PROJECT MANUAL

TECHNICAL SPECIFCATION
FOR
SUNRISE RECREATION & PARK DISTRICT
RUSCH COMMUNITY PARK MECHANICAL WELL

Sunrise Recreation & Park District
7801 Auburn Blvd Citrus Heights, CA 95610
Bid Date: 2/07/2025

BID DOCUMENTS

FOR

SUNRISE RECREATION AND PARK DISTRICT
RUSCH PARK MECHANICAL WELL ROOF PROJECT

AT

RUSCH COMMUNITY PARK
7801 AUBURN BLVD CITRUS HEIGHTS, CA 95610

FOR

SUNRISE RECREATION AND PARK DISTRICT
7801 AUBURN BLVD CITRUS HEIGHTS, CA 95610

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NOTICE INVITING BIDS

SUNRISE RECREATION AND PARK DISTRICT

NOTICE IS HEREBY GIVEN that the Sunrise Recreation and Park District of Sacramento County, California, acting by and through its Governing Board, hereinafter referred to as "District", "SRPD", or "Owner", will receive prior to 2:00 pm February 7th 2025 sealed bids for the award of a Contract for the following:

BID NO. 2024-01

PROJECT: Sunrise Recreation and Park District

All bids shall be made and presented only on the forms presented by the Owner. Bids shall be received in the Office of the Sunrise Recreation and Park District at 7801 Auburn Blvd Citrus Heights, CA 95610 and be opened. Email bids will not be received and all bids are to be delivered to Sunrise Recreation and Park District Office. Any bids received after the time specified above or after any extensions due to material changes shall be returned unopened.

The Contract is to be completed by May 30th. CONTRACTOR should consult the Agreement Form regarding any milestones and Liquidated Damages.

There will be a mandatory Pre-Bid Conference at 9:00am January 16, 202 at Sunrise Recreation and Park District 7801 Auburn Blvd Citrus Heights, CA 95610. Any Contractor bidding on the Project who fails to attend the entire mandatory Pre-Bid Conference will be deemed a non-responsive bidder and will have its bid returned unopened.

Each bidder and sub-contractor shall be a licensed contractor pursuant to the California Business and Professions Code to perform the work called for in the Contract Documents. The successful bidder must possess a valid and active Class C-39 License at the time of award and throughout the duration of this Contract. The Contractor's California State License number shall be clearly stated on the bidder's proposal.

Subcontractors shall be licensed pursuant to California law for the trades necessary to perform the Work called for in the Contract Documents. Each bid must strictly conform with and be responsive to the Contract Documents as defined herein.

Payment of current prevailing wages are applicable and shall be mandatory for the project, per the Department of Industrial Relations and pursuant to California Labor Code Sections 1720 et seq.

The Contractor and all subcontractors shall furnish certified payroll records as required pursuant Labor Code section 1776 directly to the Labor Commissioner in accordance with Labor Code section 1771.4 on at least on a monthly basis (or more frequently if required by the District or the Labor Commissioner) and in a format prescribed by the Labor Commissioner. Monitoring and enforcement of the prevailing wage laws and related requirements will be performed by the Labor Commissioner/ Department of Labor Standards Enforcement (DLSE).

Separate payment and performance bonds, each in an amount equal to 100% of the total Contract amount issued by a California admitted surety as defined in California Code of Civil Procedure Section 995.120, are required, and shall be provided to the Owner prior to execution of the Contract and shall be in the form set forth in the Contract Documents.

It is each bidder's sole responsibility to ensure its bid is timely delivered and received at the location designated as specified above. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

SUNRISE RECREATION AND PARK DISTRICT

INSTRUCTIONS TO BIDDERS

1. Preparation of Bid Form and Bidding Procedures. Proposals under these specifications shall be submitted on the blank forms furnished herewith including, but not limited too, the forms in the Special Conditions (if applicable), at the time and place stated in the Notice Calling for Bids. Each bidder shall review and comply with all bidding instructions and requirements set forth herein. All blanks in the Bid Form must be appropriately filled in, and all proposed prices must be stated clearly and legibly in both words and numerals. All bids must be signed by the bidder in permanent ink and submitted in sealed envelopes, bearing on the outside, the bidder's name, address, telephone number, and California Contractor's License number, and the name of the Project for which the bid is submitted. The Owner reserves the right to reject any bid if all of the above information is not furnished. It is each bidder's sole responsibility to ensure its bid is timely delivered and received at the location designated as specified above. Any bid received at the designated location after the scheduled closing time for receipt of bids shall be returned to the bidder unopened.

2. Bid Security. Each bid must be accompanied by one of the following forms of bidder's security: (1) cash; (2) a cashier's check made payable to the Owner; (3) a certified check made payable to the Owner; or (4) a bidder's bond executed by a California admitted surety as defined in Code of Civil Procedure Section 995.120, made payable to the Owner, in the form set forth in the Contract Documents. Such bidder's security must be in an amount not less than **ten percent (10%)** of the maximum amount of such bidder's bid as a guarantee that the bidder will enter into the Contract, if the same is awarded to such bidder, and will provide the required Performance and Payment Bonds, insurance certificates and any other required documents. In the event that a bidder is awarded the Contract and such bidder fails to enter into said Contract or provide the surety bond or bonds within five (5) calendar days after award of the Contract to bidder, said security will be forfeited.

3. Signature. The bid form, all bonds, all designations of subcontractors, the Contractor's Certificate, the Agreement, and all Guarantees must be signed in permanent ink in the name of the bidder and must bear the signature in longhand of the person or persons duly authorized to sign the bid.

   If bidder is a corporation, the legal name of the corporation shall first be set forth, together with two signatures: one from the President and one from the Secretary or Assistant Secretary. Alternatively, the signature of other authorized officers or agents may be affixed, if a certified copy of the resolution of the corporate board of directors authorizing them to do so is provided to the Owner. Such documents shall include the title of such signatories below the signature and shall bear the corporate seal.

   If bidder is a partnership, the true name of the firm shall first be set forth, together with the names of all persons comprising the partnership or co-partnership. The bid must be signed by all partners comprising the partnership unless proof in the form of a certified copy of a statement of partnership acknowledging the signer to be a general partner is presented to the Owner, in which case the general partner may sign.

   Bids submitted as joint ventures must so state and be signed by each joint venturer.

   Bids submitted by individuals must be signed by the bidder unless an up to date power- of-attorney is on file in the Owner office, in which case, said person may sign for the individual.

   The above rules also apply in the case of the use of a fictitious firm name. In addition, however, where a fictitious name is used, it must be so indicated in the signature.

4. Modifications. Changes in or additions to the bid form, recapitulations of the work bid upon, alternative proposals, or any other modification of the bid form which is not specifically called for in the Contract Documents may result in the Owner's rejection of the bid as not being responsive to the Notice Inviting Bids. **No oral or telephonic modification of any bid submitted will be considered**.

5. Erasures, Inconsistent or Illegible Bids. The bid submitted must not contain any erasures, interlineations, or other corrections unless each such correction creates no inconsistency and is suitably authenticated by affixing in the margin immediately opposite the correction the signature or signatures of the person or persons signing the bid. In the event of inconsistency between words and figures in the bid price, words shall control figures. In the event that the Owner determines that any bid is unintelligible, inconsistent, or ambiguous, the Owner may reject such bid as not being responsive to the Notice Inviting Bids.

6. Examination of Site and Contract Documents. Each bidder shall visit the site of the proposed work and become fully acquainted with the conditions relating to the construction and labor so that the facilities, difficulties, and restrictions attending the execution of the work under the Contract are fully understood. Bidders shall thoroughly examine and be familiar with the drawings, specifications and all others documents and requirements that are attached to and/or contained in the Project Manual. The failure or omission of any bidder to receive or examine any Contract Documents, Special Conditions (if any), form, instrument, addendum, or other document or to visit the site and become acquainted with conditions there existing shall not relieve any bidder from obligations with respect to the bid or to the contract. The submission of a bid shall be taken as prima facie evidence of compliance with this section. Bidders shall not, at any time after submission of the bid, dispute, complain, or assert that there were any misunderstandings with regard to the nature or amount of work to be done.

7. Withdrawal of Bids. Any bid may be withdrawn, either personally or by written request, at any time prior to the scheduled closing time for receipt of bids. The bid security for bids withdrawn prior to the scheduled closing time for receipt of bids, in accordance with this paragraph, shall be returned upon demand therefor.

   No bidder may withdraw any bid for a period of ninety (90) calendar days after the date set for the opening of bids.

8. Agreements and Bonds. The Agreement form which the successful bidder, as CONTRACTOR, will be required to execute, and the forms and amounts of surety bonds which will be required to be furnished at the time of execution of the Agreement, are included in the bid documents and should be carefully examined by the bidder. The number of executed copies of the Agreement, the Performance Bond, and the Payment Bond required is three (3). Payment and Performance bonds must be executed by an admitted surety insurer as defined in Code of Civil Procedure 995.120.

9. Interpretation of Plans and Documents/Pre-Bid Clarification. If any prospective bidder is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in, or omissions, a written request for an interpretation or correction thereof may be submitted to the Owner. The bidder submitting the request shall be responsible for its prompt delivery. **Any interpretation or correction of the Contract Documents will only be made by Addendum duly issued, and a copy of such Addendum will be made available for each contractor receiving a set of the Contract Documents.** No person is authorized to make any oral interpretation of any provision in the Contract Documents, nor shall any oral interpretation be binding on the Owner. If discrepancies on drawings, specifications or elsewhere in the Contract Documents are not covered by addenda, bidder shall include in their bid methods of construction

and materials for the higher quality and complete assembly. Each request for clarification shall be submitted in writing, via email, to only the following persons:

TO: Sunrise Recreation and Park District

John Repetti Facilities Manager

916-257-3178

Each transmitted request shall contain the name of the person and/or firm filing the request, address, telephone and fax number, Specifications and/or Drawing number, and document title. Bidder is responsible for the legibility of hand written requests. Pre-bid clarification request shall be filed a minimum of six (6) days prior to bid opening. Requests received less than six (6) days before bid opening shall not be considered or responded to. A written response to timely pre-bid clarifications requests which materially affects the bidders price will be made by Addendum issued by the District not less than seventy-two (72) hours prior to bid opening.

10. Bidders Interested in More Than One Bid. No person, firm, or corporation shall be allowed to make, or file, or be interested in more than one prime bid for the same work unless alternate bids are specifically called for. A person, firm, or corporation that has submitted a proposal to a bidder, or that has quoted prices of materials to a bidder, is not thereby disqualified from submitting a proposal or quoting prices to other bidders or making a prime proposal.

11. Award of Contract. The Contract will be awarded to the lowest responsive responsible bidder by action of the governing Board pursuant to the terms and conditions of the Contract Documents including, but not limited to, the Special Conditions (if applicable). The Owner reserves the right to reject any or all bids, or to waive any irregularities or informalities in any bids or in the bidding. In the event an award is made to bidder, and such bidder fails or refuses to execute the Contract and provide the required documents within five (5) calendar days after award of the Contract to bidder, the Owner may award the Contract to next lowest responsible and responsive bidder or release all bidders**. Each bid must conform and be responsive to the Contract Documents as defined herein**.

12. Bid Protest Procedure. Only the prime bidder may file a bid protest. The protest shall be filed in writing with the Owner's representative or project manager not less than three (3) working days after the date of the bid opening. An e-mail address shall be provided and, by filing the protest, protesting bidder consents to receipt of e-mail notices for purposes of the Protest and Protest related questions and Protest Appeal, if applicable. The protest shall specify the reasons and facts upon which the protest is based.

a. Resolution of Bid Controversy: Once the bid protest is received, the apparent lowest responsible bidder will be notified of the protest and the evidence presented. If appropriate, the apparent low bidder will be given an opportunity to rebut the evidence and present evidence that the apparent low bidder should be allowed to perform the Work. If deemed appropriate by the Owner, an informal hearing will be held. Owner will issue a written decision within fifteen (15) days of receipt of the protest, unless factors beyond the Owner's reasonable control prevent such resolution. The Decision on the Bid Protest will be copied to all parties involved in the protest.

b. Finality. The decision concerning the Bid controversy will be final and not subject to any further appeals.

c. Failure to comply with this Bid Protest Procedure shall constitute a waiver of the right to protest and shall constitute a failure to exhaust the protesting bidder's administrative remedies.

13. Alternates. If alternate bids are called for, the Contract may be awarded at the election of the Governing Board to the lowest responsible and responsive bidder using the method and

procedures outlined in the Notice Inviting Bids and as specified in the section entitled Alternate/Deductive Bid Alternates.

14. Listing Subcontractors. Each bidder shall submit with his bid, on the form furnished with the Contract Documents, a list of the names, license numbers and locations of the places of business of each subcontractor who will perform work or labor or render service to the bidder in or about the project, or a subcontractor who under subcontract to the bidder, specially fabricates and installs a portion of the work, in an amount in excess of one-half of 1 percent of the bidder's total bid as required by the Subletting and Subcontracting Fair Practices Act (Public Contract Code Section 4100, et seq.).

15. Workers' Compensation. In accordance with the provisions of Labor Code Section 3700, the successful bidder as the Contractor shall secure payment of compensation to all employees. The Contractor shall sign and file with the Owner the following certificate prior to performing the work under this contract: "I am aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract." The form of such certificate is included as a part of the Bid Package.

16. Contractor's License. To perform the work required by this notice, the Contractor must possess the Contractor's License as specified in the Notice Inviting Bids, and the Contractor must maintain the license throughout the duration of the contract. If, at the time of award of the Contract, bidder is not licensed to perform the Project in accordance with Division 3, Chapter 9, of the Business and Professions Code for the State of California and the Notice to Contractors calling for bids, such bid will not be considered and the Contractor will forfeit its bid security to the Owner.

17. Preference for Materials and Substitutions. Unless the Plans and Specifications state that no Substitution is permitted, whenever the Contract Documents indicate any specific article, device, equipment, product, material, fixture, patented process, form, method, construction, or any specific name, make, trade name, or catalog number, with or without the words, "or equal," such specification shall be read as if the language "or equal" is incorporated.

18. Disqualification of Bidders and Proposals. More than one proposal for the same work from any individual, firm, partnership, corporation, or association under the same or different names will not be accepted; and reasonable grounds for believing that any bidder is interested in more than one proposal for the work will be cause for rejecting all proposals in which such bidder is interested and the bidder will forfeit their bid security to the Owner.

19. Unbalanced or Altered Bids. Proposals in which the prices are obviously unbalanced, and those which are incomplete or show any alteration of form, or contain any additions or conditional or alternate bids that are not called for or otherwise permitted, may be rejected. A proposal on which the signature of the bidder has been omitted may be rejected. If, in the District's sole discretion, it determines any pricing, costs or other information submitted by a bidder may result in an unbalanced bid, the District may deem such bid non-responsive. A bid may be determined by the District to be unbalanced if the bid is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the District even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advanced payment.

20. Employment of Apprentices. The Contractor and all Subcontractors shall comply with the provisions of California Labor Code including, but not limited to sections 1777.5, 1777.6, and

1777.7 concerning the employment of apprentices. The Contractor and any Subcontractor under him shall comply with the requirements of said sections, including applicable portions of all subsequent amendments in the employment of apprentices; however, the Contractor shall have full responsibility for compliance with said Labor Code sections, for all apprenticeable occupations, regardless of any other contractual or employment relationships alleged to exist.

21. Non-Collusion Declaration. Public Contract Code Section 7106 requires bidders to submit declaration of non-collusion with their bids. This form is included with the bid documents and must be signed and dated by the bidder under penalty of perjury.

22. Wage Rates, Travel and Subsistence.

a. The Contractor and all subcontractors shall comply with the requirements set forth in Division 2, Part 7, Chapter 1 of the Labor Code. Pursuant to Labor Code Sections 1770 et seq., the Owner has obtained from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which this work is to be performed for each craft, classification or type of worker needed to execute the contract. Copies are available from the Owner to any interested party on request and are also available from the Director of the Department of Industrial Relations. The Contractor shall obtain copies of the above-referenced prevailing wage sheets and post a copy of such wage rates at appropriate, conspicuous, weatherproof points at the Site.

b. Any worker employed to perform work on the Project and such work is not covered by any classification listed in the published general prevailing wage rate determinations or per diem wages determined by the Director of the Department of Industrial Relations, shall be paid not less than the minimum rate of wages specified therein for the classification which most nearly corresponds to the employment of such person in such classification.

c. Holiday and overtime work, when permitted by law, shall be paid for at the rate set forth in the prevailing wage rate determinations issued by the Director of the Department of Industrial Relations or at least one and one-half (1½) times the specified basic rate of per diem wages, plus employer payments, unless otherwise specified in the Contract Documents or authorized by law.

d. These per diem rates, including holiday and overtime work, and employer payments for health and welfare, pension, vacation, and similar purposes, are on file at the administrative office of the Owner, located as noted above and are also available from the Director of the Department of Industrial Relations. It is the Contractor's responsibility to ensure the appropriate prevailing rates of per diem wages are paid for each classification. It shall be mandatory upon the Contractor to whom the Contract is awarded, and upon any subcontractor under such Contractor, to pay not less than the said specified rates to all workers employed by them in the execution of the Contract.

23. No Telephone or Facsimile Availability. No telephone or facsimile machine will be available to bidders on the Owner premises at any time.

24. Obtaining Bidding Documents. Bidding Documents, may be obtained from:

TO: Sunrise Recreation and Park District

John Repetti, Facilities Manager

7801 Auburn Blvd Citrus Heights, CA 95610

(916) 257-3178

Bidder shall utilize a complete set of Bidding Documents in preparing a bid. The failure or omission of bidder to receive any Bidding Document, form, instrument, Addendum, or other document shall not relieve bidder from any obligations with respect to the bid and/or Contract.

25. Addenda. Clarification or any other notice of a change in the Bidding Documents will be issued only by the Owner or District representative and only in the form of a written Addendum, transmitted by fax, e-mail, or available for pick up to all who are known by the issuing office to have received a complete set of Bidding Documents. Any other purported Addenda are void and unenforceable.

Bidder is responsible for ascertaining the disposition of all Addenda issued regardless of Owner notification and to acknowledge all Addenda in the submitted sealed bid prior to the bid opening. Copies of Addendum will be made available for inspection wherever Bidding Documents are on file for inspection. Each Addendum will be numbered, dated, and identified with the Project number. Oral statements or any instructions in any form, other than Addendum as described above, shall be void and unenforceable. Any Addendum issued by the Owner and not noted as being acknowledged by bidder as required in the Bid Form, may result in the bid being deemed non-responsive.

Checklist of Mandatory Bid Forms

(For Contractor's use and reference only. Additional documents may be required so bidders should carefully review all Contract Documents and Bid Documents)

- ❑ Bid Form w/ Addendum(s) Noted
- ❑ Addendum(s) Signed
- ❑ Designation of Subcontractors
- ❑ Non-Collusion Declaration
- ❑ Bid Bond (or Bid Guarantee Form if Security is other than Bid Bond)
- ❑ Contractor's Certificate Regarding Workers' Compensation
- ❑ Bidders Acknowledgment of Project Schedule

PRE-BID CLARIFICATION FORM (For Contractor's Use)

PROJECT NAME:			
PROJECT NUMBER:			
TO:		EMAIL:	_____ & _____

DATE:			
FROM:		EMAIL:	
DOCUMENT/DIVISION NUMBER:		DRAWING NUMBER:	

REQUESTED CLARIFICATION:
RESPONSE TO CLARIFICATION:

Attach additional numbered sheets as necessary; however, only one (1) request shall be contained on each submitted form.

DESIGNATION OF SUBCONTRACTORS

In compliance with the Subletting and Subcontracting Fair Practices Act (California Public Contract Code Sections 4100 et seq.,) and any amendments thereof, each Bidder shall set forth below: (a) the name, license number, and location of the place of business of each subcontractor who will perform work or labor or render service to the Contractor, who will perform work or labor or work or improvement to be performed under this Contract, or a subcontractor licensed by the State of California who, under subcontract to the Contractor, specially fabricates and installs a portion of the work or improvements according to detailed drawings contained in the Plans and Specifications in an amount in excess of one-half of one percent of the Contractor's total bid; and (b) the portion and description of the work which will be done by each subcontractor under this Act. The Contractor shall list only one subcontractor for each such portion as is defined by the Contractor in this bid. All subcontractors shall be properly licensed by the California State Licensing Board.

If a Contractor fails to specify a subcontractor, or if a Contractor specifies more than one subcontractor for the same portion of work to be performed under the Contract in excess of one-half of one percent of the Contractor's total bid, the Contractor shall be deemed to have agreed that the Contractor is fully qualified to perform that portion, and that the Contractor alone shall perform that portion.

