

County of Kane
Office of County Board
Kane County Government Center

Karen McConnaughay
Chairman
630-232-5930



719 Batavia Avenue
Geneva, Illinois 60134
Fax 630-232-9188

DOCUMENT VET SHEET
for
Karen McConnaughay
Chairman, Kane County Board

Name of Document: KDOT Roofing Project for Building A Contract

Submitted by: Jim Hansen – Purchasing Dept.

Date Submitted: August 26, 2011

Examined by:

KC Shapp
(Print name)

[Signature]
(Signature)

8-30-2011
(Date)

Post on Web:

Yes ☒

No ☐

Atty. Initials

KCS

Comments: Please have the Chairman review and sign the attached contract.

Chairman signed:

Yes ☐ No ☐

(Date)

Document returned to:

**KANE COUNTY
OFFER TO CONTRACT FORM
For
BID 34-011 KDOT Roofing Project**

Bid Due Time & Date: 2 p.m. Wednesday, July 13, 2011

To: County of Kane (Purchasing Department)
Kane County Government Center, Bldg. A.
719 S. Batavia Ave.
Geneva, IL 60134

The following offer is hereby made to the County of Kane, Illinois, hereafter called the Owner.

Submitted By: THE GLENBROOK GROUP

I. The undersigned Vendor proposes and agrees, after having examined the specifications, quantities and other contract documents, to irrevocably offer to furnish the materials, equipment and services in compliance with all terms, conditions, specifications and amendments contained in the bid solicitation documents. The items in this Invitation to Bid, including, but not limited to, all required certificates, are fully incorporated herein as a material and necessary part of the contract.

A. The Vendor shall also include with his bid any necessary literature, samples, etc., as required within the Invitation to Bid, Instruction to Bidders and specifications.

1. *The Vendor has examined the Contractor Disclosure section of the Instruction to Bidders, and has included or provided a document listing all cumulative campaign contributions made within the past twelve months, to any current or county-wide elected officer, and ownership interest in entity greater than five percent.*

B. For purposes of this offer, the terms Offerer, Bidder, Contractor, and Vendor are used interchangeably.

II. In submitting this Offer, the Vendor acknowledges:

A. All bid documents have been examined: Instructions to Bidder, Scope of Work, including the Specifications, Drawings and the following addenda:
No. _____, No. _____, No. _____, (Contractor to acknowledge addenda here.)

B. The site(s) and locality have been examined where the Service is to be performed, the legal requirements (federal, state and local laws, ordinances, rules and regulations) and the conditions affecting cost, progress or performance of the Work and has made such independent investigations, as Vendor deems necessary.

C. To be prepared to execute a contract with the Owner within ten (10) calendar days after acceptance of the bid by the Owner, and furnish a Performance Bond and Labor and Material Payment Bond in accordance with the Instructions to Bidders.

D. Work will be accomplished in accordance with the Contract Document.

III. BASE BID AMOUNT:

The Undersigned agrees to furnish all labor, materials and equipment necessary to perform the Work as described in the Documents (including allowances – see Section 01010 - "Summary of Work"), on the above-referenced project:

The Sum of: NINETY-FOUR THOUSAND Dollars (\$ 94,000.00)

IV. UNIT PRICES:

The undersigned submits the following unit prices as a proposed basis for additive or deductive adjustment under Allowances in the event contract changes in the Work are required involving items described. It is understood and agreed that unit prices are separately subject to acceptance by the Owner and that such prices are not part of the Contract except as accepted and entered in the Agreement. Unit Prices shall include labor, materials, equipment fees, taxes, profit and overhead necessary to perform the Work described below and as specified in the Bidding Documents.

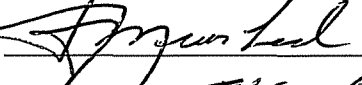
- | | |
|---|--------------------|
| A. Repair of wood plank roof deck (reinforcing plate) | \$ <u>7</u> /SF |
| B. Replacement of 3-inch Tongue and Groove (T&G) wood plank roof deck | \$ <u>12</u> /LF |
| C. Replacement of 1x10 wood fascia | \$ <u>10</u> /LF |
| D. Replacement of 2x4 wood blocking | \$ <u>5</u> /LF |
| E. Replacement of 2x6 wood blocking | \$ <u>6</u> /LF |
| F. Replacement of 2x8 wood blocking | \$ <u>8</u> /LF |
| G. Application of low area fill material | \$ <u>20</u> /Unit |

V. PROJECT TIMEFRAME:

The Undersigned attests that he is able to perform the Work of the Contract within the parameters of the following construction timeframe, and furthers agrees to adhere to that schedule as a provision of the Contract Agreement.

- A. Work shall commence not later than 15 Calendar days after written notice of Bid Acceptance, provided the Contract Agreement is executed, and the Work shall be Substantially Completed (i.e., ready for Consultant's Final Review, including sheet metal work) within 30 Calendar days thereafter.
- B. Number of Calendar days after Contract Award to provide pre-construction submittals: 10 days
- C. Number of Calendar days after review of submittals to deliver materials: 5 days

By signing this Bid, the Offeror hereby certifies that they are not barred from bidding on this contract as a result of a violation of either Section 33E-3 or 33E-4 of the Illinois Criminal Code of 1961, as amended. The awarding of any contract resulting from this Bid will be based upon the funding available to Kane County, which may award all or part of this project. The terms of the Bid and the response shall be incorporated by this reference as though fully set forth into the Contract notwithstanding any language in the contract to the contrary. In the event of any conflict between the terms of the Contract and the terms of the Bid and the response, the terms of the Bid and the response shall govern. Every element or item of the Bid and the response shall be deemed a material and severable item or element of the contract. **THIS SECTION MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE COMPANY OR ENTITY RESPONDING TO THE BID AND THE RESPONSE.**


Signature  Typed Signature JAMES F. MUIRHEAD
Company THE GLENBROOK GROUP
Address 3000 DUNDEE SUITE 404 NORTHBROOK IL 60062
Phone # 847-498-5986 Fax # 847-715-4470
Federal I.D./Social Security # 20-2152682 Date 7/13/11

ACCEPTANCE

The Offer is hereby accepted for: **Building A Roof Project for KDOT**

The Contractor is bound to provide the services and materials listed by the attached contract and based upon the Invitation to Bid, including all terms, conditions, specifications, amendments, and the Contractor's offer is accepted by the County of Kane.

This contract shall henceforth be referred to as Contract Number **34-011**. The Contractor has been cautioned not to commence any billable work or to provide any supplies or services until said Contractor receives a purchase order and or notice to proceed.


Karen McConaughay
Chairman, County Board
Kane County, Illinois

Date

Performance Bond

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

CONTRACTOR (Name and Address):

The Glenbrook Group, Inc.
3000 Dundee Road
Northbrook, Illinois 60062

SURETY (Name and Principal Place of Business):

Aegis Security Insurance Company
2407 Park Drive
Harrisburg, Pennsylvania 17105-3153

OWNER (Name and Address):

County of Kane, Purchasing Department
719 S. Batavia Avenue, Building A
Geneva, Illinois 60134

CONSTRUCTION CONTRACT

Date:

Amount: \$94,000.00

Description (Name and Location): Labor and materials necessary to replace the roof
on Building A at the KDOT Complex, 34-011

BOND

Date (Not earlier than Construction Contract Date): August 23, 2011

Amount: \$94,000.00

Modifications to this Bond:

☒ None☐ See Page 2**CONTRACTOR AS PRINCIPAL**

Company:

(Corporate Seal)

The Glenbrook Group, Inc.

Signature:

Name and Title:

SURETY

Company:

(Corporate Seal)

Aegis Security Insurance Company

Signature:

Name and Title: Annette Albach
Attorney-in-Fact

(Any additional signatures appear on page 2.)

(FOR INFORMATION ONLY - Name, Address and Telephone) AGENT or BROKER: Bonding Services Corp, 1320 Tower Rd, Schaumburg, IL

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

2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except to participate in conferences as provided in Subparagraph 3.1.

3 If there is no owner Default, the Surety's obligation under this Bond shall arise after:

3.1 The Owner has notified the Contractor and the Surety at its address described in Paragraph 10 below that the Owner is considering declaring a Contractor default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than fifteen days after receipt of such notice to discuss methods of performing the Construction Contract. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract,

OWNER'S REPRESENTATIVE (Architect, Engineer or other party):

but such an agreement shall not waive the Owner's right, if any, subsequent to declare a Contractor Default; and

3.2 The Owner has declared a Contractor Default and formally terminated the Contractor's right to complete the contract. Such Contractor Default shall not be declared earlier than twenty days after the Contractor and the Surety have received notice as provided in Subparagraph 3.1; and

3.3 The Owner has agreed to pay the Balance of the Contract Price to the Surety in accordance with the terms of the Construction Contract or to a contractor selected to perform the Construction Contract in accordance with the terms of the contract with the Owner.

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

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

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

4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and the contractor selected with the Owner's concurrence to the secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 6 in excess of the Balance of the Contract Price incurred by the Owner resulting from the Contractor's default; or

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

.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, tender payment therefore to the Owner, or

.2 Deny liability in whole or in part and notify the Owner citing reasons therefore,

5 If the Surety does not proceed as provided in Paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond fifteen days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the owner shall be entitled to enforce any remedy available to the Owner.

6 After the Owner has terminated the Contractor's right to complete the Construction Contract, and if the Surety elects to act under Subparagraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. To the limit of the amount of this Bond, but subject to commitment by the Owner of the Balance of the Contract Price to mitigation of costs and damages on the Construction Contract, the Surety is obligated without duplication for:

6.1 The responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;

6.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 4; and

6.3 Liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

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

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

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

10 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page.

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

12 DEFINITIONS

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

12.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

12.3 Contract Default: Failure of the Contractor which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract.

12.4 Owner Default: Failure of the Owner which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

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

CONTRACTOR AS PRINCIPAL

Company:

(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

SURETY

Company:

(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A312

Bond No. CTR-3001997

PAYMENT BOND

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

CONTRACTOR (Name and Address):
The Glenbrook Group, Inc.
3000 Dundee Road
Northbrook, Illinois 60062

SURETY (Name and Principal Place of Business):
Aegis Security Insurance Company
2407 Park Drive
Harrisburg, Pennsylvania 17105-3153

OWNER (Name and Address):
County of Kane, Purchasing Department
719 S. Batavia Avenue, Building A
Geneva, Illinois 60134

CONSTRUCTION CONTRACT

Date:

Amount: \$94,000.00

Project:(Spec#, Name & Location) Labor and materials necessary to replace the roof on
Building A at the KDOT Complex, 34-011

BOND

Date (Not earlier than Construction Contract Date) August 23, 2011

Amount: \$94,000.00

Modifications to this Bond:

☐ None

XXXX See Page 4

CONTRACTOR AS PRINCIPAL

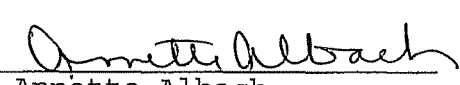
Company: (Corporate Seal)
The Glenbrook Group, Inc.

SURETY

Company: (Corporate Seal)
Aegis Security Insurance Company

Signature: 

Name and Title: James E. Mulhead
President

Signature: 

Name & Title: Annette Albach
Attorney-in-Fact

(Any additional signatures appear on page 4)

AGENT or BROKER:

Bonding Services Corp.
1320 Tower Road
Schaumburg, IL 60173
847-301-4255

OWNER'S REPRESENTATIVE:

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

2 With respect to the Owner, this obligation shall be null and void if the Contractor:

2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and

2.2 Defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity whose claim, demand, lien or suit is for the payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, provided the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 12) of any claims, demands, liens or suits and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety, and provided there is no Owner Default.

3 With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.

4. The Surety shall have no obligation to Claimants under this Bond until:

4.1 Claimants who are employed by or have a direct contract with the Contractor have given notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim and furnished to surety an explanation of the claim and copies of documents on which the Claimant relies to support the claim.

4.2 Claimants who do not have a direct contract with the Contractor:

.1 Have furnished written notice to the Contractor and sent a copy, or notice thereof, to the Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials were furnished or supplied or for whom the labor was done or performed; and

.2 Have either received a rejection in whole or in part from the Contractor, or not received within 30 days of furnishing the above notice any communication from the Contractor by which the Contractor has indicated the claim will be paid directly or indirectly; and

.3 Not having been paid within the above 30 days, have sent a written notice to the Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to the Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to the Contractor and furnished to the surety an explanation of the claim and copies of documents on which the Claimant relies to support the claim.

5 If a notice required by Paragraph 4 and has submitted an the Contractor and to the Surety, that is sufficient compliance.

6 When the Claimant has satisfied the conditions of Paragraph 4 and has submitted any additional supporting documentation, and any sworn proof of claim, requested by the Surety, the Surety shall, within a reasonable period of time, which shall not be less than 45 days, respond to the Claimant and offer to pay or arrange for payment of any undisputed amount; provided, however, that the failure of the Surety to fully and/or timely discharge its obligations under this paragraph or to dispute or identify any specific defense to all or part of a claim shall not be deemed an admission of liability by the Surety or otherwise constitute a waiver of any rights or defenses the Contractor and/or Surety may have or acquire as to such a claim, including, without limitation, any right to dispute claim. In no event shall the Surety's liability to any Claimant under this Bond exceed the sum properly due such claimant.

7 The Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

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

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

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

11 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the work or part of the work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Subparagraph 4.1 or Clause 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the signature page. Actual receipt of notice by Surety, the Owner or the Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

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

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

15 DEFINITIONS

15.1 Claimant: An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

15.2 Construction Contract: The agreement between the Owner and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of the Owner, which has neither been remedied nor waived, to pay the Contractor as required by the Construction Contract or to perform and complete or comply with the other terms thereof.

MODIFICATIONS TO THIS BOND ARE AS FOLLOWS:

SEE ATTACHED "AEGIS SECURITY INSURANCE COMPANY AMENDMENTS TO AIA DOCUMENT A312 PAYMENT BOND"

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

CONTRACTOR AS PRINCIPAL

Company: _____

(Corporate Seal)

SURETY

Company: _____

(Corporate Seal)

Signature: _____

Name and Title: _____

Address: _____

Signature: _____

Name and Title: _____

Address: _____

AEGIS SECURITY INSURANCE COMPANY
AMENDMENTS TO AIA DOCUMENT A312 PAYMENT BOND

AMENDMENT 1:

Insert new Paragraph 4.1

The Owner has actually paid to the appropriate Contractor that sum of money related to the labor, materials or equipment furnished for which any Claimant makes or submits any claim for payment hereunder to the Surety. Any failure of the Owner to have paid all or part of any quantity of labor, materials or equipment furnished for use in the performance of the Construction Contract shall be deemed to constitute an absolute defense against and a just and proper reason to deny payment if any claim pertaining to any such quantity to any Claimant by the Surety.

Renumber Paragraph 4.1 to 4.2 and amend the word(s)/phrase(s):

From "an explanation" to "a *detailed and thorough* explanation"

From "copies of documents" to "copies of *all* documents"

Renumber Paragraph 4.2 to 4.3

Insert new Subparagraph 4.4

Notwithstanding subparagraphs 4.3.1 through 4.3.3 above, any statute enacted into law pertaining to the bond rights and obligations herein and within the jurisdiction in which the Construction Contract is performed shall preempt and take precedent over the rights and obligations of the Contractor, Surety, and Claimants hereunder.

AMENDMENT 2:

Delete Paragraph 5 in its entirety, as drafted incompletely.

AMENDMENT 3:

At Paragraph 6, delete the word(s)/phrase(s):

"...which shall not be less than 45 days,..."

"...offer to pay or arrange for payment of any undisputed amount..."

At Paragraph 6, insert the word(s)/phrase(s):

"...the Surety shall, within a reasonable period of time, pay any claimed amount determined by the Surety to be an undisputed claim, in whole or in part, or deny any claimed amount determined by the Surety to be inadequately documented and/or unsubstantiated by the Claimant or otherwise determined by the Surety to be unjust or improper under circumstances known or reasonably believed by the Surety to be inconsistent or in conflict with the claim or the amount of the claim; provided, however that the failure"

AEGIS SECURITY INSURANCE COMPANY
AMENDMENTS TO AIA DOCUMENT A312 PAYMENT BOND

AMENDMENT 4:

At Paragraph 9, insert as a new second sentence the word(s)/phrase(s):

The Surety shall not be liable to the Owner, Contractor, or any Claimant for any interest, finance or service charge, penalty, liquidated damages, attorneys fees, costs of litigation, administrative or office salary or overhead, return on equity or capital or any profit.

AMENDMENT 5:

At Paragraph 11, delete the last sentence in its entirety.

At Paragraph 11, insert as a new, last sentence:

Notwithstanding the preceding sentence, any statute enacted into law pertaining to the bond rights and obligations herein and within the jurisdiction in which the Construction Contract is performed shall preempt and take precedent over the rights and obligations of the Contractor, Surety, and Claimants hereunder.

AMENDMENT 6:

At Paragraph 15.1, delete the word(s)/phrase(s):

"....architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished."





CERTIFICATE OF LIABILITY INSURANCE

GLENGRO-01

MPETERSEN

DATE (MM/DD/YYYY)

8/26/2011

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER J. M. Wiedemann & Sons 505 East Golf Road Arlington Heights, IL 60005		CONTACT NAME: PHONE (A/C, No, Ext): (847) 228-8400 FAX (A/C, No): (847) 228-8505 E-MAIL ADDRESS:	
		INSURER(S) AFFORDING COVERAGE	
		INSURER A : United Fire & Casualty	
		INSURER B : Praetorian Insurance Company	
		INSURER C :	
		INSURER D :	
		INSURER E :	
		INSURER F :	

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER: 1**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY			60396261	9/15/2010	9/15/2011	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 5,000
	<input checked="" type="checkbox"/> x.c.u applies						PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG \$ 2,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC						\$
A	AUTOMOBILE LIABILITY			60396261	9/15/2010	9/15/2011	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per accident) \$
	<input checked="" type="checkbox"/> HIRED AUTOS	<input checked="" type="checkbox"/> NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident) \$
							\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR		60396261	9/15/2010	9/15/2011	EACH OCCURRENCE \$ 6,000,000
	<input type="checkbox"/> EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE					AGGREGATE \$ 6,000,000
	<input type="checkbox"/> DED	<input type="checkbox"/> RETENTION \$					\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			EQB0290002	9/15/2010	9/15/2011	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y <input type="checkbox"/> N	N/A				E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
The County of Kane is additional insured with respects to General Liability when required by written contract.

CERTIFICATE HOLDER**CANCELLATION**

County of Kane
719 S. Batavia Avenue
Geneva, IL 60134

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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INSTRUCTIONS TO BIDDERS

COUNTY OF KANE COMPETITIVE SELECTION PROCEDURE - BID TERMS AND CONDITIONS

1. **AUTHORITY.** This Invitation for Bid is issued pursuant to applicable provisions of the Kane County Purchasing Ordinance.
2. **BID OPENING.** Sealed bids will be received at the Kane County Purchasing Department until the date and time specified at which time they shall be opened in public. Late bids shall be rejected and returned unopened to the sender. Kane County does not prescribe the method by which bids are to be transmitted; therefore, it cannot be held responsible for any delay, regardless of the reason, in transmission of the bids.
3. **BID PREPARATION.** Bids must be submitted on this form and all information and certifications called for must be furnished. Bids submitted in any other manner, or which fail to furnish all information or certificates required, may be summarily rejected. Bids may be modified or withdrawn prior to the time specified for the opening of bids. Bids shall be filled out legibly in ink or type-written with all erasures, strike overs and corrections initialed in ink by the person signing the bid. The bid shall include the legal name of the bidder, the complete mailing address, and be signed in ink by a person or persons legally authorized to bind the bidder to a contract. Name of person signing should be typed or printed below the signature.
4. **BID ENVELOPES.** Envelopes containing bids must be sealed and addressed to the County of Kane Purchasing Department. The name and address of the bidder and the Invitation Number must be shown in the upper left corner of the envelope.
5. **ERRORS IN BIDS.** Bidders are cautioned to verify their bids before submission. Negligence on the part of the bidder in preparing the bid confers no right for withdrawal or modification of the bid after it has been opened. In case of error in the extension of prices in the bid, the unit prices will govern.
6. **RESERVED RIGHTS.** The County of Kane reserves the right at any time and for any reason to cancel this Invitation for Bids, accept or reject any or all bids or any portion thereof, or accept an alternate bid. The County reserves the right to waive any immaterial defect in any bid. Unless otherwise specified by the bidder or the County, the County has ninety (90) days to accept. The County may seek clarification from any bidder at any time and failure to respond promptly is cause for rejection.
7. **INCURRED COSTS.** The County will not be liable for any costs incurred by bidders in replying to this Invitation for Bids.
8. **AWARD.** It is the intent of the County to award a contract to the lowest responsive responsible bidder meeting specifications. The County reserves the right to determine the lowest responsive responsible bidder on the basis of an individual item, groups of items, or in any way determined to be in the best interests of the County. Award will be based on the following factors (where applicable): (a) adherence to all conditions and requirements of the bid specifications; (b) price; (c) qualifications of the bidder, including past performance, financial responsibility, general reputation, experience, service capabilities, and facilities; (d) delivery or completion date; (e) product appearance, workmanship, finish, taste, feel, overall quality, and results of product testing; (f) maintenance costs and warranty provisions; and (g) repurchase or residual value.

9. **PRICING.** The price quoted for each item is the full purchase price, including delivery to destination, and includes all transportation and handling charges, premiums on bonds, material or service costs, patent royalties and all other overhead charges of every kind and nature. Unless otherwise specified, prices shall remain firm for the contract period.
10. **DISCOUNTS.** Prices quoted must be net after deducting all trade and quantity discounts. Where cash discounts for prompt payment are offered, the discount period shall begin with the date of receipt of a correct invoice or receipt or final acceptance of goods, whichever is later.
11. **TAXES.** Kane County is not subject to Federal Excise Tax. Per Illinois Revised Statutes, Chapter 120, Paragraph 441: Kane County is exempt from state and local taxes.
12. **SPECIFICATIONS.** Reference to brand names and numbers is descriptive, but not restrictive, unless otherwise specified. Bids on equivalent items will be considered, provided the bidder clearly states exactly what is proposed to be furnished, including complete specifications. Unless the bidder specified otherwise, it is understood the bidder is offering a referenced brand item as specified or is bidding as specified when no brand is referenced, and does not propose to furnish an "equal." The County reserves the right to determine whether a substitute offer is equivalent to and meets the standard of quality indicated by the brand name and number referenced.
13. **SAMPLES.** Samples of items, when called for, must be furnished free of expense and, if not destroyed in the evaluation process, will, upon request, be returned at the bidder's expense. Request for the return of samples must accompany the sample and include UPS Pickup Slip, postage or other acceptable mode of return. Individual samples must be labeled with bidder's name, invitation number, item reference, manufacturer's brand name and number.
14. **INTERPRETATION OR CORRECTION OF BIDDING DOCUMENTS.** Bidders shall promptly notify the County of any ambiguity, inconsistency of error which they may discover upon examination of the bidding documents. Interpretations, corrections and changes will be made by addendum. Each bidder shall ascertain prior to submitting a bid that all addenda have been received and acknowledged in the bid.
15. **VARIANCES.** State or list by reference on the reverse side of this form any variations to specifications, terms and/or conditions.
16. **INDEMNIFICATION.** The Seller shall indemnify and hold harmless the County, its agents, officials, and employees, from and against all injuries, losses, claims, suits, costs and expenses which may accrue against the County as a consequence of granting the Contract.

