



The Reno-Sparks Convention & Visitors Authority is soliciting a  
Bid for  
**Reno-Sparks Convention Center Sections D1, D2-1, and D2-2 Roof  
Replacement and Refurbishment Project**

**Bid 2023-OP03  
PWP-WA-2023-439**

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*Released by Amy Pickens, Project Administrator  
(Wednesday, July 12, 2023)*

The Point of Contact is Amy Pickens, Project Administrator at (775) 335-8839, or  
e-mail [apickens@renotahoeusa.com](mailto:apickens@renotahoeusa.com).

All questions or additional information concerning the Bid document must be submitted to the point  
of contact. No communication to any other staff or Board Member of the Reno-Sparks Convention  
& Visitors Authority regarding this Bid is allowed.

**SUBMISSION DATE AND TIME: Thursday, August 10, 2023, 2:00pm (PDT)**

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



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## I. INTRODUCTION

The Reno-Sparks Convention and Visitors Authority ("Authority") is currently accepting sealed responses from qualified Bidders (a "Bidder") for the provision of services, as set forth in this **Bid 2023-OP03 PWP-WA-2023-439**.

The Authority, an independent governmental entity, was established in February 1959 as the Washoe County Fair and Recreation Board. The Authority owns and/or operates the Reno-Sparks Convention Center, Reno Events Center, National Bowling Stadium and Reno-Sparks Livestock Events Center. The Authority is the operating instrumentality in the Washoe County area for promoting conventions, tourism, and outdoor recreation.

This bid is for sections D1, D2-1, and D2-2 roof replacement and refurbishment at the Reno-Sparks Convention Center.

## II. SCHEDULE

Request for Proposals Available	<b>Wednesday, July 12, 2023</b>
<b>Mandatory Pre-bid Meeting</b>	<b>Tuesday, July 18, 2023, 10:00AM (PDT)</b>
Written Questions Due (if any)	<b>Tuesday, July 25, 2023, 2:00PM (PDT)</b>
Written Responses to Questions	<b>Thursday, July 27, 2023, 5:00PM (PDT)</b>
Bid Responses Due	<b>Thursday, August 10, 2023, 2:00PM (PDT)</b>
Bid Opening Time	<b>Thursday, August 10, 2023, 2:10PM (PDT)</b>

**A Mandatory Pre-Bid meeting will occur on Tuesday, July 18, 2023, 10:00 AM (PDT), at the Reno-Sparks Convention Center, Administrative Offices, 4590 South Virginia Street, Reno, Nevada.**

Any irregularities or lack of clarity in this Bid should be brought to the attention of the Point of Contact prior to or on the date for Written Questions set forth in this Section for correction or clarification.

Any addenda to this Bid issued will forthwith become an integral part of this Bid. Bidder is required to acknowledge receipt of same by signing and returning the addenda in its response.



### **III. SUBMISSION OF RESPONSE**

Bidder will submit its response to this Bid on the letterhead of its company, Bidder establishment, corporation, etc. attached to the original Bid 2023-OP03 PWP-WA-2023-439 document. Bidder will sign and return the **ENTIRE BID DOCUMENT**, together with any addenda.

Responses will be enclosed in a sealed envelope addressed to:  
Reno-Sparks Convention and Visitors Authority  
P.O. Box 837  
Reno, NV 89504-0837  
Attn: Amy Pickens

Or delivered to:  
Reno-Sparks Convention Center  
4590 S. Virginia St.  
Reno, NV 89502

***Response envelope must indicate name and address of Bidder, Bid number, and opening date.***

In order for a response to be considered it will be mandatory that the response be in conformance with the terms and conditions of this Bid.



#### IV. BIDDER'S CHECKLIST

Bidders are instructed to complete and return the following items in order for their proposals to be complete. Failure to return all the items may result in your proposal being declared "non-responsive."

