRATION  |
|  | SOIL STACK        |
|  | EQUIPMENT SUPPORT |
|  | DUCTWORK          |

SITE MAP:



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SOMERSET COUNTY TECHNOLOGY CENTER  
281 TECHNOLOGY DRIVE  
SOMERSET, PENNSYLVANIA 15501



SHEET TITLE:

### E-WING ROOF PLAN

SHEET NO.

B-2



THE GARLAND COMPANY  
3800 E. 91<sup>ST</sup> STREET  
CLEVELAND, OH 44105

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SOMERSET COUNTY TECHNOLOGY CENTER  
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SOMERSET, PENNSYLVANIA 15501

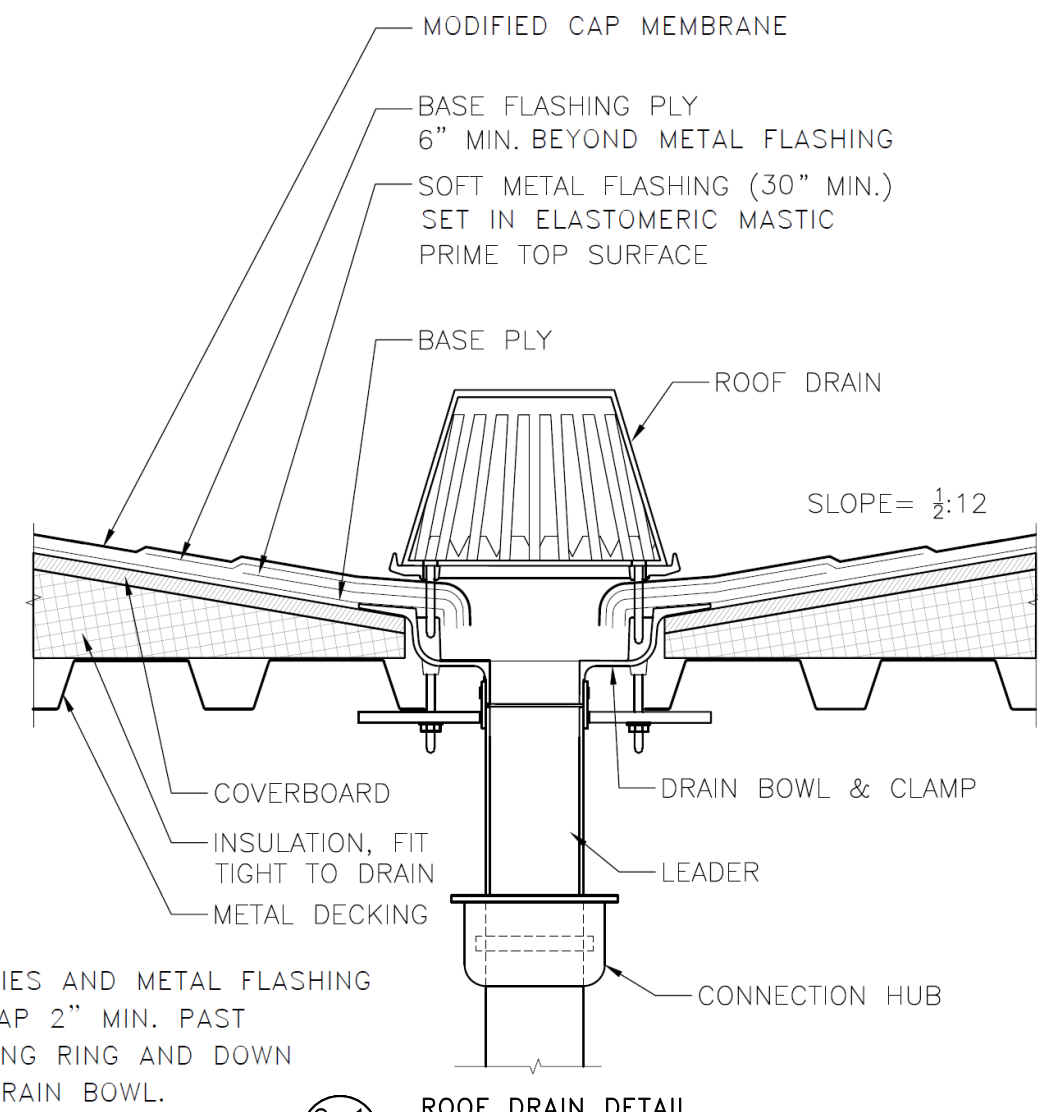


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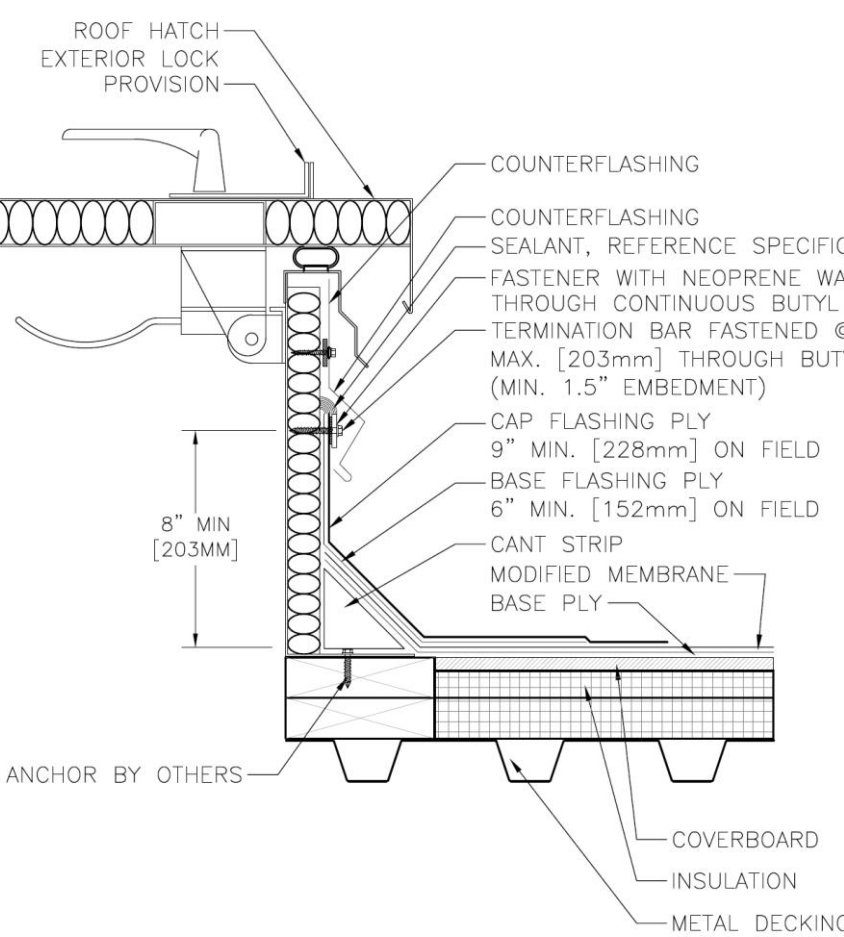
ROOF  
DETAILS

SHEET NO.