No Contractor whose bid is accepted shall (a) substitute any subcontractor, (b) permit any subcontractor to be voluntarily assigned or transferred or allow the relevant portion of the work to be performed by anyone other than the original subcontractor listed in the original bid, or (c) sublet or subcontract any portion of the work in excess of one-half of one percent of the Contractor's total bid where the original bid did not designate a subcontractor, except as authorized in the Subletting and Subcontracting Fair Practices Act.

Subletting or subcontracting of any portion of the work in excess of one-half of one percent of the Contractor's total bid where no subcontractor was designated in the original bid shall only be permitted in cases of public emergency or necessity, and then only after a finding, reduced to writing as a public record, of the authority awarding this Contract setting forth the facts constituting the emergency or necessity.

NOTE: If alternate bids are called for and bidder intends to use different or additional subcontractors on the alternates, a separate list of subcontractors must be provided for each such Alternate.

DESIGNATION OF SUBCONTRACTORS FORM

Scope of Work	Name of Subcontractor	Location & Place of Business	DIR #	License Type and Number

Proper Name of Bidder:

Date:

Name:

Signature of Bidder Representative:

Address:

Phone:

*BIDDER'S ACKNOWLEDGEMENT OF PROJECT SCHEDULE

The undersigned acknowledges that he/she has carefully and thoroughly reviewed the Project Schedule, attached herein, and made a part of the Contract Documents.

The undersigned fully understands the manpower requirements necessary to complete the project in accordance with the Project Schedule, and agrees to furnish all labor, materials and equipment necessary, upon (OWNER) acceptance of bidder's proposal, to fully comply with this schedule. The undersigned agrees to comply with any and all adjustments to schedule, as may be directed by the Construction Manager, and which may be required to ensure project completion as stipulated in the Contract Documents.

The undersigned acknowledges that failure to comply with the above could result in delays to other contractors, whose bona fide and substantiated cost impacts, due to said delays, may be borne by the undersigned.

ACKNOWLEDGED AND AGREED:

DATE:_____

_____
CONTRACTOR

By:_____

BID FORM

FOR

SUNRISE RECREATION AND PARK DISTRICT

RUSCH PARK MECHANICAL WELL ROOF PROJECT

SUNRISE RECREATION AND PARK DISTRICT

CONTRACTOR NAME: _____

ADDRESS: _____

_____

TELEPHONE: ( ) _____

FAX: ( ) _____

EMAIL _____

TO: Sunrise Recreation and Park District, acting by and through its Governing Board, herein called "Owner".

1. Pursuant to and in compliance with your Notice Inviting Bids and other documents relating thereto, the undersigned bidder, having familiarized himself with the terms of the Contract, the local conditions affecting the performance of the Contract, the cost of the work at the place where the work is to be done, with the Drawings and Specifications, and other Contract Documents, hereby proposes and agrees to perform within the time stipulated, the Contract, including all of its component parts, and everything required to be performed, including its acceptance by the Owner, and to provide and furnish any and all labor, materials, tools, expendable equipment, and utility and transportation services necessary to perform the Contract and complete all of the Work in a workmanlike manner required in connection with the construction of:

SUNRISE RECREATION AND PARK DISTRICT

in the Owner described above, all in strict conformance with the drawings and other Contract Documents on file at the Owner Offices of said Owner for amounts set forth herein.

2. BIDDER ACKNOWLEDGES THE FOLLOWING ADDENDUM:

Number	Number	Number	Number	Number	Number	Number	Number
_____	_____	_____	_____	_____	_____	_____	_____

3.

Acknowledge the inclusion of all addenda issued prior to bid in the blanks provided above. Your failure to do so may render your bid non-responsive.

4. (BASE BID) - TOTAL CASH PURCHASE PRICE IN WORDS & NUMBERS

_____DOLLARS

($ _____)

5. TIME FOR COMPLETION: The Owner may give a notice to proceed within ninety (90) days of the award of the bid by the Owner. Once the Contractor has received the notice to proceed, the Contractor shall complete the work in the time specified in the Agreement. By submitting this bid, Contractor has thoroughly studied this Project and agrees that the Contract Time for this Project is adequate for the timely and proper completion of the Project. Further, Contractor has included in the analysis of the time required for this Project, and the requisite time to complete Punch List.

In the event that the Owner desires to postpone giving the notice to proceed beyond this ninety (90) day period, it is expressly understood that with reasonable notice to the Contractor, giving the notice to proceed may be postponed by the Owner. It is further expressly understood by the Contractor, that the Contractor shall not be entitled to any claim of additional compensation as a result of the postponement of giving the notice to proceed.

It is understood that the Owner reserves the right to reject any or all bids and/or waive any irregularities or informalities in this bid or in the bid process. The Contractor understands that it may not withdraw this bid for a period of ninety (90) days after the date set for the opening of bids.

6. Attached is bid security in the amount of not less than ten percent (10%) of the bid: Bid bond (10% of the Bid), certified check, or cashier's check (circle one)

7. The required List of Designated Subcontractors is attached hereto.

8. The required Non-Collusion Declaration is attached hereto.

9. The bidders acknowledgment of the project schedule is attached hereto.

10. The Substitution Request Form, if applicable, is attached hereto.

11. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the undersigned after the opening of the bid, and within the time this bid is required to remain open, or at any time thereafter before this bid is withdrawn, the undersigned will execute and deliver to the Owner a Contract in the form attached hereto in accordance with the bid as accepted, and that he or she will also furnish and deliver to the Owner the Performance Bond and Payment Bond, all within five (5) calendar days after award of Contract, and that the work under the Contract shall be commenced by the undersigned bidder, if awarded the Contract, by the start date provided in the Owner's Notice to Proceed, and shall be completed by the Contractor in the time specified in the Contract Documents.

12. The names of all persons interested in the foregoing proposal as principals are as follows:

_____

_____

_____

13.

(IMPORTANT NOTICE: If bidder or other interested person is a corporation, state the legal name of such corporation, as well as the names of the president, secretary, treasurer, and manager thereof; if a co-partnership, state the true names of the firm, as well as the names of all individual co-partners comprising the firm; if bidder or other interested person is an individual, state the first and last names in full.)

13. PROTEST PROCEDURES. If there is a bid protest, the grounds shall be submitted as set forth in the Instructions to Bidders.

14. The undersigned bidder shall be licensed and shall provide the following California Contractor's license information:

License Number: _____

License expiration date: _____

Name on License: _____

Class of License: _____

DIR Registration Number: _____

15. If the bidder is a joint venture, each member of the joint venture must include the above information.

16. Time is of the essence regarding this Contract, therefore, in the event the bidder to whom the Contract is awarded fails or refuses to post the required bonds and return executed copies of the Agreement form within five (5) calendar days from the date of receiving the Notice of Award, the Owner may declare the bidder's bid deposit or bond forfeited as damages.

17. The bidder declares that he/she has carefully examined the location(s) of the proposed Project, that he/she has examined the Contract Documents, including the Plans, Addenda, Specifications, and all other documents contained in the Project Manual, and read the accompanying instructions to bidders, and hereby proposes and agrees, if this proposal is accepted, to furnish all materials and do all work required to complete the said work in accordance with the Contract Documents, in the time and manner therein prescribed for the unit cost and lump sum amounts set forth in this Bid Form.

I agree to receive service of notices at the e-mail address listed below.

I the below-indicated bidder, declare under penalty of perjury that the information provided and representations made in this bid are true and correct.

_____
Proper Name of Company

_____
Name of Bidder Representative

_____
Street Address

_____
City, State, and Zip

(_____) _____
Phone Number

(_____) _____
Fax Number

_____
E-Mail

By: _____ Date: _____

Signature of Bidder Representative

NOTE: If bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of authorized officers or agents and the document shall bear the corporate seal; if bidder is a partnership, the true name of the firm shall be set forth above, together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership; and if bidder is an individual, his / her signature shall be placed above. All signatures must be made in permanent blue ink.

CONTRACTOR'S CERTIFICATE REGARDING WORKERS' COMPENSATION FORM

Labor Code Section 3700 in relevant part provides:

Every employer except the State shall secure the payment of compensation in one or more of the following ways:

1. By being insured against liability to pay compensation by one or more insurers duly authorized to write compensation insurance in this State.

2. By securing from the Director of Industrial Relations a certificate of consent to self-insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to employees.

3. For any county, city, city and county, municipal corporation, public Owner, public agency, or any political subdivision of the state, including each member of a pooling arrangement under a joint exercise of powers agreement (but not the state itself), by securing from the Director of Industrial Relations a certificate of consent to self-insure against workers' compensation claims, which certificate may be given upon furnishing proof satisfactory to the director of ability to administer workers' compensation claims properly, and to pay workers' compensation claims that may become due to its employees. On or before March 31, 1979, a political subdivision of the state which, on December 31, 1978, was uninsured for its liability to pay compensation, shall file a properly completed and executed application for a certificate of consent to self-insure against workers' compensation claims. The certificate shall be issued and be subject to the provisions of Section 3702.

I am aware of the provisions of Labor Code Section 3700 which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provision before commencing the performance of the work of this Contract.

_____
(Signature)

_____
(Print)

_____
(Date)

In accordance with Article 5 (commencing at section 1860), Chapter 1, Part 7, Division 2 of the Labor Code, the above certificate must be signed and submitted with the Contractor's bid.

NON-COLLUSION DECLARATION

The undersigned declares:

I am the _____ [Title] of _____ [Name of Company], the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ [Date], at _____ [City], _____ [State].

Signed: _____

Typed Name: _____

BID GUARANTEE FORM
(Use only when not using a Bid Bond)

Accompanying this proposal is a cashier's check payable to the order of the _____District or a certified check payable to the order of the _____ District in an amount equal to ten percent (10%) of the base bid and alternates ($_____).

The proceeds of this check shall become the property of said Owner, if, this proposal shall be accepted by the Owner through the Owner's Governing Board, and the undersigned fails to execute a Contract with and furnish the sureties required by the Owner within the required time; otherwise, said check is to be returned to the undersigned.

_____
Bidder

Note: Use this form, in lieu of Bid Bond form, when a cashier's check or certified check is accompanying the bid

BID BOND FORM

KNOW ALL MEN BY THESE PRESENT that we, the undersigned, (hereafter called "Principal"), and _____ (hereafter called "Surety"), are hereby held and firmly bound unto the _____ District (hereafter called "Owner") in the sum of _____ ($_____) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

SIGNED this _____ day of _____, 20___.

The condition of the above obligation is such that whereas the Principal has submitted to the Owner a certain Bid, attached hereto and hereby made a part hereof, to enter into a Contract in writing for the construction of _____.

NOW, THEREFORE,

a. If said Bid is rejected, or

b. If said Bid is accepted and the Principal executes and delivers a Contract or the attached Agreement form within five (5) calendar days after acceptance (properly completed in accordance with said Bid), and furnishes bonds for his faithful performance of said Contract and for payment of all persons performing labor or furnishing materials in connection therewith,

Then this obligation shall be void; otherwise, the same shall remain in force and effect.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Contract, or the call for bids, or the work to be performed thereunder, or the specifications accompanying the same, shall in anyway affect its obligation under this bond, and it does hereby waive notice of any such change, extension of time, alteration, or addition to the terms of said Contract, or the call for bids, or the work, or to the specifications.

In the event suit is brought upon this bond by the Owner and judgment is recovered, the Surety shall pay all costs incurred by the Owner in such suit, including without limitation, attorneys' fees to be fixed by the court.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year first set forth above.

By _____

(Corporate Seal)

Principal's Signature

_____

Typed or Printed Name

_____

Principal's Title

By _____

(Corporate Seal)

Surety's Signature

_____

Typed or Printed Name

_____

Title

_____

(Attached Attorney in Fact Certificate)

Surety's Name

_____

Surety's Address

_____

Surety's Phone Number

IMPORTANT:

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant, or loan funds, it must also appear on the Treasury Department's most current list (Circular 570 as amended).

THIS IS A REQUIRED FORM.

Any claims under this bond may be addressed to:

(Name and Address of Surety)

_____

_____

_____

(Name and Address of agent or representative for
service of process in California if different from above)

_____

_____

_____

(Telephone Number of Surety and agent or
representative for service of process in California).

REQUEST FOR SUBSTITUTION AT TIME OF BID

Pursuant to Public Contract Code section 3400, bidder submits the following request to Substitute with the bid that is submitted. I understand that if the request to substitute is not an "or equal" or is not accepted by District and I answer "no" I will not provide the specified item, then I will be held non-responsive and my bid will be rejected. With this understanding, I hereby request Substitution of the following articles, devices, equipment, products, materials, fixtures, patented processes, forms, methods, or types of construction:

	Specification Section	Specified Item	Requested Substituted Item	Contractor Agrees to Provide Specified Item if request to Substitute is Denied[1] (circle one)	District Decision (circle one)
1				Yes No	Grant Deny
2				Yes No	Grant Deny
3				Yes No	Grant Deny
4				Yes No	Grant Deny
5				Yes No	Grant Deny
6				Yes No	Grant Deny
7				Yes No	Grant Deny
8				Yes No	Grant Deny
9				Yes No	Grant Deny

Bidder must state whether bidder will provide the Specified Item in the event the Substitution request is evaluate and denied. If bidder states that bidder will not provide the Specified Item the denial of a request

to Substitute shall result in the rejection of the bidder as non-responsive. However, if bidder states that bidder will provide the Specified Item in the event that bidder's request for Substitution is denied, bidder shall execute the Agreement and provide the Specified Item(s). If bidder refuses to execute the Agreement due to the District's decision to require the Specified Item(s) at no additional cost, bidder's Bid Bond shall be forfeited.

This Request Form must be accompanied by evidence as to whether the proposed Substitution (1) is equal in quality, service, and ability to the Specified Item; (2) will entail no change in detail, construction, and scheduling of related work. (3) will be acceptable in consideration of the required design and artistic effect; (4) will provide no cost disadvantage to the District; (5) will require no excessive or more expensive maintenance, including adequacy and availability of replacement parts; (6) will require no change of the construction schedule or milestones for the Project; and, (7) Contractor agrees to pay for any DSA Fees or other Governmental Plan check costs associated with this Substitution Request. (See General Conditions Section 3.6)

The undersigned states that the following paragraphs are correct:

1. The proposed Substitution does not affect the dimensions shown on the Drawings.

2. The undersigned will pay for changes to the building design, including Architect, engineering, or other consultant design, detailing, DSA plan check or other governmental plan check costs, and construction costs caused by the requested substitution.

3. The proposed substitution will have no adverse effect on other trades, the Contract Time, or specified warranty requirements.

4. Maintenance and service parts will be available locally for the proposed substitution.

5. In order for the Architect or Owners Representative to properly review the substitution request, within five (5) days following the opening of bids, the Contractor shall provide samples, test criteria, manufacturer information, and any other documents requested by Architect or Architect's engineers or consultants, including the submissions that would ordinarily be required under Article 3.7 for Shop Drawings along with a document which provides a side by side comparison of key characteristics and performance criteria (often known as a CSI side by side comparison chart).

6. If Substitution Request is accepted by the District, Contractor is still required to provide a Submittal for the substituted item pursuant to Article 3.7 and shall provide required Schedule information (including schedule fragnets, if applicable) for the substituted item as required under Article 8.3.2.1. The approval of the Architect, Engineer, or District of the substitution request does not mean that the Contractor is relieved of Contractor's responsibilities for Submittals, Shop Drawings, and schedules under Article 3.7 and 8.3.2 if the Contractor is awarded the Project.

Name of Bidder:_____

By: _____

District:_____

By: _____

[End of Required Bid Documents to be Submitted with Bid]

PAYMENT BOND

(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the _____ DISTRICT (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, said Contractor is required to furnish a bond in connection with said Contract, and pursuant to California Civil Code Section 9550;

NOW, THEREFORE, We, _____, the undersigned Contractor, as Principal; and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the _____ DISTRICT and to any and all persons, companies, or corporations entitled by law to file stop notices under California Civil Code Section 9100, or any person, company, or corporation entitled to make a claim on this bond, in the sum of _____ Dollars ($_____), such sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which payment will and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys' fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Section 9550 et seq.

This bond shall inure to the benefit of any person named in Civil Code Section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, Plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or relating to any scheme or work of improvement herein above described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants

otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any breach of contract between the Obligee and the Contractor or on the part of any obligee named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code Section 9100, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

IN WITNESS WHEREOF this instrument has been duly executed by the Principal and Surety above named, on the_____ day of _____, 20___.

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____
Attorney-in-Fact

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____ before me, _____, a Notary Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Notary Public in and for said State

Commission expires:_____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

PERFORMANCE BOND

(CALIFORNIA PUBLIC WORK)

KNOW ALL MEN BY THESE PRESENTS:

THAT WHEREAS, the _____ DISTRICT (sometimes referred to hereinafter as "Obligee") has awarded to _____ (hereinafter designated as the "Principal" or "Contractor"), an agreement for the work described as follows: _____ (hereinafter referred to as the "Public Work"); and

WHEREAS, the work to be performed by the Contractor is more particularly set forth in that certain contract for said Public Work dated _____ _____, (hereinafter referred to as the "Contract"), which Contract is incorporated herein by this reference; and

WHEREAS, the Contractor is required by said Contract to perform the terms thereof and to provide a bond both for the performance and guaranty thereof.

NOW, THEREFORE, we, _____, the undersigned Contractor, as Principal, and _____, a corporation organized and existing under the laws of the State of _____, and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the _____ DISTRICT in the sum of _____ Dollars ($_____), said sum being not less than one hundred percent (100%) of the total amount payable by said Obligee under the terms of said Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the bounded Contractor, his or her heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in said Contract and any alteration thereof made as therein provided, on his or her part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill guarantees of all materials and workmanship; and indemnify, defend and save harmless the Obligee, its officers and agents, as stipulated in said Contract, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

The Surety, for value received, hereby stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any change, extension of time, alteration in or addition to the terms of the contract or to the work to be performed there under or the specifications accompanying the same, nor by any change or modification to any terms of payment or extension of time for any payment pertaining or relating to any scheme of work of improvement under the contract. Surety also stipulates and agrees that it shall not be exonerated or released from the obligation of this bond (either by total exoneration or pro tanto) by any overpayment or underpayment by the Obligee that is based upon estimates approved by the Architect. The Surety stipulates and agrees that none of the aforementioned changes, modifications, alterations, additions, extension of time or actions shall in any way affect its obligation on this bond, and it does hereby waive notice of any such changes, modifications, alterations, additions or extension of time to the terms of the contract, or to the work, or the specifications as well notice of any other actions that result in the foregoing.

Whenever Principal shall be, and is declared by the Obligee to be, in default under the Contract, the Surety shall promptly either remedy the default, or shall promptly take over and complete the Contract through its agents or independent contractors, subject to acceptance and approval of such agents or independent contractors by Obligee as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages; or, at Obligee's sole discretion and election, Surety shall obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Obligee of the lowest responsible bidder, arrange for a contract between such bidder and the Obligee and make available as Work progresses (even though there should be a default or succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the "balance of the Contract Price" (as hereinafter defined), and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees and the payment of liquidated damages. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable to Principal by the Obligee under the Contract and any modifications thereto, less the amount previously paid by the Obligee to the Principal, less any withholdings by the Obligee allowed under the Contract. Obligee shall not be required or obligated to accept a tender of a completion contractor from the Surety.

Surety expressly agrees that the Obligee may reject any agent or contractor which may be proposed by Surety in fulfillment of its obligations in the event of default by the Principal. Unless otherwise agreed by Obligee, in its sole discretion, Surety shall not utilize Principal in completing the Contract nor shall Surety accept a bid from Principal for completion of the work in the event of default by the Principal.

No final settlement between the Obligee and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

The Surety shall remain responsible and liable for all patent and latent defects that arise out of or relate to the Contractor's failure and/or inability to properly complete the Public Work as required by the Contract and the Contract Documents. The obligation of the Surety hereunder shall continue so long as any obligation of the Contractor remains.

Contractor and Surety agree that if the Obligee is required to engage the services of an attorney in connection with enforcement of the bond, Contractor and Surety shall pay Obligee's reasonable attorneys' fees incurred, with or without suit, in addition to the above sum.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including reasonable attorneys' fees to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20___.

PRINCIPAL/CONTRACTOR:

_____

By: _____

SURETY:

_____

By: _____
Attorney-in-Fact

The rate of premium on this bond is _____ per thousand.

The total amount of premium charged: $_____ (This must be filled in by a corporate surety).

IMPORTANT: THIS IS A REQUIRED FORM.

Surety companies executing bonds must possess a certificate of authority from the California Insurance Commissioner authorizing them to write surety insurance defined in California Insurance Code Section 105, and if the work or project is financed, in whole or in part, with federal, grant or loan funds, Surety's name must also appear on the Treasury Department's most current list (Circular 570 as amended).