Contractor and/or Servicer's and/or Seller (as case may be), agrees to save, hold harmless, defend and indemnify the County of Kane and its Officers, Agents, and Employees, from any and all liability or loss incurred by the County of Kane resulting from Contractor's and/or Servicer's and/or Seller's noncompliance with any laws or regulations of any governmental authority having jurisdiction over Contractor's and/or Servicer's and /or Seller's performance of this contract and Contractor's and/or Seller's violation of any of the terms and conditions of this Agreement, and from the Contractor's and/or Servicer's and/or Seller's negligence arising from, in any manner and in any way connected with, the terms and conditions of this Agreement and arising from the Contractor's and/or Servicer's and/or Seller's performance thereunder.
17. **DEFAULT.** Time is of the essence of this contract and if delivery of acceptable items or rendering of services is not completed by the time promised, the County reserves the right, without liability, in addition to its other rights and remedies, to terminate the contract by notice effective when received by Seller, as to stated items not yet shipped or services not yet rendered and to purchase substitute items or services elsewhere and charge the Seller with any or all losses incurred.

18. **INSPECTION.** Materials or equipment purchased are subject to inspection and approval at the County's destination. The County reserves the right to reject and refuse acceptance of items which are not in accordance with the instructions, specifications, drawings or data of Seller's warranty (express or implied). Rejected materials or equipment shall be removed by, or at the expense of, the Seller promptly after rejection.
19. **WARRANTY.** Seller warrants that all goods and services furnished hereunder will conform in all respects to the terms of the solicitation, including any drawings, specifications or standards incorporated herein, and that they will be free from latent and patent defects in materials, workmanship and title, and will be free from such defects in design. In addition, Seller warrants that said goods and services are suitable for, and will perform in accordance with, the purposes for which they are purchased, fabricated, manufactured and designed or for such other purposes as are expressly specified in this solicitation. The County may return any nonconforming or defective items to the Seller or require correction or replacement of the item at the time the defect is discovered, all at the Seller's risk and expense. Acceptance shall not relieve the Seller of its responsibility.

Contractor and/or Seller (as case may be) expressly warrants that all goods and services (real property and all structures thereon) will conform to the drawings, materials, performance and any other specifications, samples or other description furnished by the County, and will be fit and sufficient for the purpose intended, merchantable, of good material and workmanship. Contractor and/or Seller (as case may be) agrees that these warranties shall run to Kane County, its successor, assigns, customers and users of the products or services and that these warranties shall survive acceptance of the goods or performance of the services.

20. **REGULATORY COMPLIANCE.** Seller represents and warrants that the goods or services furnished hereunder (including all labels, packages and container for said good) comply with all applicable standards, rules and regulations in effect under the requirements of all Federal, State and local laws, rules and regulations as applicable, including the Occupational Safety and Health Act as amended, with respect to design, construction, manufacture or use for their intended purpose of said goods or services. Seller shall furnish "Material Safety Data Sheet" in compliance with the Illinois Toxic Substances Disclosure to Employees Act.
21. **EQUAL EMPLOYMENT OPPORTUNITY.** (Res.No. 82-90, 6-10-80; Res. No. 81-79, 6-9-81; Res. No. 82-90, 6-8-82; 05-303, 09-23-05) State law references--Fair Employment Practices Act, Ill. Rev.Stat. Ch. 48, Sec.851 et seq.; requirements for public contracts, Ill. Rev. Stat. Ch. 48, Sec. 854.

The equal employment opportunity clause required by the Illinois Fair Employment Practices Commission is hereby incorporated by reference in all contract made by the county of and in all bid specifications therefore furnished by the county to all bidders, contractors and subcontractors.

The County of Kane, State of Illinois, represents that it and the employing agencies responsible to it, conform to the following:

We do not discriminate against any employee or applicant for employment because of race, creed, color, age, disability, religion, sex, national origin/ancestry, sexual orientation, marital status, veteran status, political affiliation, or any other legally protected status. We will take whatever action is necessary to ensure that applicants and employees are treated appropriately regarding all terms and conditions of employment. We will post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.

We will, in all solicitations or advertisements for employees placed by or on behalf of the employing agencies, state that all qualified applicants will receive consideration for employment without regard to race, creed, age, disability, religion, sex, national origin/ancestry, sexual orientation, marital status, veteran status, political affiliation, or any other legally protected status. (Res.No. 82-90, 6-10-80; Res. No. 81-79, 6-9-81; Res. No. 82-90, 6-8-82; 05-303, 09-23-05) State law references--Fair Employment Practices Act, Ill. Rev.Stat. Ch. 48, Sec.851 et seq.; requirements for public contracts, Ill. Rev. Stat. Ch. 48, Sec. 854.

22. **PREVAILING WAGE RATES**

WHEREAS, it is the policy of the State of Illinois as declared in "An ACT regulating wages of laborers, mechanics and other workman employed in any public works by the State, County, City or any political subdivision or by any work under construction for public works" approved June 26, 1941, that a wage of no less than the general prevailing hourly rate as paid for work of a similar character in a locality in which work is performed, shall be paid to all laborers, workmen and mechanics employed by and on behalf of any and all public body engaged in public works, exclusive of maintenance work.

PREVAILING WAGE ACT AMENDMENT: HB-1855 (PA 095-0635) amends the Prevailing Wage Act and requires Public Works contractors, before work commences, to file with the Public Body, certification that they have a substance abuse program and provide drug testing. This Act applies to a contract to perform work on a public works project for which bids are opened on or after January 1, 2008, or if bids are not solicited for the contract to perform such work entered into on or after

January 1, 2008. The provisions of this Act apply only to the extent there is no collective bargaining agreement in effect dealing with the subject matter of this Act.

Responsive Bidders must include with their bid a separate sheet showing trades to be employed and wage rates to be paid.

The current Illinois Department of Labor Prevailing Wage Rates for the County of Kane are available at their website <http://www.state.il.us/agency/idol/>. Prevailing wage rates are subject to revision monthly. Copies of the current prevailing wage ranges are also available at the Kane County Purchasing Department, 719 Batavia Avenue, Geneva, Illinois.

Any contract within the purview of this resolution or of the Illinois Prevailing Wage Act shall provide that any contractor will employ apprentices who are properly indentured into a **Joint Apprenticeship Training Program** which is registered and certified with the United States Department of Labor, Bureau of Apprenticeship and Training. Failure to comply with the request for information or documentation will be construed as a material breach of the contract enabling the County to terminate the contract, seek forfeiture of any performance bond, and proceed with any other remedy against the contractor at law or inequity.

23. **ROYALTIES AND PATENTS.** Seller shall pay all royalties and license fees. Seller shall defend all suits or claims for infringement of any patent or trademark rights and shall hold the County harmless from loss on account thereof.
24. **LAW GOVERNING.** This contract shall be governed by and construed according to the laws of the State of Illinois.
25. **ELIGIBILITY.** By signing this bid, the bidder hereby certifies that they are not barred from bidding on this contract as a result of a violation of Article 33E, Public Contracts of the Illinois Criminal Code of 1961, as amended (Illinois Compiled Statutes, 720 ILCS 5/33E-1).

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CERTIFICATE OF INSURANCE REQUIRED BY KANE COUNTY

Contractor to furnish and deliver prior to commencement of work, a completed Certificate of Insurance satisfactory to the requirements of County of Kane containing:

- a) The Contractor and all Subcontractors shall provide a Certificate of Insurance naming the Owner (Kane County) as certificate holder and as additional insured. The certificate shall contain a 30-day notification provision to the owner (Kane County) prior to cancellation or modification of the policy.
- b) Commercial General Liability insurance including Products/Completed Operations, Owners and Contractor Protective Liability and Broad Form Contractual Liability. The exclusion pertaining to Explosion, Collapse and Underground Property Damage hazards eliminated. The limit of liability shall not be less than the following:

General Aggregate	\$2,000,000
Products and Completed Operations	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Each Occurrence	\$1,000,000
Or - Combined Single Limit	\$1,000,000

- i) Products and Completed Operation coverage is to remain in force for a period of two years after the completion of project.

- c) Business Automotive Liability Insurance including owned, hired and non-owned automobiles, and/or trailer and other equipment required to be licensed, with limits of not less than the following:

Each Person for Bodily Injury	\$1,000,000
Each Occurrence for Bodily Injury	\$1,000,000
Each Occurrence for Property Damage	\$1,000,000
Or - Combined Single Limit	\$1,000,000

- d) Statutory Worker's Compensation insurance shall be in accordance with the provisions of the laws of the State of Illinois, including Occupational Disease Act provisions, for employees at the site of the project, and in case work is sublet, the Contractor shall require each Subcontractor similarly to provide this insurance. In case employees are engaged in work under this contract and are not protected under the Workers Compensation and Occupational Disease Act, the Contractor shall provide, and shall cause Subcontractor to provide, adequate and suitable insurance for the protection of employees not otherwise provided.

- e) Umbrella Liability:

Aggregate Limits	\$2,000,000
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Vendor to furnish a copy of the Endorsement showing Kane County, as an additional named insured on the General Liability, Auto, and Excess policies.

The Contractor shall cease operations on the project if the insurance is cancelled or reduced below the required amount of coverage.

27. **BID DEPOSIT**

All bids must be accompanied by a Bank Cashier's Check, Bank Draft, Certified Check, or Bid Bond for not less than five (5%) percent of the amount of the Bid, or according to the schedule as provided.

Accompanying this Bid is a Bank Cashier's Check, Bank Draft, Certified Check, or Bid Bond, complying with the requirements of the specifications, made payable to the **KANE COUNTY TREASURER.**

In the event that one check, draft or bond is intended to cover two or more bids, the amount must be equal to the sum of the bid guarantees of the individual sections covered.

28. **EXECUTION OF A PERFORMANCE BOND AND LABOR AND MATERIALS BOND**

When noted in the specifications, the County reserves the right to require the successful bidder to supply a Performance Bond and a Labor and Materials Bond within ten (10) calendar days of acceptance of the Vendor's bid by the County. The bonds, unless otherwise specified by the Director of Purchasing, shall be 100% of the total contract price.

29. **FAILURE TO FURNISH BOND**

In the event that the Vendor fails to furnish the abovementioned bonds within ten (10) calendar days after acceptance of the bid by the County, then the bid deposit of the bidder shall be retained by the County as liquidated damages, it being now agreed that said sum is a fair estimate of the amount of damages that said County will sustain due to the Bidder's failure to furnish said bonds.

30. **CONTRACTOR DISCLOSURE**

A. Prior to award, every contractor or vendor who is seeking or who has obtained contracts or change orders to contracts or two (2) or more individual contracts with Kane County resulting in an amount greater than Fifteen Thousand Dollars (\$15,000) shall disclose to the Kane County Purchasing Department, in writing all cumulative campaign contributions, (which includes multiple candidates) made within the previous twelve (12) months of awarding of the contract made by that contractor, union, or vendor to any current officer or countywide elected officer whose office the contract to be awarded will benefit. Disclosure shall be updated annually during the term of a multi-year contract and prior to any change order or renewal requiring Board level approval. For purposes of this disclosure requirement, "contractor or vendor" shall include owners, officers, managers, insurance brokers, lobbyists, agents, consultants, bond counsel and underwriters counsel, subcontractors corporations, partnerships, associations, business trusts, estates, trustees, and/or beneficiaries under the control of the contracting person, and political action committees to which the contracting person has made contributions.

B. All contractors and vendors who have obtained or are seeking contracts with Kane County must disclose the following information which shall be certified and attached to the application or document. Penalties for knowingly violating disclosure requirements will potentially result in immediate cancellation of the contract, and possible disbarment from future County contracts:

(a) Name, address and percentage of ownership interest of each individual or entity having a legal or a beneficial interest of more than five percent (5%) in the applicant. Any entity required by law to file a statement providing substantially the information required by this paragraph with any other government agency may file a duplicate of such statement;

- (b) Names and contact information of their lobbyists, agents and representatives and all individuals who are or will be having contact with County employees or officials in relation to the contract or bid. This information disclosure must be updated when any changes to the information occurs.
- (c) Whenever any interest required to be disclosed in paragraph (a) above is held by an agent or agents, or a nominee or nominees, the principals for whom such agents or nominees hold such interest shall also be disclosed. The application of a spouse or any other party, if constructively controlled by another person, or legal entity as set forth above, shall state the name and address and percentage of beneficial interest of such person or entity possessing such constructive control and the relationship under which such control is being or may be exercised. Whenever a stock or beneficial interest is held by a corporation or other legal entity, such shareholder or beneficiary shall also make disclosure as required by paragraph (a) above.
- (d) A statement under oath that the applicant has withheld no disclosures as to economic interests in the undertaking nor reserved any information, data or plan as to the intended use or purpose for which it seeks County Board or other county agency action.
- C. All disclosures and information shall be current as of the date upon which the application is presented and shall be maintained current until such time as Kane County shall take action on the application. Furthermore, this information shall be maintained in a database by the Purchasing Department, and made available for public viewing.
- D. Notwithstanding any of the above provisions, the County Purchasing Department with respect to contracts awarded may require any such additional information from any applicant which is reasonably intended to achieve full disclosure relevant to the application for action by the County Board or any other County agency.
- E. Any failure to comply with the provisions of this section shall render any ordinance, ordinance amendment, County Board approval or other County action in behalf of the applicant failing to comply voidable at the option of the County Board or other County agency involved upon the recommendation of the County Board Chairman or the majority of the County Board.

ILLINOIS DEPARTMENT OF LABOR
Division of Conciliation & Mediation
PREVAILING WAGES FOR KANE COUNTY
EFFECTIVE 06/01/11

These prevailing wages shall be included in the contracts and their advertised specifications to which any public body, as defined in section 2 of the Prevailing Wage Act (Il. Rev. Stat. 1987, Ch. 48, par. 39s-1), is a party, for the construction, reconstruction, maintenance and/or repair of public buildings or public works within the State of Illinois which requires or involves the employment of laborers, workers, and mechanics, and owner/operators. Minimum wages, overtime rate and fringe benefits certified herein shall be paid. This scale of prevailing wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of work.

Kane County Prevailing Wage for June 2011

Trade Name	RG	TYP	C	Base	FRMAN	*M-F>8	OSA	OSH	H/W	Pensn	Vac	Trng
=====	==	===	=	=====	=====	=====	===	===	=====	=====	=====	=====
ASBESTOS ABT-GEN		ALL		35.200	35.700	1.5	1.5	2.0	10.63	8.570	0.000	0.450
ASBESTOS ABT-MEC		BLD		32.290	0.000	1.5	1.5	2.0	10.82	10.66	0.000	0.620
BOILERMAKER		BLD		43.020	46.890	2.0	2.0	2.0	6.720	9.890	0.000	0.350
BRICK MASON		BLD		39.030	42.930	1.5	1.5	2.0	8.800	10.67	0.000	0.740
CARPENTER		ALL		40.770	42.770	1.5	1.5	2.0	9.840	9.800	0.000	0.490
CEMENT MASON		ALL		41.550	43.550	2.0	1.5	2.0	7.900	10.81	0.000	0.150
CERAMIC TILE FNSHER		BLD		33.600	0.000	2.0	1.5	2.0	6.950	8.020	0.000	0.540
COMMUNICATION TECH	N	BLD		29.960	31.760	1.5	1.5	2.0	5.842	6.290	0.000	0.375
COMMUNICATION TECH	S	BLD		35.280	37.380	1.5	1.5	2.0	9.980	9.170	0.000	1.060
ELECTRIC PWR EQMT OP		ALL		34.240	45.510	1.5	1.5	2.0	5.000	10.62	0.000	0.260
ELECTRIC PWR GRNDMAN		ALL		26.480	45.510	1.5	1.5	2.0	5.000	8.200	0.000	0.200
ELECTRIC PWR LINEMAN		ALL		41.000	45.510	1.5	1.5	2.0	5.000	12.71	0.000	0.310
ELECTRIC PWR TRK DRV		ALL		27.420	45.510	1.5	1.5	2.0	5.000	8.500	0.000	0.210
ELECTRICIAN	N	ALL		42.920	47.210	1.5	1.5	2.0	11.16	10.87	0.000	0.540
ELECTRICIAN	S	BLD		43.560	47.920	1.5	1.5	2.0	10.02	12.20	0.000	1.310
ELEVATOR-CONSTRUCTOR		BLD		47.410	53.340	2.0	2.0	2.0	10.53	10.71	2.840	0.000
FENCE ERECTOR		ALL		43.300	45.460	2.0	2.0	2.0	8.140	17.29	0.000	0.400
GLAZIER		BLD		38.000	39.500	1.5	2.0	2.0	10.19	13.64	0.000	0.790
HT/FROST INSULATOR		BLD		43.050	45.550	1.5	1.5	2.0	10.82	11.86	0.000	0.620
IRON WORKER		ALL		43.300	45.460	2.0	2.0	2.0	8.140	17.29	0.000	0.400
LABORER		ALL		35.200	35.950	1.5	1.5	2.0	10.62	8.580	0.000	0.450
LATHER		ALL		40.770	42.770	1.5	1.5	2.0	9.840	9.800	0.000	0.490
MACHINIST		BLD		43.160	45.160	1.5	1.5	2.0	7.640	8.700	0.000	0.000
MARBLE FINISHERS		ALL		29.100	0.000	1.5	1.5	2.0	8.800	10.67	0.000	0.740
MARBLE MASON		BLD		39.030	42.930	1.5	1.5	2.0	8.800	10.67	0.000	0.740
MATERIAL TESTER I		ALL		25.200	0.000	1.5	1.5	2.0	10.62	8.580	0.000	0.450
MATERIALS TESTER II		ALL		30.200	0.000	1.5	1.5	2.0	10.62	8.580	0.000	0.450
MILLWRIGHT		ALL		40.770	42.770	1.5	1.5	2.0	9.840	9.800	0.000	0.490
OPERATING ENGINEER		BLD 1		45.100	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 2		43.800	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 3		41.250	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 4		39.500	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 5		48.850	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 6		46.100	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		BLD 7		48.100	49.100	2.0	2.0	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 1		43.300	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 2		42.750	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 3		40.700	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 4		39.300	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 5		38.100	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 6		46.300	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
OPERATING ENGINEER		HWY 7		44.300	47.300	1.5	1.5	2.0	11.70	8.050	1.900	1.150
ORNAMNTL IRON WORKER		ALL		43.300	45.460	2.0	2.0	2.0	8.140	17.29	0.000	0.400

PAINTER	ALL	40.180	42.180	1.5	1.5	1.5	8.950	8.200	0.000	1.250
PAINTER SIGNS	BLD	32.770	36.800	1.5	1.5	1.5	2.600	2.620	0.000	0.000
PILEDRIIVER	ALL	40.770	42.770	1.5	1.5	2.0	9.840	9.800	0.000	0.490
PIPEFITTER	BLD	40.250	42.250	1.5	1.5	2.0	10.15	13.49	0.000	1.360
PLASTERER	BLD	39.250	41.610	1.5	1.5	2.0	10.60	10.69	0.000	0.550
PLUMBER	BLD	40.250	42.250	1.5	1.5	2.0	10.15	13.49	0.000	1.360
ROOFER	BLD	37.650	40.650	1.5	1.5	2.0	7.750	6.570	0.000	0.430
SHEETMETAL WORKER	BLD	41.660	43.660	1.5	1.5	2.0	8.810	10.66	0.000	0.780
SIGN HANGER	BLD	26.070	27.570	1.5	1.5	2.0	3.800	3.550	0.000	0.000
SPRINKLER FITTER	BLD	49.200	51.200	1.5	1.5	2.0	8.500	8.050	0.000	0.450
STEEL ERECTOR	ALL	43.300	45.460	2.0	2.0	2.0	8.140	17.29	0.000	0.400
STONE MASON	BLD	39.030	42.930	1.5	1.5	2.0	8.800	10.67	0.000	0.740
TERRAZZO FINISHER	BLD	35.150	0.000	1.5	1.5	2.0	6.950	10.57	0.000	0.430
TERRAZZO MASON	BLD	39.010	42.010	1.5	1.5	2.0	6.950	11.91	0.000	0.510
TILE MASON	BLD	40.490	44.490	2.0	1.5	2.0	6.950	9.730	0.000	0.610
TRAFFIC SAFETY WRKR	HWY	28.250	29.850	1.5	1.5	2.0	4.896	4.175	0.000	0.000
TRUCK DRIVER	ALL 1	32.550	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 2	32.700	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 3	32.900	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TRUCK DRIVER	ALL 4	33.100	33.100	1.5	1.5	2.0	6.500	4.350	0.000	0.150
TUCKPOINTER	BLD	39.200	40.200	1.5	1.5	2.0	7.830	10.25	0.000	0.770

In all agreements or contracts for public works with the County of Kane, the individual contractors shall assume the risk of any change in the prevailing rate of wages promulgated by the Illinois Department of Labor.

PREVAILING WAGE ACT AMENDMENT:

HB-1855 (PA 095-0635) amends the Prevailing Wage Act and requires Public Works contractors, before work commences, to file with the Public Body, certification that they have a substance abuse program and provide drug testing. This Act applies to a contract to perform work on a public works project for which bids are opened on or after January 1, 2008, or if bids are not solicited for the contract to perform such work entered into on or after January 1, 2008. The provisions of this Act apply only to the extent there is no collective bargaining agreement in effect dealing with the subject matter of this Act.

SUPPLEMENTARY CONDITIONS

I. REQUIRED DOCUMENTATION

- A. AIA Document A305 – Contractors Qualification Statement.
 - B. Bid Bond as specified in the following documents.
 - C. Performance Bond (if awarded)
 - D. A list of proposed subcontractors, if any, to be used on this project.
 - E. Current rate sheet covering all applicable personnel and equipment, including material purchased and sub-contractor price mark-up.
 - F. The name of the proposed roofing system manufacturer is:
-

PART 1 - GENERAL

1.01 PROJECT OVERVIEW

- A. The Work consists of Roofing Removal and Replacement on the Administration Bldg. - Roof Area 1 (Building "A") located in St. Charles, Illinois on behalf of Kane County - Department of Transportation.

1.02 SCHEDULE OF WORK OPERATIONS

- A. Work shall commence no later than the number of Calendar days as submitted on the Bid Form, provided the Contract Agreement is executed, and the Work shall be Substantially Completed (i.e., ready for Consultant's Final Review, including sheet metal work) within the number of Calendar days as submitted on the Bid Form thereafter.
- B. The building is a fully-occupied administration office environment. The Roofing Contractor shall conduct roofing operations with the following restrictions:
1. Work hours shall be Monday through Friday between 6:00 a.m. and 6:00 p.m.
 2. Weekend work may be conducted only with prior written agreement of the Owner no later than the Wednesday preceding the proposed weekend work.
 3. The contractors work hours may not exceed a forty (40) hour work week for Owners individual site staff assigned to this project. Overtime and/or premium time will not be a consideration during this project without written agreement by the Owner. Contractor may be requested to reimburse Owner for any site personnel overtime costs attributed to exceeding this restriction.
 4. The timeframe of this Contract will not require any contractor to exceed a forty (40) hour work week for individual personnel. Overtime and/or premium time will not be a consideration during this project without prior written agreement by the Owner.