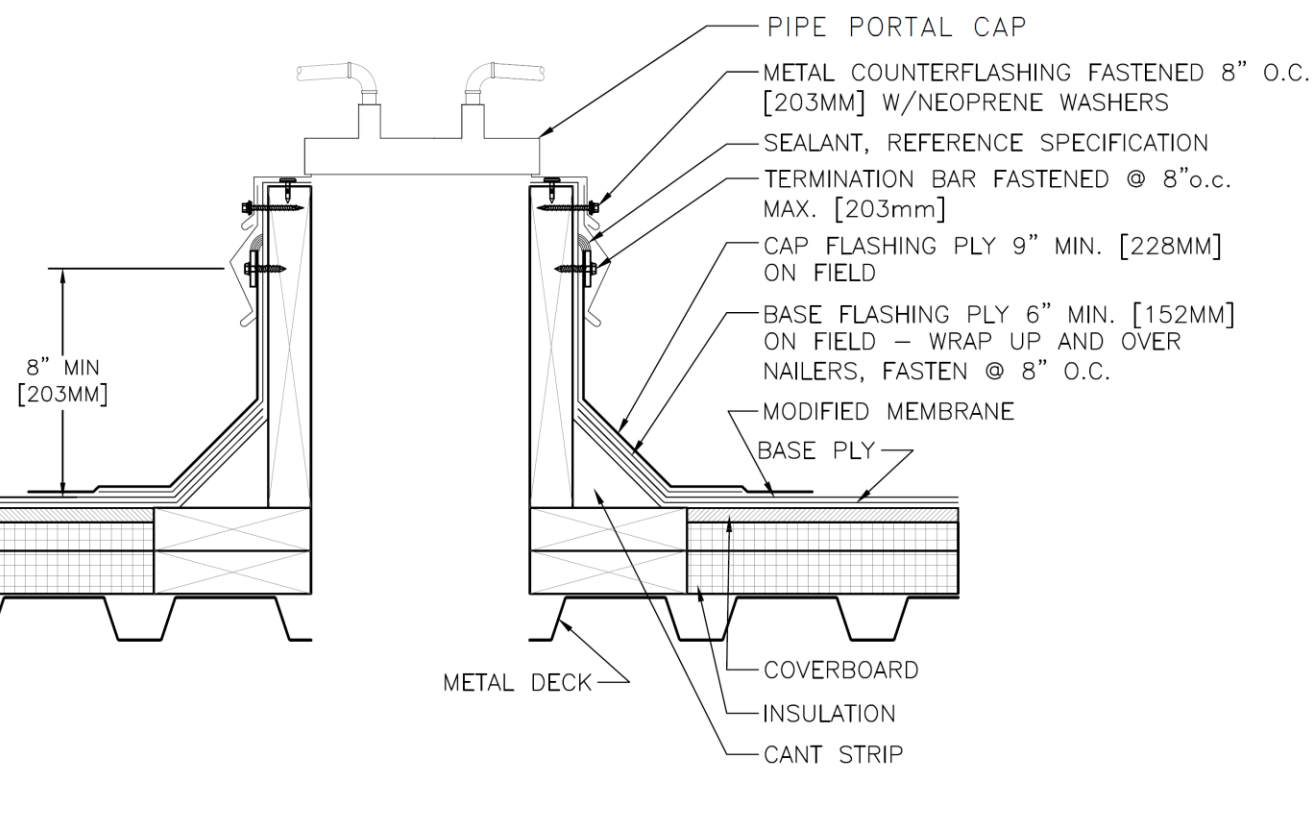
C-1



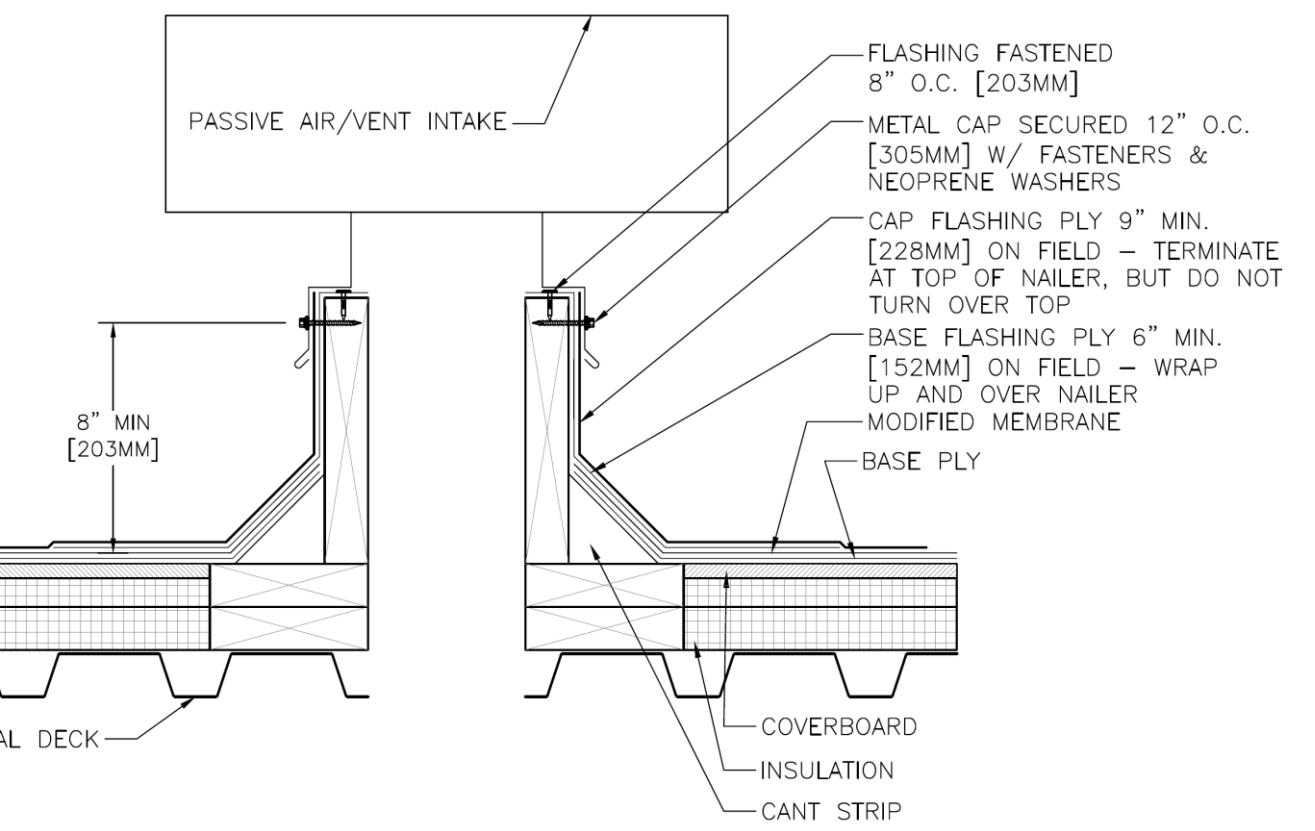
C-1 1 ROOF DRAIN DETAIL



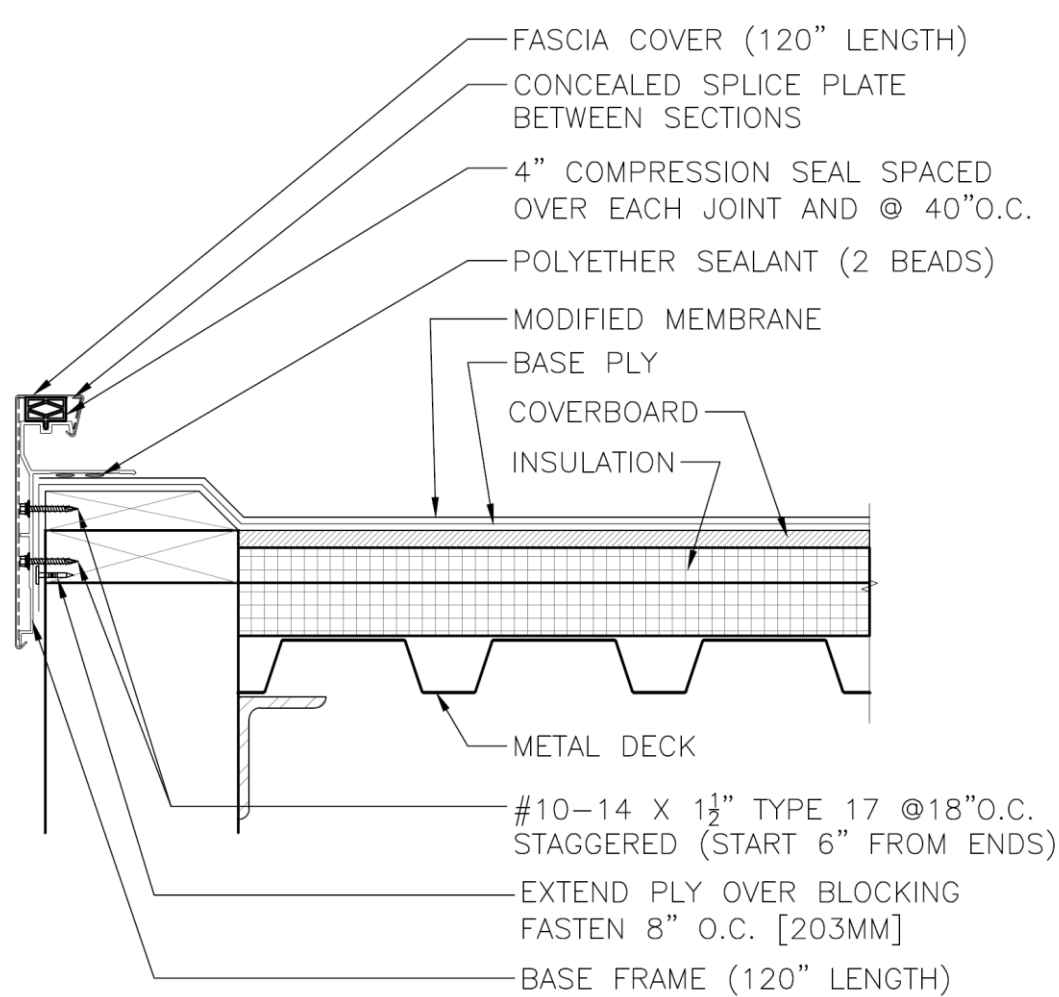
C-1 6 ROOF HATCH DETAIL



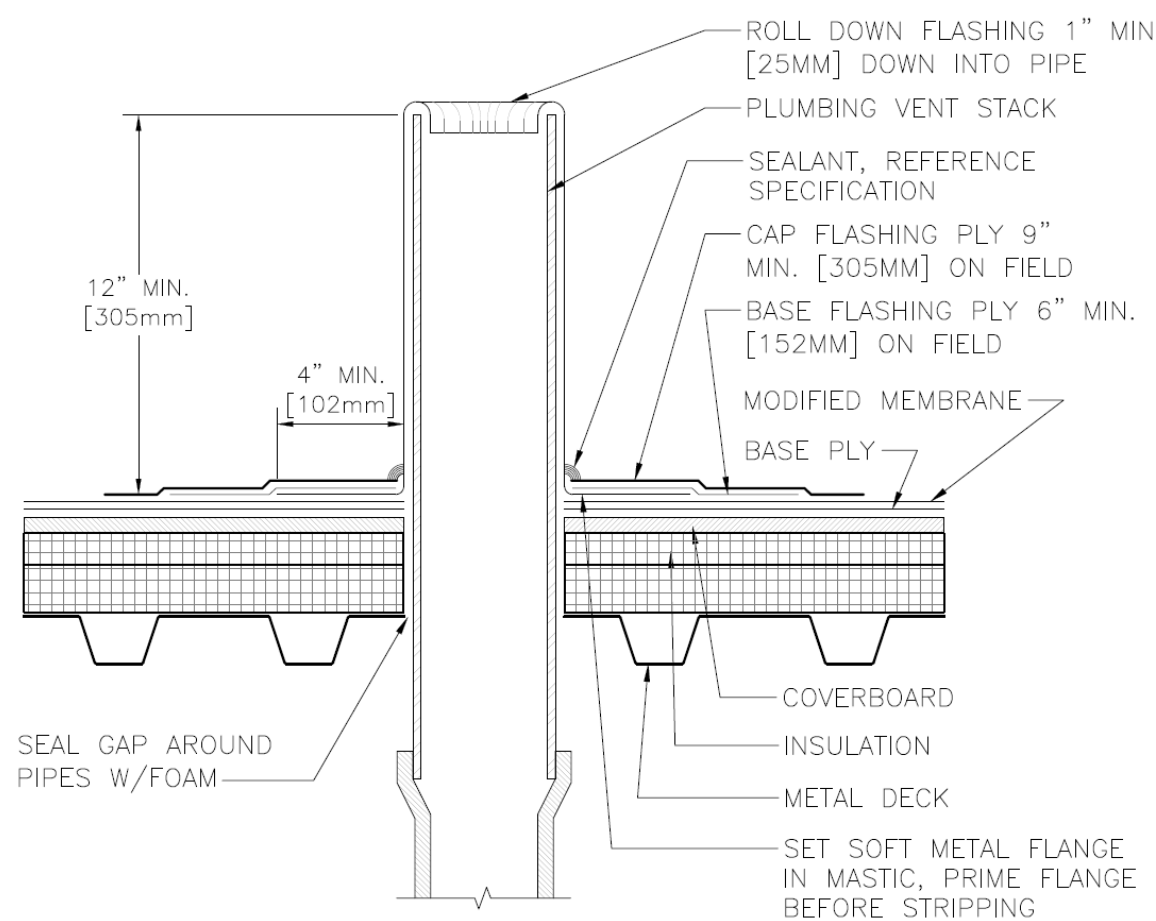
C-1 9 PIPE PORTAL DETAIL



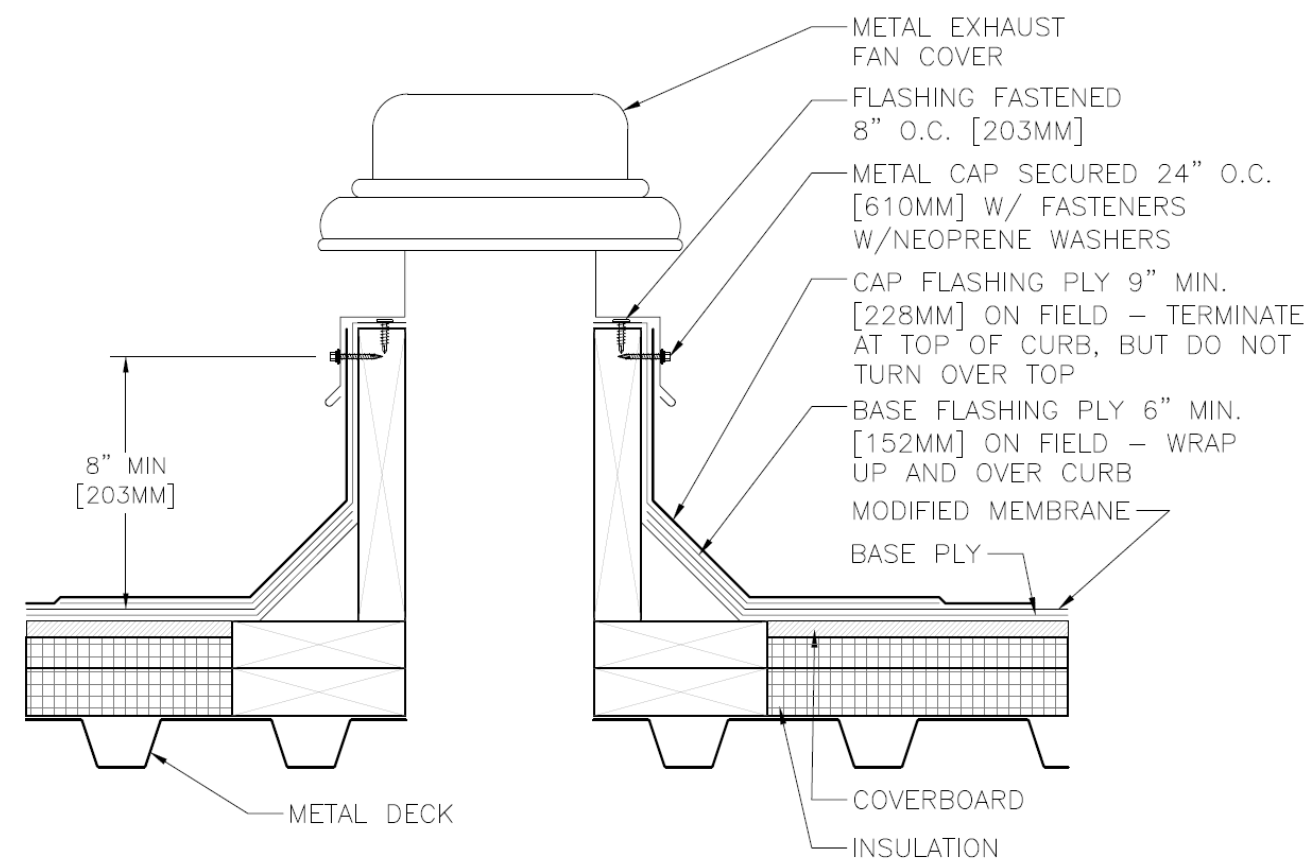
C-1 12 GRAVITY VENT DETAIL



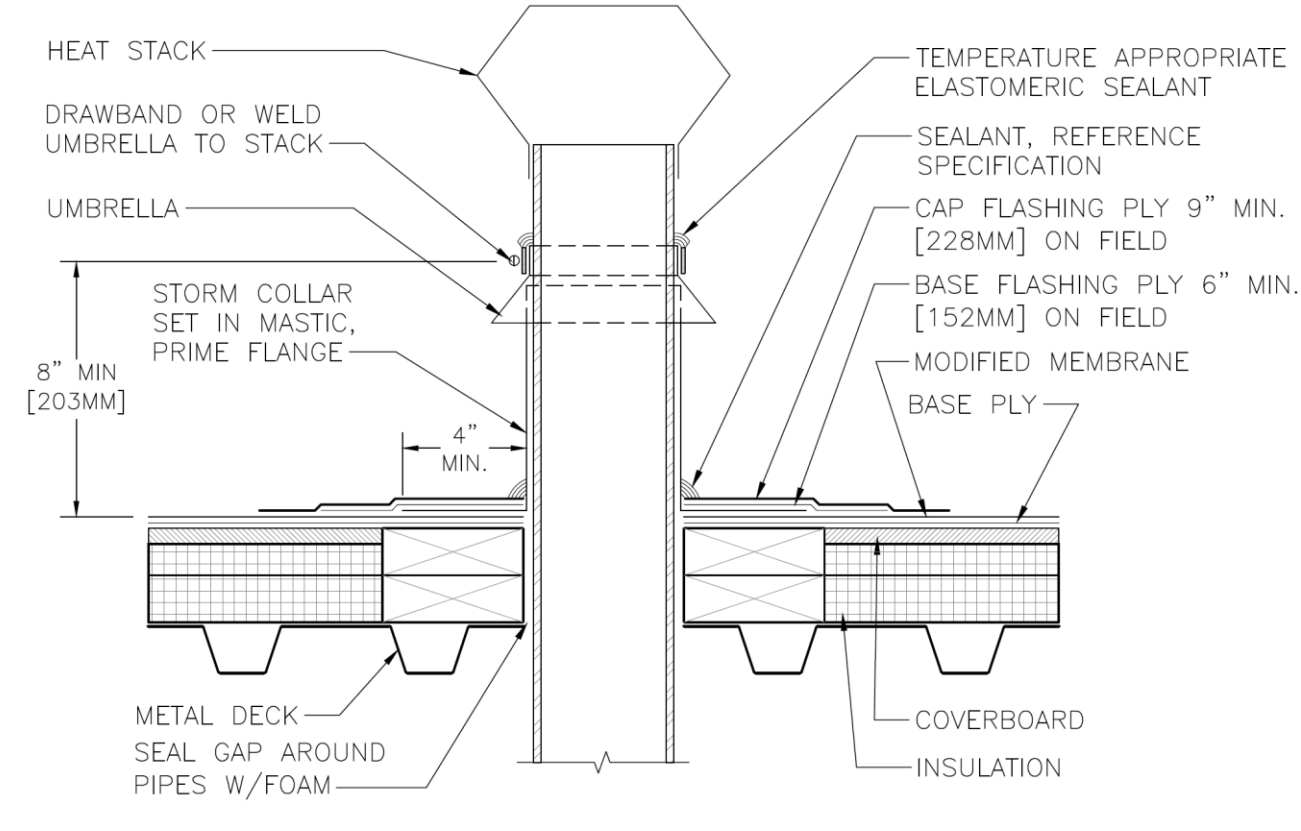