Any claims under this bond may be addressed to:

(Name and Address of Surety)	(Name and Address of agent or representative for service for service of process in California)
_____	_____
_____	_____
Telephone:_____	Telephone: _____

STATE OF CALIFORNIA)
) ss.
COUNTY OF)

On _____, before me, _____, a Notary Public in and for said State, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument as the Attorney-in-Fact of the _____ (Surety) and acknowledged to me that he/she/they subscribed the name of the _____ (Surety) thereto and his own name as Attorney-in-Fact on the executed instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____
Notary Public in and for said State

Commission expires:_____

NOTE: A copy of the power-of-attorney to local representatives of the bonding company must be attached hereto.

GUARANTEE

Guarantee for _____. We hereby guarantee that the _____, which we have installed in _____ _____ has been done in accordance with the Contract Documents, including without limitation, the drawings and specifications, and that the work as installed will fulfill the requirements included in the bid documents. The undersigned and its surety agrees to repair or replace any or all such work, together with any other adjacent work, which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of (3) three years from the date of the Notice of Completion of the above-mentioned structure by the _____ District, ordinary wear and tear and unusual abuse or neglect excepted.

In the event the undersigned or its surety fails to comply with the above-mentioned conditions within a reasonable period of time, as determined by the Owner, but not later than ten (10) days after being notified in writing by the Owner or within forty-eight (48) hours in the case of an emergency or urgent matter, the undersigned and its surety authorizes the Owner to proceed to have said defects repaired and made good at the expense of the undersigned and its surety, who will pay the costs and charges therefor upon demand. The undersigned and its surety shall be jointly and severally liable for any costs arising from the Owner's enforcement of this Guarantee.

Countersigned

_____ _____

(Proper Name) (Proper Name)

By: _____ By: _____

_____ _____

(Signature of Subcontract or Contractor) (Signature of General Contractor if for Subcontractor)

Representatives to be contacted for service:

Name: _____

Address: _____ Phone Number:_____

ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between the _____ District, _____, _____, California _____, hereinafter called "Owner", and _____ whose address is _____, hereinafter called "Contractor", and _____ whose address is _____, hereinafter called "Escrow Agent".

For the consideration hereinafter set forth, the Owner, Contractor and Escrow Agent agree as follows:

1. Pursuant to section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for Retention earnings required to be withheld by Owner pursuant to the Construction Contract entered into between the Owner and Contractor for ____ _____in the amount of _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the Owner shall make payments of the Retention earnings directly to the escrow agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the Owner within ten (10) days of deposit. The market value of the securities at the time of the substitution shall be at least equal to the cash amount then required to be withheld as Retention under the terms of the Contract between the Owner and Contractor. Securities shall be held in the name of the Owner, and shall designate the Contractor as beneficial owner.

2. The Owner shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

3. When the Owner makes payments of Retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the Owner pays the Escrow Agent directly.

4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the Owner. These expenses and payment terms shall be determined by the Owner, Contractor, and Escrow Agent.

5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the Owner.

6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from the Owner to the Escrow Agent that Owner consents to the withdrawal of the amount sought to be withdrawn by Contractor.

7. The Owner shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven (7) days' written notice to the Escrow Agent from the Owner of the notice of default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the Owner.

8. Upon receipt of written notification from the Owner certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of fees and charges.

9. Escrow Agent shall rely on the written notifications from the Owner and the Contractor pursuant to Sections (5) to (8), inclusive, of this Agreement and the Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of Owner:

_____
Title

_____
Name

_____
Signature

_____
Address

On behalf of Contractor:

_____
Title

_____
Name

_____
Signature

_____
Address

On behalf of Agent:

_____
Title

_____
Name

Signature

Address

At the time the Escrow Account is opened, the Owner and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date set forth above.

OWNER	CONTRACTOR
Title	Title
Name	Name
Signature	Signature

SPECIAL CONDITIONS

SECTION 01 11 00

SUMMARY OF WORK

PART 1 — GENERAL

1.1 WORK REQUIRED BY CONTRACT DOCUMENTS

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

B. The work of this project consists of, but is not limited to the Scope of Work listed below. This scope is preliminary and for information purposes only. It is the responsibility of the contractor to perform all work as shown, specified and required based upon the contract documents (drawings, specifications, addenda, etc.)

1.2 SUMMARY

A. Section includes removal and replacement of the existing roofing systems as specified with all applicable details for a complete watertight warrantied roofing assembly per the manufacturers instructions. Roofing project will be done at the same time as HVAC replacement. Contractors will need to coordinate and schedule accordingly.

B. Related Work Specified Elsewhere:

1. Section 06 - Rough Carpentry

2. Section 07 - Roof Insulation

3. Section 07 – Modified Bituminous Membrane Roofing

4. Section 07 - Sheet Metal Flashing and Trim

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. Project Identification: Rusch Park Mechanical Well Roof Project

B. Project Location: 7801 Auburn Blvd Citrus Heights, CA 95610

C. Owner: Sunrise Recreation and Park District. 7801 Auburn Blvd Citrus Heights, CA 95610

D. General scope of work but not limited to;

1. Mechanical Well Low Slope Roof Section:

2. Includes removal and disposal of existing roofing system(s), insulation board, gutters, downspouts, flashings, copings, etc. for a complete prepared roof surface at both the low and steep slope areas.

3. A per square foot price for dry rot repair will be inserted into the bid form for anything needed and approved by the district. Photos are required of all dry rot replacement with billing.

4. Install one layer of rosin paper over the entire wood roof deck at the low slope roof section only.

5. Install one layer of ½" primed Densdeck board with screws and plates.

6. Install one layer of Flexbase 80 in Greenlock Adhesive at all horizontal surfaces.

7. Install KEE-Stone 60 FB membrane adhered in KEE-Lock Spatter spray at all horizontal surfaces per manufactures details.

8. Install KEE-Stone 60 NF at all Vertical surfaces.

9. Install new lead boots at all pipe penetrations.

10. Install new vents at all locations and incorporate into the roof system per manufacturers details.

11. Install rubber equipment support blocking at the pipe support locations.

12. Move and install one (1) wood brace approximately 6" as directed by district. Wood to be replaced at time of work.

13. Install new coping metal around perimeter. Color determined by district.

1.4 WORK COMPLETED BY THE DISTRICT

A. No work will be completed by the district.

1.5 TYPE OF CONTRACT

A. Work will be completed under a single prime contract.

1.6 USE OF PREMISES

A. General: Contractor will have limited use of premises for construction operations.

B. Use of site: Limit use of premises to work areas required. Do not disturb portions of the project site beyond areas in which the work is indicated.

C. The building interior is off limits to the contractor. All access shall be from the exterior.

D. The point of exterior access must be approved by the owner.

E. Entrances: Keep all entrances serving the building clear and available to the owner, owner's employees, and emergency vehicles.

F. Use of existing building: Maintain existing building in a weather tight condition throughout the construction period. Repair damage caused by construction operations. Protect building and occupants during construction.

G. Vehicle Parking: Contractor parking is available on site and will need to be approved by the owner.

H. Assume full responsibility for protection and safekeeping of materials stored on premises. Coordinate the location of materials and equipment to be stored on premises. Provide barricades, barriers, and enclosures as required to ensure safety.

1.7 OWNERS OCCUPANCY REQUIREMENTS

A. The owner will occupy the building during the entire construction phase. Cooperate with the owner during construction operations to minimize owner conflicts and facilitate owner usage. Perform the work as to not interfere with owners operations.

B. A minimum of 72 hours notice is needed for all activities that will affect the owners operations.

1.8 WORK RESTRICTIONS

A. On site work hours: Work shall generally be performed from the hours of 7:00 am – 5:00 pm Monday through Friday except as otherwise indicated or approved by the owner.

1. Weekend hours, early morning hours, utility shut down, and noisy activity requires owner's authorization a minimum of 72 hours in advance.

1.9 UNIT PRICES

A. The following unit prices will be used to add or deduct from the total contract amount.

a. Unit-1 Replacement of dryrot wood roof decking, add a line items per square foot cost to proposal form.

b. Unit-2 Replacement of dryrot wood fascia board, add a line item per square foot cost to proposal form.

1.10 SCHEDULE OF ALTERNATES

A. None

1.11 PROJECT CONDITIONS

A. Proceed with roofing work only when existing and forecasted weather conditions will permit a unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

B. Do not apply roofing insulation or membrane to damp deck surface.

C. Do not expose materials subject to water or solar damage in quantities greater than can be weatherproofed during same day.

1.12 SEQUENCING AND SCHEDULING

A. Sequence installation of roofing with related units of work specified in other sections to ensure that roof assemblies, including roof accessories, flashing, trim and joint sealers, are protected against damage from effects of weather, corrosion and adjacent construction activity.

B. Complete all roofing field assembly work each day. Phased construction will not be accepted

1.14 PROJECT TIME LINE

A. Pre Bid Meeting: 1/16/2024

B. Last Day for Questions: 1/24/2024

C. Bid Date: 2/7/2024

D. Board Meeting to Award: 2/19/2024

E. Project Start Date: ASAP

F. Project Completion Date: 5/30/2024

END OF SECTION 01 11 00 – SUMMARY OF WORK

SECTION 01 33 00

SUBMITTALS AND SUBSTITUTIONS

PART 1 – GENERAL

1.1 DESCRIPTION

A. Work included:

1. Wherever possible throughout the Contract Documents, the maximum acceptable quality of workmanship and materials has been defined by manufacturer's name and catalog number, reference to recognized industry and government standards, or description of required attributes and performance.
2. To ensure that the specified products are furnished and installed in accordance with design intent, procedures have been established for advance submittal of design data and for their review by the Architect.
3. Make all submittals required by the Contract Documents and revise and re-submit as necessary to establish compliance with the specified requirements.

B. Related work described elsewhere: Individual requirements for submittals are described in pertinent sections of these Specifications. Refer also to General Conditions, Article 11. Substitutions.

1.2 QUALITY ASSURANCE

A. Coordination of submittals: Prior to each submittal, carefully review and coordinate all aspects of each item being submitted and verify that each item and the submittal for it conforms in all respects with the requirements of the Contract Documents. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

B. Certificates of compliance:

1. Certify that all materials used in the work comply with all specified provisions thereof. Certification shall not be construed as relieving the Contractor from furnishing satisfactory materials if, after tests are performed on selected samples, the material is found to not meet specified requirement.
2. Show on each certification the name and location of the Work, name and address of Contractor, quantity and date or dates of shipment or delivery to which the certificate applies, and name of the manufacturing or fabricating company. Certification shall be in the form of letter or company-standard forms containing all required data. Certificates shall be signed by an officer of the manufacturing or fabricating company.

3. In addition to the above information, all laboratory test reports submitted with certificates of compliance shall show the date or dates of testing, the specified requirements for which testing was performed, and results of the test or tests.

1.3 SUBMITTALS

A. Certificates of Compliance: Upon completion of the work, and as a condition of its acceptance, submit to the Architect all certificates of compliance.

B. Procedures: Make submittals in strict accordance with provisions of this section.

C. Quantity: Provide a minimum of seven (7) submittals. Two (2) to be retained by the Architect and Consultant/Engineer; One (1): District; One (1) Inspector of Record, and a minimum of Three (3) to be returned to the Contractor.

D. Submittal Schedule: Pursuant to Article 3 of the General Conditions, provide a submittal schedule as outlined. Provide updated copies of the schedule, including status of all submittals, at the project meetings.

E. Provide digital copies of submittal.

PART 2 – PRODUCTS

2.1 SHOP DRAWINGS AND COORDINATION DRAWINGS

A. Shop drawings:

1. Scale and measurements: Make all shop drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work. Specifically call to the Architect's attention any deviation from the Contract requirements.
2. Copying of the Contract Documents for purposes of revisions or as base sheets for the required submittal is expressly prohibited.
3. Quantities and type of prints required: Submit all shop drawings in the form of one sepia transparency of each sheet plus 3 blue-line or black-line prints of each sheet. Blueprints will not be acceptable. Additionally on a digital DVD containing PDF files.
4. Reproduction of review shop drawings: Printing and distribution of review shop drawings for the Architect's use will be by the Architect. All review comments of the Architect will be shown on the sepia transparency when it is returned to the Contractor. The Contractor shall make and distribute a minimum of six (6) copies as directed by the Architect.

5. Provide digital copies of shop drawings.

2.2 MANUFACTURERS' LITERATURE

A. General: Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.

B. Number of copies required: Submit the number of copies required to be returned plus four (4) copies that will be distributed by the Architect.

2.3 SAMPLES

A. Accuracy of samples: Samples shall be of the precise article proposed to be furnished.

B. Number of samples required: Unless otherwise specified, submit all samples in the quantity that is required to be returned plus 2 that will be retained by the Architect.

C. Reuse of Samples: In situations specifically so approved by the Architect, the Architect's retained sample may be used in the construction as one of the installed items.

2.4 COLORS AND PATTERNS

A. Unless the precise color and pattern is specifically described in the Contract Documents, and whenever a choice of color or pattern is available in a specified product, submit accurate color and pattern charts to the Architect for review and selection.

2.5 SUBSTITUTIONS

A. Approval required by the owner and architect:

1. The Contract is based on the standards of quality established in the Contract Documents. All substitutions of the specified product(s) shall be submitted 10 days prior to the opening of the bid.

2. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.

3. Bidder will not be allowed to change materials after the bid opening date.

4. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Architect/ Owner for approval prior to acceptance.

5. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
   a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
   b. Will provide the same guarantee for substitution as for the product and method specified.
   c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
   d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
   e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
   f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.

6. Architect/ Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.

7. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

PART 3 – EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

A. General:

1. Forward all submittals to the office of the Project Manager.
2. All shipping charges shall be prepaid.
3. Consecutively number all submittals.
4. Accompany each submittal with a letter of transmittal containing all pertinent information required for identification and checking of submittals, including the following:

a. Project name and location.
b. Architect's job number.
c. Subcontractor's, vendor's and/or manufacturer's name and address.
d. Product identification.
e. Drawing title, number, and date: and revision number and date, if applicable.
f. Applicable Contract Drawings' sheet and detail numbers, along with Specifications' section number and specific paragraphs.
g. Numbers of applicable reference standards specified (ASTM, FS, etc.) and all other additional data as may be required by the Specifications.
h. State any deviation from Contract documents and Justification therefore.

B. Internal identification: On at least the first page of each copy of each submittal, and elsewhere as required for positive identification, clearly indicate the submittal number in which the item was included.

C. Re-submittals: When material is re-submitted for any reason, transmit under a new letter of transmittal and with a new submittal number and reference to original submittal number.

D. Submittal log: Maintain an accurate submittal log for the duration of the Contract, showing current status of all submittals at all times. Make the submittal log available for the Architect's review upon request and distribute copies monthly to Architect and District.

3.2 COORDINATION OF SUBMITTALS

A. General: Prior to submittal for approval, use all means necessary to fully coordinate all materials including, but not necessarily limited to:

1. Determining and verifying all interface conditions, catalog numbers, and similar data.
2. Coordination with other trades as required.
3. Clearly indicating all deviations from requirements of the Contract Documents.

B. Group of submittals: Unless otherwise specified, make all submittals in groups

containing all associated items to ensure that information is available for checking each item when it is received. Partial submittals may be rejected as not complying with the provisions of the Contract Documents and the Contractor shall be strictly liable for all delays so occasioned.

3.3 TIMING OF SUBMITTALS

A. General: Within 35 days after Contract award, Contractor shall submit for Architect's written approval a list of all items he and his subcontractors propose to use in the work; also the particular brand of any article where more than one is specified as a standard. Make all submittals far enough in advance of scheduled dates for installation to provide all time required for reviews, for securing necessary approvals form the Division of the State Architect, including the Department of Fire and Life Safety (formerly referred to as the State Fire Marshall), for possible revisions and re-submittals, and for placing orders and securing delivery.

B. Review time: In scheduling, allow at least 14 calendar days for review by the District following receipt of the submittal.

C. Delays: Delays caused by tardiness in receipt of submittals will not be an acceptable basis for extension of the Contract completion date.

3.4 ARCHITECT'S REVIEW

A. General: Review by the Architect shall not be construed as a complete check, but only that the general method of construction and detailing is satisfactory. Review shall not relieve the Contractor from responsibility for errors that may exist.

B. Authority to proceed: The notations "reviewed", or "Furnish As Corrected" authorize the Contractor to proceed with fabrication, purchase, or both, of the items so noted, subject to the revisions, if any, required by the Architect's review comments.

C. Revisions: Make all revisions required by the Architect. If the Contractor considers any required revision to be a change, he shall so notify the Architect as proved for under "Changes and Extra Work" in the General Conditions, Show each drawings revision by number, date, and subject in a revision block on the drawing. Make only those revisions directed or approved by the Architect.

5. APPROVED SUBMITTALS

A. Materials, fabricated articles and other items to be installed in permanent work shall be those of approved submittals only and shall not be fabricated, delivered or incorporated in the work until submittals are approved as provided herein.

B. Approval or acceptance of items will not preclude rejection of any item upon discovery of defects in them prior to final acceptance of completed work.

C. After an item has been approved, no charge in brand or make will be permitted unless:

1. Satisfactory written evidence is presented to and approved by the Architect that manufacturer cannot make scheduled delivery of approved item; or

2. The item delivered has been rejected and substitution of a suitable item is an urgent necessity; or other conditions become apparent that indicate approval of such substitute item to be best interest of District.

3.6 CALCULATIONS OR TEST DATA

A. The manufacturer or supplier of certain products will be required to submit substantiating data to show compliance with structural requirements (including seismic) for items in this Specification.

B. All calculations shall be prepared by a structural engineer licensed in California, and all test data shall be by an independent testing lab.

C. Submittals shall be made to Architect, who will review and comment and forward to the Division of the State Architect for final approval.

END OF SECTION

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

B. Related work specified elsewhere:

1. Division 01: Summary of Work

2. Section 07 - Roof Insulation

3. Division 07: Modified Membrane Roofing

4. Division 07: Sheet Metal Flashing and Trim

1.2 SUMMARY:

A. This portion of the specification sets forth the general requirements, including the quality and type of materials required for the installation of all pressure treated and non pressure treated lumber used for wood curbs, nailing strips, miscellaneous blocking material, unexposed fillers, fascia, edging strips, deck replacement, etc

1.3 STORAGE:

A. All material specified herein shall be stored (after delivery to the site) so that it will be fully protected from damage and weather, and shall be stacked to prevent damage. All lumber shall be fully protected to maintain the original required moisture content as specified in item titled "Moisture Content".

1.4 OTHER REQUIREMENTS:

A. Dimensions indicated on the drawings are nominal dimensions (except where details show actual sizes) and shall be subject to the standard reductions required for surfacing or tolerances permitted by the grading rules. Unless otherwise indicated on drawings, all material shall be S4S (surfaced four sides).

1.5 PROTECTION:

A. All finished work shall be adequately protected against damage from any source.

1.6 COORDINATION:

A. Carpenters shall coordinate their work with that of the other trades so that progress continues without interruption.

PART 2 - PRODUCTS

2.1 WOOD - FRAMING AND CURBS:

A. GRADING RULES, GRADES, AND SPECIES

1. Lumber: Southern Pine, yellow pine, Douglas fir, spruce, ponderosa pine, larch or Hemlock and shall meet the following minimum grade requirement of construction standard (75% #1 and 25% #2); free from warping and visible decay. Lumber shall be graded according to the standard grading rules of the Southern Pine Inspection Bureau, the West Coast Lumber Inspection Bureau, or the Western Wood Products Association.

B. MOISTURE CONTENT

1. All lumber shall be air-dried or kiln-dried before treatment, so that the moisture content is not more than 19%. After treatment, it shall be kiln-dried at temperatures not exceeding 160 degrees F. (71 degrees C) so that the moisture content is not more than 19% at time of shipment

C. DECAY-RESISTANT TREATMENT:

1. Lumber in contact with roofing or acting as fascias, and all other exterior lumber, shall be pressure-treated with a waterborne preservative in accordance with AWPA Specification P5. Creosote and oil-borne preservatives are not acceptable.

2. Treating processes, material conditions, plant equipment, and other pertinent requirements shall conform to AWPA Specifications C1 and C2 for specific kind of lumber and type of preservative to be used. Retention shall be as required for intended use.

3. All treated lumber shall bear the mark of a code recognized third party agency such as the AWPA.

D. PLYWOOD:

Grade: CDX or Cyme exterior Grade. Description: 5/8" thick

E. WOOD SIDING:

1. T 111 or approved equal.

2.2 MECHANICAL FASTENERS:

A. WOOD TO STEEL:

1. Acceptable Manufacturers:
   a. Roofgrip screw with Climaseal coating; plastic disc - Buildex Div. of ITW, Itasca, IL.

b. Dekfast screw with Sentri coating: plastic disc – Construction Fasteners, Inc., Wyomissing, PA.
c. Fabco Fastening Systems, West Newton, PA: Insul-Fixx screw with Fabcote coating; plastic plate, Plate-Fixx screw with Fabcote coat; plastic disc.
d. Kwik-Deck screw with Oxyseal coating; plastic disc - Atlas Bolt & Screw Div., Trans Union Fastener Corp., Ashland, OH.
e. Olympic #12-11 Standard Steel Deck Screw or #14-10 Heavy Duty All Purpose Screw with CR-10 coating; three inch diameter plastic - Olympic Manufacturing Group, Inc., Agawam, MA.
f. Glasfast (plastic disc) - Owens-Corning Fiberglas Corp., Toledo, OH.
g. Perma Fastener screw with permaseal coating; plastic plate - International Permalite, Inc., Oak Brook, IL.