1.04 WORK BY CONTRACTOR

- A. Remove existing roof membrane, insulation, flashings, and perimeter metal down to the existing structural roof deck.
1. **Note:** Electrical conduit is present on the top side of the roof deck. The Roofing Contractor shall be responsible for any repair or replacement of these elements if damaged as the result of the work on this project.
 2. Remove one (1) existing abandoned skylight curb, as identified on the Roof Plan, including patching/re-decking of resultant openings.
 3. Owner shall be responsible for removal of existing conduit runs to exterior light packs and for removal and relocation of exterior security cameras prior to the start of roof replacement operations. Owner may re-install disconnected items on a daily basis to provide security to the property.
 4. Trash and construction-related debris shall be picked up and disposed of properly. Clean-up of the work site will be expected on a daily basis.
- B. Remove existing roof drains:
1. Contractor shall be responsible for maintaining proper drainage during removal of existing roofing, until new roof system and perimeter drainage is installed.
 2. Remove existing roof drain head(s), interior piping, insulation, and accessories associated with removed drains.
 3. Properly seal abandoned connection where demolished drainage piping connects to permanent piping in accordance with applicable Plumbing Codes.

- C. Clean the exposed deck of all debris. Repair (reinforce) or replace decking as required. Provide submission of Unit Price Work to the Owner for review and acceptance as work progresses.
1. Contractor shall be responsible to provide interior protection and clean-up under deck replacement areas.
- D. Provide new wood nailers, blocking and plywood where shown or required by the Construction Details.
- E. Miscellaneous work:
1. Relocate the existing electrical conduit from its present position on the north exhaust fan.
 - a. Disconnect electrical line through the exhaust fan curb.
 - b. Relocate the conduit penetration through the roof deck a minimum of twelve (12) inches away from the existing curb. Provide extension of the existing conduit and wiring as required.
 - c. Install a new, prefabricated pipe flashing as shown in the Construction Details.
 - d. Reconnect the electrical lines.
 2. At the existing furnace flue and intake ductwork:
 - a. Disassemble the existing flue sections and save for reuse.
 - b. Remove the existing curb and enclosure.
 - c. Install new prefabricated steel curb and reroute intake ductwork to the western side. Extend additional curb sides to split the curb into two sections.
 - d. Fabricate new square-to-round curb cover, center closure and intake ductwork in accordance with the Construction Details.
 - e. Install new J-vent extension on the intake ductwork with bird screen cover; place the vent opening to the west.
 - f. Reconnect existing flue stack sections and re-start the existing furnace and verify that they are working properly.
- F. Loose lay the rosin paper slip-sheet over the prepared roof deck. Mechanically fasten the specified base sheet to the deck; at reinforcing plates, seal perimeter to base sheet with plastic roof cement. Provide a two-ply substrate membrane in hot asphalt.
1. Terminate substrate membrane plies flat adjacent to wall/curb surfaces. Flash walls with asphalt-coated cotton fabric (mini) and hot asphalt utilizing the mop to push fabric tight into the wall/curb to roof interface. Glaze flashings upon completion.
-
- G. At the gutter edge, adhere the specified tapered insulation to the substrate membrane using hot asphalt or manufacturer's recommended adhesive to create an 8'-0" square sump area. Over the remainder of the roof area, adhere the specified base course of insulation to the substrate membrane using hot asphalt or manufacturer's recommended adhesive.
1. Adhere the specified intermediate courses of insulation to the completed base course(s) of insulation using hot asphalt or manufacturer's recommended adhesive in accordance with "Section 07220 - Roof Insulation".
- H. Adhere the specified top course of insulation to the completed base course(s) of insulation using hot asphalt or manufacturers recommended adhesive.
1. Offset joints of each insulation layer a minimum of 18-inches from the preceding layer in accordance with "Section 07220 - Roof Insulation".
- I. Install the two-ply fiberglass felt base sheet over the completed insulation system.
1. Install a fiberglass felt base flashing ply to all perimeters and projections.
 2. Place sheet metal flashings over the base sheet plies in a continuous bed of asphalt mastic and install stripping plies.
- J. After completion of roof membrane base plies, install lead flashings and strip plies at drains.

- K. After review and acceptance of the completed base plies by STRBR, install the granule-surfaced modified bitumen roof membrane over the completed base sheet plies.
 - 1. Do not apply asphalt at the selvage edge to allow for hot-air welding of all laps.
 - 2. Install the finish flashing membrane to all perimeters and projections in hot asphalt.
- L. Weld all membrane and flashing laps with a hot-air welder acceptable to STRBR and the roof system manufacturer.
- M. After review and acceptance of the completed roof membrane and flashings by STRBR, coat the completed roof system with the specified aluminum roof coating.
- N. All roof system detailing, at perimeters and projections, shall be constructed in accordance with the Construction Drawings.

1.05 DESCRIPTION OF ALLOWANCES

- A. The Contractor shall include an additional allowance in the amount of **one thousand five hundred dollars (\$1,500.00)** within the Base Bid amount.

1.06 PROJECT CLOSE-OUT SUBMITTALS AND WARRANTIES

- A. The Contractor shall, upon project completion and acceptance, submit to the Owner the following close-out documents:
 - 1. Roofing System Manufacturer's Warranty: Refer to specific requirements in the following Sections:
 - a. Section 07525 – "SBS Modified Bitumen Roofing"
 - 2. Roofing Contractor's Warranty:
 - a. Provide contractor's "Roofing Warranty" typical in form and content indicated by the Midwest Roofing Contractors Association, Inc. (MRCA) approved guarantee form number 2007B.
 - b. Shall be issued to cover a 2-year term, following completion of project, instead of 1-year as indicated on the standard form.
- B. Provide the original warranty documents for the Owner and one (1) copy for the Owner's Consultant.

PART 2 – PRODUCTS

- A. Not Used.

PART 3 – EXECUTION

- A. Not Used.

END OF SECTION 01010

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes administrative and procedural requirements for submittals required for performance of the work, including shop drawings as requested in the Contract Documents.

1.03 PRE-CONSTRUCTION SUBMISSION REQUIREMENTS

- A. The Submittals listed below shall be delivered to the Owner as soon as possible after Contract Award, but no later than ten (10) days prior to the Pre-Construction Conference, and/or a minimum of five (5) days before authorization is needed to order materials.
1. Verify that Contractor's name, address and phone number is clearly readable.
 2. Scan and transmit submittals electronically as an Adobe (*.pdf) file to the following address:
vossgary@co.kane.il.us
- B. The Contractor is responsible for verifying all existing field measurements and conditions prior to completing submittals. The Contractor's responsibility for errors and omissions is not relieved by the Owner's review or acceptance of submittals.
- C. The Contractor shall deliver the following submittals with the Materials List as the cover page:
1. Materials List: Preliminary list of major products proposed for use on the form provided, with name of manufacturer, trade name or model number of product or materials (final list may be provided at the pre-construction meeting if changing between specified products). **DO NOT** submit product samples, product data sheets, printed information, installation instructions, catalog cuts, or material color charts unless specifically requested.
 2. Roofing System Manufacturer's Certification: Provide, on the attached form, the selected manufacturer's certification of intent to warrant the specific project, acknowledging the system design, as specified, and the Contractor's standing as a licensed applicator of the specified roof system.
 3. Schedule of Values: Provide a breakdown of the Contract amount by portions of the project and non-generic roof areas (for example: mobilization, tear-off and vapor retarder, insulation and roof membrane, roof flashings, sheet metal); a breakdown of materials and labor will be considered insufficient. The Owner will utilize this schedule when approving progress payments.
 4. Color charts: Provide an original copy of the manufacturer's color samples, for selection by the Owner.
 5. MSDS Sheets: Deliver directly to the Owner at the Pre-construction Meeting, a copy of the manufacturer's printed MSDS sheets for major products proposed for use with trade name or model number of product or materials being used. **DO NOT send copies of MSDS sheets with the electronic submittal package.**
- D. The Contractor shall review and approve submittals prior to delivering them to the Owner.
- E. Clearly indicate, in the submittals, any deviations from the requirements of the Contract Documents caused by the acceptance of any substitutions, negotiations with the Owner after the Bid, etc.
- F. The Contractor shall not begin work prior to receipt of the reviewed submittals from the Owner.

G. Submittal Distribution:

1. The Owner's Consultant will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be marked to indicate the action taken: No exceptions taken or subject to noted corrections, returned for resubmittal after revision, or rejected noncompliance with contract requirements.
2. The Owner's Consultant will make distribution electronically to the Owner and to the Contractor.
3. Contractor shall be responsible for distributing additional submittals, which carry the Consultant's review stamp, as required for construction or fabrication, to the project Superintendent, Subcontractors, and material suppliers or distributors.

PART 2 – PRODUCTS

- A. Not Used.

PART 3 – EXECUTION

- A. Not Used.

END OF SECTION 01300

MATERIALS LIST AND DESCRIPTIONS

PROJECT:
 BUILDING "A"
 ROOFING REMOVAL AND REPLACEMENT PROJECT
 ADMINISTRATION BUILDING / STRBR JOB# 12023

Contractor Name: _____

Address: _____

Phone/Fax: _____

	<u>Product Name</u>	<u>Manufacturer</u>
<u>Substrate Components</u>		
Fiberglass Base Sheet	_____	_____
Base Sheet Fasteners	_____	_____
Asphalt Glass Felt (Substrate Memb.)	_____	_____
Interply Asphalt	_____	_____
<u>Insulation Components</u>		
Tapered Polyisocyanurate Insulation	_____ (denote slope and starting thickness)	_____
Polyisocyanurate Insulation	_____ (denote thicknesses)	_____
Fiberboard Insulation	_____ (denote thicknesses)	_____
Insulation Adhesive	_____	_____
Fiber Cant Strips	_____	_____
Tapered Edge Strips	_____	_____
Spray Filler Foam	_____	_____
<u>SBS Membrane Components</u>		
SBS Modified Bitumen Roof System Manufacturer	_____	_____
Asphalt Glass Felt (Base Sheet Plies)	_____	_____
Interply Asphalt	_____	_____
Mineral-Surfaced Modified Membrane	_____	_____
Aluminum Coating – 1 st Coat	_____	_____

MATERIALS LIST AND DESCRIPTIONS – Cont'd

Sheet Metal/ Miscellaneous Components

Prefinished Galvanized Steel (Color Chart Attached) _____

Tape Caulk _____

General Purpose Sealant _____

Subcontractors listing, if any, to be used on this project:

Sheet Metal Contractor _____

Painting Contractor _____

Plumbing Contractor _____

Electrical Contractor _____

Mechanical Contractor _____

END OF FORM

ROOFING SYSTEM MANUFACTURER'S CERTIFICATION

*To be completed by the Specified Roofing System Material Manufacturer
for each specified roofing system to be installed at the project.*

Owner's Name: Kane County - Department of Transportation

Project Name: Building "A" – Roofing Removal and Replacement Project
Administration Building / STRBR Job #12023

Building Address(es): 41W011 Burlington Road, St. Charles, Illinois

Material Manufacturer: _____

Installing Contractor: _____

Be advised that the technical department of the above named Material Manufacturer has examined the project drawings, specifications, and warranty requirements for the roofing work on this project as prepared by STR Building Resources LLC, bearing Project Number 12023, dated June 24, 2011, with regard to the replacement roofing system.

CERTIFICATION

We hereby certify that:

1. All materials will be furnished and delivered to this project in good merchantable quality, and will meet or exceed the specification requirements and will be applied in accordance with the manufacturer's instructions, to provide a sound weather/watertight system.
2. Upon completion of the installation, in accordance with the plans and specifications, being the recommended installation and inspection procedures, we certify that the manufacturer will issue the warranty as specified in the project manual.
3. The drawings and specifications follow the recommendations of the Material Manufacturer's manual for this type of system with:

_____ No Exception

_____ The Following Exceptions: (approval will be given upon correction of documents in accordance with these recommendations.) (Please include shop drawings if exceptions are noted.)

4. The Installing Contractor has been an approved applicator of the Manufacturer's Material specified for a minimum of six months prior to the Bid opening and has at least five successful completed projects to date.

AUTHORIZED TECHNICAL REPRESENTATIVE OF MANUFACTURER:

BY: _____
(Print or Type Name)

SIGNATURE: _____
(Manufacturer's Authorized Technical Representative's Signature)

TITLE: _____

DATE: _____

END OF FORM

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes requirements for the installation of miscellaneous carpentry as indicated on the Construction Drawings, including, but not limited to, rough carpentry in conjunction with other work, blocking, nailers, and sheathing panels.

1.02 GENERAL REQUIREMENTS

- A. Rough carpentry assembly requirements:
1. Mechanical attachment shall comply with FM wind uplift resistance:
 - a. Fasteners, and assembly to comply with latest edition of FM 1-49, minimum, rating unless otherwise specified or required.
 - b. Partial boards shall be fastened at a rate commensurate with full boards and shall have not less than two (2) fasteners per piece.

PART 2 - PRODUCTS

2.01 DIMENSIONAL LUMBER

- A. Wood blocking, two to four (2-4) inches in nominal thickness:
1. Blocking shall be Grade #2 or better, complying with lumber producer's inspection agency grading rules certified as conforming to the "National Grading Rule For Dimension Lumber", by the Board of Review of the American Lumber Standards Committee (ALSC), established under Section 10 of PS-20.
 2. Dimensional lumber shall be smooth four sides (S4S), unless otherwise shown or indicated.
 3. Dimensional lumber shall be seasoned, with nineteen percent (19%) maximum moisture content at time of dressing, complying with the dry size requirements of PS-20. Lumber shall be marked "S-Dry".
 4. Dimensional lumber shall be:
 - a. Nailers: nominal size as indicated on the Construction Drawings.
 - b. Blocking: nominal size as indicated on the Construction Drawings.
 - c. Plywood: thickness as indicated on the Construction Drawings for use as shim material beneath nailers.

2.02 PLYWOOD

- A. Minimum thickness: 1/2-inch, 4-ply.
- B. Interior grade C-D or better, with exterior glue (CDX), conforming to the rating of the American Plywood Association (APA), PS 1-83.

2.03 FASTENERS

- A. Carpentry to wood substrate:
1. #8, course galvanized, sharp point, dual torque deck screw with square drive bugle head.
 2. Length as necessary to penetrate the substrate by a minimum of 1-1/2 inches.
- B. Carpentry to wood roof decking:
1. IF1-#14 HD Steel Deck Screw with "Tuff-Tite" coating by SFS Stadler, Inc., Elyria, OH.

2. Olympic #14-10 Heavy Duty All Purpose Screw with CR-10 coating by Olympic Manufacturing Group, Inc., Agawam, MA.
 3. Roofgrip screw with Climaseal coating by ITW Buildex, Itasca, IL.
 4. Length shall be sufficient to penetrate steel deck (top flutes only) 1/2 inch.
- C. Carpentry to solid masonry substrate:
1. Tapper, 1/4-inch diameter, Phillips-head screw, by Powers Fastening, Inc., New Rochelle, NY. Length as necessary to provide a minimum of one (1) inch embedment.
 2. Tapcon 1/4-inch diameter, Phillips-head screw by ITW Buildex, Itasca, IL. Length as necessary to provide a minimum of 1-inch embedment.

PART 3 - EXECUTION

3.01 CARPENTRY INSTALLATION

- A. General requirements:
1. Do not use lumber or materials which are unsound, warped, bowed, twisted, inadequately seasoned, or too small to fabricate the work with a minimum of joints.
 2. Fit carpentry work to other work. Produce joints which are tight, true and well fastened.
 3. Set carpentry accurately to required levels and lines with members plumb and true.
 4. Attach carpentry to substrates in accordance with recognized standards.
 5. Countersink new fastener heads flush with top of wood members. Hollow out bottom of new wood members, if necessary, to fit over existing exposed bolt heads that are not countersunk.
 6. Countersink nail heads on exposed carpentry and fill holes.
 7. Select fastener size that will not penetrate members where opposite side will be exposed to view or will receive finish materials.
 8. Threaded fasteners shall be turned into place, not driven.
 9. Fasteners shall be tightened at installation and retightened as required prior to closing in or at completion of work.
- B. Examine existing nailers and blocking which conforms to the Construction Details at walls, edges, expansion joints, hatches, pipes or curbs:
1. Replace deteriorated sections with new dimensional lumber of the same size.
 2. Verify existing fastening to comply with FM 1-49 requirement and enhance to secure as required.
- C. Install new wood nailers, blocking cants, etc. to achieve thicknesses and elevations as shown or required by the Construction Details:
1. Provide blocking to achieve a minimum of eight (8) inch flashing height above finished roof surface at all walls.
 2. Provide wood curb extensions at all existing curbs, except where specifically indicated otherwise, to achieve a minimum of eight (8) inch flashing height above finished roof surface. Form corners with alternating, lapping side members.
 3. When using multiple nailer courses, weave corners and stagger end joints a minimum of three (3) feet from underlying course.
 4. Fastening:
 - a. Fasten 2x material to steel or wood deck at a maximum of sixteen (16) inches on center, staggered; fasten 1x material at a maximum of twelve (12) inches on center, staggered.
 - b. Fasten 2x material to concrete or masonry at a maximum of twenty-four (24) inches on center, staggered; fasten 1x material at a maximum of sixteen (16) inches on center, staggered.
 - c. Fasten 2x material together with 3-inch long screws at sixteen (16) inches on center, staggered.

- d. Within ten (10) feet of corners, fasten at a maximum of eight (8) inches on center, staggered.
 - e. Install addition fasteners, as required to counteract minor warpage or variances in substrate, and to hold tight and true to lines. Allowable difference between adjoining units shall be 1/8-inch.
- D. Install plywood sheathing to walls and curbs as shown on the Construction Details:
 - 1. Space panels with 1/8-inch joints at butt joints.
 - 2. Place back-splice support of lumber or sheet metal behind unsupported panel joints greater than twelve (12) inches, and at corners.
 - 3. Bevel-cut top edge at 45-degree angle, where required for smooth transition of roof flashings.
 - 4. Fastening:
 - a. Fasteners shall be placed no closer than one (1) inch from panel edges.
 - b. Fasten panels at all edges; spacing shall be no greater than twelve (12) inches on center.
 - c. Where applicable, fasten center of panels in horizontal rows on twenty-four (24) inch maximum centers. Fastener spacing shall be no greater than twelve (12) inches on center and staggered from adjacent rows or edges.

3.02 CLEANING

- A. Wood chips, shavings, sawdust, and other debris shall be swept up and removed from the work area daily prior to installation of subsequent roofing components.

END OF SECTION 06100

PART 1 - GENERAL

1.01 SUMMARY

- A. This section includes requirements for the inspection and replacement of wood plank roof decking.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

- A. Wood decking replacement planks:
1. Southern yellow pine.
 2. Commercial decking grade in accordance with SPIB grading rules.
 3. Tongue and groove.
 4. Thickness to match existing decking.
 5. Maximum moisture content:
 - a. Less than two (2) inch nominal thickness - twelve percent (12%).
 - b. Two (2) inch nominal thickness - fifteen percent (15%).
 - c. Greater than two (2) inch nominal thickness - nineteen percent (19%).
- B. Wood decking reinforcement:
1. Reinforcing plates: 20 gauge sheet steel, ASTM A526, with G90 galvanized coating.
 2. Rust-inhibitive coating:
 - a. Carbomastic #15, (by Carboline, Inc., St. Louis, MO).
 - b. Devran 224HS High Build Epoxy Coating, (by Devoe Coatings, Member of ICI Paints World Group, Louisville, KY).
 - c. Wasser MC-Aluminum, (by Wasser High-Tech Coatings, Kent, WA).
- C. Decking fasteners:
1. Wood plank decking to wood structural framing fasteners:
 - a. Common wire nails.
 - b. Length as necessary to penetrate the substrate by a minimum of 1-1/2 inches.
 - c. Nail size for slant-nailing through tongue:
 - 1) Three (3) inch nominal thickness decking - 16d
 - d. Nail size for face-nailing:
 - 1) Three (3) inch nominal thickness decking - 20d
 - e. Wood plank decking to structural steel framing:
 - 1) Self drilling sheet metal screws, cadmium plated.
 - 2) Length shall penetrate the substrate by a minimum of one (1) inch.
 - 3) 12-24 flat-head TEKS/4 by Buildex Division of ITW, Inc. Itasca, IL.
 - f. Sheet metal reinforcing plates to wood plank decking:
 - 1) #10, 300-series stainless-steel wood screw.
 - 2) Length shall embed into the wood decking a minimum of 1-1/2 inches.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Evaluate deteriorated wood plank decking:
1. Inspect decking for signs of deterioration or dry-rot.

2. Install reinforcing plates over openings, or areas of deteriorated decking, sixteen (16) inches square or less.
3. Replace deck plank sections that:
 - a. Are cut through or otherwise damaged;
 - b. Have openings larger than sixteen (16) inches square;
 - c. Have multiple openings between support members;
 - d. Are deteriorated over more than twenty-five percent (25%) of the area between support members; or
 - e. Are deflected, warped or otherwise compromised structurally.
- B. Verify, prior to start of decking removal, the existence and location of deck-supported utilities and accessories including, but not limited to: water and gas lines, fire-sprinkler systems, above and below deck conduit and tubing, and ceiling suspension systems. Coordinate any work that may affect these utilities with the Owner.

3.02 WORK SEQUENCING

- A. Demolish only as much roofing and decking as can be replaced with completed deck assembly, insulation and roofing system before the stop of work on that day.

3.03 SELECTIVE DEMOLITION

- A. Decking removal:
 1. Prior to the removal and replacement of the wood plank decking, provide a barricade under the work area, within the building, staffed with a watchman.
 2. Remove selected wood planks.

3.04 DECK REPAIR

- A. Deck reattachment:
 1. Face-nail loose ends of decking to support members with a minimum of two (2) fasteners per plank.
- B. Deck reinforcement:
 1. Install sheet metal reinforcing plates to cover openings or small areas of deterioration. Extend a minimum of three (3) inches onto adjacent, sound areas of decking.
 2. Ensure that the reinforcing plate sets flat and smooth with top of decking.
 3. Mechanically attach all edges of reinforcing plate to decking three (3) inches on center, including at all corners.
 4. Apply two (2) coats of rust-inhibitive coating to cut edges of reinforcing plate.

3.05 DECK REPLACEMENT

- A. General requirements:
 1. Do not use lumber or materials which are unsound, warped, bowed, twisted, inadequately seasoned, or too small to fabricate the work with a minimum of joints.
 2. Fit carpentry work to other work.
 3. Set carpentry accurately to required levels and lines with members plumb and true.
 4. Attach carpentry to substrates in accordance with recognized standards.
 5. Replace only complete boards or sheets in their entirety.
- B. Lay deck planks in a combination simple and two-span continuous arrangement (alternate pieces in end spans are simple spans; adjacent pieces are two-span continuous; end joints are staggered in adjacent courses and occur over supports).
- C. Install planks with tongues outward, in direction of laying.