C-1 2 RAISED FLASHLESS METAL EDGE DETAIL



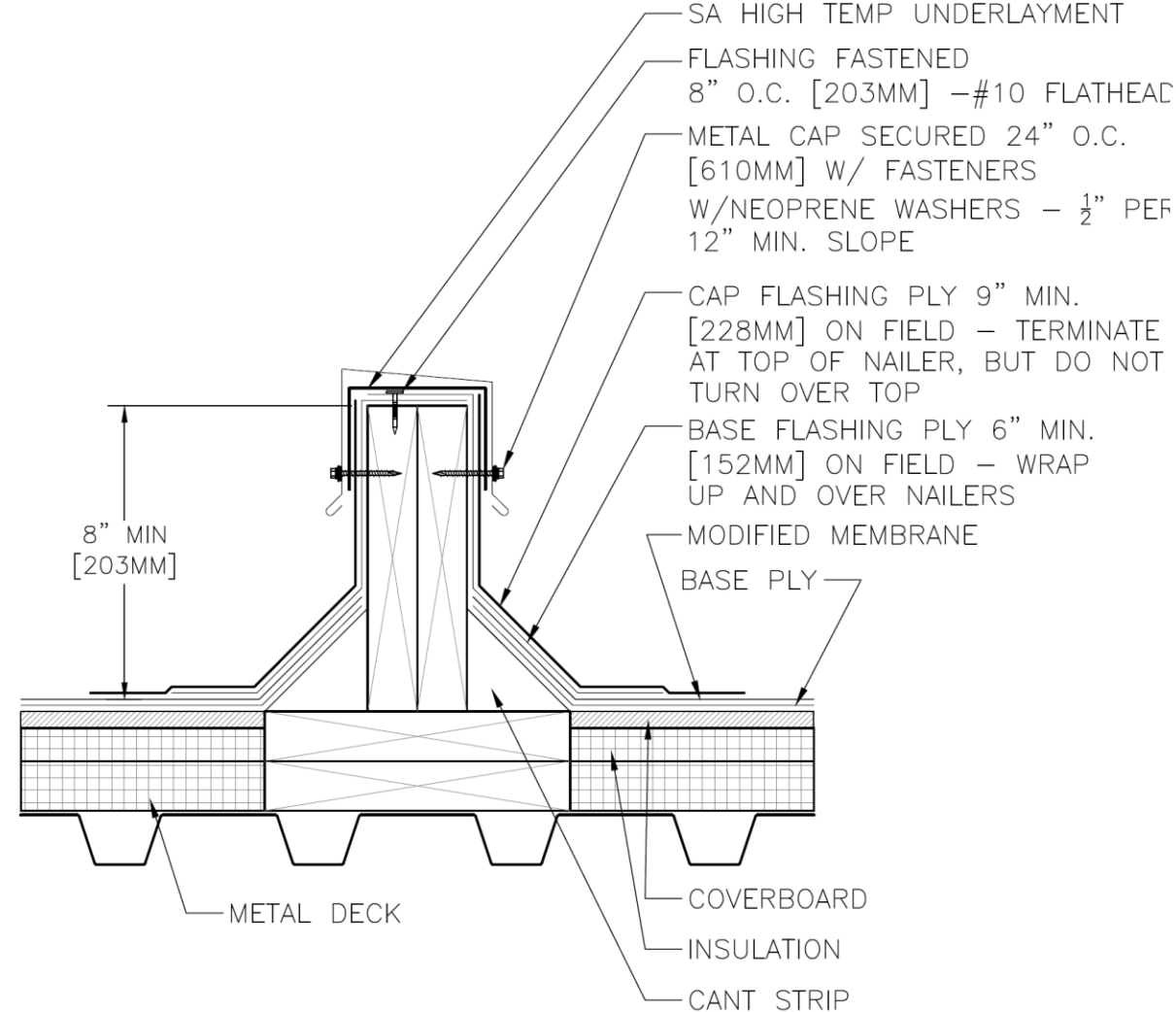
C-1 7 PLUMBING STACK DETAIL



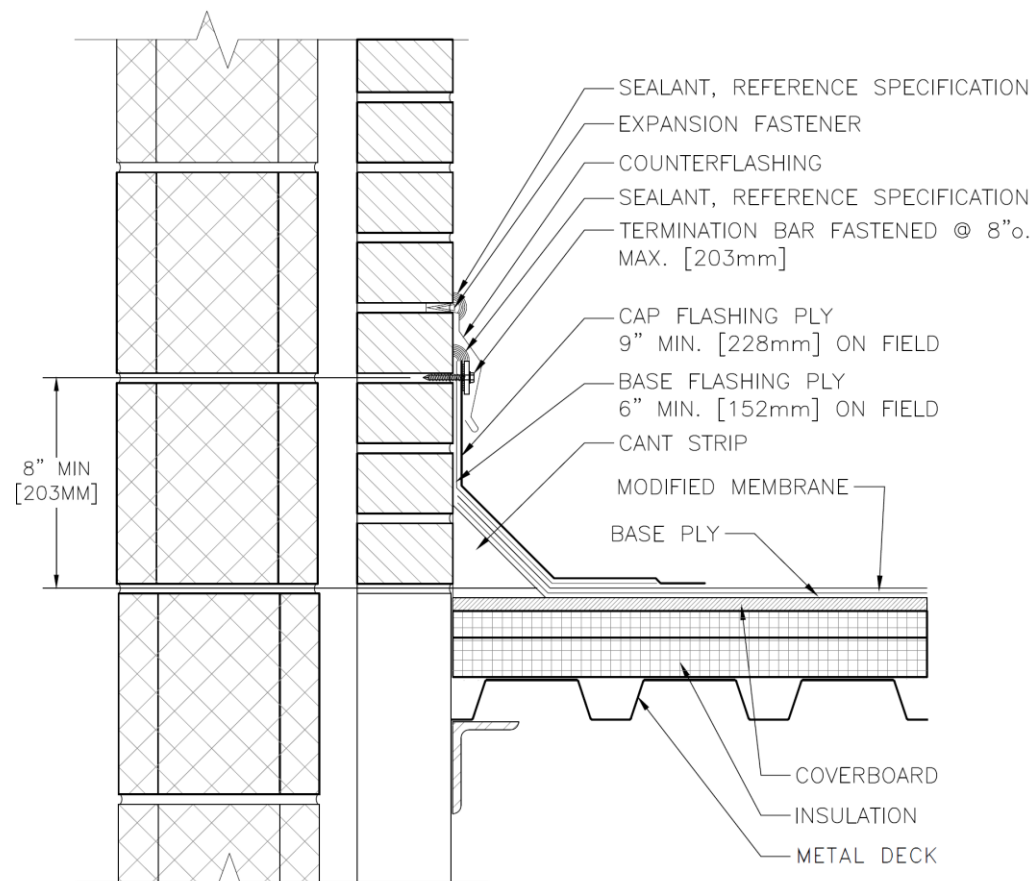
C-1 10 EXHAUST FAN DETAIL



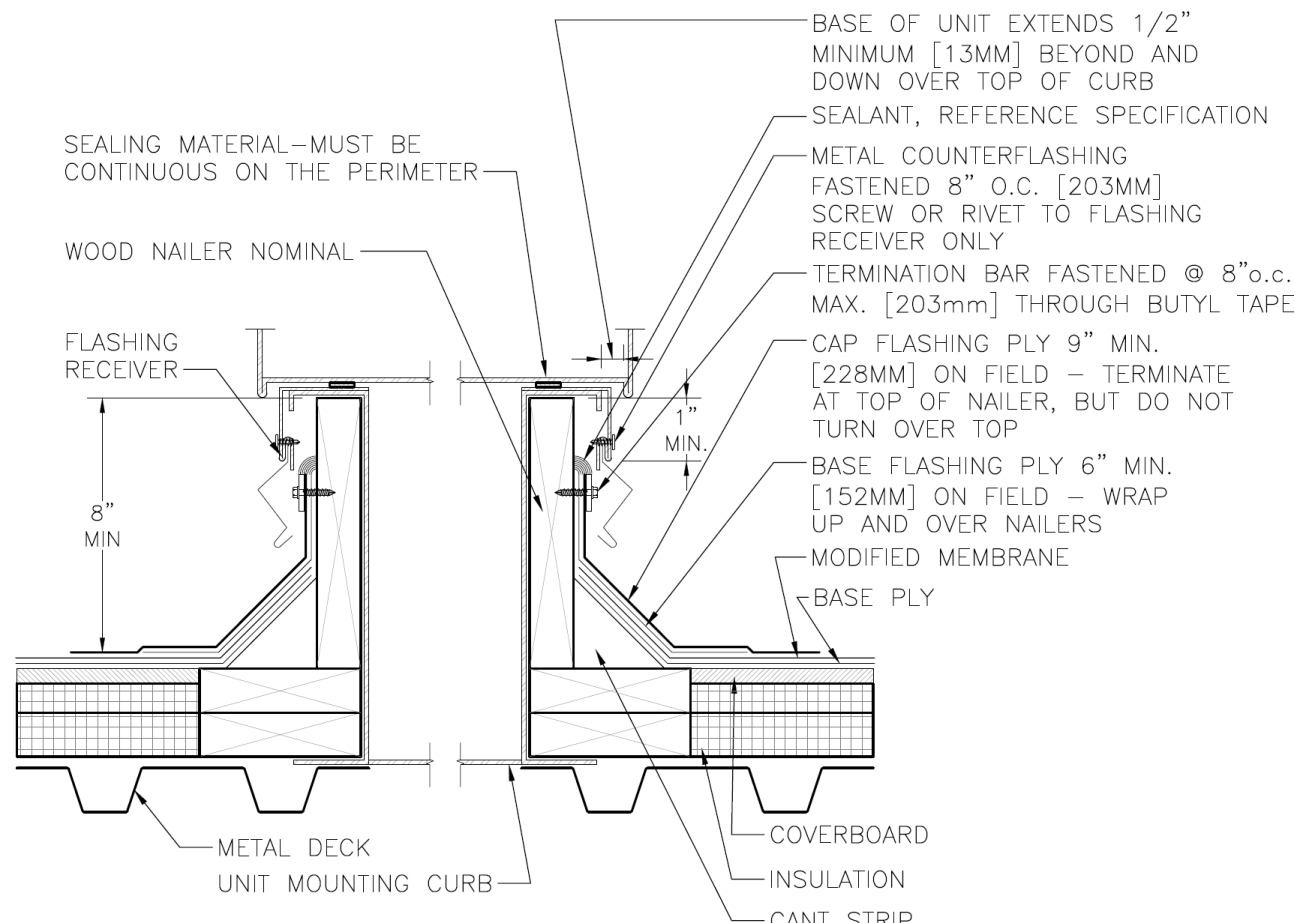
C-1 13 HEAT STACK DETAIL



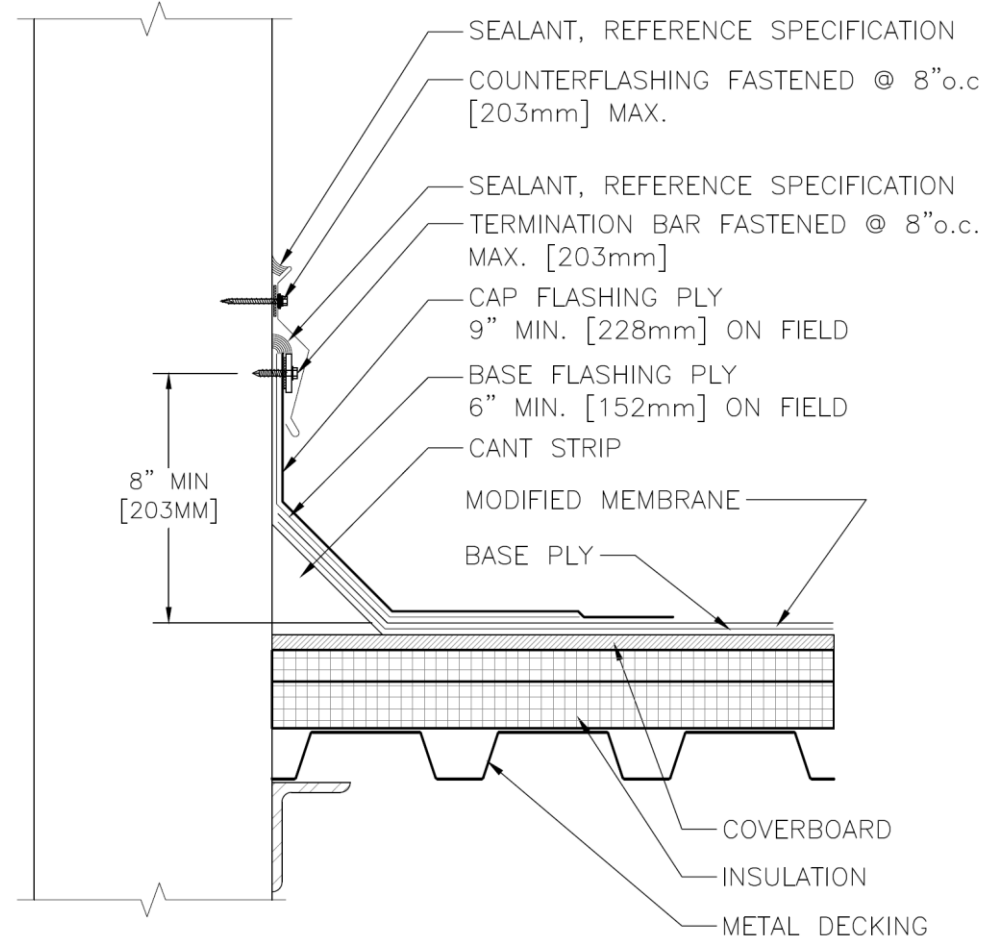
C-1 3 AREA DIVIDER DETAIL



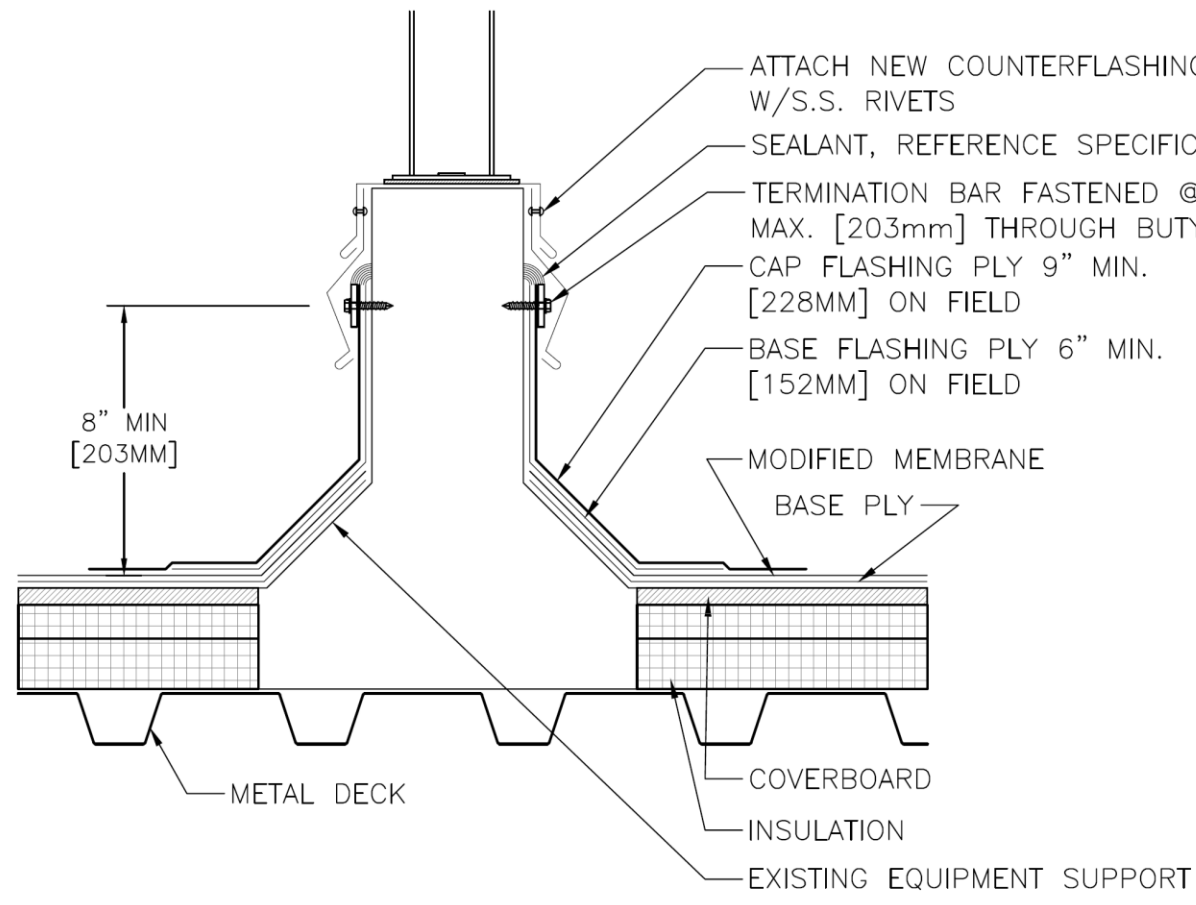
C-1 8 WALL FLASHING WITH REGLET MOUNTED COUNTERFLASHING