2. Screw Length: Sufficient to engage steel, wood deck 1 inch.

B. WOOD TO WOOD:

1. Type: Galvanized, common, annular ring nail. Length: Sufficient to penetrate underlay blocking 1-1/4 inches.

2. Acceptable Manufacturers:

a. Hillwood Manufacturing Co., Cleveland, OH.
b. Independent Nail, Inc., Bridgewater, MA.
c. W.H. Maze Co., Peru, IL.
d. National Nail Corp., Grand Rapids, MI.

C. WOOD TO MASONRY:

1. Acceptable Manufacturers:

a. Tapcon 1/4" diameter, Phillips pan head anchor - Buildex Div. of ITW, Itasca, IL.
b. Confas - Construction Fasteners, Inc., Wyomissing, PA.
c. Con-fixx - Fabco Fastening Systems, West Newton, PA.
d. #14-10 Heavy Duty all Purpose Screw – Olympic Manufacturing Group, Inc., Agawam, MA.
e. Tru-Fast fastener (stainless steel) - The Tru-Fast Corp., Bryan, OH.

2. Length: Sufficient to provide 1-1/2 inch embedment.

D. WOOD TO HOLLOW MASONRY:

1. Acceptable Manufacturers:

a. Sleeve Anchor by Hilti Fastening Systems, Tulsa, OK.
b. Rawly Hollow Masonry Anchor by the Rawlplug Co., Inc., New Rochelle, NY.

2. Length: As recommended by manufacturer

PART 3 - EXECUTION

3.1 CARPENTRY:

A. At roof edge to receive metal fascia, around all roof top penetration perimeters, and under any flashing component that is to have a roof flange mechanically fastened to roofing substrate; mechanically attach wood blocking. Blocking thickness: Equal to common 1 x 4", 1 x 6" 2x4", 2x6", 2x8", 2x10", 2x12".

B. Fasteners shall be installed in two rows staggered. Spacing in any one row shall not exceed 24 inches. Within eight feet of outside corners, spacing shall not exceed twelve inches in any one row.

C. Where required, offset blocking layers twelve inches, weave corners.

D. When preservative treated wood is cut, the cut end shall be treated in accordance with AWPA Specification M4.

E. Lumber shall be accurately cut to the work requirements and shall be well fastened.

F. Bolted fastenings shall have washers of adequate size under both heads and nuts. Nails shall be of correct size and quantity for proper fastening. Oversized nails that will result in splitting shall not be used. All fasteners shall be galvanized per ASTM A 153.

END OF SECTION

SECTION 07 22 00

ROOF INSULATION

PART 1 – GENERAL

1. RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes roof insulation over the properly prepared deck substrate.

B. Related Sections:

1. Section 01 11 00 - Summary of Work
2. Section 01 30 00 - Submittals
3. Section 06 10 00 - Rough Carpentry
4. Section 07 50 50 - Modified KEE Membrane Roofing
5. Section 07 62 00 – Sheet Metal Flashing and Trim

1.3 REFERENCES

A. American Society for Testing and materials (ASTM):

1. ASTM C165 Standard Test Method for Measuring Compressive Properties of Thermal Insulation.
2. ASTM C208 Standard Specification for Cellulosic Fiber Insulation Board.
3. ASTM C209 Standard Test Method for Cellulosic Fiber Insulating Board.
4. ASTM C272 Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
5. ASTM C1396 Standard Specification for Gypsum Wallboard.
6. ASTM C518 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
7. ASTM C578 Standard Specification for Perlite Thermal Insulation Board.
8. ASTM C728 Standard Test Methods for Fire Test of Roof Coverings.
9. ASTM C1289 Standard Specification for Faced Rigid Polyisocyanurate Thermal Insulation.
10. ASTM D5 Standard Test Method for Penetration of Bituminous Materials.
11. ASTM D36 Standard Test Method for Softening Point of Bitumen (Ring and Ball Apparatus).
12. ASTM D312 Standard Specification for Asphalt Used in Roofing.
13. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers-Tension.
14. ASTM D1621 Standard Test Method for Compressive Properties of Rigid Cellular Plastics.

15. ASTM D1622 Standard Test Method for Apparent Density of Rigid Cellular Plastics.
16. ASTM D2126 Standard Test Method for Response off Rigid Cellular Plastics to Thermal Humid Aging.
17. ASTM D2178 Standard Specification for Asphalt Glass Felts used in Roofing and Waterproofing.
18. ASTM D4601 Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
19. ASTM D5147 Standard Sampling and Testing Modified Bituminous Sheet Material.

B. Factory Mutual Research (FM):
1. Roof Assembly Classifications.

D. National Roofing Contractors Association (NRCA):
1. Roofing and Waterproofing Manual.

E. Underwriters Laboratories, Inc. (UL):
1. Fire Hazard Classifications.

F. Warnock Hersey (WH):
1. Fire Hazard Classifications.

G. Sheet Metal and Air Conditioning Contractors National Association (SMACNA)

H. Steel Deck Institute, St. Louis, Missouri (SDI)

I. Southern Pine Inspection Bureau, Pensacola, Florida (SPIB)

J. Insulation Board, Polyisocyanurate (FS HH-I-1972)

K. Insulation Board, Thermal (Fiberboard) (FS LLL-1-535B)

1.4 SUBMITTALS

A. Product Data: Provide manufacturer's specification data sheets for each product in accordance with Division 01 Section Submittal Procedures. 013000.

B. Provide approval letters from insulation manufacturer for use of their insulation within this particular roofing system type.

C. Provide a sample of each insulation type.

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

E. Certification

1. Submit roof manufacturer's certification that insulation fasteners furnished are acceptable to roof manufacturer.
2. Submit roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
3. Roof manufacturer's certification that insulation fasteners furnished are acceptable to roof manufacturer.
4. Roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
5. Wind uplift calculation, per CBC, Chapter 15, 1504 utilizing ASCE 7-10. Wind uplift shall be provided by the roofing system manufacturer. Calculation shall be reviewed by a CA licensed Structural II engineer.

1.5 QUALITY ASSURANCE

A. Fire Classification, ASTM E-108.

B. Manufacturer's Certificate: Certify that roof system furnished is approved by Factory Mutual, Underwriters Laboratories, Warnock Hersey or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.

C. Manufacturer's Certificate: Certify that the roof system is adhered properly to meet or exceed the requirements of FM 1-90.

D. Pre-installation meeting: Refer to Division 07 roofing specifications for pre-installation meeting requirements.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.

B. Store all insulation materials in a manner to protect them from the wind, sun and moisture damage prior to and during installation. Any insulation that has been exposed to any moisture shall be removed from the project site.

C. Keep materials enclosed in a watertight, ventilated enclosure (i.e. tarpaulins).

D. Store materials off the ground. Any warped, broken or wet insulation boards shall be removed from the site.

1.7 WARRANTY

A. Provide warranty coordinated with the requirements of other sections specifying roof products.

PART 2 – PRODUCTS

2.1 PRODUCTS, GENERAL

A. Refer to Division 01 Section "Common Product Requirements."

B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

C. Substitutions: Products proposed as equal to the products specified in this Section shall be submitted in accordance with Bidding Requirements and Division 01 provisions.
   1. Proposals shall be accompanied by a copy of the manufacturer's standard specification section. That specification section shall be reviewed by a professional engineer licensed in the state in which the installation is to take place. Substitution requests containing specifications without licensed engineer certification shall be rejected for non-conformance.
   2. Include a list of three (3) projects of similar type and extent, located within a one hundred mile radius from the location of the project. In addition, the three projects must be at least five (5) years old and be available for inspection by the Architect, Owner or Owner's Representative.
   3. Equivalency of performance criteria, warranty terms, submittal procedures, and contractual terms will constitute the basis of acceptance.
   4. The Owner's decision regarding substitutions will be considered final. Unauthorized substitutions will be rejected.

2.2 INSULATION MATERIALS

A. Thermal Insulation Properties and Approved Insulation Boards.
   1. Rigid Polyisocyanurate Roof Insulation; ASTM C1289:
      a. Qualities: Rigid, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
      b. Thickness: **N/A**
      c. R-Value: **N/A**
      d. Attachment: Mechanically attached per roofing manufactures ASCE 7-16 Wind Uplift requirements.
      e. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1.
      f. Acceptable Products:
         1) ENRGY-3; Johns Manville
         2) H-Shield; Hunter
         3) EnergyGuard; GAF
         4) Approved Equivalent

   2. Tapered Polyisocyanurate Roof Insulation; ASTM C1289:
      a. Qualities: Factory Tapered, closed cell polyisocyanurate foam core bonded to heavy duty glass fiber mat facers.
      b. Thickness: Slope to drain
      c. Average R-Value: **N/A**
      d. Tapered Slope: (Field) **N/A**
      e. Tapered Slope: (Crickets) **1/2"**
      f. Attachment: screws and plates, 1 per 2 square feet of roof board area.
      g. Compliances: UL, WH or FM listed under Roofing Systems Federal Specification HH-I-1972, Class 1
      h. Acceptable Products:

1) ENRGY 3; Johns Manville
2) EnergyGuard; GAF
3) H-Shield; Hunter
4) Approved Equivalent

3. High Density Six Side Primed Fiberboard Roof insulation; ASTM C208
   a. Qualities: Rigid, composed of interlocking fibers factory blended treated with asphalt on six sides.
   b. Board Size: Four feet by Eight feet (4' x 8')
   c. Thickness: **1/2"**
   d. Attachment: Mechanically attached per roofing manufacturers ASCE 7-16 wind uplift requirements.
   e. Compliances: UL, WH, FM listed under Roofing Systems. Federal Specification LLL-I-535-B.
   f. Acceptable Manufacturers:
      1) Blue Ridge; Celotex
      2) Temple Inland
      3) GAF Building Materials Corporation
      4) Georgia-Pacific
      5) Approved Equivalent

4. Dens-Deck Prime Roof Board
   a. Qualities: Nonstructural glass mat faced, noncombustible, water-resistant treated gypsum core panel.
   b. Board Size: Four feet by Eight feet (4'x8').
   c. Thickness: **N/A**
   d. R-Value: **N/A**
   e. Attachment: Mechanically attached per roofing manufacturers ASCE 7-16 wind uplift requirements.
   f. Compliances: UL, WH or FM listed under Roofing Systems.

2.3 RELATED MATERIALS

A. Fiber Cant and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated, matching insulation board or of perlite or organic fiberboard, as per the approved manufacturer.
   1. Acceptable Manufacturers:
      a. The Garland Company, Inc.
      b. Celotex
      c. Johns Manville
      d. GAF
      e. Approved Equivalent

B. Protection Board: Pre-molded semi-rigid asphalt composition board one half (1/2) inch.

C. Roof Board Joint Tape: Six (6) inches wide glass fiber mat with adhesive compatible with insulation board facers.

D. Asphalt: ASTM D312, Type III Steep Asphalt.

E. Roof Deck Insulation Adhesive: Insul-Lock HR - Dual-component, high rise foam adhesive with 45% rapidly renewable material content as recommended by insulation manufacturer and approved by FM indicated ratings.
   1. Tensile Strength (ASTM D412)……250 psi
   2. Density (ASTM D1875)……..8.5 lbs./gal.
   3. Viscosity (ASTM D2556)……22,000 to 60,000 cP.
   4. 2 `Peel Strength (ASTM D903)…..17 lb/in.
   5. 3 `Flexibility (ASTM D816)……Pass @ -70°F

F. Fasteners: Corrosion resistant screw fastener as recommended by roof membrane manufacturer.
   1. Factory Mutual Tested and Approved with three (3) inches coated disc for I-90 rating, length required to penetrate metal deck one inch.
   2. Screws: Concealor #14-13 DP1 as specified per ASCE 7 calculations.

PART 3 – EXECUTION

3.1 EXECUTION, GENERAL

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

3.2. EXAMINATION

A. Roofing contractor shall be responsible to verify that roof framing system is complete and ready to receive insulation system. Do not proceed with installation until unsatisfactory conditions have been corrected.
   1. Verify that work which penetrates roof deck has been completed.
   2. Verify that wood nailers are properly and securely installed.
   3. Verify the roof deck has proper slope to drain.
   4. Verify that penetrations are a minimum of 24” aways from all waterways and will not obstruct the proper roof drainage.
   5. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.
   6. Do not proceed until defects are corrected.
   7. Do not apply insulation until substrate is sufficiently dry.
   8. Broom clean substrate immediately prior to application.
   9. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.
   10. Verify that temporary roof has been completed (IF REQUIRED)

3.3 INSTALLATION

A. Comply with built-up roofing manufacturer's written instructions, as submitted and reviewed by Architect during the submittal process, for installing roof insulation.

B. (Wood Roof Decks Only) Install one lapped rosin sheet course and mechanically fasten to substrate according to built-up roofing manufacturer's written instructions and as called for in these specifications and on the drawings.

C. Insulation Cant Strips: Install and secure preformed 45-degree insulation cant strips at junctures of built-up roofing with vertical surfaces or angle changes greater than 45 degrees.

D. Install tapered insulation under area of roofing to conform to slopes indicated. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

E. Install insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2.7 inches or greater, install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

F. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

G. Mechanically Fastened and Adhered Insulation: Install first layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of the roof.
    a. Field: 16 screws per 4 foot by 8 foot panel (2 square feet per screw).
    b. Perimeter: 24 screws per 4 foot by 8 foot panel (1.33 square feet per screw).
    c. Corners: 32 screws per 4 foot by 8 foot panel (1 square foot per screw).

2. Set each subsequent layer of insulation in insulation adhesive adhered per the roofing system manufactures recommendations.

H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together and adhere in place per manufacturers instructions. Tape joints if required by the roofing manufacturer.

I. Apply insulation adhesive to underside and immediately bond cover board to substrate.

J. Approved base layer of insulation board shall be fully attached to the deck with an approved mechanical fastening system, (all subsequent layers are to be adhered). As a minimum, the amount of fasteners shall be in accordance with manufacturer's recommendation ASCE 7-16.

K. Filler pieces of insulation require at least two fasteners per piece if size of insulation is less than four square feet.

L. Spacing pattern of fasteners shall be as per manufacturer's recommendations to meet the ASCE 7-16 requirements. Placement of any fastener from edge of insulation board shall be a minimum of three inches, and a maximum of six (6) inches.

M. Minimum penetration into deck shall be as recommended by the fastener manufacturer. There is a one (1) inch minimum for metal, wood and structural concrete decks where not specified by the manufacturer. For gypsum and cement-wood fiber decks, penetration shall be determined from pull-out test results with a minimum penetration of one and one-half (1 ½) inches.

N. Gypsum and cementitious wood fiber decks: Where the roof deck is visible from the building interior, the contractor shall ensure no penetration of fasteners through underside of the deck. Any holes or spalling caused by fastener installation shall be repaired by the roofing contractor. Where the new roof system thickness exceeds an amount so that a minimum of 1 ½ of penetration cannot be achieved with an Olympic TB Fastener, or approved equivalent, then (and only then) toggle bolts may be used to secure installation to the deck.

O. Tape joints of insulation as per manufacturer's requirements.

P. Attachment with Insulation Adhesive Approved by Factory Mutual (FM).

Q. Ensure all surfaces are clean, dry, free of dirt, debris, oils, loose ore embedded gravel, unadhered coatings, deteriorated membrane and other contaminants that may inhibit adhesion.

R. Apply insulation adhesive directly to the substrate using a ribbon pattern with one quarter to one half (1/4-1/2) inch wide beads 12 inches o.c., using either the manual applicator or an automatic applicator, at a rate of one (1) gallon per one hundred (150) square feet per cartridge.

S. Immediately place insulation boards into wet adhesive. Do not slide boards into place. Do not allow the adhesive to skin over before installing insulation boards.

T. Briefly step each board into place to ensure contact with the adhesive. Substrates with irregular surfaces may prevent the insulation board from making positive contact with the adhesive. Relief cuts or temporary weights may be required to ensure proper contact.

U. All boards shall be cut and fitted where the roof deck intersects a vertical surface. The boards shall be cut to fit a minimum of one quarter (1/4) inch away from the vertical surface.

V. Tape joints of insulation as per manufacturer's requirements.

3.4 CLEANING

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

3.5 CONSTRUCTION WASTE MANAGEMENT

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

END OF SECTION 07 22 00 - ROOF INSULATION

SECTION 07550
MODIFIED KEE MEMBRANE ROOFING

1.GENERAL

1.1. SECTION INCLUDES

A. Includes all labor, materials, and equipment to install a Cold Applied 2-Ply Thermoplastic Hybrid Roof System roof (KEE-Stone FB 60) over the properly prepared substrate.

B. Includes removal and disposal of existing roofing system(s), insulation board, flashings, sheet metal items, copings, etc. for a complete prepared roof surface to receive the new roofing system.

C. Includes a new cold applied 2-ply hybrid roofing system with all accessories as needed for a complete warrantable roofing system.

D. See section 011100 Summary of Work for a detailed scope of work.

1.2. RELATED SECTIONS

A. Section 01110 – Summary of Work

B. Section 01300 - Submittals

C. Section 06100 - Rough Carpentry

D. Section 07220 - Roof Insulation

E. Section 07620 - Sheet Metal Flashing and Trim

1.3. REFERENCES

A. ASTM C1289 - Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

B. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.

C. ASTM D 312 - Standard Specification for Asphalt used in Roofing.

D. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.

E. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.

F. ASTM D 2822 Standard Specification for Asphalt Roof Cement.

G. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.

H. ASTM D 6754 Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing

I. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.

J. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.

K. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.

L. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings

M. Factory Mutual Research (FM): Roof Assembly Classifications.

N. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.

O. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.

P. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.

Q. Warnock Hersey (WH): Fire Hazard Classifications.

R. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.

S. ASCE 7-16, Minimum Design Loads for Buildings and Other Structures

T. UL - Fire Resistance Directory.

U. FM Approvals - Roof Coverings and/or RoofNav assembly database.

V. California Title 24 Energy Efficient Standards.

W. California Code of Regulations, Title 24, Part 2, California Building Code (CBC), International Building Code.

1.4. DESIGN / PERFORMANCE REQUIREMENTS

A. Perform work in accordance with all federal, state and local codes.

B. Exterior Fire Test Exposure: Roof system shall achieve a UL, FM or WH Class rating for roof slopes indicated on the Drawings as follows:
   1. Factory Mutual Class A Rating.
   2. Underwriters Laboratory Class A Rating.
   3. Warnock Hersey Class A Rating.

C. Design Requirements:
   1. Uniform Wind Uplift Load Capacity
      a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
         1. Design Code: ASCE 7, Method 2 for Components and Cladding.
         2. Importance Category:
            a. III

3. Importance Factor of:
    a. 1.0
4. Wind Speed: 100 mph
5. Exposure Category:
    a. C
6. Design Roof Height: 20 feet.
7. Minimum Building Width: 48 feet.
8. Roof Pitch: 0.25 :12.
9. Roof Area Design Uplift Pressure:
    a. Zone 1 - Field of roof 17.1 psf
    b. Zone 2 - Eaves, ridges, hips and rakes 26.5 psf
    c. Zone 3 - Corners 33.6 psf

2. Snow Load: N/A psf.
3. Live Load: 20 psf, or not to exceed original building design.
4. Dead Load:
    a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.

D. Energy Star: Roof System shall comply with the initial and aged reflectivity required by the U.S. Federal Government's Energy Star program.

E. LEED: Roof system shall meet the reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.

F. Roof System membranes containing recycled or bio-based materials shall be third party certified through UL Environment.

G. Roof system shall have been tested in compliance with the following codes and test requirements:
1. Miami-Dade County:
    a. Self-Adhered Membrane Systems Over:
        1. Wood Decks N.O.A.
    b. Torch and Mop Membrane Systems Over
        1. Wood Decks N.O.A.
    c. Roofing Underlayments
        1. Garland Underlayments N.O.A.
    d. Roofing Cements and Coatings
        1. Garland Coatings and Mastics N.O.A.
2. Cool Roof Rating Council:
    a. CRRC Directory: CRRC 0700-0034
3. International Code Council Evaluation Service (ICC-ES):
    a. Membrane Systems
        1. ESR-3460
4. FM Approvals:
    a. RoofNav Website

1.5. SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation instructions.

C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes, tapered insulation design if applicable, and fastening patterns of insulation and base modified bitumen membrane, prior to job start.