Bidder Information Requirements		Page	Completed
V.A.	Company Information	7	<input type="checkbox"/>
V.B.	Company Background	8	<input type="checkbox"/>
V.C.	Nevada Contractor License Information	9	<input type="checkbox"/>
V.D.	Business License Information	9	<input type="checkbox"/>
VI.	Subcontractors Exceeding 5% of Bid	10	<input type="checkbox"/>
VII.	Subcontractors Exceeding 1% of Bid	11	<input type="checkbox"/>
VIII.	Certification Regarding Debarment	12	<input type="checkbox"/>
IX.	Local Preference Affidavit	13	<input type="checkbox"/>
X.	Acknowledgment and Execution	14	<input type="checkbox"/>
XIII.	Base Bid Form	26	<input type="checkbox"/>
XIV.	5% Bid Bond	34	<input type="checkbox"/>
A	One Original Hard Copy		<input type="checkbox"/>
B	2 Duplicates		<input type="checkbox"/>
C	One master Flash Drive		<input type="checkbox"/>



## V. PROPOSER INFORMATION

The following information must be completed, either typed or printed, and returned with the bid in accordance with the General Conditions contained herein.

### A. Company Information

Company Name:
Contact Name:
Address:
City, State Zip Code:
Telephone Number:
Facsimile Number:
E-Mail:



**B. Company Background**

Has your company ever failed to complete any contracts awarded to it?  
No\_\_\_ Yes\_\_\_ (If yes, please provide details.)

Has your company filed any arbitration request or lawsuits on contracts awarded within the last five years? No\_\_\_ Yes\_\_\_ (If yes, please provide details.)

Does your company now have any legal suits or arbitration claims pending or outstanding against it or any officers relating to the performance of a public contract?  
No\_\_\_ Yes\_\_\_ (If yes, please provide details.)

Does your company now employ any officers or principals who were with another Bidder when that company failed to complete a contract within the last five years? No\_\_\_ Yes\_\_\_ (If yes, please provide details.)

Has your company had a contract partially or completely terminated for default (cause) within the past five years? No\_\_\_ Yes\_\_\_ (If yes, please provide details.)

Has your company been found non-responsible on a government bid within the last five years? No\_\_\_ Yes\_\_\_ (If yes, please provide details.)





**C. Nevada Contractor License Information:**

Prospective bidders will be required to have a current Contractor's License under the Nevada State Law for the type of work specified herein.

<b>License Number:</b>
Classification:
Limitation(s):
Date Issued:
Date of Expiration:
Name of Licensee:
City, State, Zip Code:
Telephone Number:

**D. Business License Information:**

<b>City of Reno</b>
License Number:
License Expiration:
Name of Licensee (if different):

**Or**

License will be obtained after award.



**VI. SUBCONTRACTORS EXCEEDING 5% OF BID**

Pursuant to NRS 338.141, the Bidder must submit the following names of First-Tier Subcontractors who will provide to Bidder labor or a portion of the work or improvements for which Subcontractor will be paid an amount exceeding five percent (5%) of the bid. The Bidder shall list the name of a Subcontractor for each portion of the Work, the value of which exceeds five percent (5%) of the Bid Price. **If Bidder will perform more than 5% of the work, Bidder shall also list their name and description of the work that the prime contractor will perform in the space provided below. If additional space is needed, attach a separate page.**

Subcontractor Name	
Nevada License	Limit of License
Address	
Telephone	
Description of Work	
Subcontractor Name	
Nevada License	Limit of License
Address	
Telephone	
Description of Work	
Subcontractor Name	
Nevada License	Limit of License
Address	
Telephone	

Bidder Name: \_\_\_\_\_ Authorized Signature: \_\_\_\_\_



## VII. SUBCONTRACTORS EXCEEDING 1% OF BID AMOUNT

In compliance with NRS 338.141, Bidder submits the following names of First-Tier Subcontractors who will provide to Bidder labor or a portion of the Work or improvements for which Subcontractor will be paid an amount exceeding one percent (1%) of the Bid or \$50,000, whichever is greater. The Bidder shall list the name of a Subcontractor for each portion of any of the Work the value of which exceeds one percent (1%) of the Bid Price.

Since all Subcontractors listed on the Bidder's 5% Subcontractor Information Form are over 1% of the Bid amount, those Subcontractors shall automatically be deemed incorporated into this 1% Subcontractor Information form and need not be re-listed below.

Information provided must be submitted within two (2) hours after the completion of the opening of the bids (Per NRS 338.141). Bidder shall enter "NONE" under "Name of Subcontractor" if not utilizing subcontractors exceeding this amount. This form must be complete in all respects. If additional space is needed, attach a separate page. The bidder may elect to submit this information with the bid proposal, and, in that case, the bidder will be considered as having submitted this information within the above two hours.