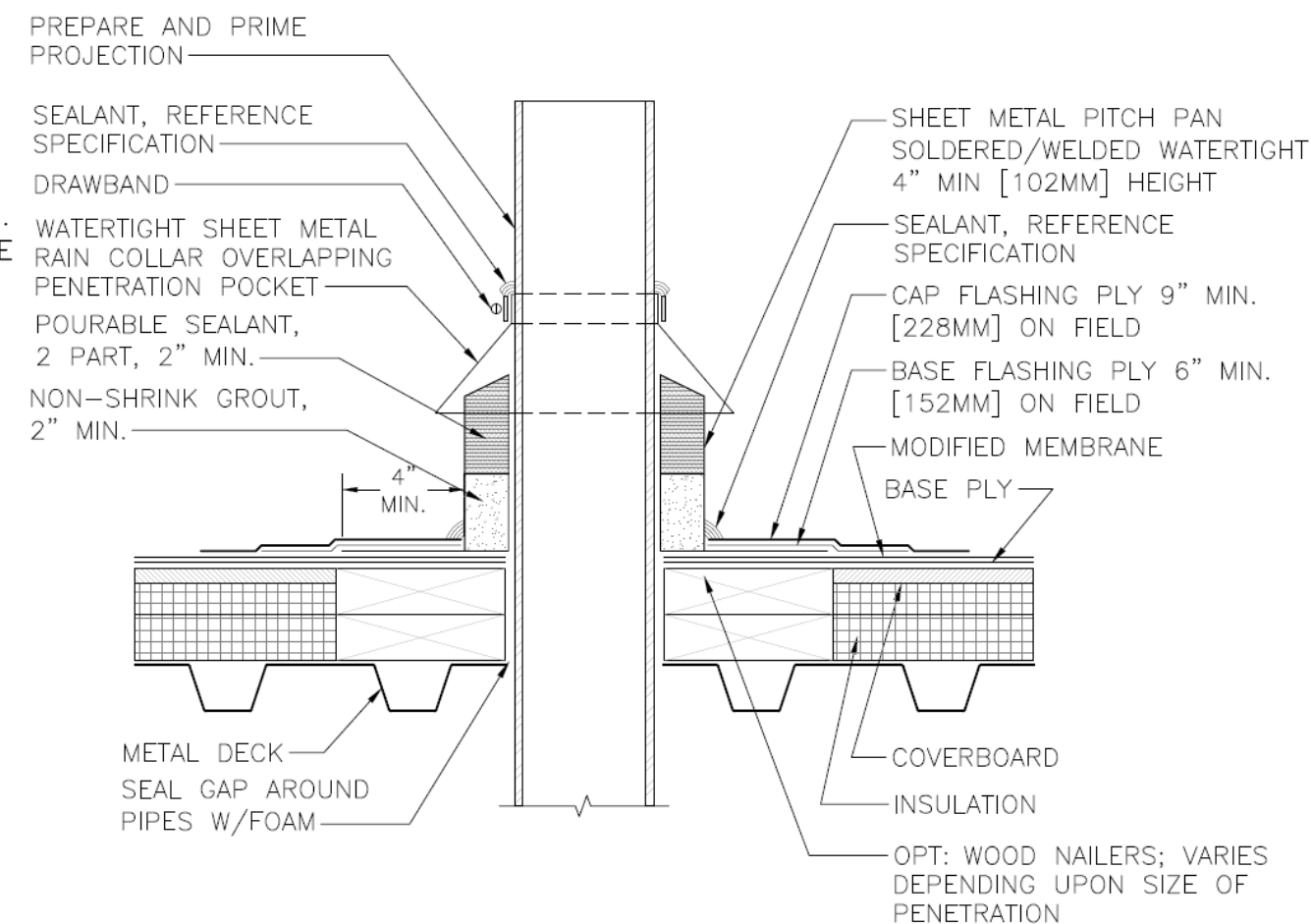
C-1 11 AIR HANDLER DETAIL



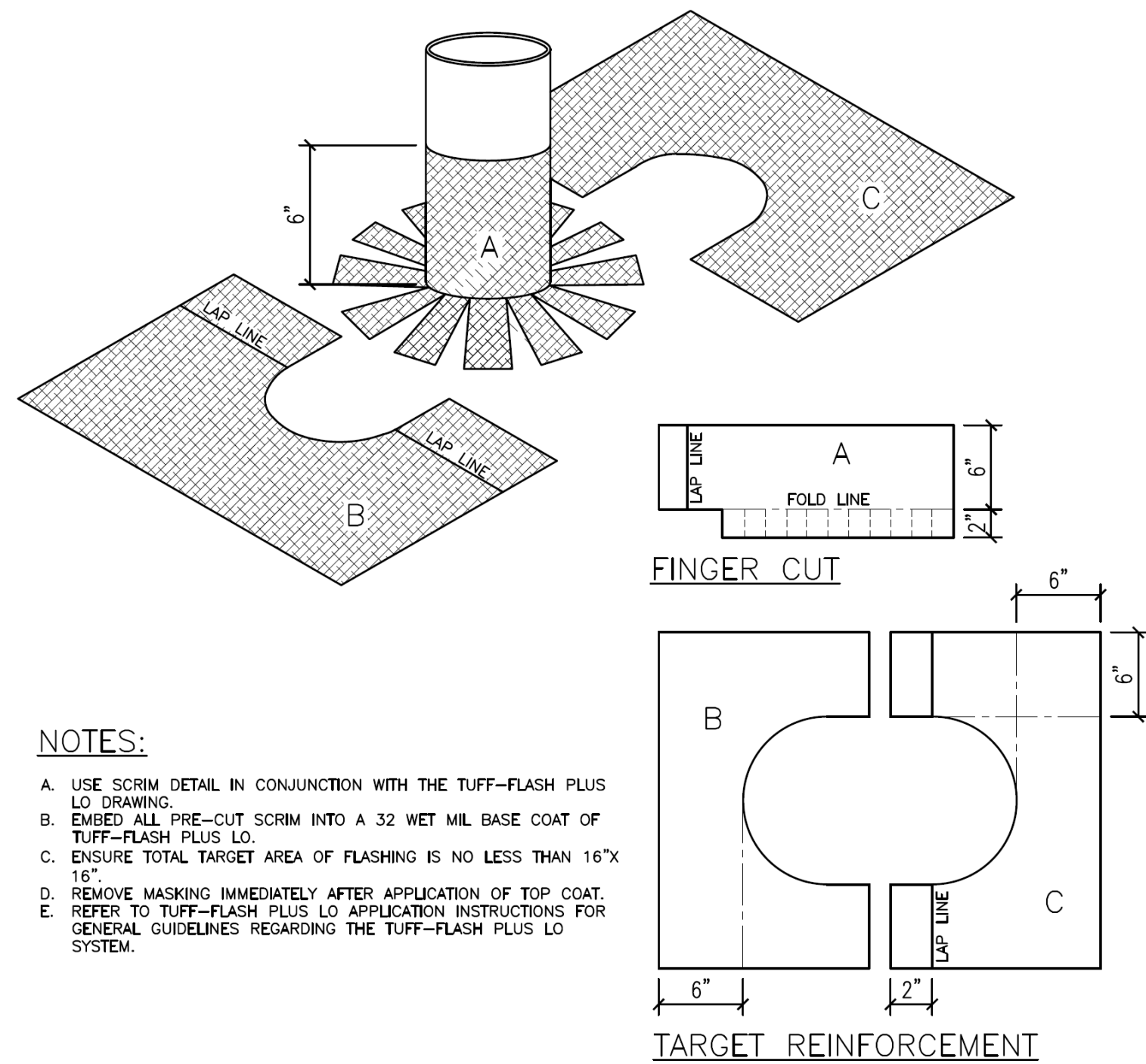
C-1 14 WALL FLASHING WITH SURFACE MOUNTED COUNTERFLASHING



C-1 4 EQUIPMENT SUPPORT DETAIL

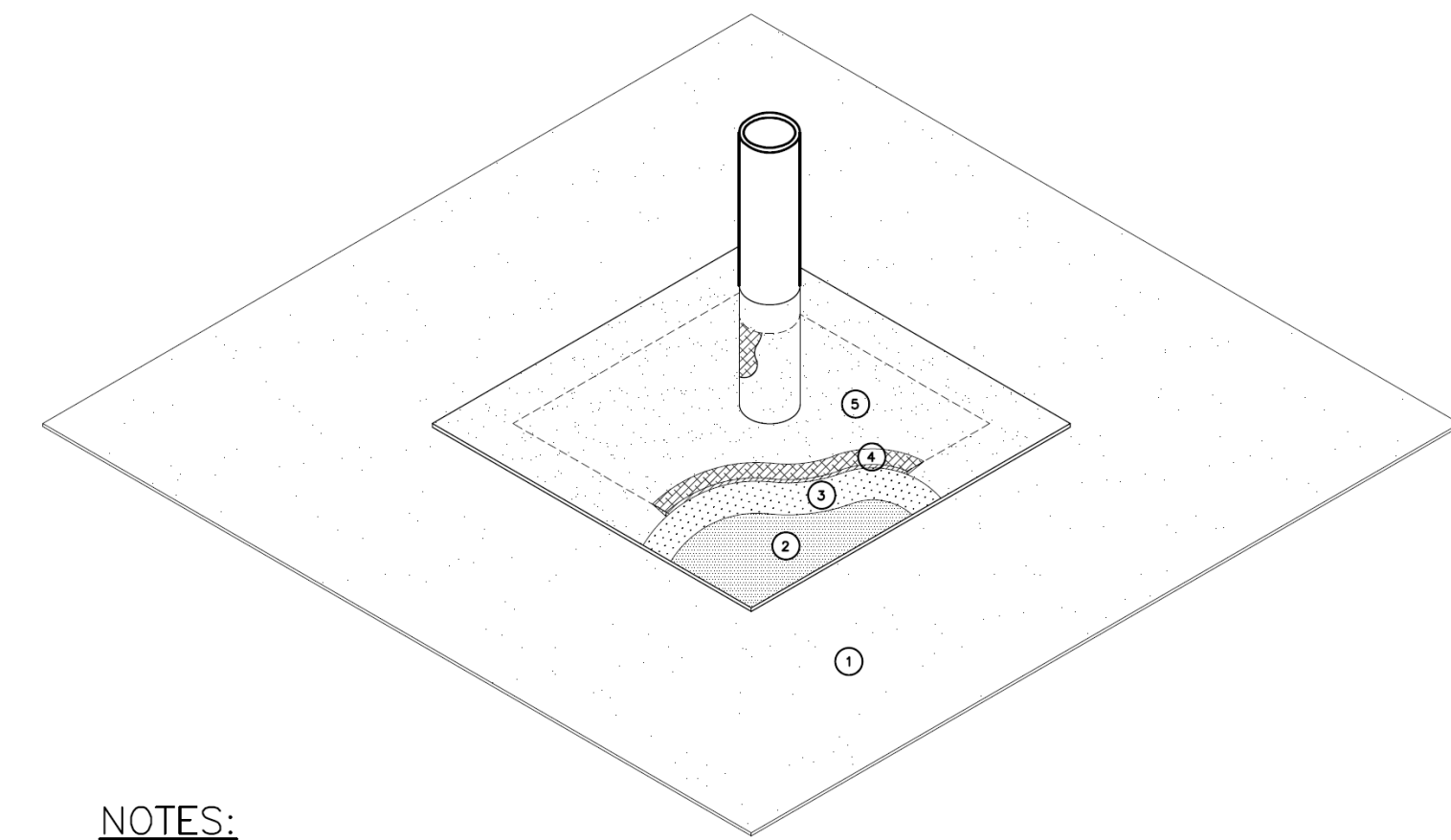


C-1 5 PIPE PENETRATION WITH PITCH PAN UMBRELLA DETAIL



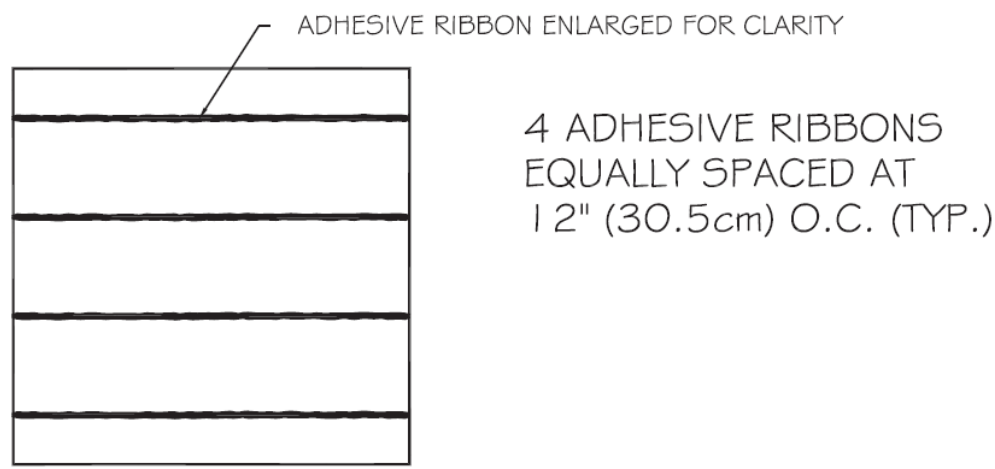
#### ASSEMBLY:

- 1 MASK TARGET AREA ON ROOF MEMBRANE WITH TAPE
- 2 CLEAN ALL NON-POUROUS AREAS WITH ISOPROPYL ALCOHOL
- 3 APPLY 32 WET MIL BASE COAT OF TUFF-FLASH PLUS LO OVER MASKED AREA
- 4 EMBED GRIP POLYESTER FIRM INTO BASE COAT OF TUFF-FLASH PLUS LO  
APPLY 48-64 WET MIL TOP COAT OF TUFF-FLASH PLUS LO OVER FABRIC EXTENDING 2" PAST THE SCRIM IN ALL DIRECTIONS
- 5 APPLY MINERALS IMMEDIATELY OR ALLOW TUFF-FLASH PLUS LO TO CURE 15-30 DAYS AND THEN INSTALL REFLECTIVE COATING

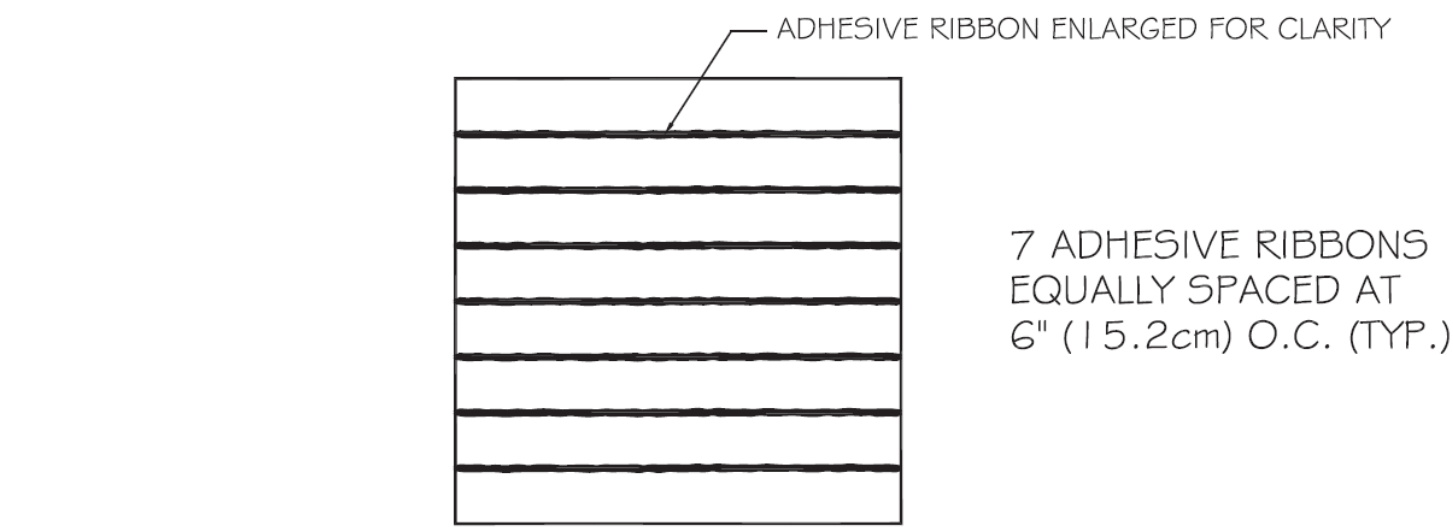


C-1 15 PIPE PENETRATION LIQUID FLASHING DETAIL

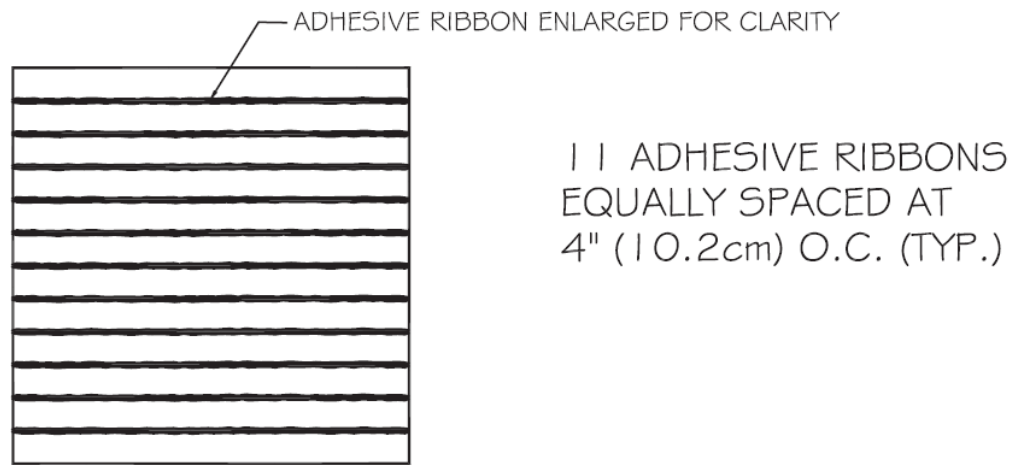
TYPICAL ZONE 1 INSULATION BOARD ADHESIVE PATTERN: 12" OC BEADS PER BOARD



TYPICAL ZONE 2 INSULATION BOARD ADHESIVE PATTERN: 6" OC BEADS PER BOARD

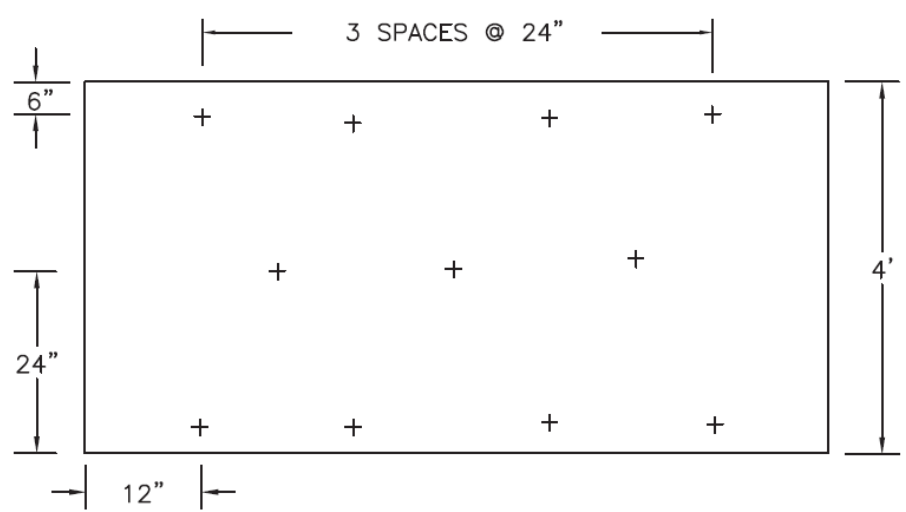


TYPICAL ZONE 3 INSULATION BOARD ADHESIVE PATTERN: 4" OC BEADS PER BOARD

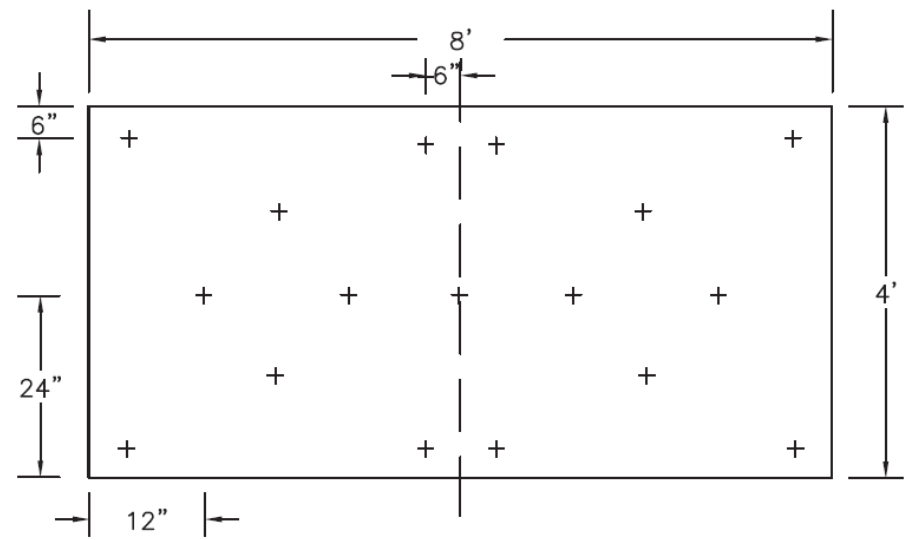


C-2  
1 COVERBOARD ADHESIVE PATTERNS

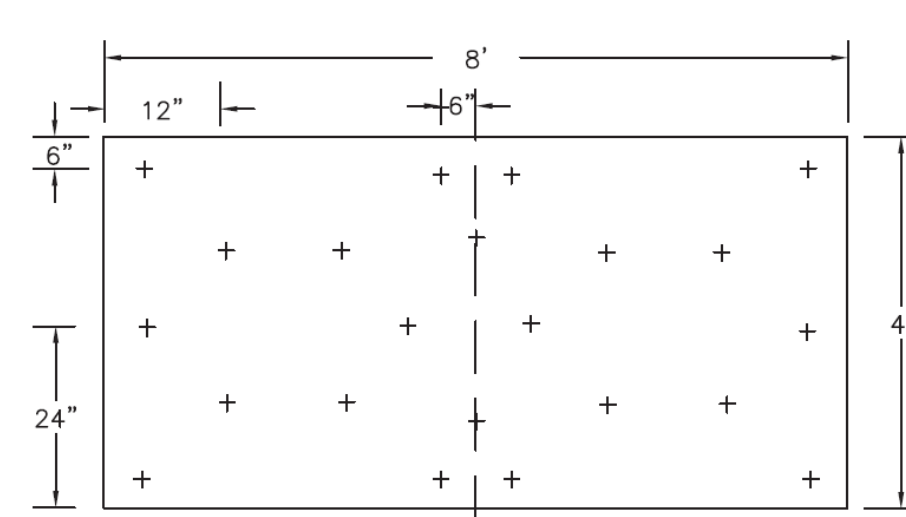
ZONE 1 INSULATION BOARD FASTENER PATTERN: 11 FASTENERS PER BOARD



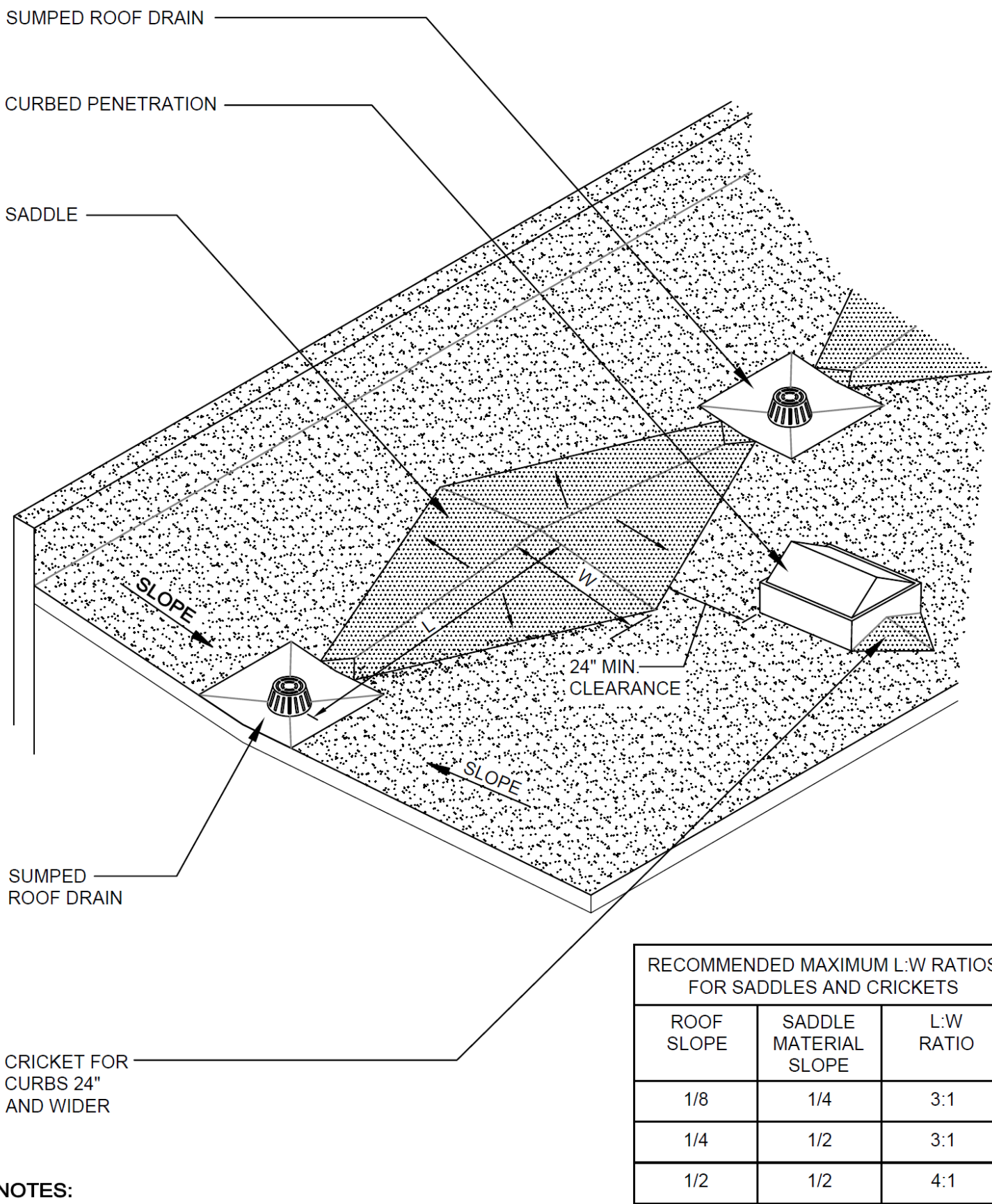
ZONE 2 INSULATION BOARD FASTENER PATTERN: 17 FASTENERS PER BOARD



ZONE 3 INSULATION BOARD FASTENER PATTERN: 22 FASTENERS PER BOARD

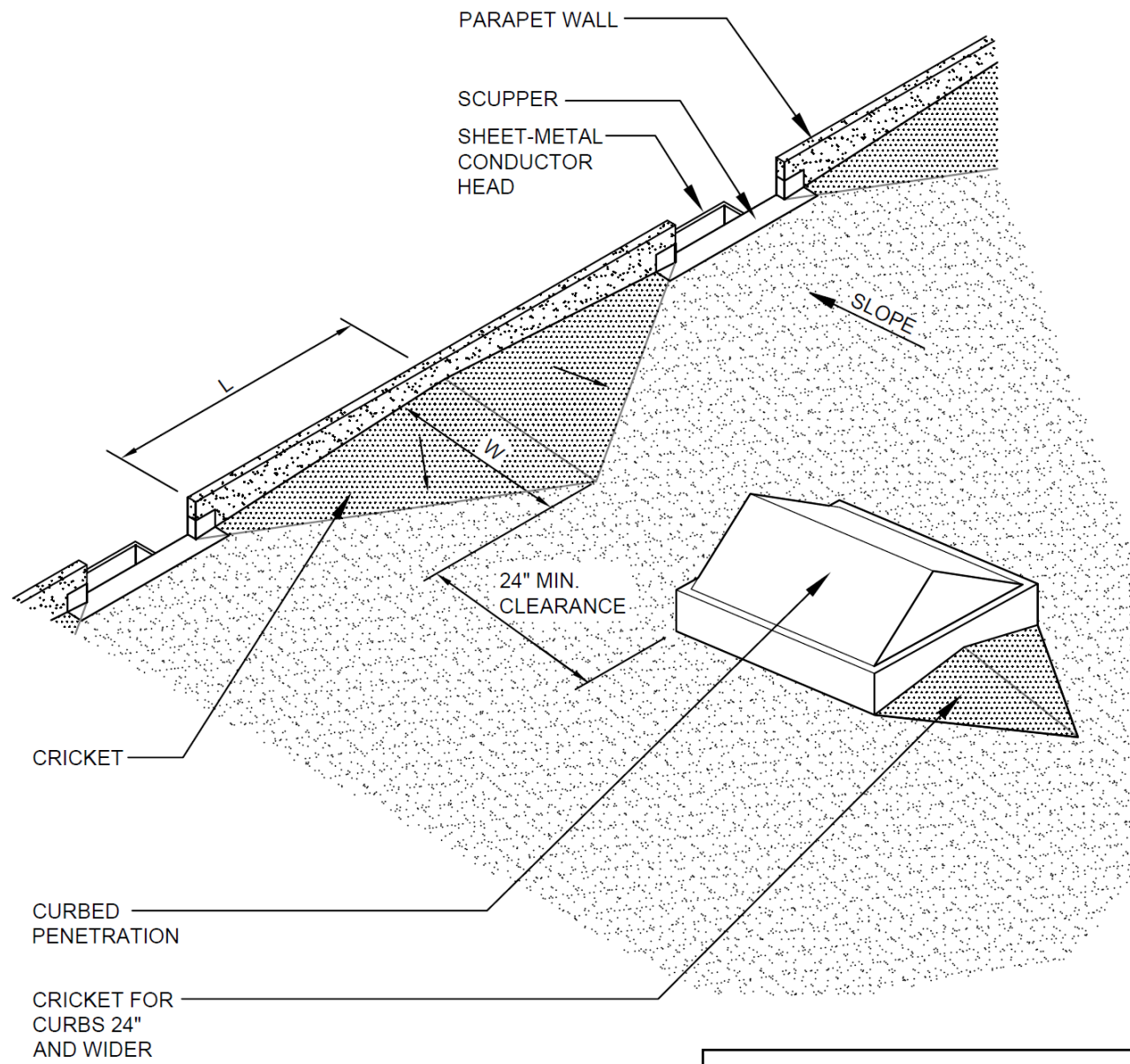


C-2  
2 INSULATION BOARD FASTENER PATTERNS




- NOTES:
1. SADDLES SHOULD BE LOCATED IN VALLEYS BETWEEN ROOF DRAINS, AND CRICKETS SHOULD BE LOCATED ON THE HIGH SIDE OF CURBS.
  2. LOCATE ROOF DRAINS AT POINTS OF MAXIMUM DECK DEFLECTION/LOW AREAS FOR DRAINAGE.
  3. SADDLE INSULATION MAY BE SANDWICHED BETWEEN LAYERS OF FLAT STOCK INSULATION.

C-2  
3 TAPERED CRICKET ISOMETRIC DRAWING



- NOTES:
1. CRICKETS SHOULD BE LOCATED BETWEEN PERIMETER AND/OR THROUGH-WALL SCUPPERS AND ON THE HIGH SIDE OF CURBS.