- D. Fasten new planks to underlying structure:
 - 1. Where fastening to wood structure, slant-nail through tongue and face-nail each plank at each support (two nails per support).
 - 2. Where fastening to steel structure, face-fasten each plank at each support with two (2) screws.
- E. Install sheet metal reinforcing plate:
 - 1. If unable to properly engage tongue and groove at existing decking, butt to adjacent deck and install six (6) inch wide strip of sheet metal reinforcing plate over joint. Fasten finish strip to both sections of decking at twelve (12) inches on center.

3.06 CLEANING

- A. Wood chips, shavings, sawdust, and other debris shall be swept up and removed from the work area daily.
- B. During progress of the Work, use all means necessary to prevent spread of dirt and debris in the building interior.
- C. Clean building interior on a daily basis, and when deck replacement is completed.

END OF SECTION 06125

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes requirements for the attachment of a felt base sheet to the wood plank roof deck as a substrate for roof insulation or roofing plies.

1.02 GENERAL PROCEDURES

- A. Prevent tracking of aggregate from existing membrane into new work area where aggregate pieces can be trapped beneath the new base sheet. The Contractor shall ensure that aggregate is not carried into the new work areas on workmen's shoes or equipment wheels. Discovery of entrapped aggregate beneath the base sheet is sufficient cause for its rejection.

1.03 SEQUENCING AND SCHEDULING

- A. Preparation work shall be limited to those areas that can be properly made watertight on same day or before arrival of inclement weather.
- B. Arrange work sequence to avoid use of newly completed roofing for storage, walking surface, or equipment traffic. Move equipment and material storage areas as work progresses.
- C. Repair any and all traffic-induced damage to the base sheet before proceeding with the installation of subsequent work.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

- A. Slip sheet: rosin-sized, unsaturated building paper weighing not less than six (6) pounds per 100 square feet.
- B. Base sheet: asphalt-impregnated heavyweight fiberglass felt conforming to ASTM D4601(98), Type II.
 - 1. Glasbase Base Sheet, by CertainTeed Commercial Roofing, Valley Forge, PA.
 - 2. MB Base Sheet, by Firestone Building Products Company, Carmel, IN.
 - 3. #75 Base Sheet, by GAF Building Materials Corporation, Wayne, NJ.
 - 4. PermaPly 28, by Johns-Manville Corporation, Denver, CO.
- C. Base sheet fasteners: Galvanized, common, annular ring-shank nail with one (1) inch metal disc by:
 - 1. Independent Nail, Inc., Bridgewater, MA.
 - 2. W.H. Maze Co., Peru, IL.
 - 3. National Nail Co., Grand Rapids, MI.
 - 4. Hillwood Manufacturing Co., Cleveland, OH.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that the substrate is properly installed and free of foreign particles prior to applying the base sheet.

3.02 PREPARATION AND CONDITIONS

- A. Raise all utility feeds and equipment to allow for eight (8) inch minimum flashing height above the surface of the new roof system.
- B. Remove unused equipment, curbs and projections as directed by the Owner or the Consultant.
- C. Complete all roof deck repair and/or replacement throughout the anticipated working area each day prior to any vapor retarder application.
- D. Sweep area clean of all dirt and debris prior to application of the base sheet.

3.03 GENERAL WORKMANSHIP

- A. Install roofing plies beginning at lowest elevations of roof. All felts shall be laid in shingle fashion, placed to ensure that water will flow over or parallel to, but never against, exposed felt edges.
- B. Repair fishmouths, wrinkles, ridges and other anomalies. Slice through defects and install additional fasteners to ensure that the base sheet lays smooth over the entire area.
- C. Lap ply ends four (4) inches. Stagger ply end laps three (3) feet minimum.

3.04 BASE SHEET INSTALLATION

- A. Install the rosin paper slip sheet over the prepared deck surface; lay smoothly, without buckles or wrinkles. Install with two (2) inch laps and fasten sufficiently to keep in place until the base sheet is installed.
- B. Mechanically attach the base sheet to the roof deck:
 - 1. Starting at the lowest point of the roof deck, the base sheet shall be thirty-six (36) inches wide, laid perpendicular to the slope of the roof deck
 - 2. Install the succeeding base sheet plies parallel to the preceding ply, lapping three (3) inches over the top edge of the preceding plies.
 - 3. Fasten the base sheet to the deck on nine (9) inch centers at the side laps; in addition, fasten with two (2) staggered rows of fasteners, on eighteen (18) inch centers, down the field of the felt.
 - 4. Install additional fasteners as required to provide a smooth substrate.

3.05 ADJUSTING AND CLEANING

- A. Completed work noted as deficient shall be repaired prior to proceeding with installation of subsequent work.
- B. Immediately upon job completion, clean the base sheet of all debris.

END OF SECTION 07185

**SECTION 07195
SUBSTRATE MEMBRANE**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes requirements for the installation of a two-ply bituminous membrane in the roof assembly to facilitate tear-off and keep the building watertight until the finish roof system can be installed.

1.02 GENERAL PROCEDURES

- A. The Contractor shall be responsible for protection of roof drains from entry of debris, bitumen, etc., and for ensuring that the drainage system remains free-flowing throughout the course of the Work.
- B. Broom membrane plies into place. Failure to broom plies during installation will be viewed as a violation of the specifications.
- C. All plies are to be hand-mopped unless "mini-mopper" hot-dispensers are used. The use of a felt layer to string felts and dispense asphalt materials at the same time is unacceptable and will be viewed as a violation of these specifications.
- D. Prevent tracking of aggregate from existing membrane into new work area where aggregate pieces can be trapped within the substrate membrane. The Contractor shall ensure that aggregate is not carried into the new work areas on workmen's shoes or equipment wheels. Discovery of entrapped aggregate within new membrane plies is sufficient cause for its rejection.

1.03 SEQUENCING AND SCHEDULING

- A. Preparation work shall be limited to those areas that can be covered with membrane plies on same day or before arrival of inclement weather. Phasing of membrane plies will not be acceptable.
- B. Arrange work sequence to avoid use of newly completed substrate membrane for storage, walking surface, or equipment traffic. Move equipment and material storage areas as work progresses.
- C. Allow no foot or equipment traffic over membrane until bitumen has cooled below its softening point.
- D. Repair any and all traffic-induced damage to the membrane the same day as the damage occurs.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

- A. Interply adhesive: Type III Steep asphalt conforming to ASTM D312(84).
- B. Ply sheets: ASTM D2178, Type IV, asphalt-impregnated fiberglass felt:
 - 1. Flintglas Ply Sheet, by CertainTeed Commercial Roofing, Valley Forge, PA.
 - 2. Firestone Type IV, by Firestone Building Products Company, Carmel, IN.
 - 3. GAFGLAS Ply 4, by GAF Building Materials Corporation, Wayne, NJ.
 - 4. GlasPly 4, by Johns-Manville Corporation, Denver, CO.

- C. Miscellaneous mastics and accessories:
 - 1. Asbestos-free asphalt mastic: conforming to ASTM D4586, Type I.
 - 2. Reinforcing mesh: asphalt-coated woven glass fabric conforming to ASTM D1668(86), Type I & II.
 - 3. Asphalt primer: conforming to ASTM D41(85).

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that:
 - 1. Deck or substrate boards are properly installed and free of foreign particles prior to applying the substrate membrane.
 - 2. Curbs, pipe projections, sleeves, ducts, vents, nailers, and blocking as secure and acceptable for the proper installation of the substrate membrane.

3.02 PREPARATION AND CONDITIONS

- A. Raise all utility feeds and equipment to allow for eight (8) inch minimum flashing height above the surface of the finish roof system.
- B. Remove unused equipment, curbs and projections as directed by the Owner or the Consultant.
- C. Complete all roof deck repair and/or replacement throughout the anticipated working area each day prior to any roofing application.
- D. Complete all required carpentry work throughout the anticipated working area, each day, prior to any membrane application.
- E. At wall bases, expansion joints and penetrations, seal all holes, openings, cracks, and joints with mastic (and suitable joint backer, if necessary) to prevent bituminous material from penetrating into the building.
- F. Install substrate board, if required, in accordance with *Section 07220 – "Roof Insulation"*.
- G. Sweep area clean of all dirt and debris prior to application of the substrate membrane.
- H. If applying directly to a concrete roof deck, prime the surface with a uniform and continuous coating of asphalt primer at the rate of 150 square feet per gallon.

3.03 GENERAL WORKMANSHIP

- A. Install membrane plies perpendicular to the slope of the roof, beginning at the lowest elevation of the roof. All felts shall be laid in shingle fashion, placed to ensure that water will flow over or parallel to, but never against, exposed felt edges.
- B. Install membrane plies in a uniform and continuous mopping of hot asphalt at the rate of 30 pounds per 100 square feet. Ply shall never touch ply, even at roof edges, laps, tapered edge strips or cants.
- C. Repair fishmouths, blisters, wrinkles, voids, ridges and other anomalies. Cut out defects and install a two-ply patch in hot asphalt over the affected area.
- D. Lap ply ends four (4) inches. Stagger ply end laps three (3) feet minimum.

- E. Remove temporary tie-ins and water cut-off materials before proceeding with contiguous work. Overlap previous day's work by twelve (12) inches, minimum.

3.04 SUBSTRATE MEMBRANE INSTALLATION

- A. Starting at the lowest point of the roof deck, the first ply of fiberglass felt shall be eighteen (18) inches wide, laid perpendicular to the slope of the roof deck.
- B. Starting at the lowest point of the roof deck, the second ply of fiberglass felt shall be thirty-six (36) inches wide, laid perpendicular to the slope of the roof deck and parallel to the preceding ply.
- C. Continue placing additional full-width (36") plies eighteen (18) inches from, and parallel to, the low edge of the preceding ply until the edge of the roof area is reached.
- D. Finish the substrate membrane at the opposite edge of the roof area; the last ply of fiberglass felt shall be eighteen (18) inches wide, laid parallel to the preceding ply of the roof area to complete the two-ply application.
- E. Trim substrate membrane plies on the deck surface flush with the vertical substrate at wall and projection bases.
- F. Apply 90-degree perimeter tie-in with application of asphalt and cotton fabric to finish seal at wall and projection bases. Apply a uniform and continuous glaze coat of hot asphalt at the rate of 20 pounds per 100 square feet.
- G. Fit plies up to roof drain piping and tape with three-course application of asphalt mastic and reinforcing mesh to finish seal.
- H. Over the completed substrate membrane, at the end of each work day, apply a uniform and continuous squeegee glaze coat of hot asphalt at the rate of 20 pounds per 100 square feet. Failure to squeegee glaze coat exposed felts will be viewed as a violation of the specifications.
- I. Seal all projections with a three-course application of mastic and reinforcing mesh.
- J. At end of each working day, place water stops along edges, at substrate level, to prevent water entry into the newly-completed substrate membrane.

3.05 ADJUSTING AND CLEANING

- A. Completed work noted as deficient shall be repaired prior to proceeding with subsequent roofing installation.
- B. Immediately upon job completion, clean the substrate membrane of all debris.

END OF SECTION 07195

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes requirements for the installation of rigid board roof insulation as a substrate for the new roofing system.

1.02 REFERENCES

- A. Codes and Standards:
1. FM Global (FM) – Roof Assembly Classifications.
 2. Underwriter's Laboratories (UL) – Fire Hazard Classifications.

1.03 GENERAL REQUIREMENTS

- A. Insulation assembly requirements:
1. UL-Class A and FM-Class 1 fire rating.
- B. Insulation size and configuration:
1. Shall be no larger than forty-eight (48) inches, square, when being adhered in mopping of hot asphalt, without prior Written Consent from the Consultant.
 2. Cut boards to be incorporated into the Work shall be no smaller than eighteen (18) inches in either dimension.
 - a. Partial boards shall be fastened at a rate commensurate with full boards and shall have not less than two (2) fasteners per piece.
 3. Tapered polyisocyanurate insulation shall be supplied with factory-mitered valley and/or hip boards.
- C. Hot asphalt dispensers, if used, must be a minimum of forty-eight (48) inches wide. Use of smaller equipment is unacceptable and will be viewed as a violation of the specifications.

1.04 SEQUENCING AND SCHEDULING

- A. Preparation work shall be limited to those areas that can be covered with all layers of insulation and the roof membrane on the same day or before arrival of inclement weather. Phasing of insulation assembly layers will not be acceptable.
- B. Arrange work sequence to avoid use of newly installed roofing for storage, walking surface, or equipment traffic. Move equipment and material storage areas as work progresses.

PART 2 - PRODUCTS

2.01 INSULATION MATERIALS

- A. Tapered polyisocyanurate:
1. Polyisocyanurate insulation board conforming to ASTM C1289(01), Type II, Class 1, Grade 1, manufactured to provide slope-to-drain.
 2. Acceptable Manufacturers:
 - a. Atlas Energy Products, Atlanta, GA.
 - b. Firestone Building Products Company, Carmel, IN.
 - c. GAF Corporation, Wayne, NJ.
 - d. Hunter Panels, LLC, Portland, ME.

- e. Johns Manville Corporation, Denver, CO.
- 3. Tapered insulation at gutter edge:
 - a. Starting thickness: 1.5 inches.
 - b. Rate(s) of taper: 1/4 inch per lineal foot.
- 4. Tapered insulation at remainder of roof area:
 - a. Starting thickness: 2.5 inches.
 - b. Rate(s) of taper: 1/8 inch per lineal foot.
- 5. Tapered crickets behind projections.
 - a. Factory pre-mitered valley insulation boards.
 - b. Starting thickness: 1/2 inch.
 - c. Rate of taper: Double the rate of the field insulation course or the structural roof deck slope.
 - d. Edge strip: 0 to 1/2 inch in six inch width (install along toe).
- B. Fiberboard:
 - 1. High-density wood fiber insulation board conforming to ASTM C208(82).
 - 2. Acceptable Manufacturers:
 - a. Blue Ridge Fiberboard, Inc., a subsidiary of WR Meadows Corp., Hampshire, IL.
 - 1) Structodeck fiber board, coated six sides.
 - b. Other preapproved Manufacturers of equal or same quality and density.
 - 3. Thickness: 1/2 inch.

2.02 ADHESIVE MATERIALS

- A. Insulation adhered to substrate and/or base course(s) of insulation: Type IV Special Steep asphalt, conforming to ASTM D312(84).

2.03 MISCELLANEOUS PRODUCTS

- A. Tapered edge strips: high-density wood fiberboard, thickness and width as specified in the Construction Details, conforming to ASTM C208(82).
- B. Fiber cant strips: high-density wood fiberboard, width as specified in the Construction Details, conforming to ASTM C208(82).
- C. Spray Filler Foam:
 - 1. Roof-Pak by Dow Chemical Company, Marietta, GA.
 - 2. 3# Spray Foam Insulation Kit, by ERSystems, Loretto MN, (800) 403-7747.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that:
 - 1. Substrate is dry and free of foreign particles prior to applying the roof insulation.
 - 2. Substrate is undamaged, properly installed and sloped, and acceptable to receive the insulation.
 - 3. Curbs, pipe projections, sleeves, ducts, vents, nailers, and blocking as secure and acceptable prior to the installation of the roof insulation.

3.02 PREPARATION AND CONDITIONS

- A. Verify that all utility feeds and equipment will allow for eight (8) inch minimum flashing height above the surface of the new roof system.
- B. Sweep area clean of all dirt and debris prior to application of roof insulation.

- C. At wall bases, expansion joints and penetrations, seal all holes, openings, cracks, and joints to prevent bituminous material from penetrating into the building.

3.03 INSTALLATION PROCEDURES

- A. Install insulation boards in booked fashion (4 corners touching), or in accordance with the approved shop drawings (tapered insulation system):
1. Begin base application with full boards; install subsequent insulation layers trimmed in a manner that board joints offset twenty-four (24) inches from underlying board joints creating a leading stepped edge.
 - a. Where boards are cut around projections a minimum of eighteen (18) inches is acceptable provided the pattern is resumed after incorporating the projection.
 2. **Example:**
 - a. Base 48" by 96" boards would be overlaid with a trimmed 24" by 24" board at the starting corner and a 24" by 48" board placed along the starting edge to produce a twenty-four (24) inch wide stepped leading edge on two sides.
 - b. Additional trimmed 24" by 48" boards are then placed along the adjacent edge to continue the offset in two directions.
 - c. Remaining boards are placed full size in the field.
- B. Install insulation boards firmly butted to each other and to adjacent materials:
1. Gaps in excess of 1/4 inch will not be acceptable. At gaps larger than 1/4 inch either:
 - a. Cut back and fill with insulation material no smaller than eighteen (18) inches in either dimension.
 - b. Apply spray filler foam materials within gaps to provide a solid transition between boards.
 2. Do not jam or deform boards.
 3. Variations in elevation in excess of 1/8 inch between boards will not be acceptable.
- C. Tapered crickets at projections:
1. Over the completed base course of insulation, prior to installation of the top course of insulation or the roof system, install factory pre-cut (mitered) valley boards to create crickets on the upslope side of all curved penetrations greater than twelve (12) inches in width.
 2. Start cricket valley line twelve (12) inches out from side of curb to avoid roof flashings.
 3. Install a six (6) inch wide, 0"-1/2" thickness, tapered fiberboard edge strip along the edge of the saddle to provide a smooth transition for the top course of insulation.
- D. Install insulation boards with the longest dimension perpendicular to the long dimension of the wood plank deck.

3.04 INSULATION ATTACHMENT

- A. Insulation adhered to substrate or base course(s) of insulation in hot asphalt:
1. Adhere the insulation boards to the prepared substrate or installed base course(s) of insulation, in a solid mopping of hot asphalt, at the rate of 30 lbs. per 100 square feet.
 2. Set all boards into position while asphalt is still hot.
 3. Filler pieces shall be cut to fit prior to adhering; remove cut pieces and embed in a solid mopping of hot asphalt.
 4. Walk all insulation boards into place until the asphalt cools to ensure complete adhesion to the substrate.

END OF SECTION 07220

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section includes acceptable manufacturers, materials and requirements for the installation of a granule-surfaced SBS modified bitumen roof membrane.

1.02 REFERENCES

- A. Codes and Standards:
 - 1. FM Global (FM) – Roof Assembly Classifications.
 - 2. Underwriter's Laboratories (UL) – Fire Hazard Classification.

1.03 GENERAL REQUIREMENTS

- A. Finished roof system assembly must comply with UL-Class A fire rating.
- B. The Contractor shall be responsible for protection of roof drains from entry of debris, bitumen, etc., and for ensuring that the drainage system remains free-flowing throughout the course of the Work.
- C. Broom base sheet plies into place. Failure to broom plies during installation will be viewed as a violation of the specifications.
- D. All plies are to be hand-mopped unless "mini-mopper" hot-dispensers are used. The use of a felt layer to string felts and dispense asphalt materials at the same time is unacceptable and will be viewed as a violation of these specifications.
- E. Prevent tracking of aggregate from existing membrane into new work area where aggregate pieces can be trapped within the new roof membrane. The Contractor shall ensure that aggregate is not carried into the new work areas on workmen's shoes or equipment wheels. Discovery of entrapped aggregate within the roof membrane plies is sufficient cause for its rejection.

1.04 SEQUENCING AND SCHEDULING

- A. Preparation work shall be limited to those areas that can be covered with base sheet plies on same day or before arrival of inclement weather. Phasing of base sheet plies will not be acceptable.
- B. Arrange work sequence to avoid use of newly completed roofing for storage, walking surface, or equipment traffic. Move equipment and material storage areas as work progresses.
- C. Allow no foot or equipment traffic over membrane until bitumen has cooled below its softening point.
- D. Repair any and all traffic-induced damage to the roof membrane the same day as the damage occurs.

1.05 SPECIFIED PRODUCT WARRANTY

- A. At the completion of the project, submit a written warranty signed and issued by the manufacturer of the roofing system agreeing to repair or replace defective materials or workmanship as necessary to eliminate leaks during the following period beginning at the date of final completion.
1. Warranty period: Minimum 10-year labor and materials
 - a. BiTec System: Limited "Insured" Roofing Warranty.
 - b. Firestone System: Firestone Red Shield Limited Warranty.
 - c. GAF System: System Pledge Guarantee.
 - d. Johns-Manville System: Gold Shield Roofing Systems Guarantee. (Membrane and Materials)
- B. Refer to *Section 1700 - "Contract Close-out"* for closeout submittal requirements.

PART 2 - PRODUCTS

2.01 ACCEPTABLE PRODUCTS

- A. Base sheet interply/flashing adhesive: Type IV Special Steep asphalt conforming to ASTM D312(84).
- B. Base sheet: two (2) plies of asphalt-impregnated fiberglass felt conforming to ASTM D2178, Type VI.
1. Beta VI Ply Sheet, by BiTec Bitumen Technology, Morrilton, AK.
 2. Firestone Type VI, by Firestone Building Products Company, Carmel, IN.
 3. Flex Ply 6, by GAF Building Materials Corporation, Wayne, NJ.
 4. GlasPly Premier, by Johns-Manville Corporation, Denver, CO.
- C. Base flashing: one (1) ply of asphalt-impregnated fiberglass felt conforming to ASTM D2178, Type IV.
1. Beta IV Ply Sheet, by BiTec Bitumen Technology, Morrilton, AK.
 2. Firestone Type IV, by Firestone Building Products Company, Carmel, IN.
 3. GAFGLAS Ply 4, by GAF Building Materials Corporation, Wayne, NJ.
 4. GlasPly 4, by Johns-Manville Corporation, Denver, CO.
- D. Finish membrane and flashing: 4mm, 250 gram/m² polyester-reinforced, granule-surfaced SBS modified bitumen sheet. **Color shall be Black.**
1. SPM-4H-250, by BiTec Bitumen Technology, Morrilton, AK.
 2. SBS Premium, by Firestone Building Products Company, Carmel, IN.
 3. Ruberoid Mop Plus, by GAF Building Materials Corporation, Wayne, NJ.
 4. DynaLastic 250, by Johns-Manville Corporation, Denver, CO.
- E. Low area repair material:
1. Two-part, urethane-based, elastomeric interply adhesive for use with cold applied modified bitumen membranes:
 - a. Seam-free Liquid Membrane, by Johns-Manville Corporation, Denver, CO.
 - b. Approved equal.
 2. Roofing granules: 3M #11 Grade, ceramically-colored minerals, by 3M, Specified Construction Products Department, St. Paul, MN.
- F. Roof system surfacing:
1. Non-asbestos, rubberized asphalt aluminum roof coating:
 - a. HE869 Elastomeric Roof Coating, by Henry Company, El Segundo, CA.
 - b. #298 Alumin-R, by Karnak Midwest, Broadview, IL.
 - c. #637 Elastomeric Roof Coating, by RM Lucas Corporation, Chicago, IL.