D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins. Report shall be reviewed by a Professional Engineer registered in the State of the Project who has provided roof system attachment analysis for not less than 5 consecutive years.

E. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
3. Product reflectivity and emissivity criteria to qualify for one point under the LEED credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.

F. Recycled or Bio-Based Materials: Provide third party certification through UL Environment of roof System membranes containing recycled or bio based materials

G. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

H. Provide written certification from the roofing system manufacturer certifying the applicator is currently authorized to install the specified roof system and ability to provide the specified warranty.

I. Sample Warranty: Provide an unexecuted copy of the warranty specified for this project clearly stating the terms required of the owner, contractor, and manufacturer.

J. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.

K. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147.

L. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Factory Mutual (FM), Underwriters Laboratories (UL), Warnock Hersey (WH) or approved third party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.

M. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and

submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

N. Any material submitted as equal to or better than the specified material must be accompanied by a report signed and sealed by a professional engineer licensed in the state in which the installation is to take place. This report shall show that the submitted equal meets the Design and Performance criteria in this specification. Substitution requests submitted without licensed engineer stamp will be rejected for non-conformance.

1.6. QUALITY ASSURANCE

A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual and all manufacturer's instructions.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.

C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.

D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.

E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.

F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7. PRE-INSTALLATION MEETINGS

A. Coordinate with installation of associated flashings and counterflashings installed by other sections.

B. Preinstallation Meeting:
1. Convene two weeks before starting work of this section. Meet at Project site with Installer, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of rooftop units and other work in the around roofing that must precede or follow roofing work (including mechanical work if any), Architect/Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, test agencies, and governing authorities. Objectives to include:
2. Review preparation and installation procedures and coordinating and scheduling required with related work.
   a. Review methods and procedures related to roofing work.

b. Review structural loading limitations of new deck.
c. Review roofing systems requirements (drawings, specifications, and other contract documents).
d. Review required submittals, both completed and yet to be completed.
e. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
f. Review required inspection, testing, certifying, and material usage accounting procedures.
g. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including provision of temporary roofing over occupied spaces.
h. Record discussion of conference, including decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
i. Review notification procedures for weather or non-working days.

C. Sequence installation of roofing with related units of work specified in other sections to ensure that roof assemblies, including roof accessories, flashing, trim, and joint sealers, are protected against damage from effects of weather, corrosion, and adjacent construction activity.

B. Inspect and make notes of job conditions prior to installation:
1. Record minutes of the conference and provide copies to all parties present.
2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Owner and Architect.

1.8. DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.

B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.

C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.

D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.

E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.

F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.9. COORDINATION

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

1.10. PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

B. Do not apply roofing membrane to damp or frozen deck surface or when 40% chance of precipitation is expected or occurring.

C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed the same day.

1.11. WARRANTY

A. Special Warranty: Manufacturer's No Dollar Limit Warranty, Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
   1. Special warranty includes membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders (where included) , and walkway product.
   2. Warranty Period: 30 years from date of Substantial Completion.
   3. Must cover calculated wind speed.

B. Special Project Warranty: Submit roofing Installer's warranty, signed by Installer, covering the Work of this Section, including all components of roofing system such as membrane roofing, base flashing, roof insulation, fasteners, cover boards, substrate boards, vapor retarders (where included), and walkway products, for the following warranty period:
   1. Correct defective Work within a two (2) year period after Date of Substantial Completion.

2.PRODUCTS

2.1. MANUFACTURERS

A. Acceptable Manufacturer: The Garland Company, Inc.; 3800 E. 91st St., Cleveland, OH 44105. Local Representative: Dan McCready Phone: (916) 865-7753. dmccready@garlandco.com Web Site: www.garlandco.com.

B. Requests for substitutions will not be considered for this project.

C. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
   1. Bidder will not be allowed to change materials after the bid opening date.
   2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Architect/

Owner for approval prior to acceptance.

3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
   a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
   b. Will provide the same guarantee for substitution as for the product and method specified.
   c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
   d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
   e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
   f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.
4. Architect/ Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for manufacturer substitution.

2.2. COLD APPLIED 2-PLY ROOF SYSTEM

A. Rosin Sheet: One ply of mechanically attached to the prepared substrate.
   1. Red Rosin Paper:

B. Insulation: As specified in Section 07220 and shown on Drawings.

   1. Insulation assembly; as required to ensure positive drainage and minimum slope of 1/4 inch in 12 inches.

C. Insulation: As specified in Section 07220 and shown on Drawings;
   1. One layer of primed ½" Densdeck board

D. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive (1):
   1. Flexbase 80 Base Sheet (80 mil):

E. Interply Adhesive (1):
   1. Green Lock Plus Membrane Adhesive:

F. Thermoplastic Sheet: One ply bonded to the prepared substrate with Interply Adhesive (2):
   1. KEE Stone FB 60:

G. Interply Adhesive (2):
   1. KEE-Lock Spatter Spray:

H. Base & Wall Flashing (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive (3).

   1. Flexbase 80 Base Sheet (80 mil)

I. Flashing Membrane Adhesive: Adhesive (3)

1. Green Lock Plus Flashing Adhesive

J. Flashing Membrane Sheet: One ply bonded to the prepared substrate with Adhesive (4):
   1. KEE-Stone NF 60:

K. Flashing Membrane Adhesive: Adhesive (4)
   1. KEE-Lock WB Flashing Adhesive

2.3. **ACCESSORIES:**

A. Roof Insulation Thermal Value (R), nominal as indicated on drawings and as follows: Provide insulation of thickness required to develop drainage patterns as indicated, as required to eliminate ponding and to meet thermal requirements noted on drawings.

B. Roof Insulation Field Layer: Provide and install one layer of ½" six side primed Blue Ridge Structodek High Density Fiberboard Roof Insulation. ASTM C 208, Type II.

C. Vapor Retarder: Red Rosin Paper; Install layer rosin sheet shingled uniformly to achieve one ply over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof.
   1. Red Rosin Paper by WR Meadows
      a. Weight – 12 lb./roll
      b. Size – 500 square feet p/roll
      c. 36" wide by 167' long

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

E. Walkway Pads - As recommended and furnished by the membrane manufacturer adhered to control foot traffic on roof top surface and provide a durable system compliant non-slip walkway.
   1. SolarBright Walkway Roll by WPG, A Garland Company.
      a. 30" x 60' walk way roll
      b. Install walk way pads in a path from all roof access points to and around all HVAC and serviceable mechanical equipment, to and around roof hatches, and as designated by the owner.
      c. Walkway Pads shall not be installed over field seams or flashing seams of the membrane.

F. Urethane Sealant Hybrid - Tuff-Stuff MS: One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
   1. Tensile Strength, ASTM D 412: 250 psi
   2. Elongation, ASTM D 412: 450%
   3. Hardness, Shore A ASTM C 920: 35
   4. Adhesion-in-Peel, ASTM C 92: 30 pli

G. Sealant - Green-Lock Structural Adhesive: Single component, 100% solids structural

adhesive as furnished and recommended by the membrane manufacturer.

1. Elongation, ASTM D 412: 300%
2. Hardness, Shore A, ASTM C 920: 50
3. Shear Strength, ASTM D 1002: 300 psi

H. Butyl Tape: 100% solids, asbestos free and compressive tape designed to seal as recommended and furnished by the membrane manufacturer.

I. Glass Fiber Cant - Glass Cant: Continuous triangular cross Section made of inorganic fibrous glass used as a cant strip as recommended and furnished by the membrane manufacturer.

2.4. EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

A. Pre-Manufactured Edge Metal Finishes:
   1. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, as shipped from the mill
   2. Exposed surfaces for coated panels:
      a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer.
      Weathering finish as referred by National Coil Coaters Association (NCCA).
      Provided with the following properties.
         1. Pencil Hardness: ASTM D3363, HB-H / NCCA II-2.
         2. Bend: ASTM D-4145, O-T / NCCA II-19
         3. Cross-Hatch Adhesion: ASTM D3359, no loss of adhesion
         4. Gloss (60 deg. angle): ASTM D523, 25+/-5%
         5. Reverse Bend: ASTM D2794, no cracking or loss of adhesion
         6. Nominal Thickness: ASTM D1005
            a. Primer: 0.2 mils
            b. Topcoat, 0.7 mils min
            c. Clear Coat (optional, only used with 22 ga. steel) 0.3 mils
         7. Color: Provide as specified. (Subject to minimum quantities)

B. Flashing Boot - SolarBright Flashing Boot: KEE pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.

C. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.

D. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.

E. Drain Flashings should be 4lb (1.8kg) sheet lead formed and rolled.

F. Plumbing stacks are too have SolarBright Flashing Boots. Caulking and banding will be required with the specified sealant.

G. Liquid Flashing - Tuff-Flash: An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
   1. Tensile Strength, ASTM D 412: 400 psi

2. Elongation, ASTM D 412: 300%
3. Density @77 deg. F 8.5 lb/gal typical

H. Fabricated Flashings: Fabricated flashings and trim are specified in Section 07620.
1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.

I. Manufactured Roof Specialties: Shop fabricated copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07.
1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

3.EXECUTION

3.1. EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.

C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.

D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2. PREPARATION

A. General: Clean surfaces thoroughly prior to installation.
1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.
4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.

6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.

B. Wood Deck:
1. Dimensional wood deck shall be minimum 1 inch (25 mm) thick, knotholes and

cracks larger than 1/4 inch shall be covered with sheet metal. All boards shall be appropriately nailed and have adequate end bearing to the centers of beams/rafters. Lumber shall be kiln dried.

2. Plywood shall be a minimum 15/32 inch (11.9 mm) thick and conform to the standards and installation requirements of the American Plywood Association (APA).
3. If no roof insulation is specified, provide a suitable dry sheathing paper, followed by an approved base sheet nailed appropriately for the specified roof system, with 1 inch (25 mm) diameter caps and annular nails unless otherwise required by the applicable Code or Approval agency.
4. Insulation is to be mechanically attached in accordance with the insulation manufacturer's recommendations unless otherwise required by the applicable Code.
5. In all retrofit roof applications, it is required that deck be inspected for defects. Any defects are to be corrected per the deck manufacturer's recommendations and standards of the APA/Engineered Wood Association prior to new roof application.
6. Light metal wall ties or other structural metal exposed on top of the wood deck shall be covered with one ply of a heavy roofing sheet, such as HPR Glasbase Base Sheet, extending 2 inches to 6 inches (51 mm to 152 mm) beyond the metal in all directions. Nail in place before applying the base ply.

3.3. **INSTALLATION - GENERAL**

A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.

B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
   1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
   2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.

C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water

D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

3.4. **INSULATION INSTALLATION:**

A. Attachment of Insulation:
   1. Mechanically fasten base layers of insulation to deck in accordance with roofing manufacturer's wind uplift calculation.
      a. Use fastener type and fastening pattern as required to achieve wind resistance specified.
   2. Embed tapered insulation, crickets and cover board as specified in 07220 Roof Insulation and in accordance with roofing and insulation manufacturers' instructions.
   3. Cover board shall be installed as specified in Section 07220 Roof Insulation.

B. Provide insulation with joints staggered minimum 6 inch from joints of proceeding layer.

C. Place tapered insulation to the required slope pattern in accordance with manufacturer's instructions.

D. Lay boards with edges in moderate contact without forcing. Cut insulation to fit neatly to perimeter blocking and around penetrations through roof.

E. At roof drains, use factory-tapered boards to slope down to roof drains over a distance of 18 inches.

G. Do not apply more insulation than can be covered with membrane in same day.

3.5. INSTALLATION OF COLD APPLIED ROOF SYSTEM

A. Base Ply: Cut base ply sheets into 18 foot lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
   1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
   2. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
   3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
   4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
   5. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
   6. Install base flashing ply to all perimeter and projection details.
   7. Allow the one ply of base sheet to cure at least 30 minutes before installing the KEE membrane.
   8. Thermoplastic Cap Ply: Allow the membrane to relax before installing. Install in interply adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
   9. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
   10. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
   11. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.

12. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.
13. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to concentrate heat along the exterior edge of the lap during the final welding pass.
14. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
15. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width.

B. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, hot asphalt or mechanically attached with approved plates and fasteners.

C. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.

D. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.

E. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.

F. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
3. Adhere to the underlying base ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
4. Solidly adhere the entire flashing ply to the substrate. Secure the tops of all flashings

that are not run up and over curb through termination bar fastened at 6 inches (152 mm) O.C. and sealed at top.

5. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
6. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
7. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.

G. Flashing Cap Ply:

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

H. Roof Walkways: Provide walkways in areas indicated on the Drawings or at a minimum;

a. Install walk way pads in a path from all roof access points to and around all HVAC and serviceable mechanical equipment, to and around roof hatches, and as designated by the owner.

3.6. INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

A. Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07620.

1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.

B. Metal Edge:

1. Inspect the nailers to assure proper attachment and configuration.
2. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
3. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
4. Install new Clad Metal edge hooked to continuous cleat. Fasten flange to wood nailers every 3 inches (76 mm) o.c. staggered.
5. Strip in flange with KEE Stripping Membrane with 6 inches (152 mm) on to the field

of roof. Assure ply laps do not coincide with metal laps.

C. Roof Edge With Gutter:
   1. Inspect the nailer to assure proper attachment and configuration. Increase slope at metal edge by additional degree of slope in first board.
   2. Run one ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
   3. Install gutter and strapping.
   4. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
   5. Install new Clad Metal metal edge hooked to continuous cleat and Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
   6. Strip in flange with KEE Membrane Stripping ply covering entire flange. Assure ply laps do not coincide with metal laps.

D. Scupper Through Wall (Overflow):
   1. Inspect the nailer to assure proper attachment and configuration.
   2. Run one ply over nailer up the overflow, into the scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
   3. Install scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered.
   4. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
   5. Strip in flange scupper box with KEE Stripping ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.

E. Coping Cap:
   1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm).
   2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
   3. Attach tapered board to top of wall.
   4. Install base flashing ply covering entire wall and wrapped over top of wall and down face with 6 inches (152 mm) on to field of roof and set in cold adhesive. Nail membrane at 8 inches (203 mm) o.c.
   5. Install continuous cleat and fasten at 6 inches (152 mm) o.c. to outside wall.
   6. Install new metal coping cap hooked to continuous cleat.
   7. Fasten inside cap 24 inches (609 mm) o.c. with approved fasteners and neoprene washers through slotted holes, which allow for expansion and contraction.

F. Surface Mounted Counterflashing:
   1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Maximum flashing height is 24 inches (609 mm). Prime vertical wall at a rate of 100 square feet per gallon and allow to dry.
   2. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
   3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to field of the roof.
   4. Install KEE Membrane ply in adhesive over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
   5. Apply butyl tape to wall behind flashing. Secure termination bar through flashing, butyl tape and into wall. Alternatively use caulk to replace the butyl tape.
   6. Secure counterflashing set on butyl tape above flashing at 8 inches (203 mm) o.c. and caulk top of counterflashing.

G. Curb Detail/Air Handling Station:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Set cant in bitumen. Run all field plies over cant a minimum of 2 inches (50 mm).
2. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
3. Install a KEE Membrane ply in adhesive over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
4. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
5. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

H. Roof Drain:
1. Plug drain to prevent debris from entering plumbing.
2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
3. Install base flashing ply (40 inch square minimum) in bitumen.
4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch (6 mm) bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper at a rate of 100 square feet per gallon and allow to dry.
5. Run roof system plies over drain. Cut out plies inside drain bowl.
6. Install modified membrane (48 inch square minimum) in bitumen.
7. Install clamping ring and assure that all plies are under the clamping ring.
8. Remove drain plug and install strainer.

I. Plumbing Stack:
1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Set lead/copper flashing in 1/4 inch (6 mm) bed of mastic.
4. Caulk the intersection of the membrane with elastomeric sealant.
5. Install KEE Membrane Boot, clamp and seal the top with urethane sealant.

J. Heat Stack:
1. Minimum stack height is 12 inches (609 mm).
2. Run roof system over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
4. Install base flashing ply in bitumen.
5. Install modified membrane in bitumen.
6. Caulk the intersection of the membrane with elastomeric sealant.
7. Install new collar over cape. Weld collar or install stainless steel draw brand.

3.7. **CLEANING**

A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.

B. Remove asphalt markings from finished surfaces.

C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.8. **PROTECTION**

A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.

B. Protect exposed surfaces of finished walls with tarps to prevent damage.

C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.

D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.

E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.9. FIELD QUALITY CONTROL

A. Inspection: Provide manufacturer's field observations at start-up and three (3) days per week through project completion. Provide a final inspection upon completion of the Work.
   1. Warranty shall be issued upon manufacturer's acceptance of the installation.
   2. Field observations shall be performed by a representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
   3. Provide observation reports from the representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
   4. Provide a final report from the representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

3.10. SCHEDULES

A. Base (Ply) Sheet: Flexbase 80 Base Sheet (80 mil): 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing membrane reinforced with a fiberglass scrim, performance requirements according to ASTM D 6163.
   a. Tensile Strength, ASTM D 5147
      1. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 225 lbf/in XD 225 lbf/in
      2. 50mm/min. @ 23 +/- 2 deg. C MD 8.75 kN/m XD 8.75 kN/m
   b. Tear Strength, ASTM D 5147
      1. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 300 lbf XD 300 lbf
      2. 50mm/min. @ 23 +/- 2 deg. C MD 444.8 N XD 444.8 N
   c. Elongation at Maximum Tensile, ASTM D 5147
      1. 2 in/min. @ 73.4 +/- 3.6 deg. F MD 7.0 % XD 7.0 %
      2. 50mm/min@ 23 +/- 2 deg. C MD 7.0 % XD 7.0 %
   d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-28.8 deg. C)

B. Thermoplastic/Modified Cap (Ply) Sheet:
   1. KEE-Stone FB 60: 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D6754
      a. Breaking Strength, ASTM D 751, Proc. B, strip
         1. 375 lbf. (1,668 N)
      b. Tear Strength ASTM D 751
         1. 120 lbf. min. (534 N)
      c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
         1. 40.0%

C. Interply Adhesive's:
   1. Green-Lock Plus Membrane Adhesive: Cold applied solvent free membrane adhesive: zero V.O.C. compliant performance requirements:
      a. Non-Volatile Content ASTM D 4586 100%
      b. Density ASTM D 1475 11.4 lbs./gal. (1.36 g/m3)
      c. Viscosity Brookfield 20,000-50,000 cPs.
      d. Flash Point ASTM D 93 400 deg. F min. (232 deg. C)
      e. Slope: up to 3:12

   2. Flashing Ply Adhesive: Green-Lock Plus Flashing Adhesive: Cold applied solvent free flashing adhesive: zero V.O.C.
      a. Non-Volatile Content ASTM D 4586 100%
      b. Density ASTM D 1475 11.8 lbs./gal. (1.17 g/cm3)
      c. Viscosity Brookfield 400,000 cPs.
      d. Flash Point ASTM D 93 400 deg. F min. (232 deg. C) G

   3. KEE-Lock Spatter Spray: Dual component, single bead (spatter applied) urethane insulation/membrane adhesive.
      a. Tensile Strength (ASTM D 412) 250 psi
      b. Density (ASTM D 1875) 8.5 lbs./gal.
      c. Viscosity (ASTM D 2556) 22,000 - 60,000 cP
      d. Peel Strength (ASTM D 903) 17 lb./in.
      e. Flexibility (ASTM D 816) Pass @ -70 deg. F (-56.7 deg. C)

   4. Flashing Ply Adhesive: KEE-Lock WB Bonding Adhesive: Contact bonding adhesive specifically designed for bonding KEE membranes and flashings to vertical substrates.
      a. Coverage: 1 - 1.5 gal per sq both sides
      b. Color: Blue
      c. VOC: 0 g/l

D. Surfacing:
   1. Flashing Membrane Sheet:
   2. KEE-Stone NF 60 Flashing
      1. Breaking Strength: 375
      2. Tear Strength: 145 x 200
      3. Color: White
      4. Thickness: 60 mil

END OF SECTION

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

1.GENERAL

1. RELATED DOCUMENTS

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

2. SUMMARY

A. Section Includes:

1. Manufactured through-wall flashing with counterflashing
2. Formed low-slope roof sheet metal fabrications.
3. Formed wall, coping, and soffit sheet metal fabrications.
4. Formed equipment support flashing
5. Surface mounted counter flashing
6. Manufactured reglets and counter flashing
7. Edge metal / gravel stop and cleat flashing
8. Gutters & Downspouts

B. Related Requirements:

1. Division 06 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Division 07 “Membrane Roofing” for materials and installation of sheet metal flashing and trim integral with roofing.
3. Division 07 “Metal Roofing” for materials and installation of sheet metal flashing and trim integral with roofing.
4. Division 07 "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.

3. COORDINATION

A. Coordinate sheet metal flashing and trim layout and seams with sizes and locations of penetrations to be flashed, and joints and seams in adjacent materials.

B. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leak proof, secure, and noncorrosive installation.