  2. RAISED PERIMETER EDGES WHERE TAPERED CRICKETS ARE USED MAY NECESSITATE THE USE OF RELATIVELY WIDE (TALL) DIMENSIONAL LUMBER OR THE ERECTION OF FRAMED WALLS.
  3. SADDLE INSULATION MAY BE SANDWICHED BETWEEN LAYERS OF FLAT STOCK INSULATION.

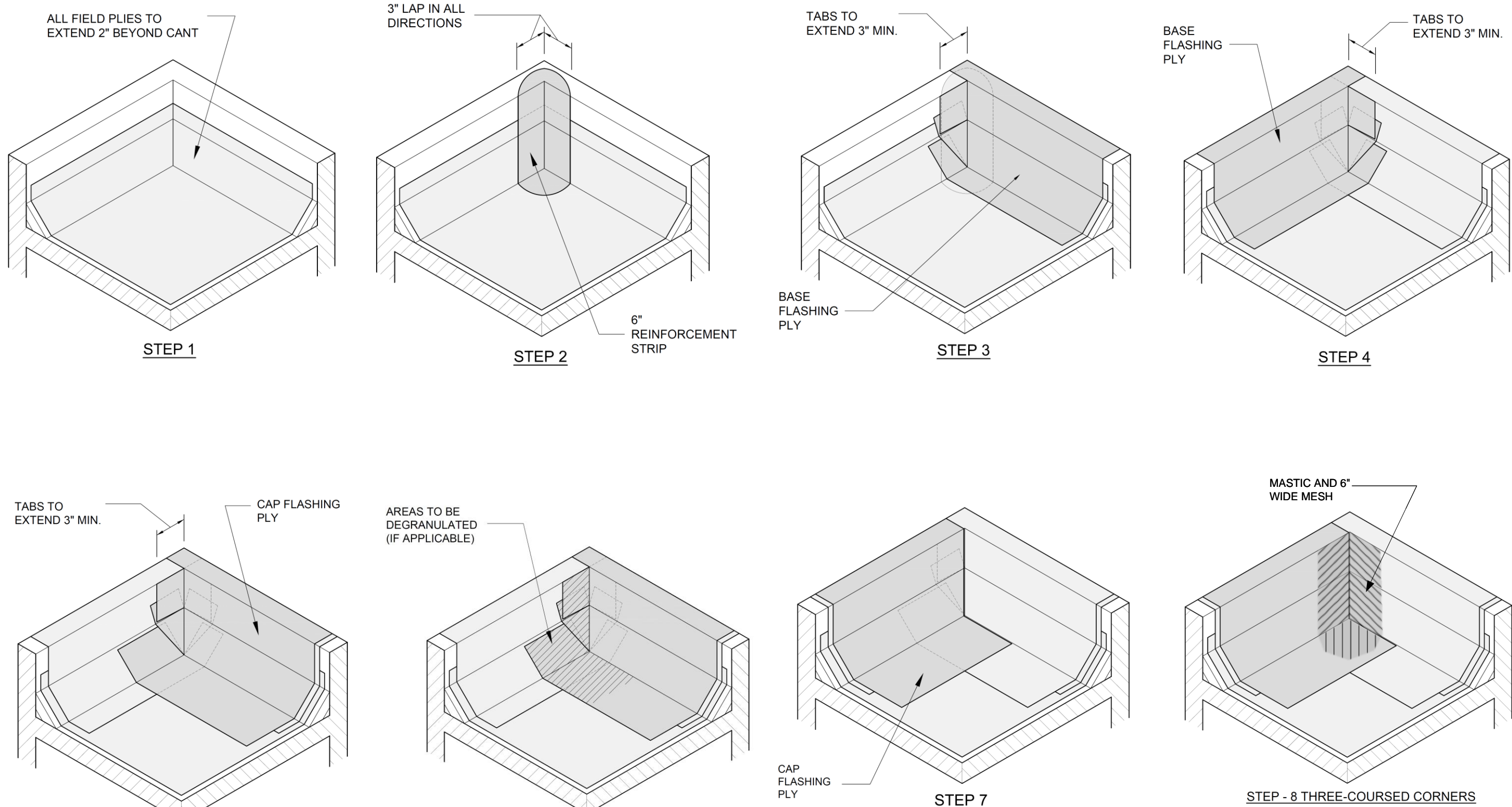


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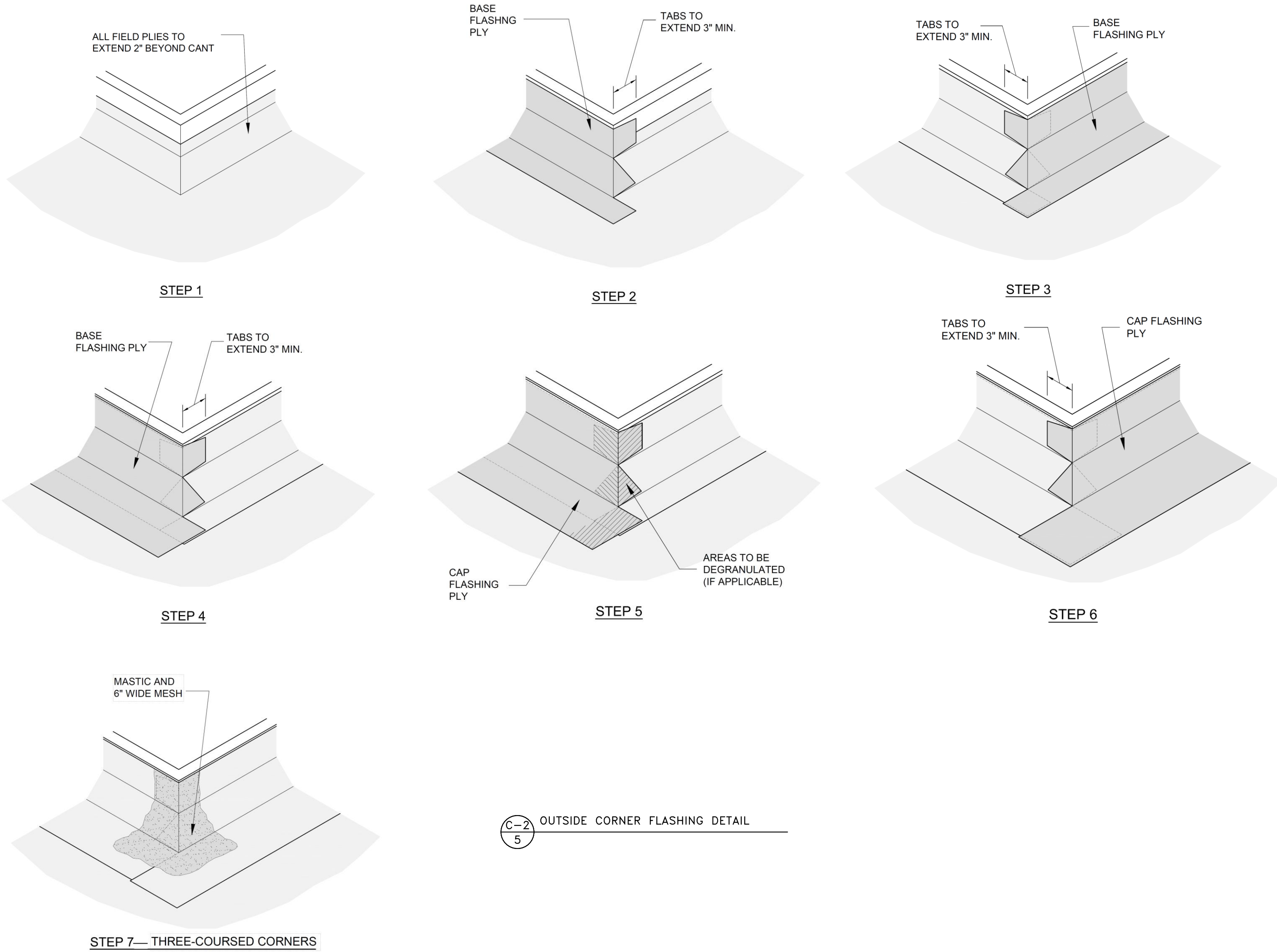
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NO.	DATE	DESCRIPTION
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SOMERSET COUNTY TECHNOLOGY CENTER  
281 TECHNOLOGY DRIVE  
SOMERSET, PENNSYLVANIA 15501



C-2  
4 INSIDE CORNER FLASHING DETAIL



C-2  
5 OUTSIDE CORNER FLASHING DETAIL



SHEET TITLE:  
**ROOF DETAILS**

SHEET NO.  
**C-2**

# **NON-COLLUSION AFFIDAVIT**

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

1. This Non-Collusion Affidavit is material to any contract awarded pursuant to this bid.
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 bid.
3. Bid rigging and other efforts to restrain competition, and the making of false sworn statements in connection with the submission of bids 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 bidder with responsibilities for the preparation, approval or submission of the bid.
4. In the case of a bid submitted by a joint venture, each party to the venture must be identified in the bid documents, and an Affidavit must be submitted separately on behalf of each party.
5. The term "complimentary bid" as used in the Affidavit has the meaning commonly associated with that term in the bidding process, and includes the knowing submission of bids higher than the bid of another firm, any intentionally high or noncompetitive bid, and any other form of bid submitted for the purpose of giving a false appearance of competition.
6. Failure to file an Affidavit in compliance with these instructions will result in disqualification of the bid.