Subcontractor Name	
Nevada License	Limit of License
Address	
Telephone	
Description of Work	
Subcontractor Name	
Nevada License	Limit of License
Address	
Telephone	
Description of Work	

Bidder Name: \_\_\_\_\_ Authorized Signature: \_\_\_\_\_



## VIII. CERTIFICATION REGARDING DEBARMENT

### Certification Regarding Debarment, Suspension, And Other Matters

(This to be signed and returned at the time of bid)

The prospective bidder, \_\_\_\_\_ certifies to the best of its knowledge and belief that it and its principals:

- Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. Any exceptions provided will not necessarily result in denial of award but will be considered in determining bidder responsibility and whether or not the Authority will enter into contract with the party. For any exception noted, indicate on an attached sheet to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administrative sanctions.

Signature:
Print Name:
Title:
Date:



## IX. LOCAL PREFERENCE AFFIDAVIT

This form is required to receive a preference in bidding on projects exceeding \$250,000. This form must be submitted no later than two (2) hours following the opening of bids, only if the bidder wishes for their preferential status (established by their current Certificate of Eligibility) to be considered in the evaluation of bids. A copy of the bidder's Certificate of Eligibility must be submitted at the time the contractor submits their bid.

I, \_\_\_\_\_, on behalf of the Contractor, \_\_\_\_\_, swear and affirm that in order to be in compliance with NRS 338.0117 and be eligible to receive a preference in bidding 2023-OP03 PWP-WA-2023-439 Reno-Sparks Convention Center Sections D1, D2-1, and D2-2 Roof Replacement and Refurbishment Project certify that the following requirement will be adhered to, documented, and attained on completion of the contract. Upon submission of this affidavit on behalf of

\_\_\_\_\_, I recognize and accept that failure to comply with any requirements is a material breach of the contract and entitles the Authority to damages. In addition, the Contractor may lose their preference designation and/or lose their ability to bid on public works for a period of time, pursuant to NRS 338:

- The Contractor shall ensure at least 50 percent of workers employed on the public work possess a Nevada driver's license or identification card;
- The Contractor shall ensure all vehicles used primarily for the public work will be registered and (where applicable) partially apportioned to Nevada;
- The Contractor shall ensure payroll records related to this project are maintained and available within the State of Nevada.

These requirements are not applicable to Contractors who do not use the "Bidder's Preference" eligibility certificate in their bid or do not receive an advantage in ranking of bids due to their preference status.

Signature:
Print Name:
Title:
Date:



**X. ACKNOWLEDGMENT AND EXECUTION**

\_\_\_\_\_ (Name of Principal) being first duly sworn, deposes and says: That he/she is the Bidder, or authorized agent of the Bidder for whom the aforesaid described work is to be performed by; that he/she has read the Plans, Specifications, and related documents including but not limited to, any addenda issued and understands the terms, conditions, and requirements thereof; that if his/her bid is accepted that he/she agrees to furnish and deliver all materials except those specified to be furnished by the Authority and to do and perform all work for the bidding RFP#2023-OP03 PWP-WA-2023-439 Reno-Sparks Convention Center Sections D1, D2-1, and D2-2 Roof Replacement and Refurbishment Project together with incidental items necessary to complete the work to be constructed and/or services to be provided in accordance with the Specifications, Plans, and Contract Documents annexed hereto.

The undersigned, as Bidder, declares that the only persons or parties interested in this proposal, as principals, are those named herein, the Bidder is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid: that this proposal is made without collusion with any other person, firm or corporation; that he/she has carefully examined the location of the proposed work; the proposed form of Contract, the Contract Provisions, Plans, Specifications and Contract Documents incorporated therein referred to and made part thereof; that he/she proposes and agrees if this proposal is accepted, that he/she will contract with the Authority in the form of the Contract prescribed, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the Contract and annexed Contract Provisions, Plans and Specifications, in the manner and time prescribed and according to the requirements of the Project Representative as therein set forth, it being understood and agreed that the quantities shown herein are approximate only and are subject to increase or decrease, and that he/she will accept, in full, payment therefore the indicated prices.

Signature:
Print Name:
Title:
Date:



## **XI. PERFORMANCE BOND, PAYMENT BOND, AND BID BOND**

All Bonding Companies must have an "A" rating or better with Moody's or A.M. Best Company and be included on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bond and as Acceptable Reinsuring Companies" as published in circular 570 (as amended) by the audit staff, Bureau of Accounts, U.S. Treasury Department. (In other words, the company is T-listed.)