4. PREINSTALLATION MEETINGS

A. Pre Installation Conference: Conduct conference at Project site.

1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review special roof details, roof drainage, roof-penetration flashing, equipment curbs, and condition of other construction that affect sheet metal flashing and trim.
3. Review requirements for insurance and certificates if applicable.
4. Review sheet metal flashing observation and repair procedures after flashing installation.

5. SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each manufactured product and accessory.

B. Shop Drawings: For sheet metal flashing and trim.

1. Include plans, elevations, sections, and attachment details.
2. Detail fabrication and installation layouts, expansion-joint locations, and keyed details. Distinguish between shop- and field-assembled work.
3. Include identification of material, thickness, weight, and finish for each item and location in Project.
4. Include details for forming, including profiles, shapes, seams, and dimensions.
5. Include details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Include details of termination points and assemblies.
7. Include details of expansion joints and expansion-joint covers, including showing direction of expansion and contraction from fixed points.
8. Include details of roof-penetration flashing.
9. Include details of edge conditions, including eaves, ridges, valleys, rakes, crickets, and counter flashings as applicable.
10. Include details of special conditions.
11. Include details of connections to adjoining work.
12. Detail formed flashing and trim at scale of not less than 3 inches per 12 inches

C. Samples for Initial Selection: For each type of sheet metal and accessory indicated with factory-applied finishes.

D. Samples for Verification: For each type of exposed finish.

1. Sheet Metal Flashing: 12 inches (300 mm) long by actual width of unit, including finished seam and in required profile. Include fasteners, cleats, clips, closures, and other attachments.

2. Trim, Metal Closures, Expansion Joints, Joint Intersections, and Miscellaneous Fabrications: 12 inches (300 mm) long and in required profile. Include fasteners and other exposed accessories.

6. INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

B. Product Certificates: For each type of coping and roof edge flashing that is ANSI SPRI ES-1 tested.

C. Product Test Reports: For each product, for tests performed by a qualified testing agency.

D. Sample Warranty: For special warranty.

7. CLOSEOUT SUBMITTALS

A. Maintenance Data: For sheet metal flashing and trim, and its accessories, to include in maintenance manuals.

8. QUALITY ASSURANCE

A. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.

1. For copings and roof edge flashings that are SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

9. DELIVERY, STORAGE, AND HANDLING

A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage. Store sheet metal flashing and trim materials away from uncured concrete and masonry.

B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

10. WARRANTY

A. Owner shall receive one (1) 30 Year No Dollar Limit warranty from manufacturer of roofing materials covering all of the following criteria. Multiple warranties are not acceptable.

1. Pre-finished metal material shall require a written twenty (20)-year non-prorated warranty covering fade, chalking and film integrity. The material shall not show a

color change greater than 5 NBS color units per ASTM D2244 or chalking excess of 8 units per ASTM D659. If either occurs material shall be replaced per warranty, at no cost to the Owner.

2. Changes: Changes or alterations in the edge metal system without prior written consent from the manufacturer shall render the system unacceptable for a warranty.

3. Warranty shall commence on date of substantial completion or final payment, whichever is agreed by contract.

4. The Contractor shall provide the Owner with a notarized written warranty assuring that all sheet metal work including caulking and fasteners to be watertight and secure for a period of two years from the date of final acceptance of the building. Warranty shall include all materials and workmanship required to repair any leaks that develop, and make good any damage to other work or equipment caused by such leaks or the repairs thereof.

5. Installing roofing contractor shall be responsible for the installation of the edge metal system in general accordance with the membrane manufacturer's recommendations.

6. Installing contractor shall certify that the edge metal system has been installed per the manufacturer's printed details and specifications.

7. One manufacturer shall provide a 30 Year No Dollar Limit Warranty as a single warranty for all accessory metal for flashings, metal edges and copings, along with the warranty for metal roof areas, membrane roof areas, and any transitions between two different material types.

2.PRODUCTS

1. PERFORMANCE REQUIREMENTS

A. General: Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.

B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.

C. Sheet Metal Standard for Copper: Comply with CDA's "Copper in Architecture Handbook." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

D. SPRI Wind Design Standard: Manufacture and install roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure:

1. Design Pressure: As indicated on Drawings.

E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2. COPING

A. The design is based upon roofing systems engineered and manufactured by the Garland Company:

The Garland Company, Inc.
Dan McCready
Telephone: (916) 865-7753
Email: dmccready@garlandco.com

1. General: Product designations for the materials used in this section shall be based on performance characteristics of the R-MER Edge System manufactured by the Garland Company, Cleveland, OH, and shall form the basis of the contract documents.

2. R-Mer Edge Fascia or Extruded Fascia Continuous Cant

a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0299 nom./ 22 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.

3. R-Mer Edge Coping Chairs

a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0635 nom./ 16 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.

4. R-Mer Edge Fascia/drip edge

a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 22 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.

5. R-Mer Edge Coping

a. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 22 gauge 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.

3. SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.

B. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 (Z275) coating designation; prepainted by coil-coating process to comply with ASTM A 755/A 755M.

1. Surface: Smooth, flat and with manufacturer's standard clear acrylic coating on both sides.
2. Exposed Coil-Coated Finish:
   a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

3. Color: Match Architect's sample
4. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with minimum total dry film thickness of 0.5 mil (0.013 mm).

4. UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: Minimum 45 mils thick, consisting of a slip-resistant polyethylene- or polypropylene-film top surface laminated to a layer of butyl- or SBS-modified asphalt adhesive, with release-paper backing; specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer according to written recommendations of underlayment manufacturer.

1. The Garland Company Inc., 3800 E. 91st Street Cleveland OH 44105; R-Mer Seal self-adhering underlayment. Local Representative: Dan McCready (916) 865-7753 dmccready@garlandco.com
2. Thermal Stability: ASTM D 1970; stable after testing at 240 deg F or higher.
3. Low-Temperature Flexibility: ASTM D 1970; passes after testing at minus 20 deg F or lower.

B. Slip Sheet: Rosin-sized building paper, 3 lb/100 sq. ft. minimum.

5. MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, solder, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal unless otherwise indicated.

B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

    a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
    b. Blind Fasteners: High-strength aluminum or stainless-steel rivets suitable for metal being fastened.
    c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.

2. Fasteners for Zinc-Tin Alloy-Coated Stainless-Steel Sheet: Series 300 stainless steel.

C. Solder:

1. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead with maximum lead content of 0.2 percent.

D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.

E. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

F. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

G. Bituminous Coating: Cold-applied asphalt emulsion according to ASTM D 1187.

H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

6. FABRICATION, GENERAL

A. General: Custom fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required. Fabricate sheet metal flashing and trim in shop to greatest extent possible.

1. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
2. Obtain field measurements for accurate fit before shop fabrication.
3. Form sheet metal flashing and trim to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.

4. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.

B. Fabrication Tolerances: Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with butyl sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Sealant Joints: Where movable, non expansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.

E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use.

G. Do not use graphite pencils to mark metal surfaces.

7. ROOF-DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters: Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required. Fabricate in minimum 96-inch- long sections. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard but with thickness not less than dimension indicated on Drawings. Fabricate expansion joints, expansion-joint covers, gutter bead reinforcing bars, and gutter accessories from same metal as gutters. Shop fabricate interior and exterior corners.

1. Gutter Profile: Style B according to cited sheet metal standard.
2. Expansion Joints: Butt type with cover plate.
3. Accessories: Continuous, removable leaf screen with sheet metal frame and hardware cloth screen.
4. Gutters with Girth up to 15 Inches: Fabricate from the following materials:
   a. Galvanized Steel: 22 gauge thickness.

B. Downspouts: Fabricate downspouts per plans and details or per size per CA plumbing code. Fabricate from the following materials unless otherwise shown on drawings.
1. Galvanized Steel: 22 gauge thickness.

C. Conductor Heads: Fabricate conductor heads with flanged back and stiffened top edge and of dimensions and shape required, complete with outlet tubes, exterior flange trim, and built-in overflows. Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

8. WALL SHEET METAL FABRICATIONS

A. Through-Wall Flashing: Fabricate continuous flashings in minimum 96-inch- long, but not exceeding 12-foot long, sections, under copings, and at shelf angles. Fabricate discontinuous lintel, sill, and similar flashings to extend 6 inches beyond each side of wall openings; and form with 2-inch high, end dams. Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

B. Opening Flashings in Frame Construction: Fabricate head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings. Form head and sill flashing with 2-inch high, end dams. Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

C. Wall Expansion-Joint Cover: Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

9. MISCELLANEOUS SHEET METAL FABRICATIONS

A. Equipment Support Flashing: Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

B. Overhead-Piping Safety Pans: Fabricate from the following materials:

1. Galvanized Steel: 22 gauge thickness.

3.EXECUTION

1. EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrate, and other conditions affecting performance of the Work.

1. Verify compliance with requirements for installation tolerances of substrates.
2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

3. Verify that air- or water-resistant barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

2. UNDERLAYMENT INSTALLATION

A. Self-Adhering Sheet Underlayment: Install self-adhering sheet underlayment, wrinkle free. Prime substrate if recommended by underlayment manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller. Cover underlayment within 14 days.

B. Apply slip sheet, wrinkle free, directly on substrate before installing sheet metal flashing and trim.

3. INSTALLATION, GENERAL

A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.

1. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
3. Space cleats not more than 12 inches apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
4. Install exposed sheet metal flashing and trim with limited oil canning, and free of buckling and tool marks.
5. Torch cutting of sheet metal flashing and trim is not permitted.
6. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts pressure-treated wood or other corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.

1. Coat concealed side of stainless-steel sheet metal flashing and trim with bituminous coating where flashing and trim contact wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing sheet metal flashing and trim directly on cementitious or wood substrates, install underlayment and cover with slip sheet.

C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at maximum of 10 feet with no joints within 24 inches of corner or intersection.

1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with sealant concealed within joints.
2. Use lapped expansion joints only where indicated on Drawings.

D. Fasteners: Use fastener sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.

F. Seal joints as required for watertight construction.

1. Use sealant-filled joints unless otherwise indicated. Embed hooked flanges of joint members not less than 1 inch into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F.
2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets with solder to width of 1-1/2 inches; however, reduce pre-tinning where pre-tinned surface would show in completed Work.

1. Do not solder metallic-coated steel sheet.
2. Do not pre-tin zinc-tin alloy-coated stainless steel.
3. Do not use torches for soldering.
4. Heat surfaces to receive solder, and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.
5. Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for stainless steel and acid flux. Promptly remove acid flux residue from metal after tinning and soldering. Comply with solder manufacturer's recommended methods for cleaning and neutralization.
6. Copper Soldering: Tin edges of uncoated sheets, using solder for copper.
7. Copper-Clad Stainless-Steel Soldering: Tin edges of uncoated sheets, using solder for copper-clad stainless steel.

H. Rivets: Rivet joints in zinc where necessary for strength.

4. ROOF-DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof-drainage items to produce complete roof-drainage system according to cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.

B. Hanging Gutters: Join sections with riveted and soldered joints or joints sealed with sealant as shown and specified on drawings or summary/scope of work. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchor them in position. Provide end closures and seal watertight with sealant. Slope to downspouts.

1. Fasten gutter spacers to front and back of gutter.
2. Anchor and loosely lock back edge of gutter to continuous cleat, eave or apron flashing.
3. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches apart.
4. Anchor gutter with gutter brackets and straps spaced not more than 24 inches apart to roof deck, unless otherwise indicated, and loosely lock to front gutter bead.
5. Anchor gutter with spikes and ferrules spaced not more than 24 inches apart.
6. Install gutter with expansion joints at locations indicated, but not exceeding, 50 feet apart. Install expansion-joint caps.
7. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.

C. Conductor Heads: Anchor securely to wall, with elevation of conductor head rim at minimum of 1 inch below gutter discharge.

D. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints minimum of 4 inches in direction of water flow.

5. ROOF FLASHING INSTALLATION

A. General: Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard. Provide concealed fasteners where possible, and set units true to line, levels, and slopes. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for FM Approvals' listing for required windstorm classification. All roof edge flashings are to incorporate a minimum 22 gauge continuous cleat.

C. Copings: Anchor to resist uplift and outward forces according to recommendations in cited sheet metal standard unless otherwise indicated.

1. Interlock exterior bottom edge of coping with continuous cleat anchored to substrate at 24-inch centers.
2. Anchor interior leg of coping with washers and screw fasteners through slotted holes at 24-inch centers.

D. Copings: Anchor to resist uplift and outward forces according to recommendations in FM Global Property Loss Prevention Data Sheet 1-49 for specified FM Approvals' listing for required windstorm classification.

E. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending minimum of 4 inches over base flashing. Install stainless-steel draw band and tighten.

F. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches over base flashing. Lap counterflashing joints minimum of 4 inches. Secure in waterproof manner by means of interlocking folded seam or blind rivets and sealant, anchor and washer at 36-inch centers unless otherwise indicated.

G. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Seal with elastomeric sealant and clamp flashing to pipes that penetrate roof.

6. WALL FLASHING INSTALLATION

A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.

B. Through-Wall Flashing: Installation of through-wall flashing is specified in Section 042000 "Unit Masonry."Section092400 "Cement Plastering."

C. Opening Flashings in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches beyond wall openings.

7. MISCELLANEOUS FLASHING INSTALLATION

A. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with elastomeric sealant to equipment support member.

B. Overhead-Piping Safety Pans: Suspend pans from structure above, independent of other overhead items such as equipment, piping, and conduit, unless otherwise indicated on Drawings. Pipe and install drain line to plumbing waste or drainage system.

8. ERECTION TOLERANCES

A. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 feet on slope and location lines indicated on Drawings and within 1/8-inch offset of adjoining faces and of alignment of matching profiles.

B. Installation Tolerances: Shim and align sheet metal flashing and trim within installed tolerances specified in MCA's "Guide Specification for Residential Metal Roofing."

9. CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder.

C. Clean off excess sealants.

D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended by sheet metal flashing and trim manufacturer. Maintain sheet metal flashing and trim in clean condition during construction.

E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 62 00

N O R C A L
ENVIRONMENTAL
MANAGEMENT, Inc.
Asbestos, Mold, Lead & Bio Hazard Consultants

P.O. Box 1261
Elk Grove, CA 95759
916.525.1006

October 2, 2024

TO: Sunrise Parks & Recreation
7801 Auburn Boulevard
Citrus Heights, CA 95610

RE: Asbestos Inspection
7801 Auburn Boulevard
Citrus Heights, CA 95610

ASBESTOS SURVEY REPORT

I. INTRODUCTION

This report contains findings and recommendations relevant to the Asbestos Survey conducted on October 1, 2024, at the above-referenced site. The structure is a one-story commercial building. The roof is scheduled to be removed. This survey was conducted by Mr. Nathan Ward, California Division of Occupation Safety and Health (DOSH) Certified Asbestos Consultant (CAC) #18-6356.

II. ASBESTOS SAMPLING AND ANALYSIS

A total of nine (9) bulk samples of suspect asbestos-containing material were collected from the site. Precision Micro-Analysis in Sacramento, California, analyzed the samples by Polarized Light Microscopy (PLM) in accordance with the EPA "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R93/116, July 1993). Precision Micro-Analysis is a participant in the American Industrial Hygiene Association Proficiency Analytical Program (ID #101799).

III. FLOOR PLAN MAP(S)

See Attachment A.

IV. SAMPLE RESULTS

Table 1

Sample(s) ID#	Sample Location	Suspect Material	Asbestos Content (%) (PLM/PC)	EPA Category/ Classification	Total Quantity Sq./Ln./Cu. Ft.
A-01	Patio Room-Roof	Built-Up Roofing-Bottom Layer	75-80% PLM	CAT I	530sqft
A-02	Patio Room-Roof	Built-Up Roofing-Bottom Layer	Positive Stop	N/A	N/A
A-03	Patio Room-Roof	Built-Up Roofing-Middle Layer	75-80% PLM	CAT I	530sqft
A-04	Patio Room-Roof	Built-Up Roofing-Middle Layer	Positive Stop	N/A	N/A
A-05	Patio Room-Roof	Built-Up Roofing-Top Layer	75-80% PLM	CAT I	530sqft
A-06	Patio Room-Roof	Built-Up Roofing-Top Layer	Positive Stop	N/A	N/A

The square footages of asbestos-containing materials listed in Table 1 are estimates and are to be used by the owner to obtain bids from abatement contractors. The contractors are responsible for their own measurements.

List of Abbreviations:

Abbreviation	Explanation
PLM	Polarized Light Microscopy
PC	Point Count
ACM	Asbestos-Containing Material, asbestos content of >1%
ACCM	Asbestos-Containing Construction Material, asbestos content of 0.1% to 1.0%
PACM	Presumed Asbestos-Containing Material
RACM	Regulated Asbestos-Containing Material, asbestos content of >1% & under NESHAP regulation
CAT I	Non-Friable Asbestos-Containing Material, asbestos content of >1%.
CAT II	Non-Friable Asbestos-Containing Material, asbestos content of >1%.

V. ANALYTICAL RESULTS

See Attachment B.

VI. FINDINGS AND RECOMMENDATIONS

Asbestos-containing materials are present in the structure. See Table 1.

An advance asbestos notification must be submitted to CAL-OSHA.

All ACCM, ACM, RACM, CAT I, and CAT II materials that will be impacted by the renovation activities at the site must be removed prior to disturbance by a State of

California, licensed, certified asbestos abatement contractor in accordance with all local, state, and federal regulations.

All ACM wastes must be handled and disposed of in accordance with all local, state, and federal regulations.

The Cal/OSHA Asbestos Standard for the Construction Industry (8 CCR 1529) regulates the disturbance or abatement of any material containing more than one-tenth of one percent of asbestos. All employees are covered by OSHA regulations, and the disturbance of ACM or ACCM is subject to Cal/OSHA worker protection regulations for asbestos-related work.

VII. LIMITATIONS

An inspection was made of all accessible areas in the affected area. Based on materials present at the site, it is unlikely that additional asbestos-containing materials may be found. If, in the course of the renovation activities, additional suspect building materials are discovered (e.g., discovered in inaccessible areas), the renovation activities must cease until further sampling is conducted.

Any suspect asbestos-containing materials in the unimpacted areas of the structure must be tested for the presence of asbestos prior to any future projects where the materials will be disturbed.

The consultant cannot be prevented and/or instructed by the owner/operator as to what materials are to be sampled. The consultant alone is responsible for determining what materials are sampled.

Prepared by,

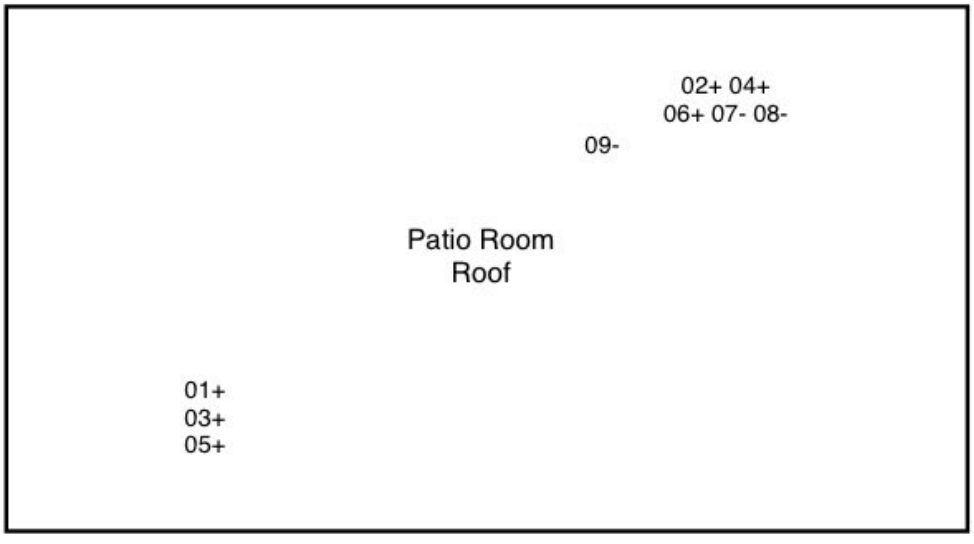
Nathan Ward
Certified Asbestos Consultant
DOSH Cert. #18-6356

Attachment A

Floor Plans

7801 Auburn Blvd.
Citrus Heights, CA

N



Attachment B

Analytical Results

NORCAL ENVIRONMENTAL MANAGEMENT
Asbestos, Mold & Bio Hazard Consultants

P.O. Box 1261
Elk Grove, CA 95759
916.525.1006
FAX 916.525.2066

Asbestos Chain-of-Custody

Project Name: 7801 AUBURN BLVD. CITRUS HEIGHTS, CA Project Number: 24-883 Date: 10-1-24

Sample ID	Sample Location	Sample Description
A-01	PATIO ROOM ROOF	BUILT-UP ROOFING - BOTTOM LAYER
A-02		- " "
A-03		- MIDDLE LAYER
A-04		- " "
A-05		- TOP LAYER
A-06		- " "
A-07		GYPSUM COVER BOARD
A-08		TPO ROOFING PAPER
A-09		ROOFING MASTIC

PLM	
✓	Bulk Analysis (EPA 600/R-93-116)
✓	400 Point Count

Turnaround Time	
	Same Day
✓	24 Hour
	48 Hour

Relinquished By:	Date & Time	Received By:	Date & Time
[signature]	10-1-24/2:05PM	[signature]	10-1-24/2:05PM

✓	First Positive Stop Over 1%
✓	Point Count All Friable Samples Under 1%
	Don't Read Wallboard Samples If Texture Is Over 1%

PRECISION MICRO-ANALYSIS INC

SPECIALISTS IN ASBESTOS-RELATED ANALYSIS

Bulk Sample Analysis (PLM) Report

Report# 241002007

Nathan Ward
NORCAL Environmental Management
P.O. Box 1261
Elk Grove, CA 95759

Phone: (916) 525-1006

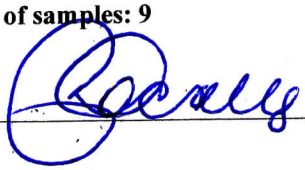
Date Collected: 10/01/24
Date Received: 10/01/24
Date Analyzed: 10/02/24

Job Information:
24-883
7801 Auburn Blvd.
Citrus Heights, CA

Sample Number	Sample Location	Sample Description	Analytical Results
A-01 *Lab# 24-463745*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Bottom layer	75-80% CHRYSOTILE ASBESTOS
A-02 *Lab# 24-463746*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Bottom layer	POSITIVE STOP
A-03 *Lab# 24-463747*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Middle layer	75-80% CHRYSOTILE ASBESTOS
A-04 *Lab# 24-463748*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Middle layer	POSITIVE STOP
A-05 *Lab# 24-463749*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Top layer	75-80% CHRYSOTILE ASBESTOS
A-06 *Lab# 24-463780*	Patio Room – Roof	Black built-up roofing/asphalt-based felt – Top layer	POSITIVE STOP

OFFICIAL NOTICE: After 45 days, samples are disposed of through a licensed waste hauler, unless client requests their return.