# NON-COLLUSION AFFIDAVIT

Contract/Bid No. \_\_\_\_\_

State of \_\_\_\_\_:

County of \_\_\_\_\_:

I state that I am \_\_\_\_\_ of \_\_\_\_\_  
(Title) (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 bid.

I state that:

- (1) The price(s) and amount of this bid have been arrived at independently and without consultation, communication or agreement with any other contractor, bidder or potential bidder.
- (2) Neither the price(s) nor the amount of this bid, and neither the approximate price(s) or approximate amount of this bid, have been disclosed to any other firm or person who is a bidder nor 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 bidding on this contract, or to submit a bid higher than this bid, or to submit any intentionally high or noncompetitive bid or other form of complimentary bid.
- (4) The bid 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 complimentary or other noncompetitive bid.

- (5) \_\_\_\_\_, it affiliates, subsidiaries, officers,  
(Name of firm)

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 bidding on any public contract, except as follows:

I state that \_\_\_\_\_ understands and acknowledges that the  
(Name of my firm)  
above representations are material and important, and will be relied on by \_\_\_\_\_  
(Name of public entity)  
in awarding the contract(s) for which this bid is and my firm understands that any misstatement in  
this affidavit is and shall be treated as fraudulent concealment from \_\_\_\_\_  
(Name of public entity)  
of the true facts relating to the submission of bids for this contract.

\_\_\_\_\_  
(Name and Company Position)

SWORN TO AND SUBSCRIBED  
BEFORE ME THIS \_\_\_\_\_ DAY  
OF \_\_\_\_\_, 2025

\_\_\_\_\_  
Notary Public My Commission Expires

## BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project Name:	Somerset County Technology Center Roof Renovation
General Description:	Replacement of various sections of the SCTC Roof.
Project Locality	Somerset
Awarding Agency:	Somerset County Technology Center
Contract Award Date:	3/20/2025
Serial Number:	25-02075
Project Classification:	Building
Determination Date:	2/27/2025
Assigned Field Office:	Altoona
Field Office Phone Number:	(814)940-6224
Toll Free Phone Number:	
Project County:	Somerset County

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Asbestos & Insulation Workers	8/1/2022		\$39.55	\$28.51	\$68.06
Asbestos & Insulation Workers	8/1/2024		\$41.55	\$29.51	\$71.06
Boilermakers	6/1/2016		\$40.90	\$27.61	\$68.51
Bricklayer	12/1/2022		\$34.14	\$22.38	\$56.52
Bricklayer	6/1/2024		\$37.39	\$22.78	\$60.17
Bricklayer	12/1/2024		\$38.14	\$23.03	\$61.17
Carpenters - Piledriver/Welder	1/1/2023		\$40.63	\$21.22	\$61.85
Carpenters - Piledriver/Welder	1/1/2024		\$42.13	\$21.97	\$64.10
Carpenters - Piledriver/Welder	1/1/2025		\$43.38	\$22.72	\$66.10
Carpenters - Piledriver/Welder	1/1/2026		\$44.63	\$23.47	\$68.10
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2023		\$33.01	\$18.41	\$51.42
Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers	6/1/2024		\$33.72	\$19.20	\$52.92
Cement Masons	1/1/2023		\$30.24	\$19.20	\$49.44
Cement Masons	1/1/2024		\$31.22	\$20.22	\$51.44
Cement Masons	1/1/2025		\$31.97	\$21.47	\$53.44
Cement Masons	1/1/2026		\$32.97	\$22.47	\$55.44
Drywall Finisher	6/1/2023		\$32.39	\$23.75	\$56.14
Drywall Finisher	6/1/2024		\$34.01	\$24.88	\$58.89
Electricians & Telecommunications Installation Technician	12/22/2023		\$48.61	\$31.80	\$80.41
Electricians & Telecommunications Installation Technician	12/27/2024		\$50.86	\$32.69	\$83.55
Electricians & Telecommunications Installation Technician	12/26/2025		\$54.16	\$32.69	\$86.85
Elevator Constructor	1/1/2018		\$47.22	\$33.00	\$80.22
Elevator Constructor	1/1/2023		\$56.14	\$42.83	\$98.97
Elevator Constructor	1/1/2024		\$58.55	\$43.87	\$102.42
Elevator Constructor	1/1/2025		\$61.07	\$40.05	\$101.12
Glazier	9/1/2022		\$24.90	\$24.45	\$49.35
Glazier	9/1/2023		\$25.40	\$25.70	\$51.10
Iron Workers	11/1/2022		\$30.06	\$23.34	\$53.40
Iron Workers	5/1/2024		\$31.00	\$24.40	\$55.40
Laborers (Class 01 - See notes)	1/1/2023		\$25.31	\$17.29	\$42.60
Laborers (Class 01 - See notes)	1/1/2024		\$26.31	\$17.79	\$44.10
Laborers (Class 02 - See notes)	1/1/2023		\$28.06	\$17.29	\$45.35
Laborers (Class 02 - See notes)	1/1/2024		\$29.56	\$17.79	\$47.35
Laborers (Class 03 - See notes)	1/1/2023		\$27.66	\$17.29	\$44.95
Laborers (Class 03 - See notes)	1/1/2024		\$28.66	\$17.79	\$46.45
Laborers (Class 04 - See notes)	1/1/2023		\$24.31	\$17.29	\$41.60
Laborers (Class 04 - See notes)	1/1/2024		\$25.31	\$17.79	\$43.10
Landscape Laborer (Skilled)	1/1/2020		\$21.64	\$16.98	\$38.62
Landscape Laborer (Skilled)	1/1/2023		\$23.79	\$18.28	\$42.07
Landscape Laborer (Skilled)	1/1/2024		\$24.79	\$18.53	\$43.32
Landscape Laborer (Skilled)	1/1/2025		\$25.79	\$18.78	\$44.57

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Landscape Laborer (Skilled)	1/1/2026		\$26.79	\$19.03	\$45.82
Landscape Laborer (Tractor Operator)	1/1/2020		\$21.94	\$16.98	\$38.92
Landscape Laborer (Tractor Operator)	1/1/2023		\$24.09	\$18.28	\$42.37
Landscape Laborer (Tractor Operator)	1/1/2024		\$25.09	\$18.53	\$43.62
Landscape Laborer (Tractor Operator)	1/1/2025		\$26.09	\$18.78	\$44.87
Landscape Laborer (Tractor Operator)	1/1/2026		\$27.09	\$19.03	\$46.12
Landscape Laborer	1/1/2020		\$21.22	\$16.98	\$38.20
Landscape Laborer	1/1/2023		\$23.37	\$18.28	\$41.65
Landscape Laborer	1/1/2024		\$24.37	\$18.53	\$42.90
Landscape Laborer	1/1/2025		\$25.37	\$18.78	\$44.15
Landscape Laborer	1/1/2026		\$26.37	\$19.03	\$45.40
Millwright	6/1/2020		\$41.68	\$20.32	\$62.00
Operators (Class 01 - see notes)	7/1/2022		\$34.17	\$20.62	\$54.79
Operators (Class 01 - see notes)	7/1/2023		\$35.87	\$20.92	\$56.79
Operators (Class 01 - see notes)	7/1/2024		\$36.87	\$21.42	\$58.29
Operators (Class 02 -see notes)	7/1/2022		\$29.55	\$20.62	\$50.17
Operators (Class 02 -see notes)	7/1/2023		\$31.25	\$20.92	\$52.17
Operators (Class 02 -see notes)	7/1/2024		\$32.87	\$21.42	\$54.29
Operators (Class 03 - See notes)	7/1/2022		\$27.00	\$20.62	\$47.62
Operators (Class 03 - See notes)	7/1/2023		\$28.70	\$20.92	\$49.62
Operators (Class 03 - See notes)	7/1/2024		\$29.70	\$21.42	\$51.12
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2022		\$26.60	\$20.62	\$47.22
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2023		\$28.30	\$20.92	\$49.22
Operators (Class 04 - Chief of Party (Surveying and Layout))	7/1/2024		\$29.30	\$21.42	\$50.72
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2022		\$25.60	\$20.62	\$46.22
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2023		\$27.30	\$20.92	\$48.22
Operators (Class 04 - Instrument Person (Surveying & Layout))	7/1/2024		\$28.30	\$21.42	\$49.72
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2022		\$25.15	\$20.62	\$45.77
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2023		\$26.85	\$20.92	\$47.77
Operators (Class 04 - Rodman/Chainman (Surveying and Layout))	7/1/2024		\$27.85	\$21.42	\$49.27
Painters Class 6 (see notes)	6/1/2022		\$29.50	\$22.82	\$52.32
Painters Class 6 (see notes)	6/1/2023		\$30.56	\$24.01	\$54.57
Painters Class 6 (see notes)	6/1/2024		\$32.14	\$24.93	\$57.07
Painters Class 6 (see notes)	6/1/2025		\$34.16	\$25.81	\$59.97
Pile Driver Divers (Building, Heavy, Highway)	1/1/2023		\$58.70	\$21.22	\$79.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2024		\$60.95	\$21.97	\$82.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2025		\$62.82	\$22.72	\$85.54
Pile Driver Divers (Building, Heavy, Highway)	1/1/2026		\$64.70	\$23.47	\$88.17

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Building	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Piledrivers	1/1/2023		\$39.13	\$21.22	\$60.35
Piledrivers	1/1/2024		\$40.63	\$21.97	\$62.60
Piledrivers	1/1/2025		\$41.88	\$22.72	\$64.60
Piledrivers	1/1/2026		\$43.13	\$23.47	\$66.60
Plasterers	6/1/2023		\$32.14	\$20.54	\$52.68
Plasterers	6/1/2024		\$33.14	\$21.04	\$54.18
Plumbers and Steamfitters	6/1/2023		\$38.57	\$26.26	\$64.83
Plumbers and Steamfitters	6/1/2024		\$40.02	\$27.01	\$67.03
Plumbers and Steamfitters	6/1/2025		\$41.47	\$27.71	\$69.18
Plumbers and Steamfitters	6/1/2026		\$42.92	\$28.45	\$71.37
Pointers, Caulkers, Cleaners	12/1/2022		\$35.47	\$20.88	\$56.35
Pointers, Caulkers, Cleaners	6/1/2024		\$38.59	\$21.36	\$59.95
Pointers, Caulkers, Cleaners	12/1/2024		\$39.69	\$21.61	\$61.30
Roofers	6/1/2022		\$36.04	\$19.13	\$55.17
Roofers	6/1/2023		\$37.00	\$19.92	\$56.92
Roofers	6/2/2024		\$38.00	\$20.67	\$58.67
Sheet Metal Workers	7/1/2022		\$39.50	\$31.43	\$70.93
Sheet Metal Workers	8/1/2023		\$41.00	\$32.94	\$73.94
Sheet Metal Workers	7/1/2024		\$43.00	\$33.96	\$76.96
Sign Makers and Hangars	7/15/2022		\$30.54	\$24.35	\$54.89
Sign Makers and Hangars	7/15/2023		\$31.76	\$24.63	\$56.39
Sign Makers and Hangars	7/15/2024		\$32.32	\$25.82	\$58.14
Sprinklerfitters	4/1/2023		\$44.33	\$28.04	\$72.37
Sprinklerfitters	4/1/2024		\$46.45	\$28.62	\$75.07
Stone Masons	12/1/2022		\$38.56	\$23.61	\$62.17
Terrazzo Finisher	12/1/2022		\$36.13	\$18.03	\$54.16
Terrazzo Finisher	6/1/2023		\$39.79	\$18.47	\$58.26
Terrazzo Finisher	12/1/2024		\$41.04	\$18.72	\$59.76
Terrazzo Mechanics	12/1/2022		\$35.49	\$20.32	\$55.81
Terrazzo Mechanics	6/1/2024		\$39.14	\$20.77	\$59.91
Terrazzo Mechanics	12/1/2024		\$40.39	\$21.02	\$61.41
Tile Finisher	12/1/2022		\$28.76	\$17.34	\$46.10
Tile Finisher	6/1/2024		\$31.56	\$17.74	\$49.30
Tile Finisher	12/1/2024		\$32.51	\$17.99	\$50.50
Tile Setter	12/1/2022		\$35.64	\$21.81	\$57.45
Tile Setter	6/1/2024		\$38.46	\$22.19	\$60.65
Tile Setter	12/1/2024		\$39.41	\$22.44	\$61.85
Truckdriver class 1(see notes)	1/1/2023		\$33.18	\$22.21	\$55.39
Truckdriver class 1(see notes)	1/1/2024		\$34.93	\$22.71	\$57.64
Truckdriver class 1(see notes)	1/1/2025		\$36.43	\$23.21	\$59.64
Truckdriver class 1(see notes)	1/1/2026		\$37.93	\$23.71	\$61.64
Truckdriver class 2 (see notes)	1/1/2023		\$33.64	\$22.52	\$56.16
Truckdriver class 2 (see notes)	1/1/2024		\$35.39	\$23.02	\$58.41
Truckdriver class 2 (see notes)	1/1/2025		\$36.89	\$23.52	\$60.41