- G. Miscellaneous mastics, sealants and accessories:
1. Neoprene Cement:
 - a. Ace Hardware BlackJack #1010 Super Flash-Neoprene Cement, by Gardner-Gibson, Tampa, FL.
 - b. APOC #501 Super-Flash Neoprene Thermoplastic Sealant, by Gardner Asphalt Corporation, Tampa, FL.
 - c. 229 AR Elastomeric, by Karnak Midwest, Broadview, IL.
 - d. Lucas #100 Neoprene Roof Cement, by RM Lucas Corporation, Chicago, IL.
 2. Asbestos-free asphalt mastic conforming to ASTM D4586, Type I.
 3. Elastomeric mastic: Neoprene or SBS rubber modified, caulking grade asphalt mastic conforming to ASTM D4586, Type I and ASTM D3409.
 4. Reinforcing mesh: asphalt-coated woven glass fabric conforming to ASTM D1668(86), Type I & II.
 5. Asphalt primer conforming to ASTM D41(85).

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that:
1. Substrate is properly installed and free of foreign particles prior to installing the modified bitumen roof system.
 2. Conditions are satisfactory for proper installation of the Work. Do not begin work until all unsatisfactory conditions have been corrected.
 3. Work of other trades penetrating the roof deck or requiring men and equipment to traverse roof deck has been completed prior to installing the modified bitumen roof system.
 4. Curbs, pipe projections, sleeves, ducts, vents, nailers, and blocking as secure and acceptable for the proper installation of the modified bitumen roof system.

3.02 PREPARATION AND CONDITIONS

- A. Raise all utility feeds and equipment to allow for eight (8) inch minimum flashing height above the surface of the new roof system.
- B. Remove unused equipment, curbs and projections as directed by the Owner or the Consultant.
- C. Complete all roof deck repair and/or replacement throughout the anticipated working area each day prior to any roofing application.
- D. Complete all required carpentry work throughout the anticipated working area, each day, prior to any roof membrane application.
- E. At wall bases, expansion joints and penetrations, seal all holes, openings, cracks, and joints with mastic (and suitable joint backer, if necessary) to prevent bituminous material from penetrating into the building.
- F. Install insulation, if required, in accordance with *Section 07220 - "Roof Insulation"*.
- G. Sweep area clean of all dirt and debris prior to application of the modified bitumen roof membrane.

3.03 GENERAL WORKMANSHIP

- A. Install base sheet plies and finish membrane perpendicular to the slope of the roof, beginning at the lowest elevation of the roof. All felts shall be laid in shingle fashion, placed to ensure that water will flow over or parallel to, but never against, exposed felt edges.

- B. Prior to installation, completely unroll the modified bitumen cap sheet and turn granule-side down. After allowing the sheet to "relax" for a minimum of thirty (30) minutes, turn the sheet granule-side up, re-roll and proceed with installation.
- C. Install plies in a uniform and continuous mopping of hot asphalt at the rate of 30 pounds per 100 square feet. Ply shall never touch ply, even at roof edges, laps, tapered edge strips or cants.
- D. Repair fishmouths, blisters, wrinkles, voids, ridges and other anomalies. Cut out defects and install a patch over the affected area:
 - 1. On base sheet plies, install a two-ply patch in hot asphalt.
 - 2. On finish membrane, install a six (6) inch square, minimum, patch by hot-air welding.
- E. Lap base sheet ply ends four (4) inches. Lap finish membrane three (3) inches on sides and four (4) inches on ends. Stagger ply end laps three (3) feet minimum.
- F. Base sheet plies or membrane and flashings shall be installed and sealed in a watertight manner on the same day of installation or before the arrival of inclement weather.
- G. At the end of each work day, removal areas shall be sealed with water stops along edges to prevent water entry into the newly completed roof system. Glaze coat installed base sheet plies at drains or valleys.
- H. Remove temporary tie-ins and water cut-off materials before proceeding with contiguous work. Overlap previous day's work by twelve (12) inches, minimum.

3.04 MODIFIED BITUMEN ROOF INSTALLATION

- A. Base sheet installation:
 - 1. The first ply of fiberglass felt shall be eighteen (18) inches wide and set in hot asphalt.
 - 2. The second ply of fiberglass felt shall be thirty-six (36) inches wide, set in hot asphalt and parallel to the preceding ply.
 - 3. Continue placing additional full-width (36") plies in hot asphalt, eighteen (18) inches from, and parallel to, the low edge of the preceding ply until the edge of the roof area is reached.
 - 4. At the roof edge, install a half-width ply so that two plies of felt cover the substrate at all locations.
- B. Install the base flashing ply:
 - 1. Apply a uniform coating of hot asphalt to the flashing substrate.
 - 2. Immediately, while the asphalt is hot, firmly embed the fiberglass felt.
 - 3. Glove felt into place to eliminate all voids, wrinkles, and fishmouths.
 - 4. Extend felt from the flashing termination point to a minimum of six (6) inches, from the base of the cant, onto the roof surface.
 - 5. Install the fiberglass felt base flashing ply to all perimeters and projections in hot asphalt.
- C. Install integral sheet metal flashing components and stripping in accordance with the Construction Details:
 - 1. All sheet metal surfaces shall be smooth, dry and free of debris and obstructions.
 - 2. Prior to installing sheet metal flashings:
 - a. Prime top and bottom of sheet metal surfaces to be striped into the membrane system with asphalt primer. Apply primer at the rate of 1/2-gallon per 100 square feet; adjust depending upon material porosity.
 - b. Allow asphalt primer to dry to the touch before proceeding with installation of membrane-stripping plies.
 - 3. Install the sheet metal flashing:
 - a. Apply a uniform bed of asphalt mastic to the membrane substrate.
 - b. Firmly embed the sheet metal into the asphalt mastic.

- c. Install membrane-stripping plies from the flashing termination point to a minimum of six (6) inches onto the roof surface.
- D. Low area remediation as directed by the Consultant, prior to cap sheet application:
 - 1. Provide submission of Unit Price Work of this Article to the Owner for review and acceptance.
 - a. Application of one 5-gallon bucket of Liquid Adhesive and the necessary granules shall be considered one "Unit"
 - 2. Water test areas to determine low areas.
 - 3. Outline the perimeter of the ponded water with permanent marking paint to demarcate the area. Sweep area to remove water if necessary and dry surfaces.
 - a. Review length of perimeter demarcation and depth measurement with Consultant prior to application of low area fill materials.
 - 4. Install two-part urethane-based modified bitumen adhesive slurry:
 - a. Mechanically mix adhesive with low-speed drill and paddle in accordance with the manufacturer's recommendations.
 - b. Add two (2) pounds of roofing granules to four (4) gallons of adhesive to make a slurry mixture; add additional granules to "firm" the slurry as required.
 - c. Apply adhesive slurry and allow to self-level within the low area.
 - d. Screed if necessary and trowel to provide a smooth, uniform and even surface.
 - 5. Allow adhesive slurry to cure a minimum of 24-hours before application of membrane cap sheet.
- E. After review and approval of the base sheet installation by the Consultant, adhere the modified bitumen membrane in a solid mopping of hot asphalt, applying asphalt a maximum of eight (8) feet ahead of the roll being embedded.
 - 1. Take care to avoid contaminating the selvedge of the field sheets with asphalt so that the laps can be hot-air welded properly.
 - 2. Apply top pressure to ensure that the installed cap sheet lays flat and is completely adhered in the mopping asphalt, without voids or ridges. Apply sufficient pressure along lap to ensure that asphalt mopping is continuous up to, but not over, selvedge of underlying sheet.
 - 3. Do not apply excess pressure that could displace mopping asphalt and create voids under sheet.
 - 4. Failure by the Contractor to acquire review and approval by the Consultant of the completed roof membrane surface prior to cap sheet application operations, Contractor shall then provide an upgraded 20-year No Dollar Limit Roof System Warranty from the Roof System Manufacturer at no cost to the Owner.
- F. Hot-air weld all membrane laps:
 - 1. Use a hot air welder specifically designed for use with modified bitumen membranes (Leister Variant or previously-approved equal).
 - 2. After adhesion, allow the sheet to "relax" for a minimum of twenty-four (24) hours prior to welding of laps.
 - 3. Apply uniform and continuous pressure to selvedge and end laps during hot-air welding to ensure complete adhesion.
 - 4. Probe finish membrane laps after completion.
 - 5. Re-heat and re-seal fishmouths or laps which are not fully and continuously bonded.
- G. Extend finish membrane two (2) inches beyond the top edges of cants at wall and projection bases.
- H. Fit finish membrane into roof drain rims, secure clamping rings and install strainer domes.

3.05 FLASHING INSTALLATION

- A. All flashing surfaces shall be smooth, dry and free of debris and obstructions.

- B. Prior to installing flashings:
 - 1. Fasten finish membrane to underlying wood cant strips at all perimeters and projections at eight (8) inches on center using ring-shanked nails placed through one (1) inch metal discs.
- C. Install the modified bitumen flashing membrane:
 - 1. Over the installed base flashing ply, apply a uniform coating of hot asphalt. Hold back mopping asphalt from edges to allow for hot-air welding of all laps.
 - 2. Glove into place to eliminate all voids, wrinkles and fishmouths.
 - 3. Extend membrane from the flashing termination point to a minimum of twelve (12) inches, from the base of the cant, onto the roof surface.
- D. Hot-air weld all vertical seams on the modified bitumen flashing membrane. Hot-air weld the bottom edge of modified bitumen flashing membrane onto the finish roof membrane.
- E. Seal the exposed leading edge of the modified bitumen flashing membrane at all metal flanges with a 3/8-inch bead of neoprene cement.
- F. Fasten the completed roof flashings, approximately 1/2-inch from the top:
 - 1. To concrete or masonry substrate:
 - a. Fasten with the specified inverted termination bar (caulk cup down and inwards) to the substrate at twelve (12) inches on center.
 - 2. To wood substrate:
 - a. Fasten to the substrate at eight (8) inches on center, using ring-shanked nails placed through one (1) inch metal discs.
 - 3. Seal the top edge of the flashings with a three (3) course application of asphalt mastic and fiberglass reinforcing membrane.

3.06 FINISH COATING APPLICATION

- A. Upon review and approval by the Consultant, and prior to the installation of the finish metal flashing components, apply one (1) coat of the specified coating to the entire roof membrane and flashing surfaces at the rate of two and one-half (2.5) gallons per 100 square feet.
- B. Install all sheet metal flashings in accordance with the Construction Details.

3.08 ADJUSTING & CLEANING

- A. Repair of deficiencies:
 - 1. Installation or details noted as deficient during Final Review must be repaired and corrected by Contractor, and made ready for review again, within five (5) working days.
- B. Clean-up:
 - 1. Immediately upon job completion, roof membrane and flashing surfaces shall be cleaned of all debris.
 - 2. Clean roof drains or gutters/downspouts of all debris.

END OF SECTION 07525

**SECTION 07600
SHEET METAL FLASHING AND TRIM**

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section provides requirements for materials and fabrication of sheet metal flashings and trim to be installed in conjunction with the roofing system.
- B. **Samples:** provide field-installed samples, as described below, for review prior to fabrication and installation of sheet metal flashings.

1.02 REFERENCES

- A. Perform fabrication and installation in accordance with the Sheet Metal and Air-Conditioning Contractor's National Association (SMACNA) manual, Latest Edition.

1.03 SEQUENCING AND SCHEDULING

- A. Where sheet metal flashings are incorporated into the roof system flashings, installation shall commence concurrently with roofing operations to prevent delays.
- B. Where sheet metal flashings are designed to provide counterflashing, installation shall commence as soon as possible after roof flashing work has been completed to minimize the exposure of the flashing edge.
- C. In all other locations, where sheet metal flashings are designed to provide finish architectural flashing, concealed flashing shall be installed as temporary protection during construction and as a permanent, secondary moisture barrier under sheet metal flashings.

PART 2 – PRODUCTS

2.01 SHEET METAL MATERIALS

- A. Prefinished galvanized steel:
 - 1. Base sheet shall be 24 gauge, minimum, AISA-G90 Extra Smooth, minimum spangle, tension leveled, hot-dipped galvanized steel conforming to ASTM A525(86).
 - 2. Finish shall consist of primer on both sides, minimum 0.25-mil thickness, followed by a 70% Kynar 500® resin premium fluoropolymer (PVDF) coating on one side to achieve a 1.0 mil (+/- 0.1-mil) dry-film thickness.
 - 3. Manufacturer's standard color which will be selected by the Owner.
- B. Galvanized steel: Galvanized steel sheet, gauge as specified, AISA-G90 Extra Smooth, minimum spangle, tension leveled, hot-dipped galvanized conforming to ASTM A525(86).
- C. Lead flashings:
 - 1. Soil stack flashings: 4-pound sheet lead (.0625 inch minimum) base and vertical stack conforming to ASTM B29(84), minimum square base flange as necessary to extend 4-inches out from stack on all sides.
 - a. 4# - 12x12x12 Stack Flashing by Mayco Industries, Inc., Birmingham, AL.
 - b. Or preapproved equal.
- D. Extruded aluminum termination bar with top caulking cup and bottom bulb for use as flashing termination:
 - 1. TCB-75, 3/32 x 1-inch, by Metal Era, Inc., Waukesha, WI.

2. Lip Bar, 0.090 x 3/4-inch by Olympic Manufacturing Group, Agawam, MA.
3. Approved equal.

2.02 JOINTING MATERIALS

- A. Solder conforming to ASTM B32(82), Alloy Grade 50A.
 1. Composition: 50% block tin and 50% pig lead.
 2. Surface cleaner/flux: Raw muriatic acid.
- B. Rivets:
 1. 1/8-inch diameter, minimum. Length as required to properly engage sheet metal.
 2. Galvanized steel, aluminum or copper: pop rivets to match the sheet metal being joined.
 3. Stainless steel: stainless steel with stainless mandrels.
 4. Prefinished metal: color of rivets to match the sheet metal being joined.
 5. Seal heads of exposed rivet heads with solder or sealant.
- C. Sheet metal stitch screws:
 1. Self-drilling sheet metal screws, 10-16 x 3/4 inch Hex Washer Head, TEKS/1 with pilot point (use EPDM or neoprene sealing washers with exposed fasteners).
 2. Cadmium plated where unexposed or color to match the sheet metal being joined..
- D. Tape caulk:
 1. For use in "loose-locked" joints, described below, 1/8-inch by 1-1/2 inch, minimum, butyl tape sealant:
 - a. EZ Trim Sealant Tape (#226597), by GSSI Sealants, Houston TX.
 - b. SikaLastomer 95 (953D), by Sika Corporation, Kansas City, MO.
 2. For use in "solid" joints, described below, 3/32-inch by 1-1/2 inch, butyl tape sealant:
 - a. MB-10A Sealant Tape (#11597), by GSSI Sealants, Houston TX.
 - b. SikaLastomer 95 (951Y), by Sika Corporation, Kansas City, MO.

2.03 CONCEALED FLASHING

- A. Polyvinyl-chloride sheet material, 20-mil thickness, conforming to ASTM D822 – 400 hour exposure.
 1. Moistseal, by Advanced Building Products, Inc., Springvale, ME.
 2. Vi-Seal, by AFCO Products, Inc., Somerville, MA.
 3. Nuflex, by Sandell Manufacturing Company, Inc., Amsterdam, NY.
 4. Wascoseal, by York Manufacturing, Inc., Sanford, ME.
- B. 45-mil EPDM non-reinforced single-ply membrane and 3-inch wide butyl-rubber seam tape.
- C. Self-adhering membrane of butyl-rubber modified asphalt, conforming to ASTM D1970 and designed to withstand high in-service temperatures for an extended period of time.
 1. Grace Ultra, by Grace Construction Products, W.R. Grace & Co.-Conn., Cambridge, MA.
 2. Approved equal.

2.03 ACCEPTABLE FASTENERS

- A. Sheet metal to wood nailers, concealed fasteners to be covered with roofing plies:
 1. Galvanized steel sheet metal: 11 gauge, 1-1/2 inch length, annular ring-shanked roofing nails with hot-dipped galvanized coating and 3/8-inch, minimum, head.
 - a. Stormguard R-103-A, by W.H. Maze Company, Peru, IL.
 - b. Stronghold R103-A, by Independent Nail, Taunton, MA.
- B. Sheet metal to wood blocking:
 1. Concealed fasteners: #12 minimum pan-head stainless steel wood screw, 1-1/4 inch minimum length.

2. Exposed fasteners: #12 minimum hex-head stainless steel wood screw, 1-1/4 inch minimum length, with neoprene washer.
- C. Sheet metal to sheet metal curb:
1. Fab-Lok 8-10 stainless steel screw with aluminum sleeve, by Fabco Fastening Systems, West Newton, PA.
 2. Polly anchor, 3/16-inch diameter and length as necessary for proper engagement on interior of curb, by Powers Fastening, Inc., New Rochelle, NY.
- D. Sheet metal gutter accessories:
1. Steel gutter hangers to wood nailers: 1/4-inch minimum diameter steel lag bolt with cadmium coating, three (3) inch minimum length.
 2. Gutter straps to front hem of gutter: 1/4-inch diameter steel bolt and nut with cadmium coating, one (1) inch minimum length.

PART 3 – EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Verify that:
1. Substrate is properly installed prior to installing the sheet metal flashings.
 2. Conditions are satisfactory for proper installation of the Work. Do not begin work until all unsatisfactory conditions have been corrected.
- B. **Samples:** Prior to fabricating sheet metal components, provide loose samples for review by the Owner and Consultant:
1. Peel protective adhered plastic from ALL sheet metal samples prior to submission.
 2. Label detail reference on one end of ALL samples for field coordination.
 - a. Allow sufficient space for Consultants comments on remainder of sample.
 3. For drip edges, and counterflashings, provide TWO (2) separate samples:
 - a. 18-inch long unit with field-verified dimensions for each specific detail, including continuous cleat and specified joining procedure (i.e. batten plate);
 - b. 12-inch by 12-inch unit with inside and/or outside corner fabrication.
 4. For gutters, provide separate TWO (2) separate samples showing:
 - a. 18-inch long unit with field-verified dimensions for one specific detail and the specified joining procedure including a drop tube and end cap;
 - b. 12-inch long unit with downspout configuration;
 - c. 12-inch by 12-inch inside and/or outside corner fabrication, if applicable;

3.02 SHEET METAL JOINTING

- A. Solid joints (prefinished galvanized steel sheet metal):
1. Lap sheet metal sections two (2) inches, minimum.
 2. Install butyl tape caulk between sections.
 3. Fasten with pop-rivets on two (2) inch maximum centers.
- B. Solid joints (galvanized sheet metal):
1. Pretin edges 1-1/2 inches on both sides of joint, notch corners (if applicable) and fold over pretinned edges 3/4-inch.
 2. Joints shall be single-locked on straight seams; joints shall be cut and bent in a 'toothed' fashion on curved seams, such as a pipe flange.
 3. Joints shall be riveted on two (2) inch centers, staggered, and sweated with solder. Solder over the heads of all rivets.
 4. Soldering:
 - a. Clean surface of all foreign materials and surface oxides prior to soldering.
 - b. Wash off acid and solder immediately after cleaning with degreasing solvents.
 - c. Apply flux to joint surface prior to soldering.

- d. Solder joint in two passes: first pass shall draw solder completely into joint; second pass shall completely cover edge of metal.
- C. Loose-locked batten plate joints:
 - 1. Install running sections in maximum of ten (10) foot lengths.
 - 2. Install sheet metal sections with a 1/2-inch, minimum, gap between sections.
 - 3. Notch the bottom hems two (2) inches back from the end, on the face of each section, to accommodate the batten plate.
 - 4. Install butyl tape caulk between sections and batten plate.
 - 5. Hook the batten plate onto the exterior continuous cleat and the adjacent sheet metal flashing sections.
 - 6. Fasten on the roof side, to the underlying wood blocking, with a minimum of two fasteners.
- D. Lapped joints:
 - 1. Install running sections in maximum of ten (10) foot lengths.
 - 2. Lap sheet metal sections two (2) inches, minimum.
 - 3. At lap, notch the bottom hem of one section two (2) inches back from the end, to accommodate the adjacent section.
 - 4. Hook the overlying sheet metal flashing onto the adjacent sheet metal flashing section; creating a two (2) inch minimum lap.

3.03 CONCEALED FLASHING INSTALLATION

- A. Install specified concealed flashing membrane over parapets, roof edges, expansion joints and other locations as shown in the Construction Drawings:
 - 1. Lap membrane pieces two (2) inches, minimum. Seam laps watertight, where required.
 - 2. On building face, turn down and extend membrane below exposed wood blocking components two (2) inches, minimum.
 - 3. On roof side, extend membrane over top of completed flashings two (2) inches, minimum.
 - 4. Fasten to substrate sufficiently to maintain weather tight condition until finish flashings are installed.

3.04 SHEET METAL FABRICATION AND INSTALLATION

- A. General fabrication requirements:
 - 1. Finish all joints neatly with lines trimmed true and sharp.
 - 2. All sheet metal flashings and trim shall be fabricated in accordance with the dimensions given in the Construction Drawings, and/or as field-measured and verified by the Contractor prior to fabrication.
 - 3. Face dimensions greater than eight (8) inches shall be fabricated with a 1/2-inch stiffening 'V'-groove in the center.
- B. General installation procedures:
 - 1. Install and attach as shown on the Construction Drawings.
 - 2. All finish flashings, where applicable, must be fully engaged and continuously crimped onto the underlying cleat.
 - 3. All points where the sheet metal flashing ends or transitions into a different flashing detail shall be flashed with a field-formed sheet metal closure. The use of mastic or excessive caulking shall not be acceptable.
- C. Continuous cleats:
 - 1. Fabricate as a single piece to extend over top of blocking and serve as a backing for the finish sheet metal flashing.
 - 2. Fabricate cleat with a 3/4-inch, minimum, wide bend at bottom to fit into the hem of the finish sheet metal flashing sections.