Total number of samples: 9

Supervisor 

Analyst 

Note: The test result findings are made to the methodologies and parameters described on the reverse of this page.

PRECISION MICRO-ANALYSIS INC

SPECIALISTS IN ASBESTOS-RELATED ANALYSIS

Bulk Sample Analysis (PLM) Report

Report# 241002007

Nathan Ward
NORCAL Environmental Management
P.O. Box 1261
Elk Grove, CA 95759

Phone: (916) 525-1006

Date Collected: 10/01/24
Date Received: 10/01/24
Date Analyzed: 10/02/24

Job Information:
24-883
7801 Auburn Blvd.
Citrus Heights, CA

Sample Number	Sample Location	Sample Description	Analytical Results
A-07 *Lab# 24-463781*	Patio Room – Roof	White gypsum cover board	No asbestos detected
A-08 *Lab# 24-463782*	Patio Room – Roof	Tan TPO roofing paper	No asbestos detected 85-90% Cellulose fibers
A-09 *Lab# 24-463783*	Patio Room – Roof	Black roofing mastic	No asbestos detected 10-15% Cellulose fibers

OFFICIAL NOTICE: After 45 days, samples are disposed of through a licensed waste hauler, unless client requests their return.

Total number of samples: 9

Supervisor _____ Analyst _____

Note: The test result findings are made to the methodologies and parameters described on the reverse of this page.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Asbestos Survey Form
(See Instructions)

777 12th Street, Suite 300
Sacramento, CA 95814
Office (279) 207-1122
Fax (279) 207-1144
Email: asbestos@airquality.org

1. Purpose of Survey	X	Renovation		Demolition

2. Facility Information

Project Area(s) Description		
One-Story Commercial Building/Roof Removal		
Address	**City**	**# of Structures**
7801 Auburn Boulevard	Citrus Heights	1

3. Owner Information

Name			
Sunrise Parks & Recreation			
Address	**City/State**		**Zip**
7801 Auburn Boulevard	Citrus Heights, CA		95610
Contact	**Phone**	**Fax**	**Email**
John Repetti	916-257-3178		

4. Consultant Information — **Survey Date(s):** October 1, 2024

Company Name			
NORCAL Environmental Management, Inc.			
Name			**DOSH #**
Nathan Ward			18-6356
Address	**City/State**		**Zip**
P.O. Box 1261	Elk Grove, CA		95759
Phone	**Fax**	**Email**	**Signature**
916-525-1006		norcalenviro916@gmail.com	

5. Client Information (If different than owner) ☐ General Contractor ☐ Insurance Company ☐ Architect ☐ Property Manager ☐ Other

Name			
Address	**City/State**		**Zip**
Contact	**Phone**	**Fax**	**Email**

6. Have all of the suspect materials that will be disturbed been sampled? ☒ Yes ☐ No

If no, explain why:

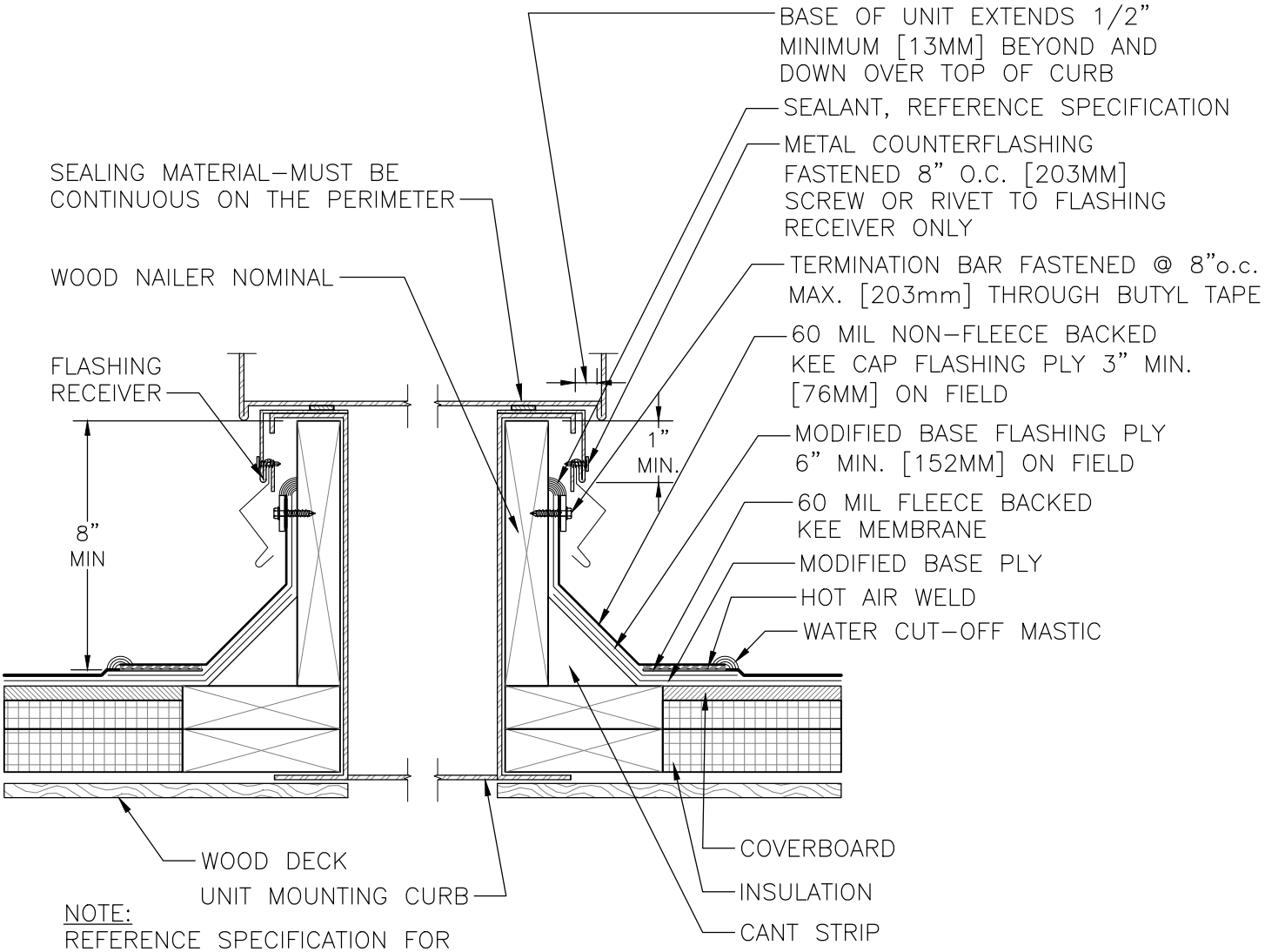
7. Summary of Total Asbestos Containing Material (ACM) Findings

Regulated Asbestos Containing Material (RACM) (Includes materials subject to known mechanical removal and fire damaged materials)			**Category II**		**Category I**	
Square Ft.	Linear Ft.	Cubic Ft.	Square Ft.	Linear Ft.	Square Ft.	Linear Ft.
0	0	0	0	0	1590	0

To receive future SMAQMD Rule updates and changes affecting your industry (check one box):

☐ Please send e-mail notices to ☐ I will sign up myself at www.airquality.org/listserve/ to receive e-mailed notices.

☑ I am already subscribed. ☐ I want the District to mail notices to the address on this application: ☐ Owner ☐ Consultant



NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

CURB DETAIL / AIR HANDLING STATION

since 1895

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ARCHITECT:	
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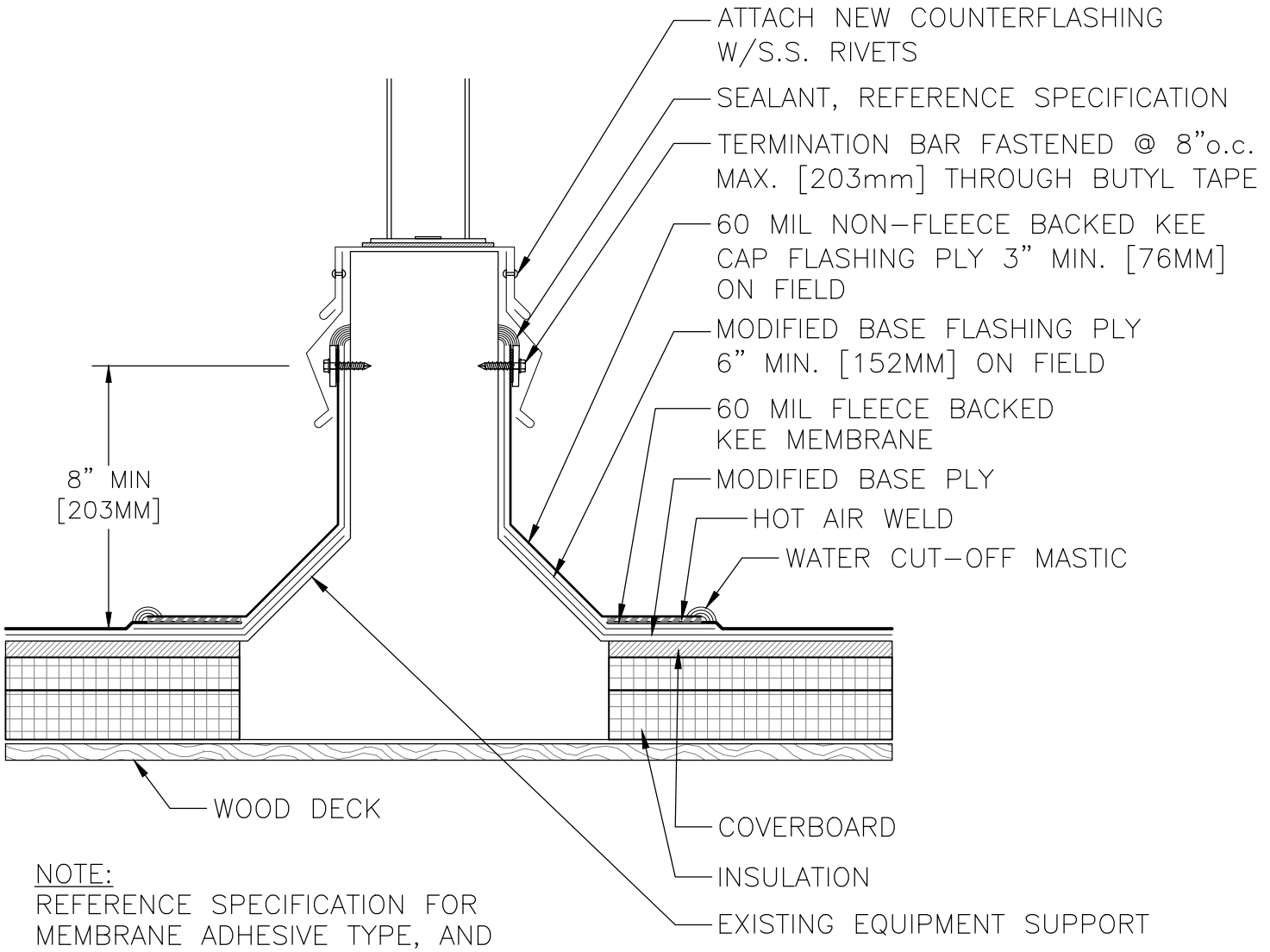
DATE:	SHT: OF



NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

EQUIPMENT SUPPORT - PREMANUFACTURED - EXISTING

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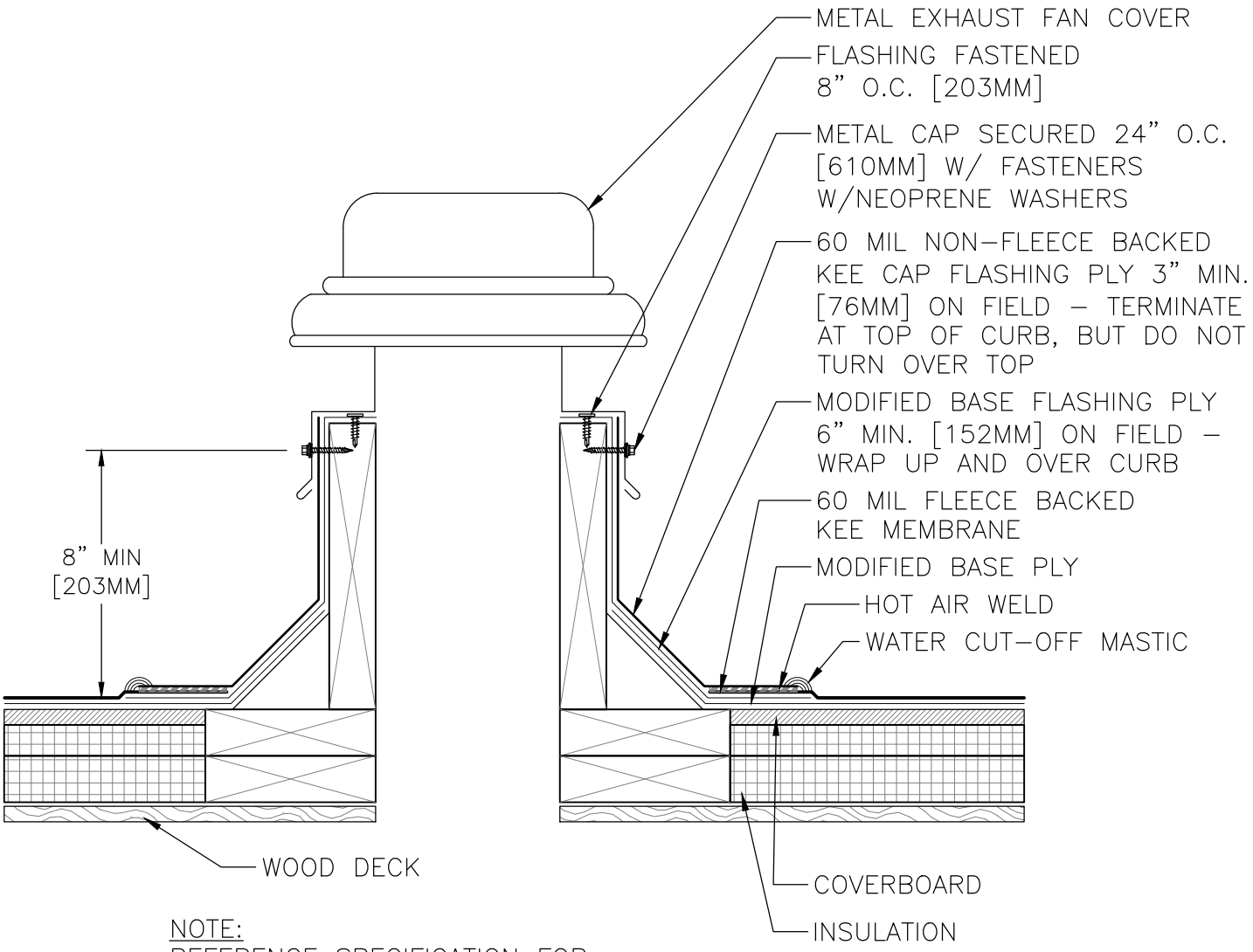

NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

EXHAUST FAN

since 1895

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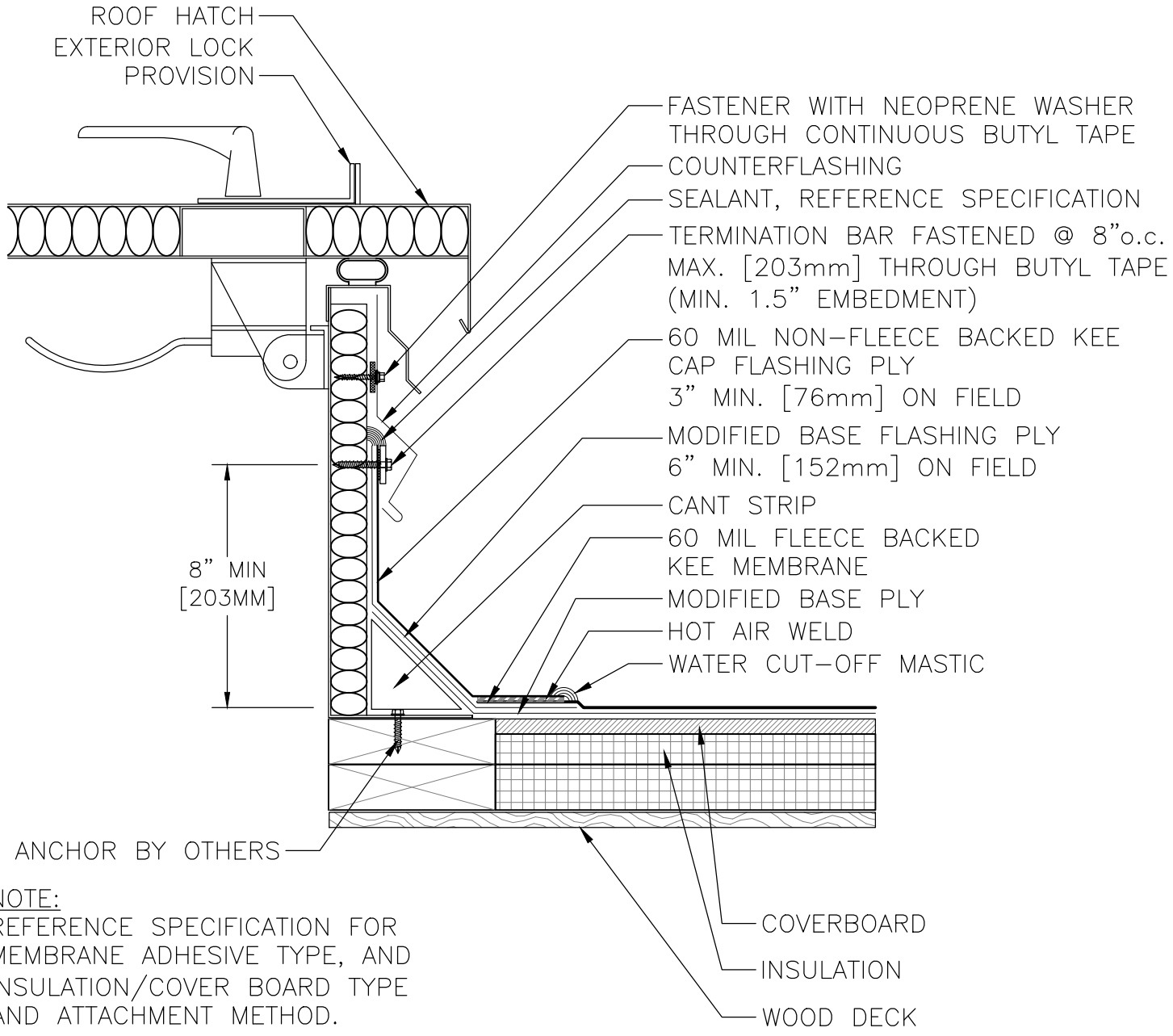

NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON $8\frac{1}{2}$"x11 TITLE BLOCKS ARE NOT TO SCALE.