**BUREAU OF LABOR LAW COMPLIANCE  
PREVAILING WAGES PROJECT RATES**

<b>Project: 25-02075 - Building</b>	<b>Effective Date</b>	<b>Expiration Date</b>	<b>Hourly Rate</b>	<b>Fringe Benefits</b>	<b>Total</b>
Truckdriver class 2 (see notes)	1/1/2026		\$38.39	\$24.02	\$62.41
Window Film / Tint Installer	10/1/2019		\$25.00	\$2.63	\$27.63

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Carpenter	1/1/2023		\$38.35	\$20.59	\$58.94
Carpenter	1/1/2024		\$39.85	\$21.34	\$61.19
Carpenter	1/1/2025		\$41.10	\$22.09	\$63.19
Carpenter	1/1/2026		\$42.35	\$22.84	\$65.19
Carpenter Welder	1/1/2023		\$39.85	\$20.59	\$60.44
Carpenter Welder	1/1/2024		\$41.35	\$21.34	\$62.69
Carpenter Welder	1/1/2025		\$42.60	\$22.09	\$64.69
Carpenter Welder	1/1/2026		\$43.85	\$22.84	\$66.69
Carpenters - Piledriver/Welder	1/1/2023		\$40.63	\$21.22	\$61.85
Carpenters - Piledriver/Welder	1/1/2024		\$42.13	\$21.97	\$64.10
Carpenters - Piledriver/Welder	1/1/2025		\$43.38	\$22.72	\$66.10
Carpenters - Piledriver/Welder	1/1/2026		\$44.63	\$23.47	\$68.10
Cement Finishers	1/1/2023		\$34.14	\$25.05	\$59.19
Cement Finishers	1/1/2024		\$35.14	\$26.30	\$61.44
Cement Finishers	1/1/2025		\$35.94	\$27.50	\$63.44
Cement Masons	1/1/2020		\$32.84	\$21.10	\$53.94
Electric Lineman	5/29/2023		\$52.56	\$29.99	\$82.55
Electric Lineman	6/3/2024		\$53.97	\$31.05	\$85.02
Iron Workers	5/1/2021		\$28.91	\$22.99	\$51.90
Iron Workers	5/1/2024		\$31.00	\$24.40	\$55.40
Laborers (Class 01 - See notes)	1/1/2023		\$29.95	\$25.50	\$55.45
Laborers (Class 01 - See notes)	1/1/2024		\$32.20	\$25.50	\$57.70
Laborers (Class 01 - See notes)	1/1/2025		\$33.70	\$26.00	\$59.70
Laborers (Class 01 - See notes)	1/1/2026		\$34.70	\$27.00	\$61.70
Laborers (Class 02 - See notes)	1/1/2023		\$30.11	\$25.50	\$55.61
Laborers (Class 02 - See notes)	1/1/2024		\$32.36	\$25.50	\$57.86
Laborers (Class 02 - See notes)	1/1/2025		\$33.86	\$26.00	\$59.86
Laborers (Class 02 - See notes)	1/1/2026		\$34.86	\$27.00	\$61.86
Laborers (Class 03 - See notes)	1/1/2023		\$30.50	\$25.50	\$56.00
Laborers (Class 03 - See notes)	1/1/2024		\$32.75	\$25.50	\$58.25
Laborers (Class 03 - See notes)	1/1/2025		\$34.25	\$26.00	\$60.25
Laborers (Class 03 - See notes)	1/1/2026		\$35.25	\$27.00	\$62.25
Laborers (Class 04 - See notes)	1/1/2023		\$30.95	\$25.50	\$56.45
Laborers (Class 04 - See notes)	1/1/2024		\$33.20	\$25.50	\$58.70
Laborers (Class 04 - See notes)	1/1/2025		\$34.70	\$26.00	\$60.70
Laborers (Class 04 - See notes)	1/1/2026		\$35.70	\$27.00	\$62.70
Laborers (Class 05 - See notes)	1/1/2023		\$31.36	\$25.50	\$56.86
Laborers (Class 05 - See notes)	1/1/2024		\$33.61	\$25.50	\$59.11
Laborers (Class 05 - See notes)	1/1/2025		\$35.11	\$26.00	\$61.11
Laborers (Class 05 - See notes)	1/1/2026		\$36.11	\$27.00	\$63.11
Laborers (Class 06 - See notes)	1/1/2023		\$28.20	\$25.50	\$53.70
Laborers (Class 06 - See notes)	1/1/2024		\$30.45	\$25.50	\$55.95
Laborers (Class 06 - See notes)	1/1/2025		\$31.95	\$26.00	\$57.95
Laborers (Class 06 - See notes)	1/1/2026		\$32.95	\$27.00	\$59.95

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Laborers (Class 07 - See notes)	1/1/2023		\$30.95	\$25.50	\$56.45
Laborers (Class 07 - See notes)	1/1/2024		\$33.20	\$25.50	\$58.70
Laborers (Class 07 - See notes)	1/1/2025		\$34.70	\$26.00	\$60.70
Laborers (Class 07 - See notes)	1/1/2026		\$35.70	\$27.00	\$62.70
Laborers (Class 08 - See notes)	1/1/2023		\$32.45	\$25.50	\$57.95
Laborers (Class 08 - See notes)	1/1/2024		\$34.70	\$25.50	\$60.20
Laborers (Class 08 - See notes)	1/1/2025		\$36.20	\$26.00	\$62.20
Laborers (Class 08 - See notes)	1/1/2026		\$37.20	\$27.00	\$64.20
Millwright	6/1/2020		\$41.68	\$20.32	\$62.00
Millwright	6/1/2023		\$45.50	\$23.72	\$69.22
Millwright	6/1/2024		\$47.59	\$23.72	\$71.31
Millwright	6/1/2025		\$49.72	\$23.72	\$73.44
Operators (Class 01 - see notes)	1/1/2023		\$36.79	\$23.58	\$60.37
Operators (Class 01 - see notes)	1/1/2024		\$38.59	\$24.03	\$62.62
Operators (Class 01 - see notes)	1/1/2025		\$40.39	\$24.23	\$64.62
Operators (Class 01 - see notes)	1/1/2026		\$41.96	\$24.66	\$66.62
Operators (Class 02 -see notes)	1/1/2023		\$36.53	\$23.58	\$60.11
Operators (Class 02 -see notes)	1/1/2024		\$38.33	\$24.03	\$62.36
Operators (Class 02 -see notes)	1/1/2025		\$40.13	\$24.23	\$64.36
Operators (Class 02 -see notes)	1/1/2026		\$41.70	\$24.66	\$66.36
Operators (Class 03 - See notes)	1/1/2023		\$32.88	\$23.58	\$56.46
Operators (Class 03 - See notes)	1/1/2024		\$34.68	\$24.03	\$58.71
Operators (Class 03 - See notes)	1/1/2025		\$36.48	\$24.23	\$60.71
Operators (Class 03 - See notes)	1/1/2026		\$38.05	\$24.66	\$62.71
Operators (Class 04 - See notes)	1/1/2023		\$32.42	\$23.58	\$56.00
Operators (Class 04 - See notes)	1/1/2024		\$34.22	\$24.03	\$58.25
Operators (Class 04 - See notes)	1/1/2025		\$36.02	\$24.23	\$60.25
Operators (Class 04 - See notes)	1/1/2026		\$37.59	\$24.66	\$62.25
Operators (Class 05 - See notes)	1/1/2023		\$32.17	\$23.58	\$55.75
Operators (Class 05 - See notes)	1/1/2024		\$33.97	\$24.03	\$58.00
Operators (Class 05 - See notes)	1/1/2025		\$35.77	\$24.23	\$60.00
Operators (Class 05 - See notes)	1/1/2026		\$37.34	\$24.66	\$62.00
Operators Class 1-A	1/1/2023		\$39.79	\$23.58	\$63.37
Operators Class 1-A	1/1/2024		\$41.59	\$24.03	\$65.62
Operators Class 1-A	1/1/2025		\$43.39	\$24.23	\$67.62
Operators Class 1-A	1/1/2026		\$44.96	\$24.66	\$69.62
Operators Class 1-B	1/1/2023		\$38.79	\$23.58	\$62.37
Operators Class 1-B	1/1/2024		\$40.59	\$24.03	\$64.62
Operators Class 1-B	1/1/2025		\$42.39	\$24.23	\$66.62
Operators Class 1-B	1/1/2026		\$43.96	\$24.66	\$68.62
Painters Class 1 (see notes)	6/1/2022		\$34.45	\$22.82	\$57.27
Painters Class 2 (see notes)	6/1/2019		\$35.25	\$20.06	\$55.31
Painters Class 2 (see notes)	6/1/2023		\$36.01	\$24.01	\$60.02
Painters Class 2 (see notes)	6/1/2024		\$38.09	\$24.93	\$63.02

# BUREAU OF LABOR LAW COMPLIANCE PREVAILING WAGES PROJECT RATES

Project: 25-02075 - Heavy/Highway	Effective Date	Expiration Date	Hourly Rate	Fringe Benefits	Total
Painters Class 2 (see notes)	6/1/2025		\$40.36	\$25.81	\$66.17
Painters Class 3 (see notes)	6/1/2022		\$36.77	\$22.82	\$59.59
Painters Class 3 (see notes)	6/1/2023		\$38.33	\$24.01	\$62.34
Painters Class 3 (see notes)	6/1/2024		\$40.66	\$24.93	\$65.59
Painters Class 3 (see notes)	6/1/2025		\$43.69	\$25.81	\$69.50
Painters Class 4 (see notes)	6/1/2019		\$28.20	\$20.06	\$48.26
Painters Class 5 (see notes)	6/1/2019		\$22.91	\$20.06	\$42.97
Pile Driver Divers (Building, Heavy, Highway)	1/1/2023		\$58.70	\$21.22	\$79.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2024		\$60.95	\$21.97	\$82.92
Pile Driver Divers (Building, Heavy, Highway)	1/1/2025		\$62.82	\$22.72	\$85.54
Pile Driver Divers (Building, Heavy, Highway)	1/1/2026		\$64.70	\$23.47	\$88.17
Piledrivers	1/1/2023		\$39.13	\$21.22	\$60.35
Piledrivers	1/1/2024		\$40.63	\$21.97	\$62.60
Piledrivers	1/1/2025		\$41.88	\$22.72	\$64.60
Piledrivers	1/1/2026		\$43.13	\$23.47	\$66.60
Steamfitters (Heavy and Highway - Gas Distribution)	5/1/2022		\$48.43	\$40.28	\$88.71
Truckdriver class 1(see notes)	1/1/2023		\$33.18	\$22.21	\$55.39
Truckdriver class 1(see notes)	1/1/2024		\$34.93	\$22.71	\$57.64
Truckdriver class 1(see notes)	1/1/2025		\$36.43	\$23.21	\$59.64
Truckdriver class 1(see notes)	1/1/2026		\$37.93	\$23.71	\$61.64
Truckdriver class 2 (see notes)	1/1/2023		\$33.64	\$22.52	\$56.16
Truckdriver class 2 (see notes)	1/1/2024		\$35.39	\$23.02	\$58.41
Truckdriver class 2 (see notes)	1/1/2025		\$36.89	\$23.52	\$60.41
Truckdriver class 2 (see notes)	1/1/2026		\$38.39	\$24.02	\$62.41

# SECTION 00 41 13.A - BID FORM EXHIBIT A

*It is the intent of **Somerset County Technology Center** to purchase materials for the **"2025 Roof Renovation"** located at **281 Technology Drive, Somerset, PA 15501** directly from Garland/DBS, Inc., based upon the Agency's participation in the Omnia Partners-Public Sector Contract program for Roofing Supplies and Services, Waterproofing, and Related Products and Services Contract as priced by and awarded to Garland/DBS, Inc., resulting from the competitively solicited IFB #PW1925 issued by Racine County, Wisconsin.*

## BASE BID #1 - ROOF C2 & E2 REPLACEMENT

Product Code	Product Name	Unit /Size	Coverage Rate	Quantity
4411-80-PRM	StressBase 80 Plus	Roll	150 Sqft. / Roll	115
4377	StressPly Plus FR Mineral	Roll	75 Sqft. / Roll	224
7336-5	Weatherking	5 GAL Pail	2.5 GAL / SQ	157
7110-5	Flashing Bond	5 GAL Pail	7 GAL / SQ	35
7619-5	GarlaPrime VOC	5 GAL Pail	0.5 GAL / SQ	3
4840-6	GarMesh 6"	Roll	150' / Roll	5
7425-5	Silver Flash	5 GAL Pail	7 ft / GAL	18
7817-3	Tuff Flash Plus LO	3 GAL Pail	-	2
7347	Insul-Lock HR	Case	450 SQFT / Case	36
2130-TRUWHITE	Tuff-Stuff	10.3 OZ Tube	-	75
9332-5	Garla-Flex	5 GAL Pail	-	2

### PLEASE NOTE:

1. It is the responsibility of the bidder to obtain any product-related information and pricing from the Garland representative prior to bid submission.
2. The bidder takes full responsibility for the material quantities entered above. Any additional materials required to complete the Project, over and above the quantities submitted by the bidder in this addendum, will be billed to the bidder directly and will not be the responsibility of the Agency.
3. Material quantities will be cross-referenced to an expected Project take-off to verify accuracy. Any bids that have material quantities substantially below or above the anticipated requirements for the Project will be rejected unless a detailed explanation is provided.