3. At installation:
 - a. Butt sections together; position level and true across entire building elevation.
 - b. Fasten to wood blocking on eight (8) inch centers, and/or;
 - c. Where required, fasten to masonry wall on twelve (12) inch centers.
- D. Drip edges:
 1. Hem bottom edge one (1) inch if engaging continuous cleat or one-half (1/2) inch if only acting as drip.
 2. Fabricate with a five (5) inch, minimum, wide flange onto roof surface.
 3. Drip edges shall be 3/8-inch high; maximum, to hold sealant along the roof flashing membrane while still allowing proper drainage.
 4. At installation:
 - a. Join all sections and corners using the applicable solid joint procedure described above.
 - b. Where applicable, hook bottom hem of exterior face onto installed continuous cleat.
 - c. Set flange over completed roofing and fasten to blocking, in two staggered rows, on three (3) inch centers.
- E. Counterflashings:
 1. Hem bottom edge of sheet metal flashing one-half (1/2) inch to form drip.
 2. Fabricate top edge of flashing as shown on the Construction Drawings.
 3. At installation:
 - a. Join sections using the lapped joint procedure described above; join corners using the applicable solid joint procedure described above.
 - b. Fasten top edge to blocking, or behind "S"-lock receiver, on twelve (12) inch, maximum, centers.
 - c. Fasten top edge at masonry reglet on twenty-four (24) inch, maximum, centers.
- F. Gutters:
 1. Fabricate to dimensions shown on the Construction Drawings and/or as follows:
 - a. Shall have a 3:4 depth(face)-to-width ratio; minimum width is four (4) inches.
 - b. Front edge of the gutter shall be a minimum of two (2) inches lower than the back apron to allow overflow.
 - c. Front face shall be hemmed 1-1/2 inches, minimum, to provide strength to the gutter and for attachment of the gutter straps.
 2. Accessories:
 - a. Fabricate gutter straps 1-1/2 inches wide from double-thickness sheet metal.
 - b. Shop-fabricate sections with corners, end closures or expansion joint closures using the applicable solid joint procedure described above.
 - c. Fabricate downspout outlets to extend three (3) inches below gutter.
 3. At installation:
 - a. Join main sections using the applicable solid joint procedure described above.
 - b. Provide gutter hangers on thirty-six (36) inch centers, fastened to face of nailers and provide corresponding straps across gutter at equal spacing.
 - c. Hang gutters with a positive slope-to-drain of approximately 1/16-inch per foot between the gutter end or expansion joint and the downspout outlet.
 - d. Provide expansion joints to create gutter segments no more than fifty feet (50'-0") in length, and with no more than forty feet (40'-0") between the downspout and gutter end or expansion joint.
 - e. Where indicated, cut openings and join downspout outlets to bottom of gutter using the applicable solid joint procedure described above.
- G. Downspouts:
 1. Fabricate or roll-form rectangular closed-face downspouts with a minimum 3:4 depth-to-width ratio:
 - a. Shall match the width of the bottom of the gutter in the one dimension.

- b. Shall be three (3) inches, minimum, in the other dimension.
- 2. Shop-fabricate solid elbow units to extend six (6) inches minimum, in each direction, measured from the center of the joint. Fabricate using the applicable solid joint procedure described above.
- 3. At installation:
 - a. Join sections using the lapped joint procedure described above.
 - b. Fasten to gutter outlet on each side.
 - c. Provide bracket/strap fastened to wall at midpoint of drop.

3.05 ADJUSTING & CLEANING

- A. Clean-up:
 - 1. Clean sheet metal surfaces of all grease, marks and stains. Touch-up scratches or nicks in the finish with rust-inhibitive touch-up paint.
 - 2. Immediately upon completion of sheet metal work, roof membrane and flashing surfaces shall be cleaned of all scrap sheet metal and debris.
- B. Repair of deficiencies:
 - 1. Installation or details noted as deficient during Final Review must be repaired and corrected by Contractor, and made ready for review, within five (5) working days.

END OF SECTION 07600

**SECTION 07900
SEALANTS**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section provides requirements for the initial installation of sealant joints to provide a barrier against passage of air and moisture.

1.02 QUALITY CONTROL

- A. The Owner reserves the right to cut open joints, to ensure compliance with the specifications, at random locations throughout the job. The Contractor shall be responsible for repairing the test areas to match shape of adjacent joint.

PART 2 - PRODUCTS

2.01 ACCEPTABLE SEALANTS

- A. General Purpose Sealant:
 - 1. One-part silyl-terminated polyether sealant, Sonolastic 150, by Sonneborn, ChemRex, Inc., Shakopee, MN.

2.02 JOINT CLEANER

- A. Cleaner: Xylol, toluene or other commercial solvents as recommended by the sealant manufacturer for the specific joint surface and condition.

2.03 JOINT PRIMER

- A. Primer: As recommended by the sealant manufacturer for the specific joint surface and condition.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Installer shall:
 - 1. Examine joint surfaces, including their anchorage to the structure, and conditions under which sealant work is to be performed.
 - 2. Verify that conditions are satisfactory for proper installation of the Work. Do not proceed until all unsatisfactory conditions have been corrected.
- B. Weather Conditions:
 - 1. Do not apply sealant if it is raining, misting, or if there is any evidence of moisture at the joint.
 - 2. Proceed with the Work only when forecasted weather conditions are favorable for proper cure and development of high early-bond strength.
 - 3. Where joint width is affected by ambient temperature variations, install elastomeric sealants only when temperatures are in the lower third of the manufacturer's recommended installation temperature range. Do not apply sealant if outdoor ambient air temperature is below 45° F.

3.02 JOINT PREPARATION

- A. All joints to be caulked shall be cut or ground out to a depth which shall achieve a finished sealant thickness equal to one half (1/2) of the joint width.
- B. The removal of existing mortar or sealant from joints shall be done with suitable tools, in such a manner as to avoid damaging the surface material or the edges of the joint.
- C. After the joint has been properly prepared, remove all loose material by brush and/or compressed air.
- D. Clean joint surfaces immediately before installation of sealant:
 - 1. Remove dirt, insecure coatings, moisture and other substances which would interfere with bond of sealant.
 - 2. Etch concrete joint surfaces as recommended by the sealant manufacturer.
 - 3. Use clean rags to wipe solvent, not brushes.
- E. Prime or seal joint surfaces as recommended by the sealant manufacturer. Do not allow primer/sealer to spill or migrate into adjoining surfaces.

3.03 SEALANT APPLICATION

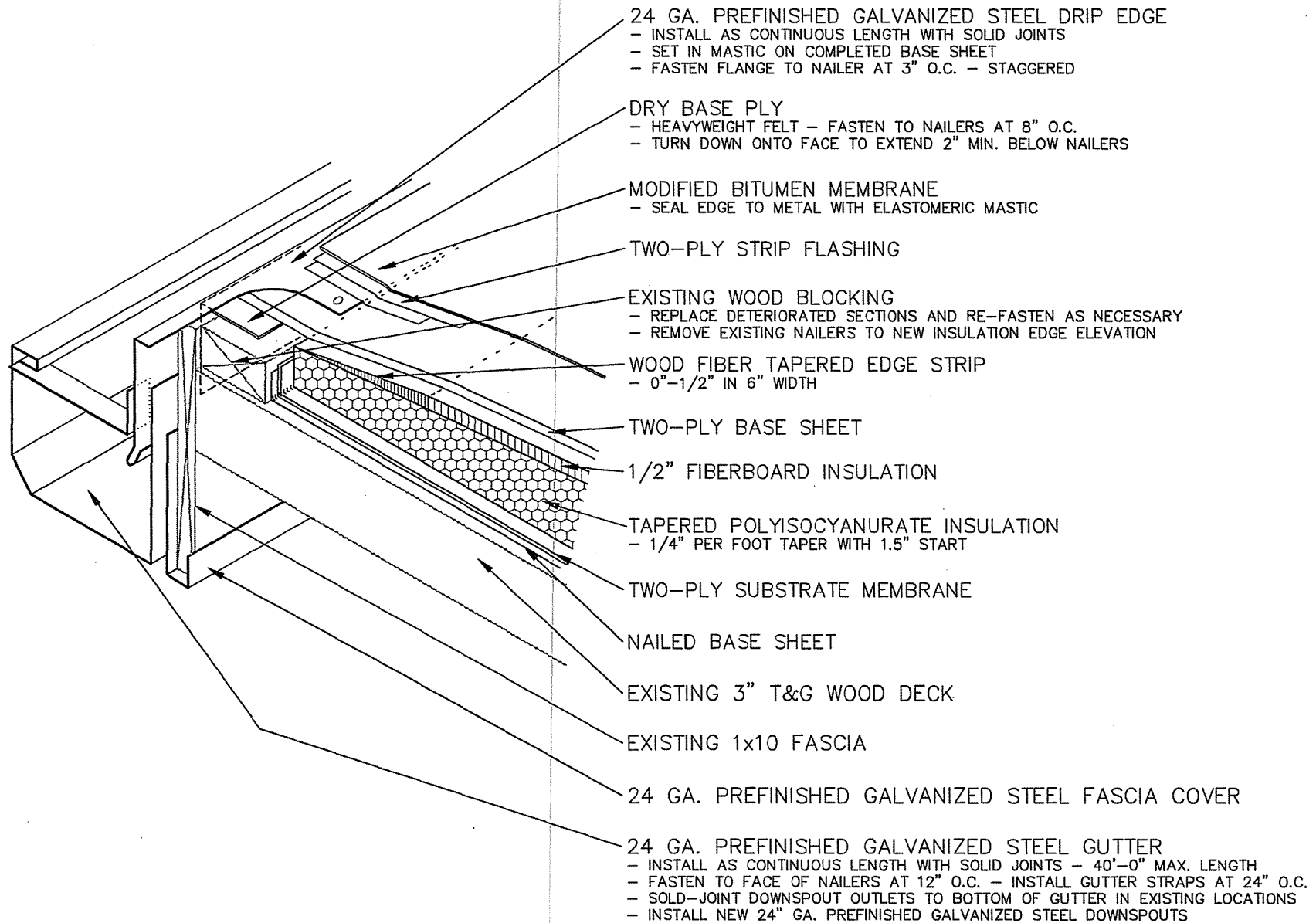
- A. General requirements:
 - 1. Sealing materials specified herein shall be used in strict accordance with the manufacturer's printed instructions, and shall be applied only by workmen specially trained or experienced in their use.
 - 2. Employ only proven installation techniques, which will ensure that sealants will be deposited in uniform, continuous ribbons without gaps or air pockets and with complete "wetting" of joint bond surfaces equally on opposite sides.
 - 3. Except as otherwise noted, fill sealant rabbet to a slightly concave surface, flush with adjoining surfaces.
 - 4. Where horizontal joints are between a horizontal surface and vertical surface, fill joint to form a slight cove, so that joint will not trap moisture and dirt.
 - 5. Surface of sealant shall be smooth and uniform.
 - 6. Install sealant to depths as recommended by sealant manufacturer, but within the following general limitations, measured at center (thin) section of bead:
 - a. Fill joints to a depth equal to 50% of the joint width, but not more than 1/2-inch deep or less than 1/4-inch deep.
- B. Apply sealant under pressure with hand or power-actuated gun or other appropriate means. Guns shall have nozzle of proper size and shall provide sufficient pressure to completely fill joints as designed.
- C. Thoroughly and completely mask all joints where the appearance of sealant on adjacent surfaces would be objectionable.
- D. Install the sealant in strict accordance with the manufacturer's recommendations, thoroughly filling joints to the recommended depth.
- E. Tool joints to the profile shown on the Construction Drawings. Tooling to be done immediately after sealant application.

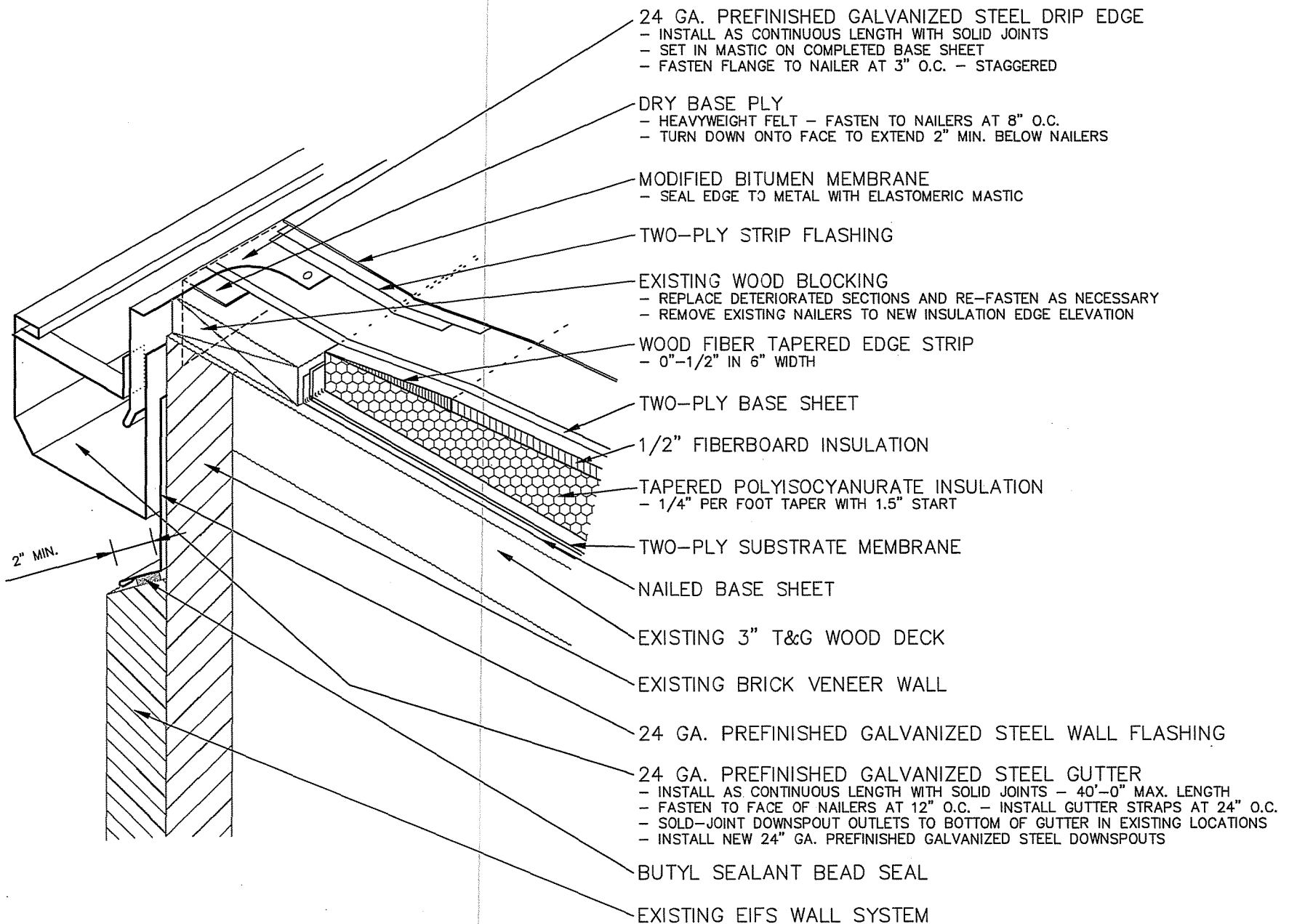
3.04 CLEANING

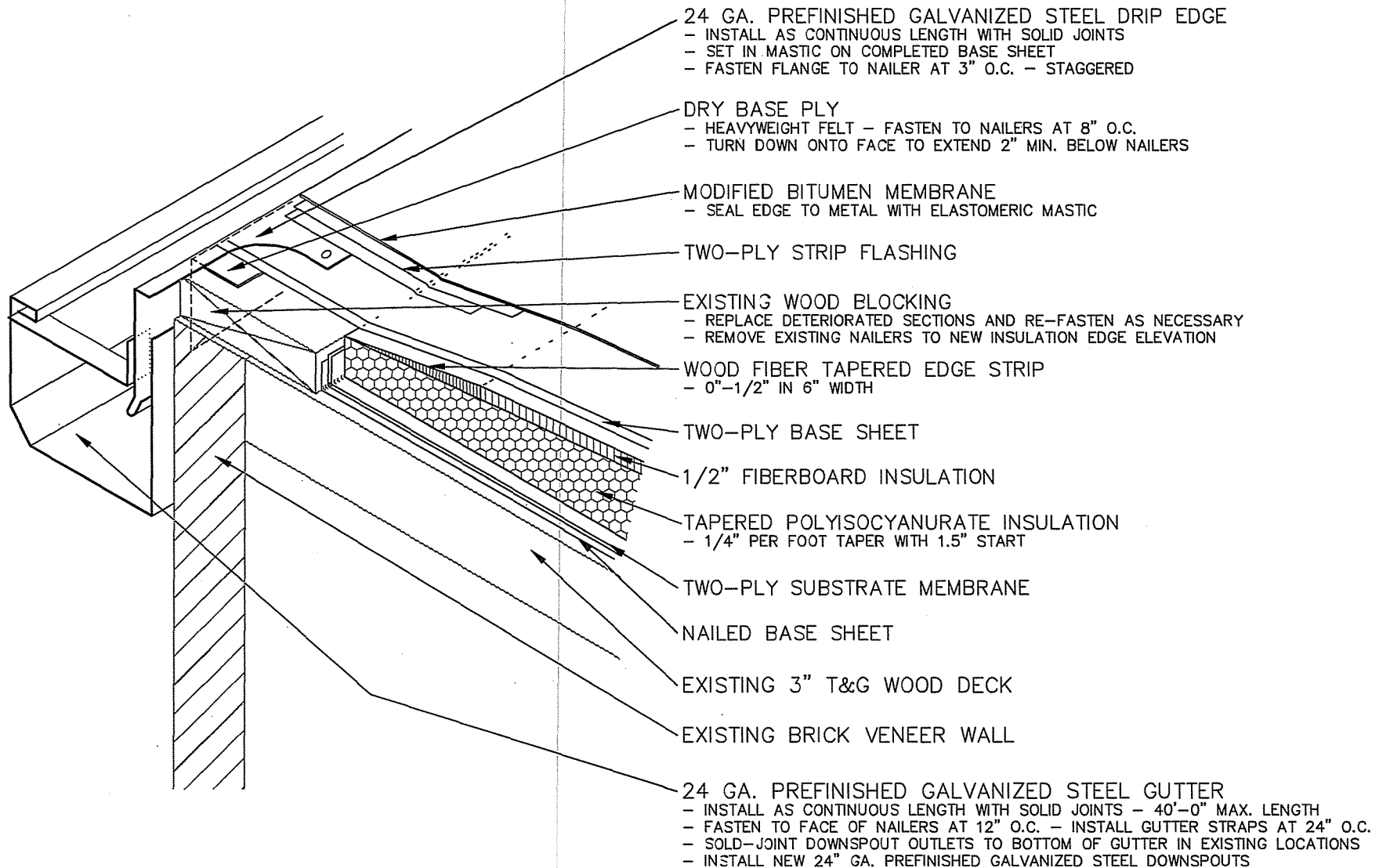
- A. Remove masking tape immediately after joints have been tooled.

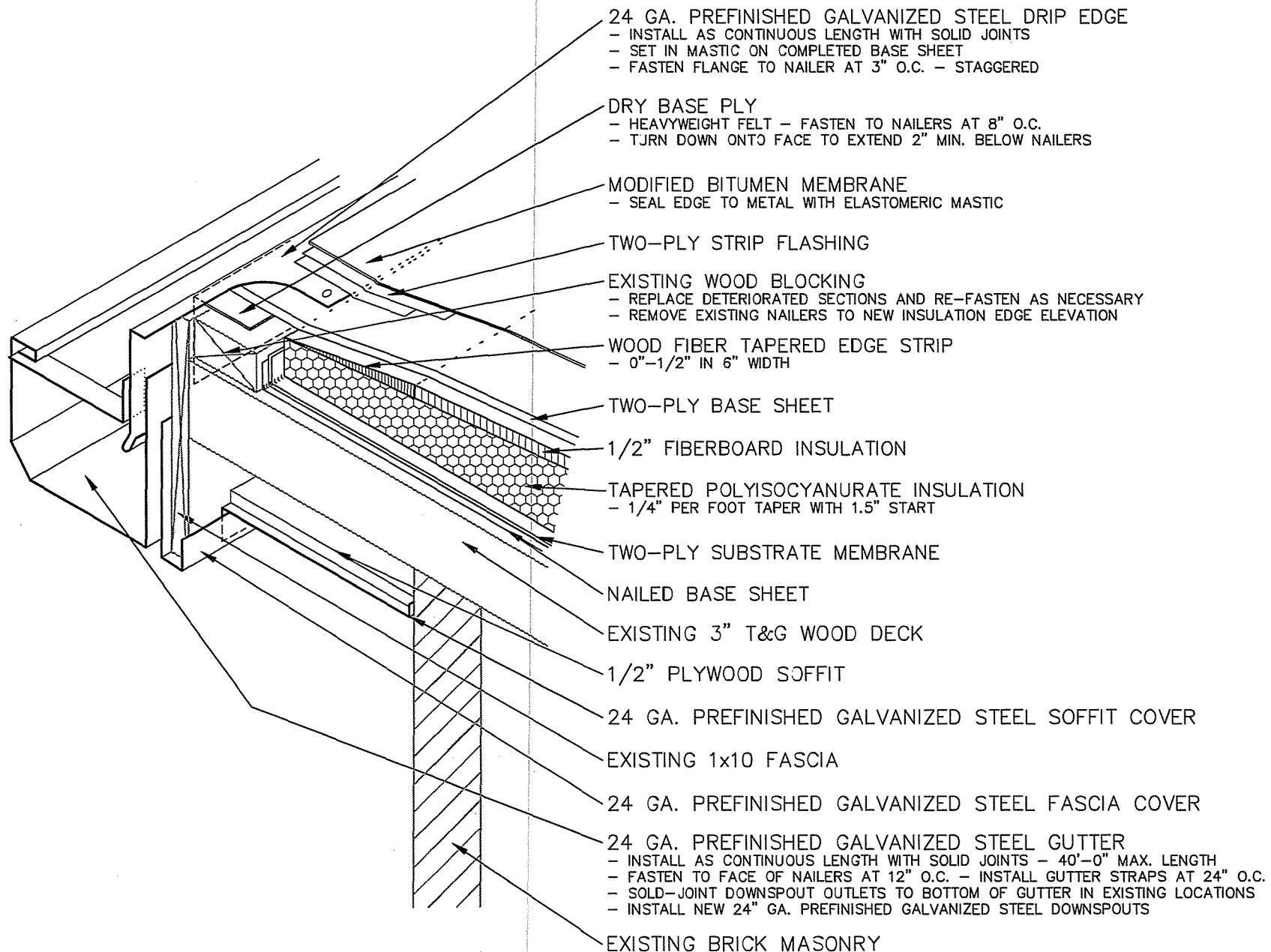
- B. Keep adjacent surfaces clean and free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant manufacturer.