HATCH DETAIL

GARLAND
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REPRESENTATIVE:	
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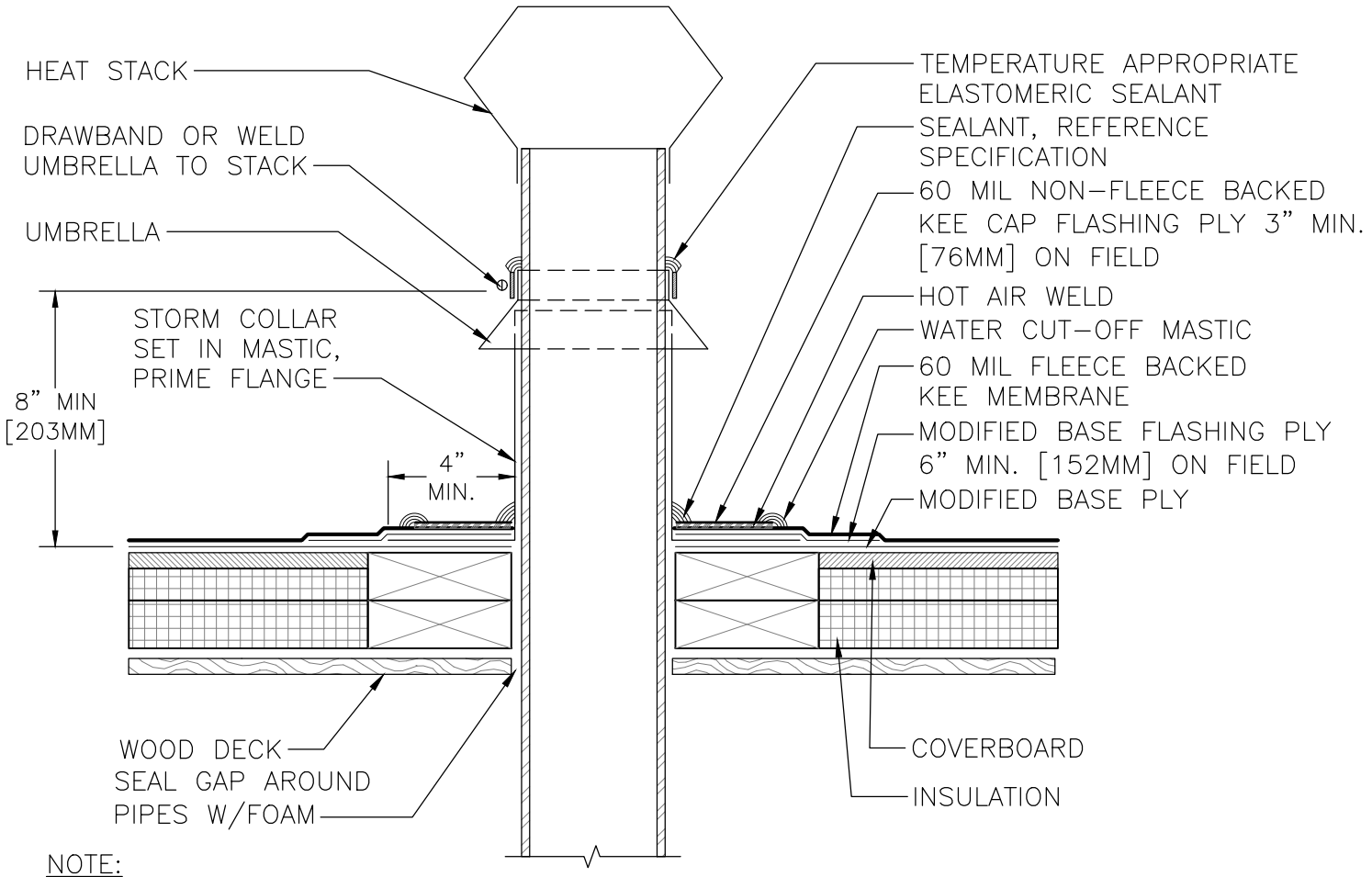

NOTE:
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HEAT STACK

GARLAND since 1895

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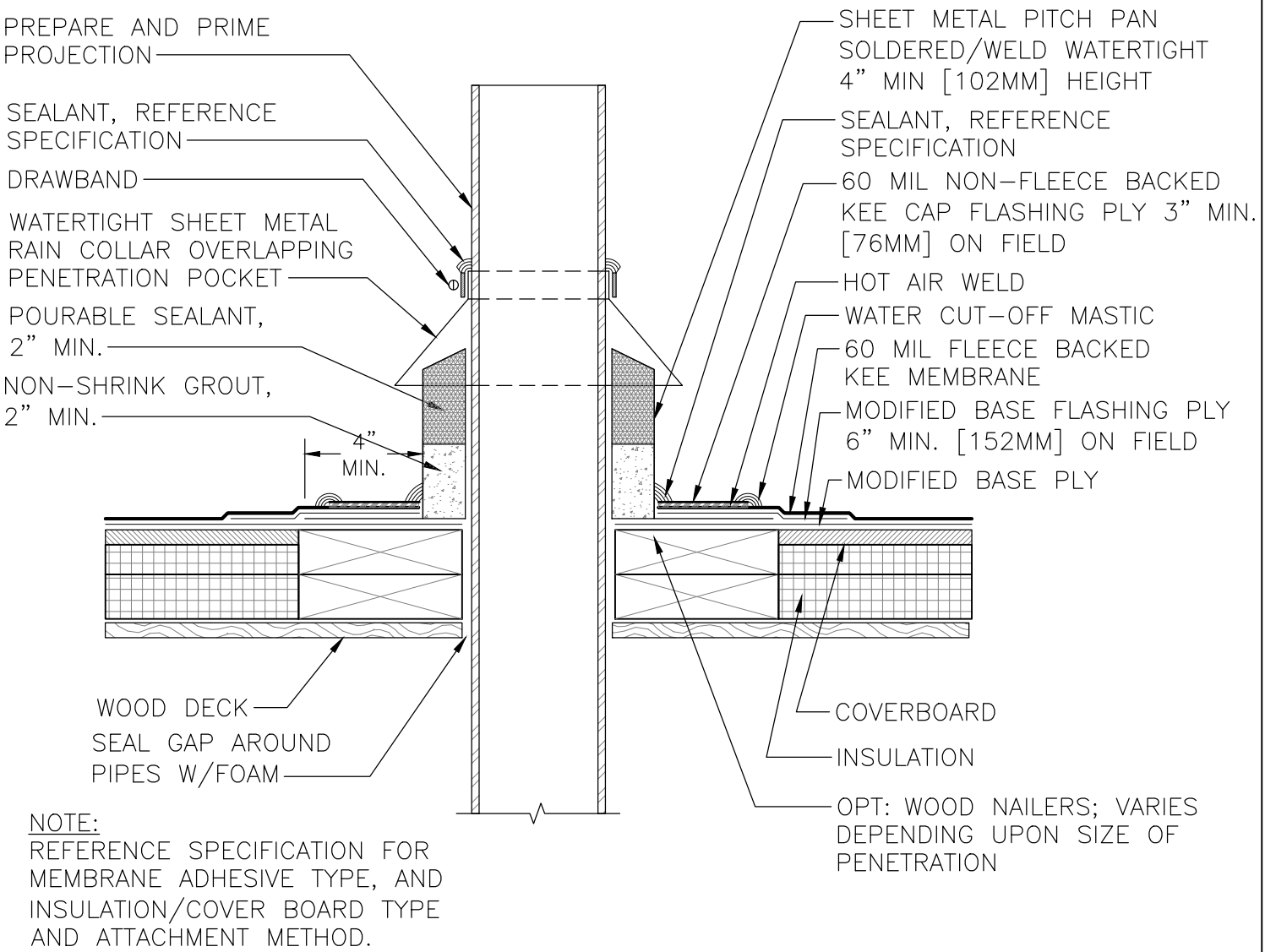

NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

PITCH POCKET (PIPE)

since 1895

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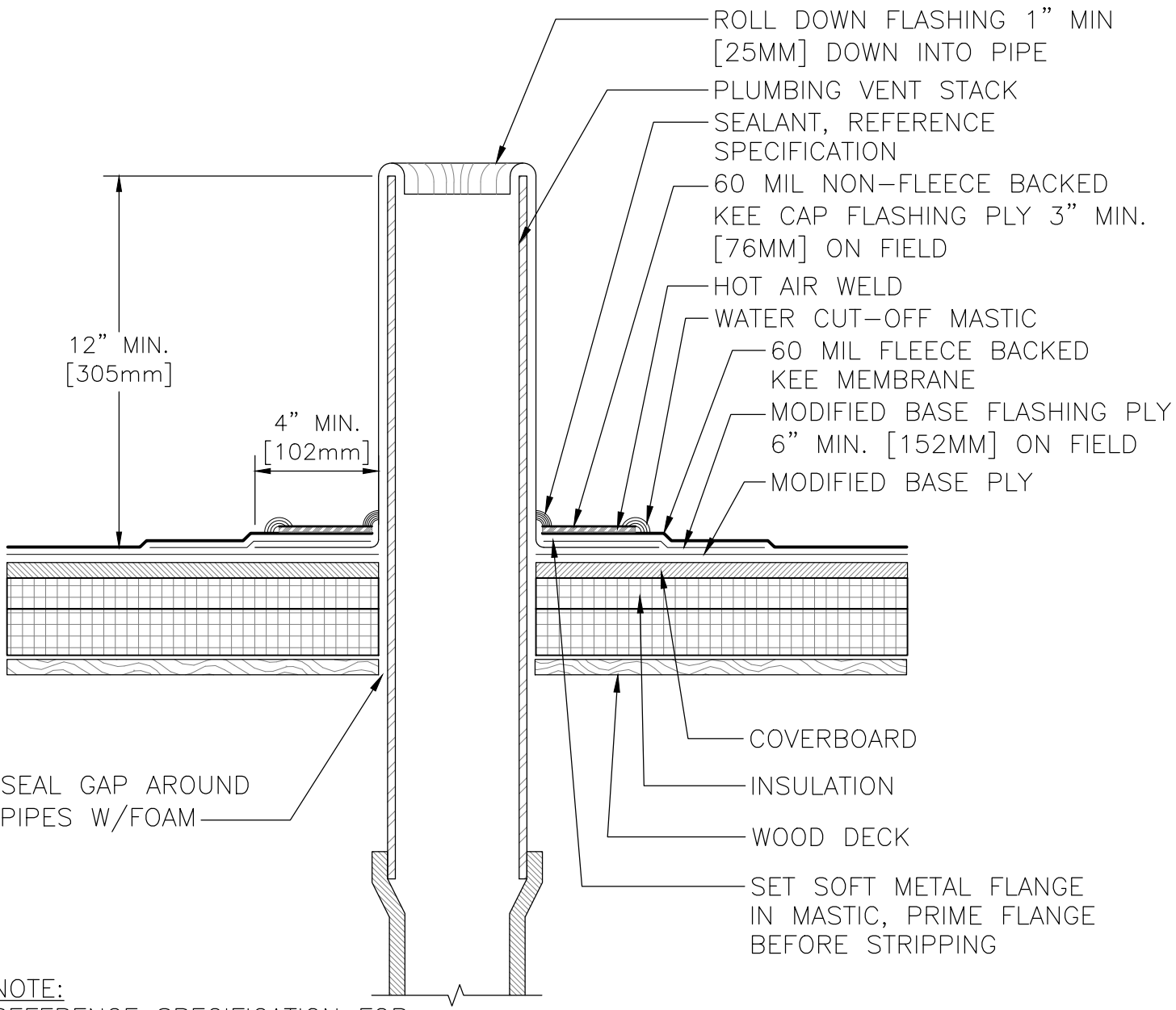

NOTE:
REFERENCE SPECIFICATION FOR MEMBRANE ADHESIVE TYPE, AND INSULATION/COVER BOARD TYPE AND ATTACHMENT METHOD.

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

PLUMBING STACK

GARLAND since 1895

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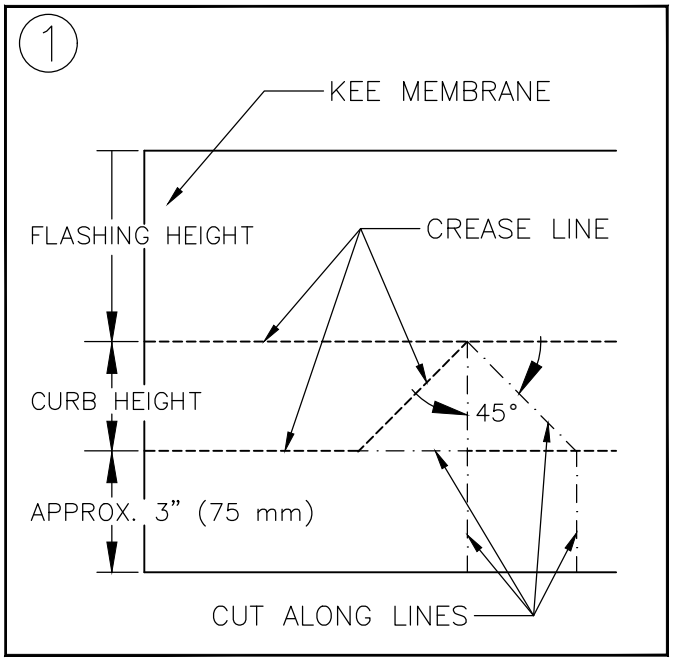

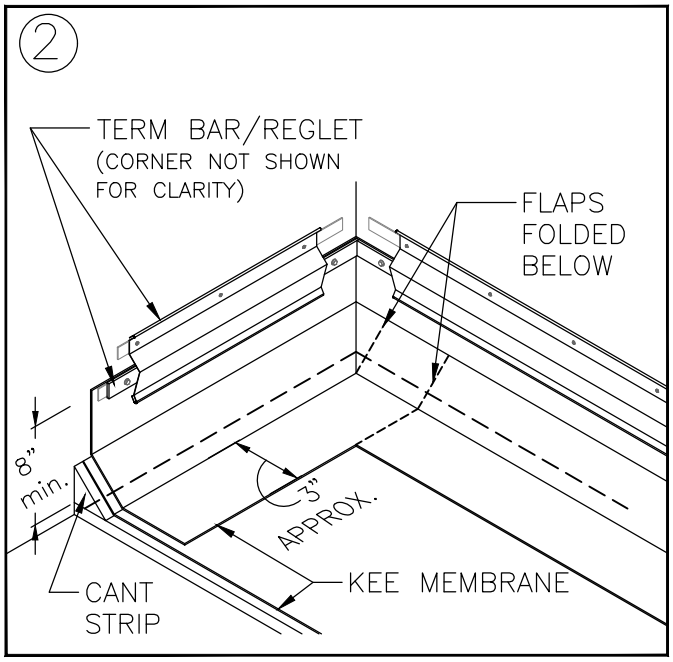

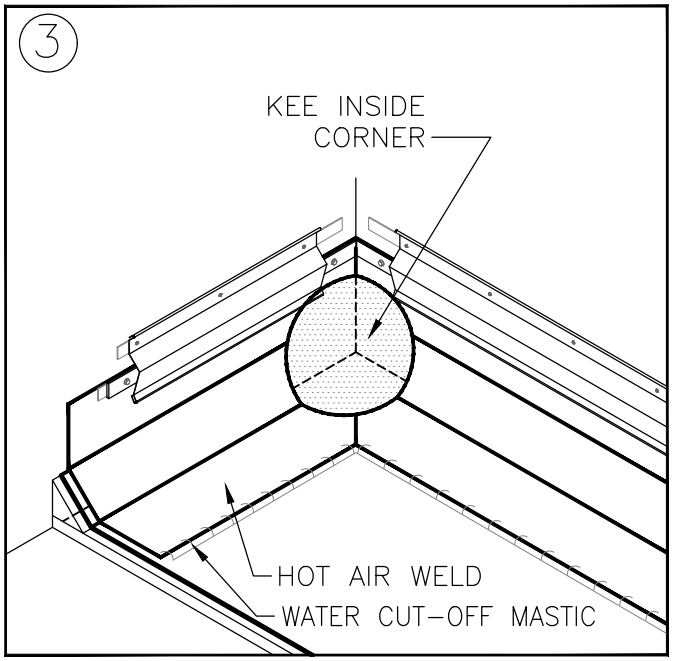

NOTES:

1. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED MEMBRANE.

PRE-MOLDED INSIDE CORNER FLASHING

SCALE: NTS

DRAWINGS ON 8½"x11 TITLE BLOCKS ARE NOT TO SCALE.

PRE-MOLDED INSIDE CORNER FLASHING

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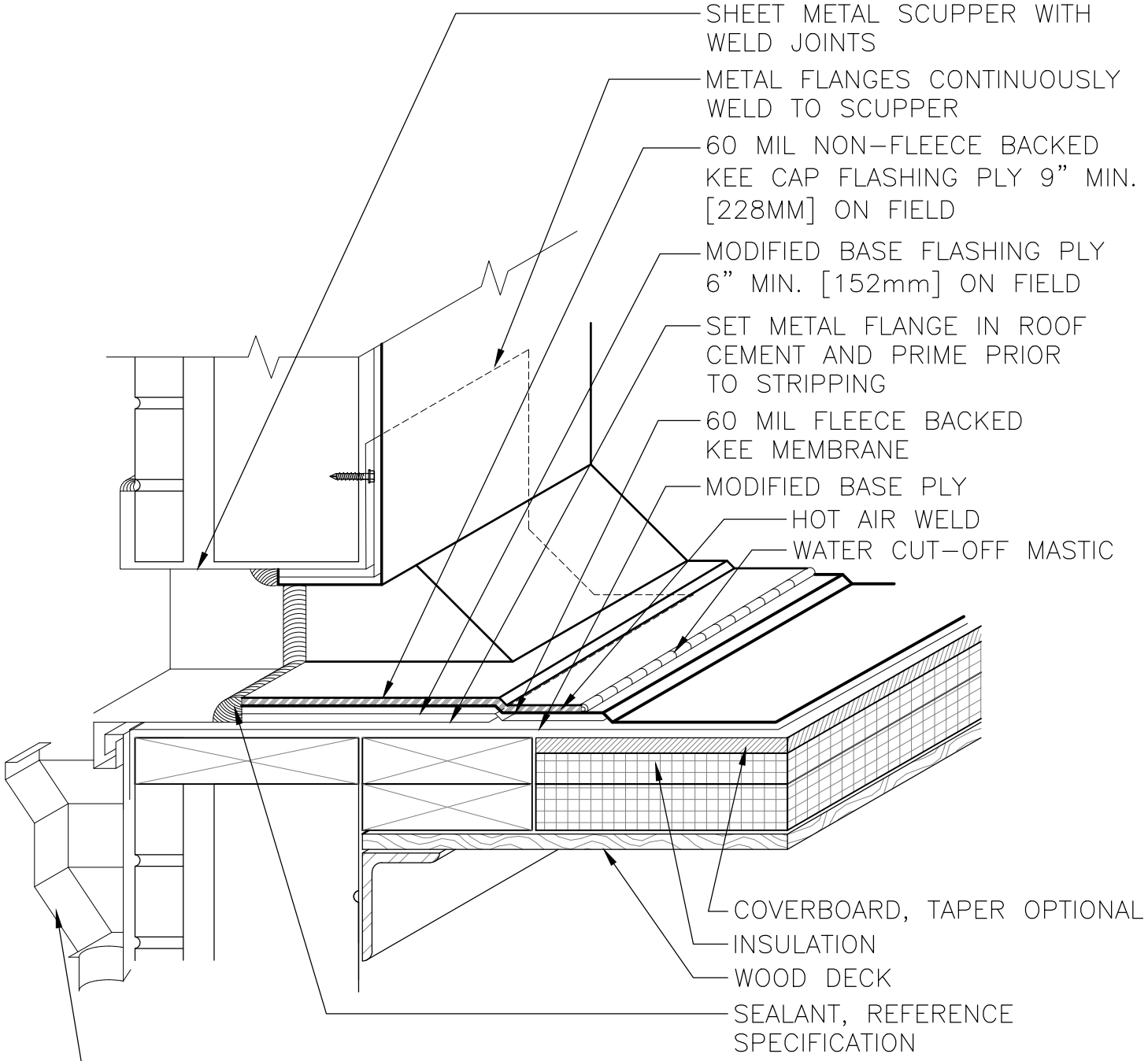

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DRAWINGS ON $8\frac{1}{2}$"x11 TITLE BLOCKS ARE NOT TO SCALE.

SCUPPER THROUGHWALL

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