### **A. Performance Bond**

The Contractor awarded this bid will be required to furnish the Authority with a surety bond conditioned upon the faithful performance of the contract. This may take the form of a bond executed by a surety company authorized to do business in the State of Nevada and approved by the Authority. The bond shall be in a sum equal to one hundred percent (100%) of the amount of the contract price. Such bond shall be forfeited to the Authority in the event that bidder receiving the contract shall fail or refuse to fulfill the requirements and all terms and conditions of the contract.

### **B. Payment Bond**

The Contractor awarded this bid will be required to furnish the Authority with a payment bond. This may take the form of a bond executed by a surety company authorized to do business in the State of Nevada and approved by the Authority. The bond shall be in a sum equal to one hundred percent (100%) of the amount of the contract price. The bond must be solely for the protection of claimants supplying labor or materials to the contractor to whom the contract was awarded, or to any of his subcontractors, in the prosecution of the work provided for in such contract.

### **C. Bid Bond**

A bid deposit in an amount equal to at least 5% of the bid is required as a bid security by the Authority. The bid security may only be in cash, cashier's check, certified check or bid bond. Checks must be made payable to the Reno-Sparks Convention and Visitors Authority. If the bid security is a bond, it shall be executed by a surety insurer authorized to issue surety bonds in the State of Nevada. The bid security must be executed by the bidder and enclosed with the bid proposal in the sealed bid envelope.

## **XII. GENERAL TERMS & CONDITIONS**

### **A. The bidder agrees that**

Bidder has carefully examined the specifications, and all provisions relating to the item(s) to be furnished or the work to be done; understands the meaning, intent, and requirements; and

Bidder will enter into a written Agreement and furnish the item(s) or complete the work in



the time specified, and in strict conformity with the Reno Sparks Convention and Visitors Authority's specifications for the prices quoted.

No communication to any other staff or Board Member of the Authority in regards to this Bid is allowed, except through the designated point of contact, and any such communication initiated by the Bidder may result in a disqualification of the Bidder.

**Note:** Bidder is defined as any individual, partnership, or corporation submitting a bid, proposal, or quotation in response to a request for bid (Bid), request for proposal (RFP), request for information (RFI) or request for qualification (RFQ). A Bidder may also be referred to as a bidder, contractor, proposer, supplier, or vendor.

The use of the title "Bidder", "Contractor", "Consultant", "Proposer", or "Vendor" within this solicitation document and any resulting Agreement shall be deemed interchangeable and shall refer to the person or entity with whom the Authority is soliciting and/or contracting for the service or product referenced within the bid document.

## **B. Addenda**

The effect of all addenda to the bid documents shall be considered in the bid and said addenda shall be made part of the bid documents and shall be returned with them. Before submitting a bid, each Bidder shall ascertain whether or not any addenda have been issued, and failure to acknowledge any such addenda may render the bid invalid and result in its rejection.

All potential Bidders are responsible for monitoring the Authority website regarding the availability of new bid documents or addenda (where applicable). The Authority will not be responsible for the results of any potential failures in automatic notification systems to potential Bidders or plan holders with respect to these documents and will not adjust bid schedules or requirements due to any potential failures of those systems.

## **C. Advertisements, Product Endorsements**

Authority employees are prohibited from making endorsements, either implied or direct, of commercial products or services without written approval of the Authority President/CEO.

## **D. Annual Appropriation of Funds**

In the event the Authority fails to obligate requisite funds for the ensuing fiscal year(s) for payment of amounts due against an agreement resulting from this Request for Proposal, necessitating cancellation of the Agreement, the successful Bidder(s) shall agree to hold the Authority free from any charge or penalty.

## **E. Brand Names**

The technical information contained herein shall in no manner be construed as restrictive as to the manufacturer, process or point of origin. References appearing restrictive shall be





deemed inadvertent or employed as a descriptive device to delineate as to the quality, or configuration.

Offers made as an alternate to those specified shall be given consideration in the evaluation process provided said alternatives shall be fully described using brochures, specifications, literature, or any combination thereof, accompanying and deemed an integral portion of the Bidder's response.

The Authority shall solely determine the acceptability of all offerings.