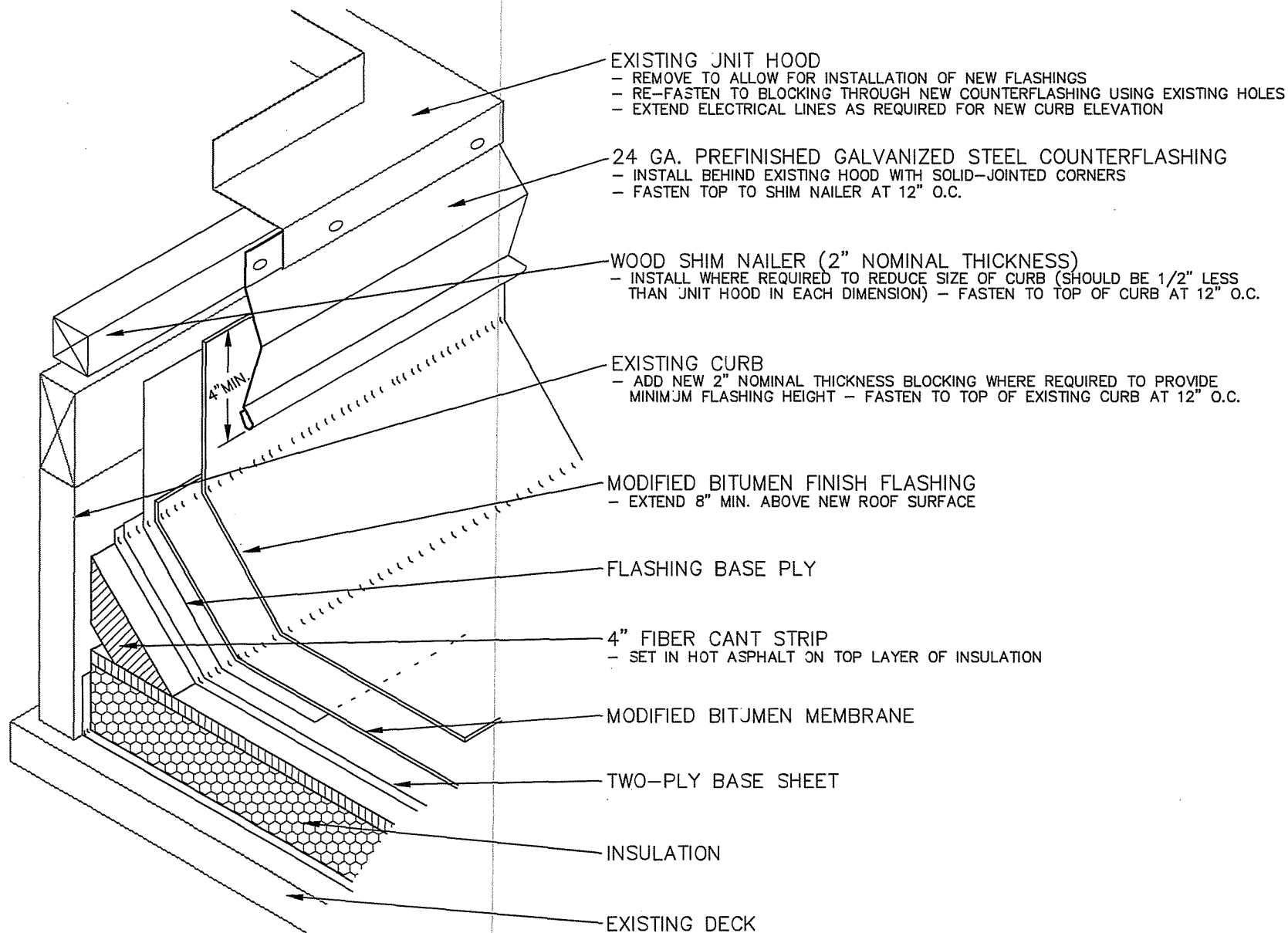
END OF SECTION 07900

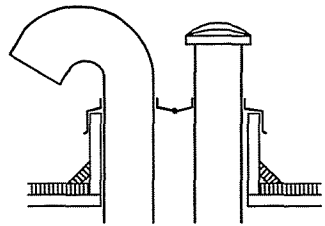




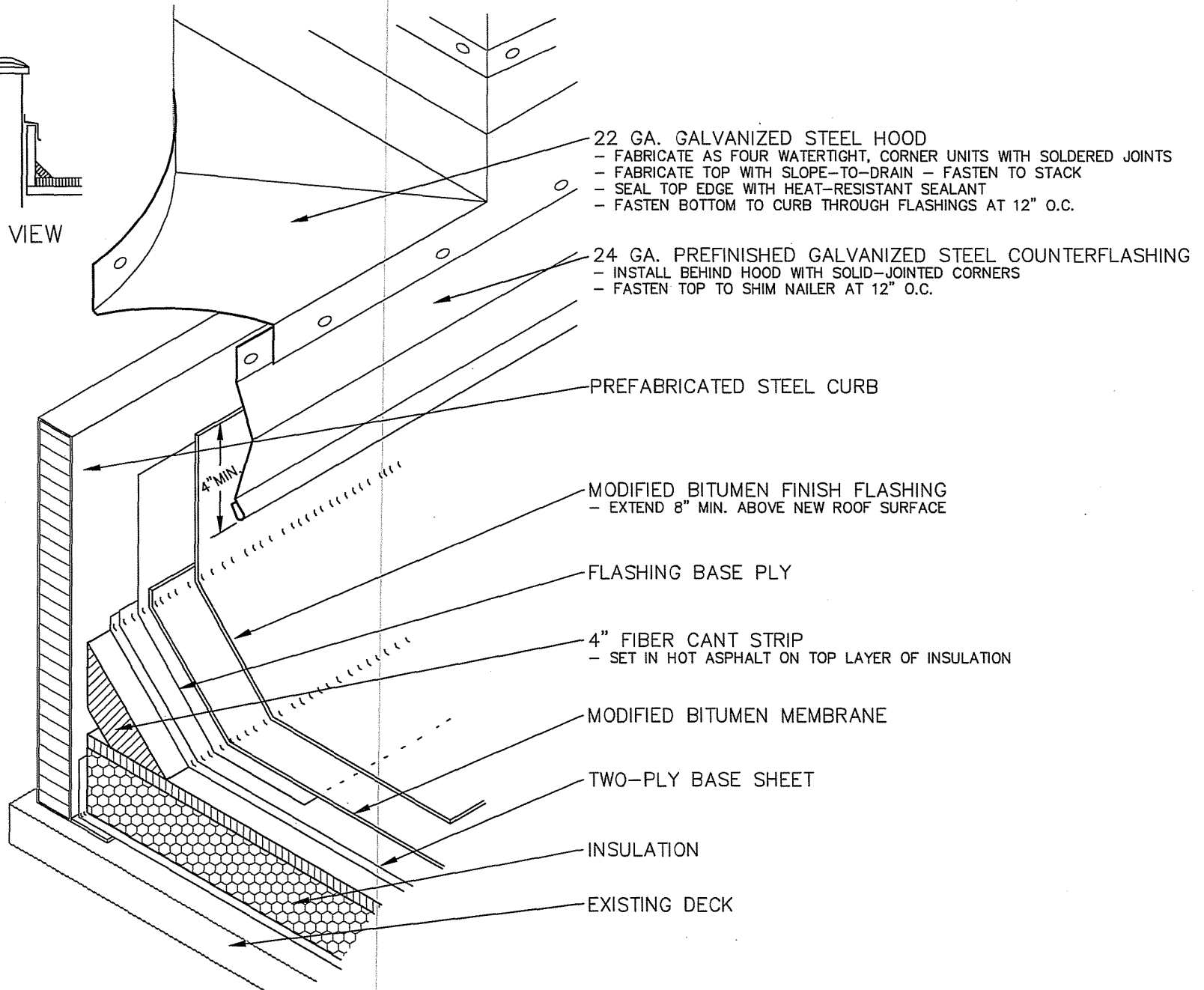


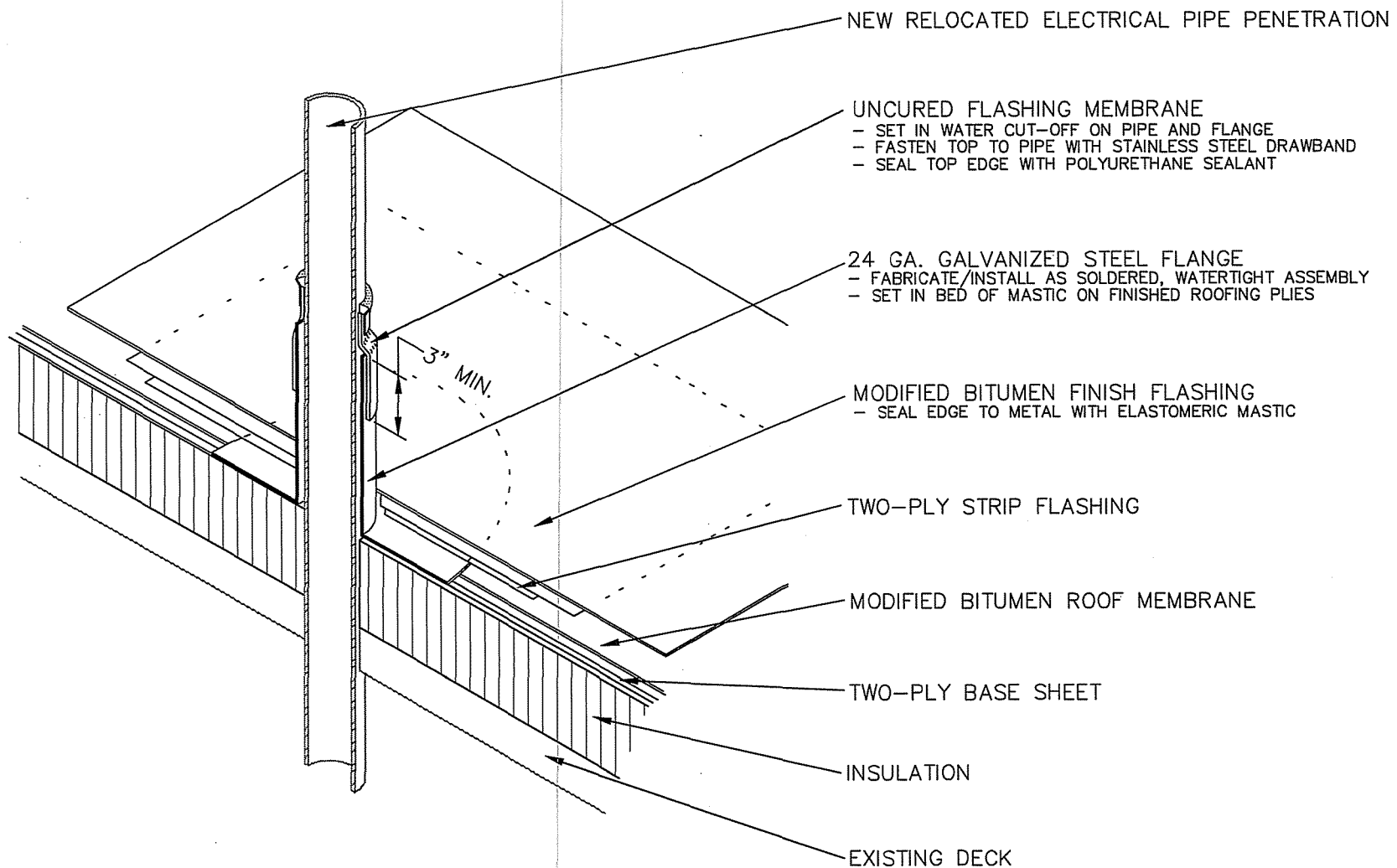


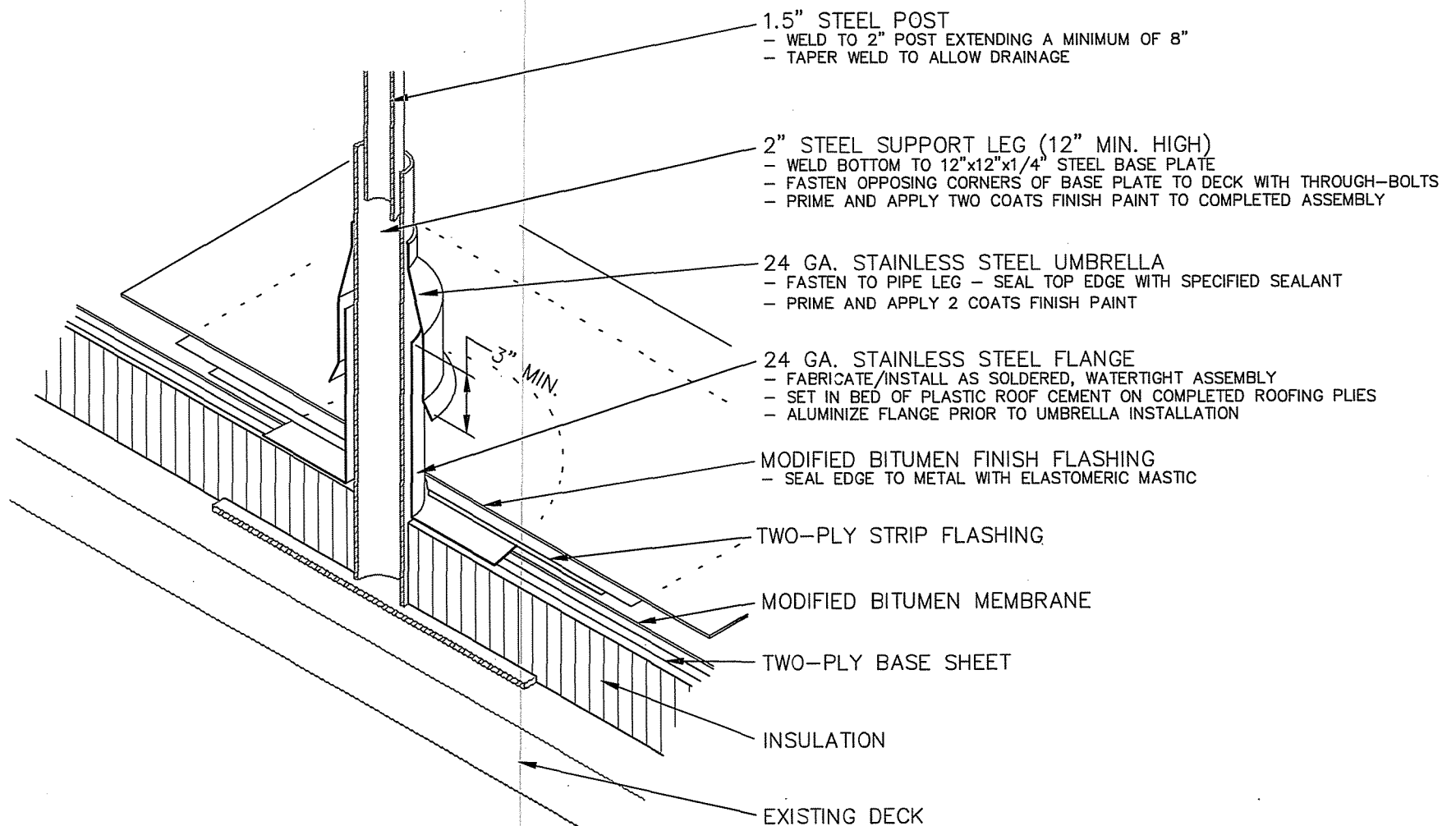


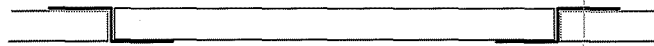


SECTION VIEW

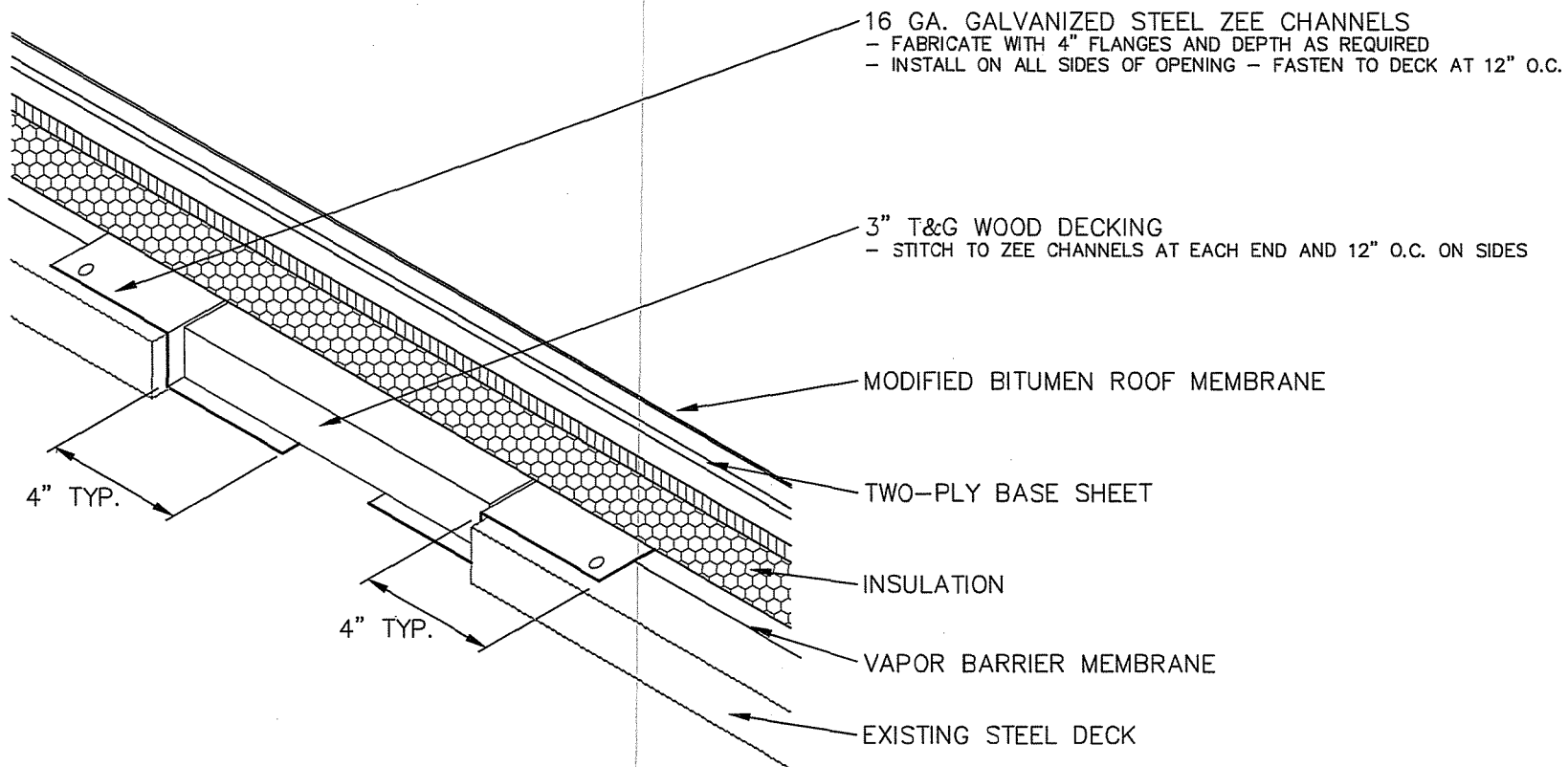


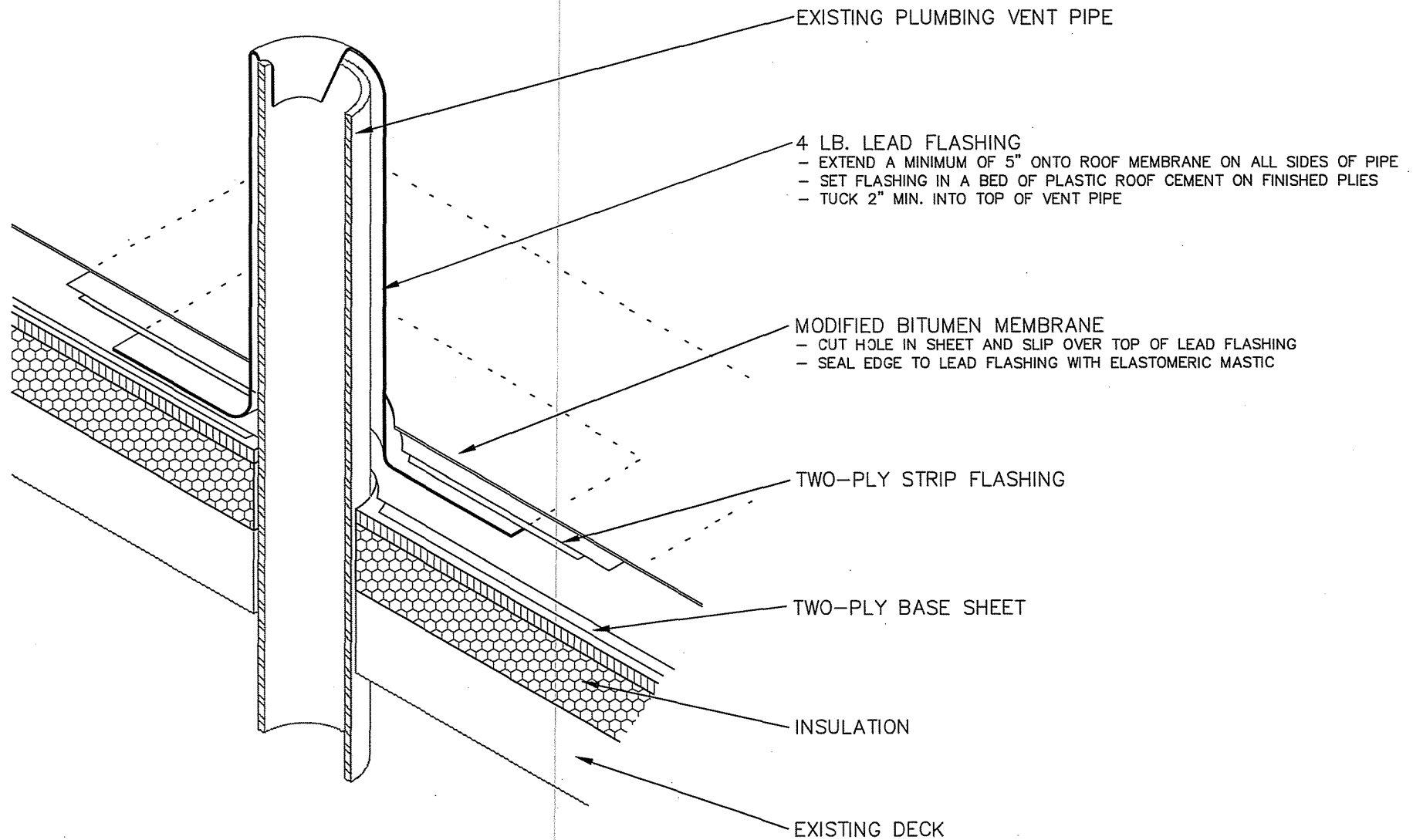


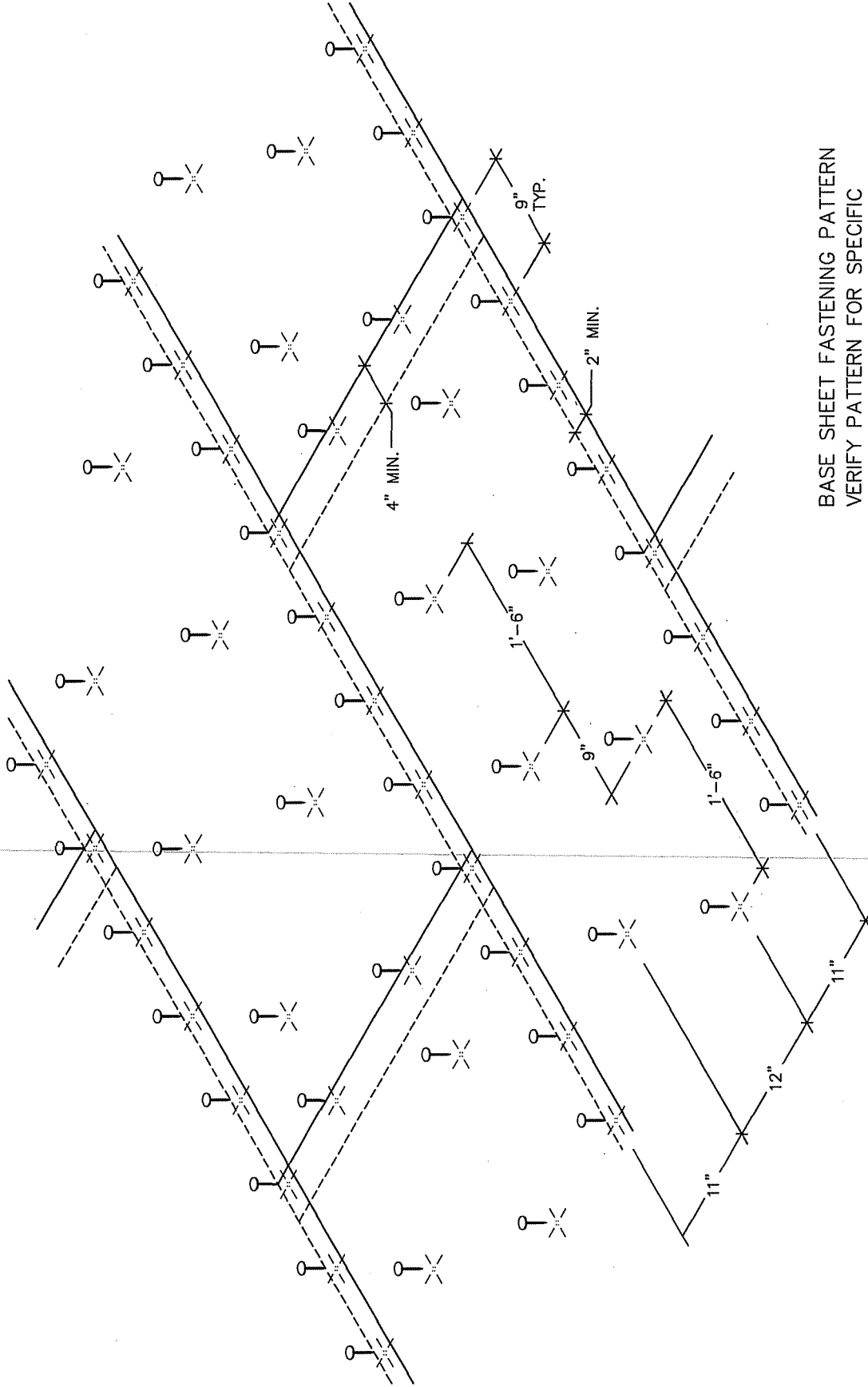




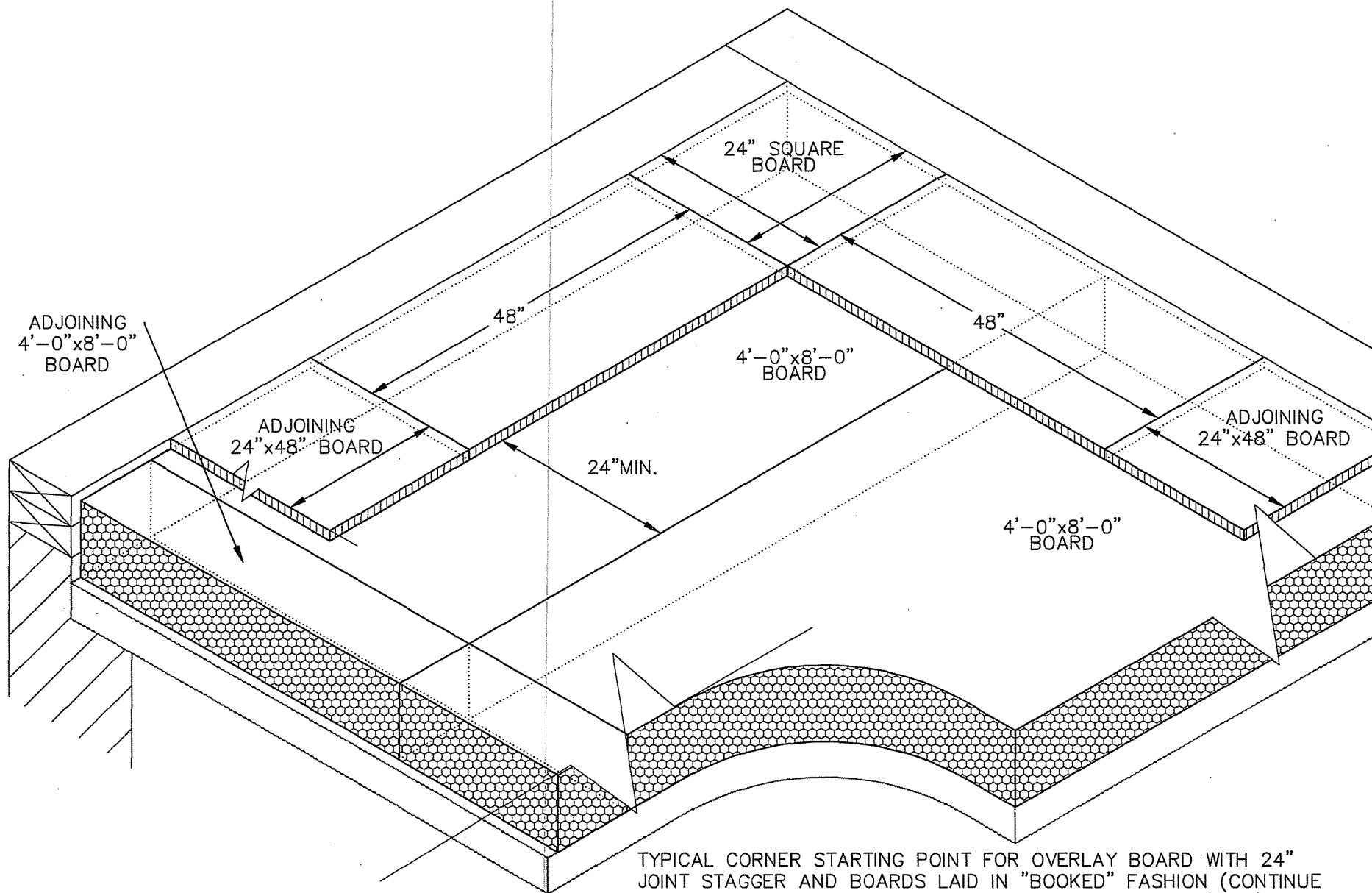
AT SKYLIGHT OPENING





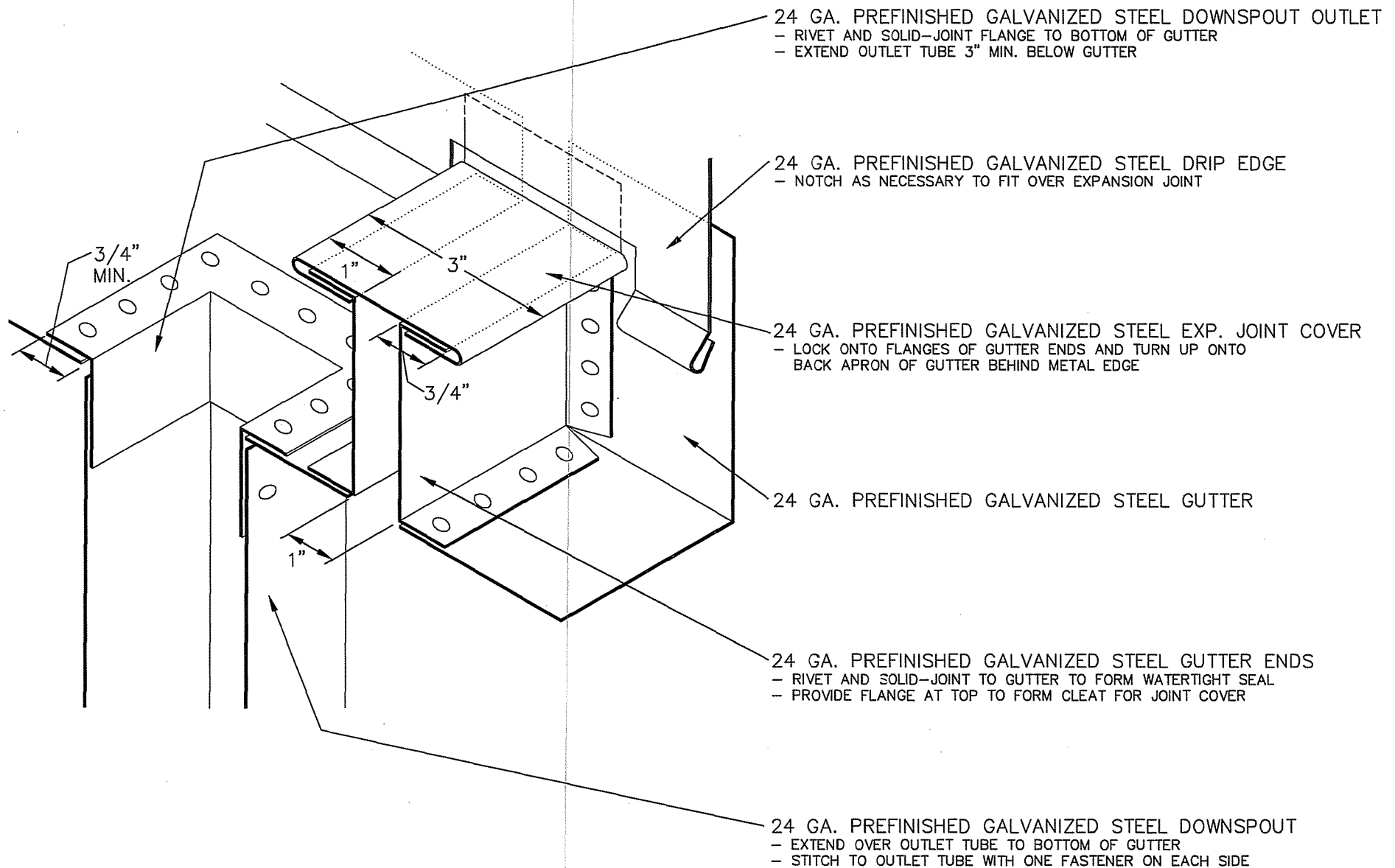


BASE SHEET FASTENING PATTERN
 VERIFY PATTERN FOR SPECIFIC
 ROOF SYSTEM MANUFACTURER



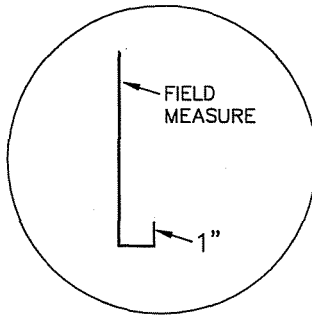
TYPICAL CORNER STARTING POINT FOR OVERLAY BOARD WITH 24" JOINT STAGGER AND BOARDS LAID IN "BOOKED" FASHION (CONTINUE WITH FULL BOARDS AFTER CUT CORNER BOARDS ARE PLACED)

* WHEN INSTALLING TWO LAYERS OF FLAT STOCK POLYISOCYANURATE INSULATION - FIRST LAYER ON DECK SHALL BE INSTALLED IN SAME LAYOUT AS COVER BOARD SHOWN ABOVE TO OFFSET JOINTS 24" MIN.*

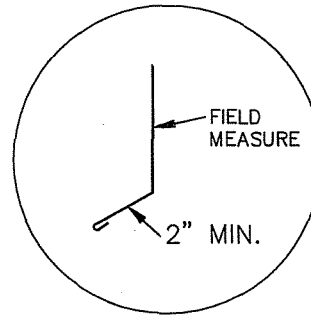


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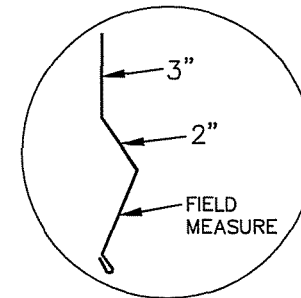
- FACE DIMENSIONS GREATER THAN 8" SHALL BE FABRICATED WITH A 1/2" STIFFENING 'V'-GROOVE AT CENTER
- DO NOT EXCEED FACE DIMENSION OF 12" - ADD SKIRT FLASHING BELOW
- FLASHING SECTIONS MUST BE FULLY ENGAGED AND CONTINUOUSLY CRIMPED ONTO THE UNDERLYING CLEAT, WHERE APPLICABLE