**F. Business License Requirement**

All companies doing business with the Authority are required to obtain and maintain a current business license from the appropriate jurisdiction prior to the commencement of work. Bidder(s) awarded an Agreement resulting from this bid shall be required to obtain a current business license if they do not already possess one.

**G. Compliance**

All material and work performed shall comply with standing Federal, State, and Local Codes and Regulations, including but not limited to Occupational Safety and Health Act, Americans with Disabilities Act, etc.

**H. Confidential Information**

Any information deemed confidential or proprietary should be clearly identified by the Bidder as such. It may then be protected and treated with confidentiality only to the extent permitted by state law. Otherwise, the information shall be considered a public record. Information or data submitted with a bid will not be returned.

**I. Conflict of Interest**

No Authority employee or member of the employee's immediate family, may participate directly or indirectly in the procurement process pertaining to this bid if they:

- Have a financial interest or other personal interest that is incompatible with the proper discharge of their official duties in the public interest or would tend to impair their independence, judgment or action in the performance of their official duties.
- Are negotiating for or have an arrangement concerning prospective employment with Bidder. The Bidder warrants to the best of his knowledge that the submission of the bid will not create such conflict of interest.

**J. Default of Agreement**

In case of default by the successful Bidder, the Authority may procure the product(s) or service from other sources and hold the Bidder responsible for any excess cost occasioned thereby.



If necessity requires the use of materials or supplies not conforming to the specifications, they may be accepted, and payment therefore shall be made at a proper adjustment in price.

Default by the Bidder in any manner including failure or refusal to furnish any product(s) or service at the price and/or the time specified may be considered cause to commence with proceedings against any surety held or assess a penalty equal to five (5) percent of the total proposal price.

**K. Disputes**

All disputes under this proposal shall be submitted to binding arbitration in accordance with the procedures of the Commercial Rules of the American Arbitration Association and judgment of the arbitrator shall be binding as a final judgment and shall be entered by a court of competent jurisdiction. Such arbitration shall be conducted in Washoe County, Nevada. The procedures specified herein shall be the sole and exclusive procedure for resolution of disputes arising out of or relating to this proposal except those instances otherwise overseen by the governing law of the State of Nevada.

**L. Document Ownership**

All technical documents and records originated or prepared pursuant to this Agreement, including papers, reports, charts, and computer programs, shall be delivered to and become the exclusive property of the Authority and may be copyrighted by the Authority. Bidder assigns all copyrights to Authority by undertaking this agreement.

**M. Document Submittals**

It should be noted that the documents submitted by prospective Bidders are competitive sealed proposals and not competitive sealed bids. When proposals are opened, prices and other information will not be made public until the proposal is awarded. There shall be no disclosure of any Bidder's information to competing Bidders prior to the award of the proposal.

Upon award of the Agreement, the executed Agreement and proposals will become public information. Accordingly, each proposal should be submitted on the vendor's most favorable terms from a price and technical standpoint.

**N. Evaluation and Recommendation, Selection and Agreement**

The Authority reserves the right to waive any informalities or irregularities.

The Authority reserves the right to alter, amend, or modify any provisions of this Bid, or to withdraw this Bid, at any time prior to the award of an Agreement pursuant hereto.

The Authority reserves the right to hold responses for a period of ninety (90) days from the date of opening before awarding or rejecting said responses.

Severability exists with regard to acceptance or rejection of any item, group of items, or



section unless the Bidder has stipulated specific limitations.

Once a final selection has been made as described above, the Authority will work with the Bidder on preparing an Agreement (the "Agreement") for execution, which will set forth the terms and scope of the engagement of the selected Bidder, including, but not be limited to, the terms set forth in this Bid. If the Authority and the selected Bidder have not executed a negotiated agreement within fifteen (15) business days after selection by the Authority, the Authority may terminate negotiations with that selected Bidder and may initiate negotiations with an alternative Bidder.

No Agreement may be assigned to any other person or entity.

Upon notification of selection and full execution of the Agreement, the Bidder selected must be duly licensed to conduct business in the State of Nevada, Washoe County and the City of Reno or the City of Sparks. Proof of certificates, licenses, and permits must be submitted to the Authority Finance Department before work can begin. Cost of all required certificates, licenses, and permits are the responsibility of the Bidder.

**O. Exceptions**

A Bidder deviating from specifications must specify any and all deviation(s). Failure to note said exceptions shall be interpreted to convey that the Bidder shall propose to perform in the manner described and/or specified in this bid solicitation. If exception(s) are taken or alternatives offered, complete descriptions must be shown separately.

**P. Indemnification**

The Bidder hereby agrees to indemnify and to save and hold harmless the Authority and their agents from any and all claims, actions, costs, expenses, (including attorney's fees), liability, damages or payments incurred by reasons of any bodily injury including death or property damage resulting from the Bidder's operations.

**Q. Insurance**

The Agreement contemplated by this Bid will require that the successful Bidder shall procure and maintain, at its sole expense the following minimum insurance coverage:

**Commercial General Liability.** Commercial General Liability at least as broad as Insurance Services Office policy form CG 00 01 04/13, or equivalent, providing coverage on an occurrence form for Bodily Injury, Property Damage, Liquor Liability, Independent Proposers, Personal Injury, Broad Form Property Damage, Broad Form Contractual Liability and Medical Payments. The limits of liability shall not be less than Two Million Dollars (\$2,000,000) per occurrence, Four Million Dollars (\$4,000,000) general aggregate for both bodily injury and property damage.

The policy shall include the Authority and its agents, beneficiaries, partners, employees, the County of Washoe, and the Authority of Reno as additional insureds with coverage at least as broad as Insurance Services Office (ISO) endorsement form CG 20 26 04/16.



The policy shall provide that coverage is provided on a primary basis, not excess or contributing with or secondary to any other insurance as may be available to the additional insureds.

Proposer waives all rights against the Authority, and its agents, beneficiaries, partners, employees, the County of Washoe, and the Authority of Reno any other Indemnitees listed in this this Agreement for recovery of damages to the extent these damages are covered by the commercial general liability or commercial umbrella liability insurance maintained pursuant to this agreement. Proposer's insurer shall endorse CGL policy to waive subrogation against with respect to any loss paid under the policy.

**Automobile Liability.** Automobile Liability at least as broad as Insurance Services Office Business Auto Coverage Form CA 00 01 04/13, or equivalent, providing coverage for Bodily Injury and Property Damage resulting from the ownership, maintenance, or use of any auto, whether owned, rented or hired or non-owned. The limit of liability shall not less than Two Million Dollars (\$2,000,000) combined single limit (CSL) for bodily injury and property damage.

**Workers' Compensation and Employer's Liability.** Workers' Compensation at least as broad as National Council on Compensation Insurance (NCCI) policy form WC 00 00 00 C 01/15, or equivalent, providing coverage meeting the requirements of the Workers' Compensation law of the State of Nevada. To the extent such waivers are obtainable from the insurance carriers, the policy shall include an endorsement waiving the insurance company's rights of subrogation against the Authority, its agents, beneficiaries, partners, employees, the County of Washoe, and Authority of Reno. This endorsement shall be at least as broad as National Council on Compensation Insurance (NCCI) Waiver of Our Right to Recover from Others Endorsement form WC 00 03 13 04/84.

**Property.** Property insurance on an All-Risk or Special Form providing coverage for personal property of the Bidder.

**Blanket Employee Dishonesty Coverage.** The Proposer shall maintain crime insurance including coverage for the loss of money, securities, and other property by the Proposer's employees, sub-contractors, or other parties with a limit not less than \$1,000,000 per occurrence. Coverage shall be endorsed to include coverage for loss of money, securities and other property in the care, custody, or control of Proposer whether in transit or at a permanent or temporary premises.

**Form of Coverage.** All such insurance maintained by the Bidder shall be: issued by insurance companies authorized to do insurance business in the State of Nevada, issued by insurance companies with current A.M. Best financial ratings of at least A X or better satisfactory in form and substance to Authority.

All insurance and bond shall provide that the policy shall not be cancelled, nor shall coverage be reduced thereunder until after thirty (30) days written notice to Authority at Reno-Sparks Convention & Visitors Authority, Post Office Box 837, Reno, Nevada 89504-0837.

The Bidder shall deposit each policy or a certificate thereof with Authority no less than thirty (30) days prior to the start of the agreement date.



**R. Items Offered**

If the item offered by the Bidder has a trade name, brand and/or catalog number, such shall be stated in the bid. If the Bidder proposes to furnish an item of a manufacturer or vendor other than that mentioned on the face hereof, Bidder must specify maker, brand, quality, catalog number, or other trade designation. Unless such is noted on the bid form, it will be deemed that the item offered is that designated even though the bid may state "or equal".