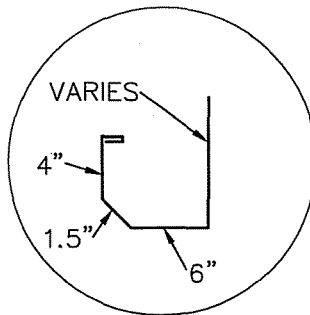
FASCIA FLASHING



WALL FLASHING

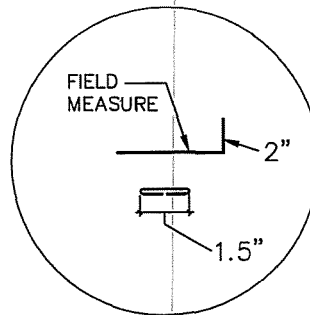


GENERAL-USE
COUNTERFLASHING

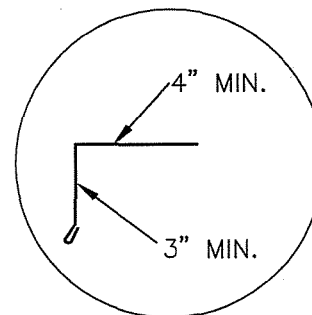


GUTTER

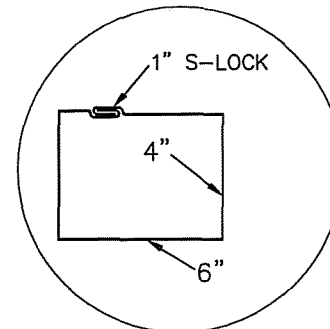
GUTTER FABRICATION



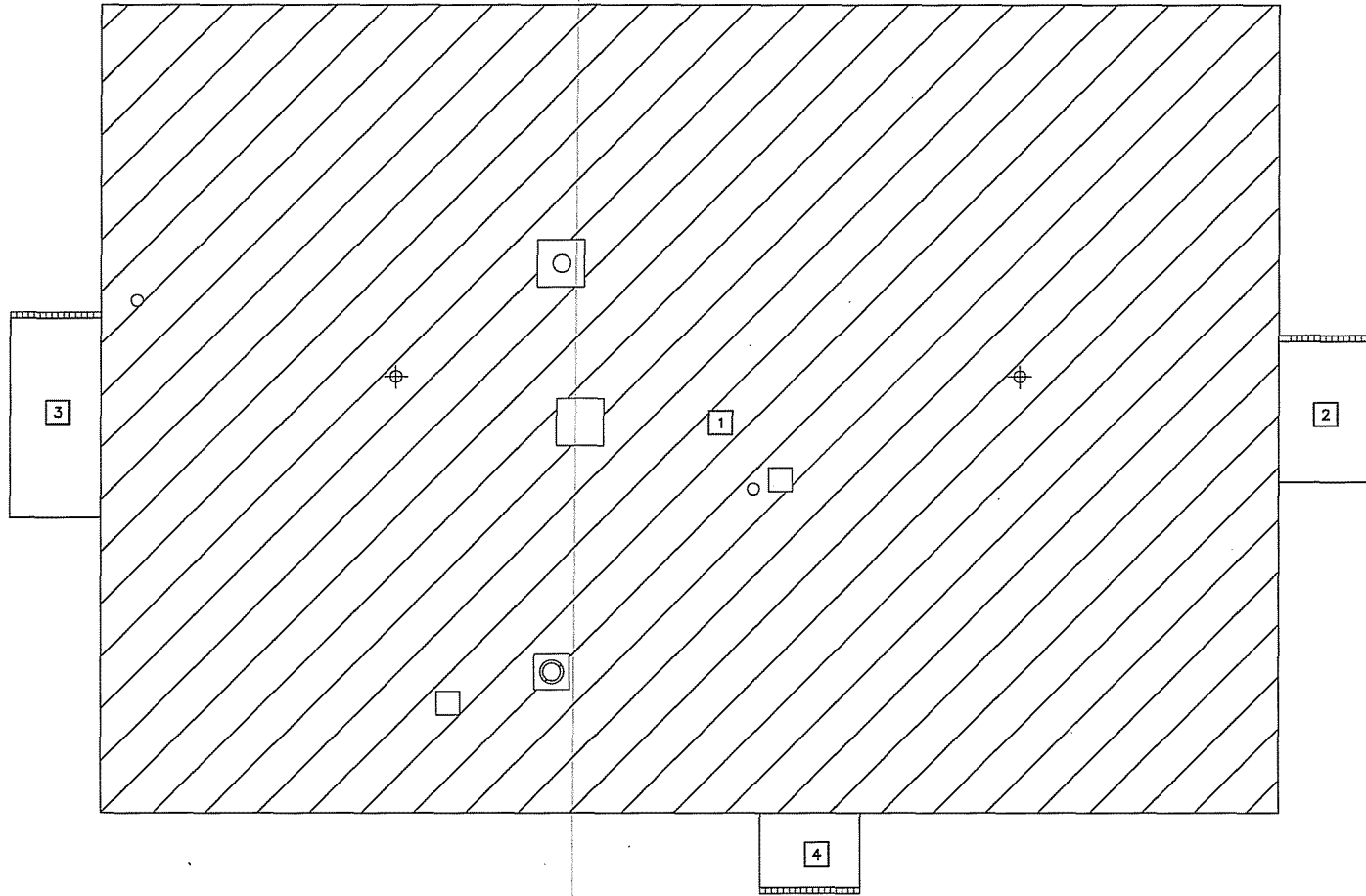
STRAP



INTEGRAL
METAL EDGE



DOWNSPOUT
FABRICATION

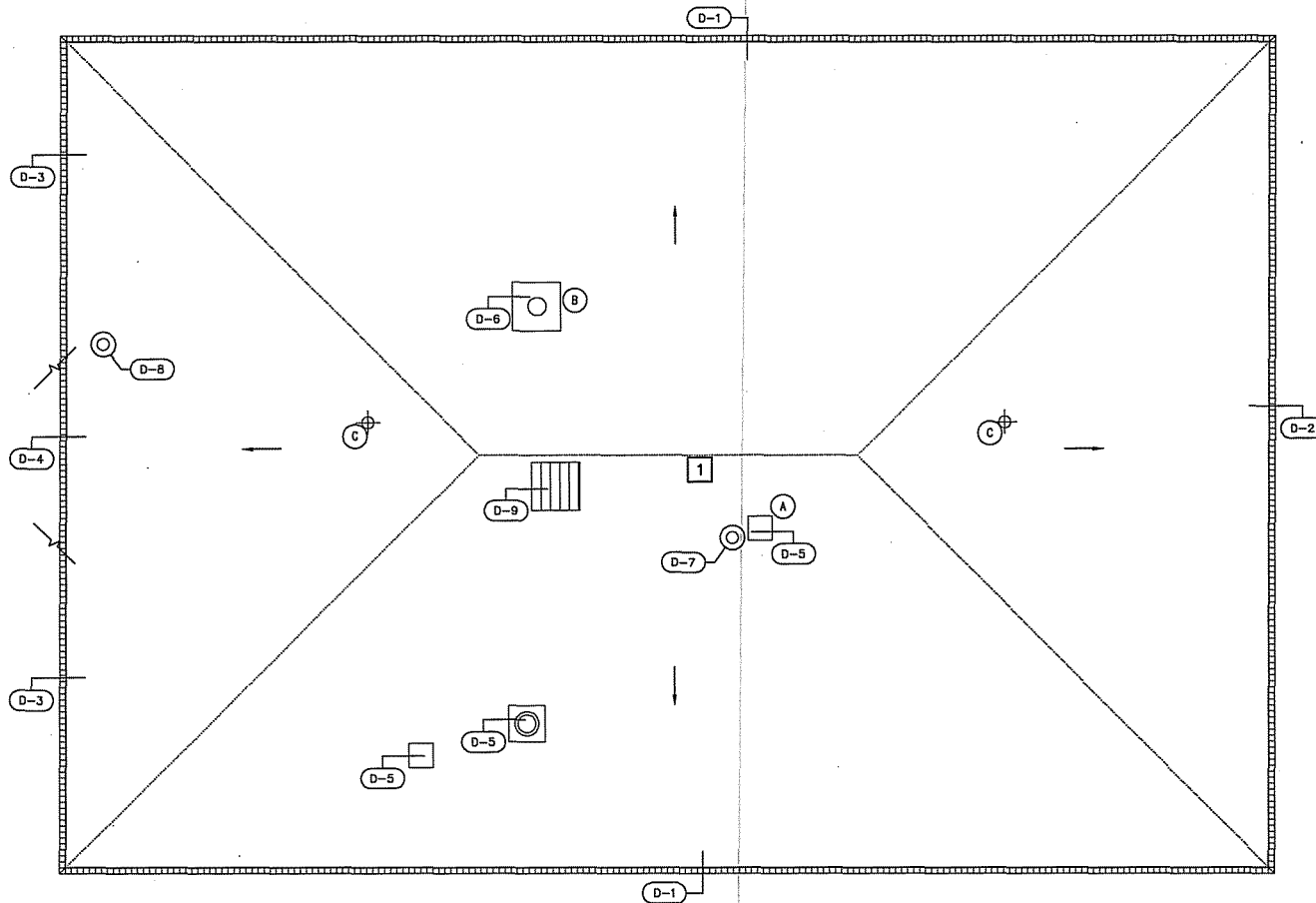


— AREA OF WORK

KEY

□	— ROOF AREA DESIGNATION
+	— ROOF DRAIN
+	— THRU-WALL SCUPPER
+	— ROOF EDGE SCUPPER
+	— GUTTER EDGE
+	— CURBED OPENING
+	— H.V.A.C. CURB
+	— ROOF HATCH
+	— SKYLIGHT
+	— CURBED STACK
+	— CHIMNEY
+	— PIPE PORTAL CURB
+	— ROOF LADDER
+	— PIPE VENT
+	— SOIL STACK
+	— SMALL PIPE PENETRATION
+	— PITCH PAN
+	— EXPANSION JOINT
+	— SLOPE TRANSITION





NOTES:

- (A) REMOVE AND REPLACE EXISTING FAN UNIT, RE-ROUT ELECTRICAL PENETRATION. PROVIDE NEW PIPE PENETRATION FLASHING ADJACENT TO RESET CURB.
- (B) REMOVE EXISTING CURB AND ENCLOSURE, INSTALL NEW CURB AND RE-ROUT EXHAUST FLUE AND INTAKE AIR VENTILATION DUCTWORK. INSTALL NEW COVER TO ACCOMMODATE PENETRATIONS, RE-INSTALL EXISTING FLUE COMPONENTS. INSTALL BIRD SCREEN COVER. APPLY TWO-COATS FINISH PAINT TO COMPLETED ASSEMBLY
- (C) REMOVE EXISTING DRAIN HEADS FROM DECK AND TERMINATE HORIZONTAL DRAIN LINES UNDER DECK AND PERMANENTLY PLUG. PROVIDE DEMARCATION THAT PLUMBING STORM DRAINS ARE ABANDONED.