**S. Late Bids, Modifications, or Withdrawals**

Bids, modifications of bids, or bid withdrawals received after the exact time and date specified for receipt will not be considered.

Within the scope of this proposal, the Authority shall be held harmless in any and all transactions between the Bidder and the other participating governmental entities.

**T. Lawful Performance**

Vendor shall abide by all Federal, State and Local Laws, Ordinances, Regulations, and Statutes as may be related to the performance of duties under this agreement. In addition, all applicable permits and licenses required shall be obtained by the vendor, at vendor's sole expense.

**U. Litigation Warranty**

The Bidder, by bidding, warrants that Bidder is not currently involved in litigation or arbitration concerning the materials or Bidder's performance concerning the same or similar material or service to be supplied pursuant to this Agreement of specification, and that no judgments or awards have been made against Bidder on the basis of Bidder's performance in supplying or installing the same or similar material or service, unless such fact is disclosed to the Authority in the bid. Disclosure may not disqualify the Bidder. The Authority reserves the right to evaluate bids on the basis of the facts surrounding such litigation or arbitration and to require Bidder to furnish the Authority with a surety bond executed by a surety company authorized to do business in the State of Nevada and approved by the Authority in a sum equal to one hundred percent (100%) of the Agreement price conditional on the faithful performance by Bidder of the Agreement in the event the bid is awarded to Bidder, notwithstanding the litigation or arbitration.

**V. Non-Discrimination**

No Bidder providing a service, program, or activity to the public on behalf of the Authority shall discriminate against any person because of sex, race, color, creed, national origin or disability, and shall comply with the Americans with Disability Act and Authority's policies pursuant thereto when providing said service, program or activity.

The Authority is an Affirmative Action/Equal Opportunity Employer. Bidders shall be cognizant of the requirements for compliance with Executive Order 11246, entitled "Equal Employment Opportunity" as amended by Executive Order 11375 and as supplemented in regulations of



the U.S. Department of Labor (41 CFR part 60).

The Contractor and any Subcontractors will comply with the requirements set forth in Nevada Revised Statutes Chapter 338 regarding public works, including, but not limited to, the provisions of NRS 338.125 which provides that the Contractor and Subcontractors may not discriminate in any of their employment practices.

**W. Open Meeting Law**

NRS 241 provides that public business will be conducted in open meeting.

**X. Prevailing Wages**

Bidder is responsible for complying with all applicable local, State and Federal wage laws, whether or not specifically cited in this bid document.

Per NRS Sections 338.020 through 338.090, certain projects defined as “public works” require the payment of the prevailing wage as determined by the Labor Commissioner. Generally speaking, projects/contracts for construction of a public work valued at less than \$100,000 are exempt from the prevailing wage requirement (NRS 338.080). Bidder shall be fully aware of the prevailing wage requirements of the State of Nevada as detailed in NRS Chapter 338 and price their bid response accordingly, where applicable. Further information concerning Prevailing Wage rates can be found at: [publicworks@labor.nv.gov](mailto:publicworks@labor.nv.gov)

**Y. Apprenticeship Utilization Act**

Senate Bill 207 passed during the 2019 Legislative Session added sections 338.0116 and 338.01165 to the NRS. These new provisions apply to bids for public works where the value exceeds \$100,000.00. In passing SB 207, The Legislature hereby finds and declares that: (1) A skilled workforce in construction is essential to the economic well-being of the State; (2) Apprenticeship programs are a proven method of training a skilled workforce in construction; and (3) Requiring the use of apprentices on the construction of public works will ensure the availability of a skilled workforce in construction in the future for this State.

Guidelines may be found at: <https://www.leg.state.nv.us/Session/80th2019/Bills/SB/SB207.pdf>

**Z. Protests**

**Pre-Opening Protests:** Any protest based upon restrictive specifications or alleged improprieties by the Authority, which are apparent prior to proposed opening including, without limitation, these protest procedures, shall be submitted to the Authority at least seven (7) days prior to the submission opening date. Three (3) copies of any pre-opening protests must be delivered to Reno-Sparks Convention & Visitors Authority, 4065 South Virginia Street, Suite 100, Reno, Nevada 89502, Attention: Courtney Jaeger. All protests must be in writing to be considered and shall specify in detail the grounds for the protest and the facts and law supporting the protest. All pre-opening protests will be resolved by the Authority prior to the submission opening. The Authority Finance Department will issue a written decision specifying the grounds for granting or denying the pre-opening protest. If a protest is granted, the proposed opening date may be postponed and an Addendum issued or, at the sole discretions



of the Authority, the Authority may cancel the bid. If the protest is denied, submissions will be received and opened on the scheduled opening date in the same manner as if no protest had been filed.

**Appeal by Unsuccessful Bidder:** Any protest from an unsuccessful proposer must be submitted prior to award by the Board as established in NRS 332.068. Bidder must submit a written appeal in accordance with the requirements set forth herein to the Finance Department within five business days from the date of the letter notifying of intent to award.

The appellant must post a bond with the written appeal with good and solvent surety authorized to do business in the State of Nevada in an amount equal to 25% of the value of the contract in order to have their appeal heard by the Board. Any and all bonds are subject to the approval of the Board's Attorney. In the event the appeal is not upheld by the Board, a claim may be made against the bond in an amount equal to the expenses incurred and other monetary losses suffered by the Authority because of the unsuccessful appeal.

The route of appeal is the Director of Finance then the President/CEO, or designee, and must be followed sequentially. No Bid protests will be heard by the Board unless the proposer has followed the appeal process route.

#### **Claims Against Protest Bonds:**

The Authority shall not make a claim upon any bond or other security unless and until the basis of that claim is considered and approved by the Board. The Authority may:

- Claim its regular staff time and costs in processing, considering and/or defending against an award protest.
- Claim any necessary extraordinary staff overtime incurred in processing, considering and/or defending against an award protest.
- Claim the Authority's Attorney time and costs in processing, considering and/or defending against an award protest.
- Claim any resulting fees and costs incurred to any independent contractors, consultants or contracted attorneys utilized in processing, considering and/or defending against an award protest.
- Claim any lost expenditure savings, lost revenue and other consequential financial damages resulting from the protest's automatic stay of the award of an Agreement to a selected solicitation response.
- Claim any lost gifts, lost grants or other lost government or private financial participation resulting from any delay caused by the protest's automatic stay of the award of an Agreement to a selected solicitation response.

#### **Protest Bond Risk Inquiry—Procedure:**

As soon as possible after an award protester has posted a protest bond or other security, the soliciting Authority department or agency shall provide a written non-binding estimate of the basis of potential claims unique to the circumstances of the Agreement award(s) stayed by the protest, without disclosing any bid information that must remain confidential until an award decision is final. From this estimate, the protester shall be responsible for calculating the risk(s) of proceeding with a protest to a final decision by the Board. A protester may withdraw a protest in writing at any time prior to a decision of the Board, but any withdrawal more than seven (7) calendar days after the issue date of the Authority's estimate of the basis



of potential claims shall, upon Board's approval of the claims, be subject to claims against the bond or other security of the withdrawing protestor prior to its return to the protestor.

**AA. Signature**

All bids shall be signed, and the title and Bidder name indicated. A bid by a corporation shall be signed by an authorized officer, employee, or agent with his or her title.

**BB. Submission of Responses**

The Authority assumes no responsibility for errant delivery of responses, including those relegated to a courier agent who fails to deliver in accordance with the submission time/date and address requirements.

The Authority will not be responsible for the premature opening of responses which are not properly addressed or identified.

The Authority will not accept a response submitted by telephone, telegraphic notice, facsimile, or e-mail.

Bidder will furnish the required information typed or written in ink.

The person signing the response must initial erasures or other changes in ink.

In the spaces provided, a duly authorized representative of the Bidder will sign this Bid document.

Bidder will proofread its response carefully for errors.

In the event of a difference between written words and figures, the amount stated in written words will govern.

In the event of a difference between unit price and extended price, the unit price will govern.

The Authority is not liable for any costs incurred by Bidder prior to entering into the final Agreement. Costs of developing the qualifications or any other such expenses incurred by the Bidder in responding to this Bid are entirely the responsibility of the Bidder and shall not be reimbursed in any manner by the Authority.

Respondent shall be responsible to ensure they have complied in all respects with the provisions of NRS 338.141 regarding listing of general contractors and/or subcontractors who will perform any work on the project. Failure of Respondent to comply with the provisions of NRS 338.141 will result in rejection of Respondent's bid.

Respondent shall bear the responsibility to ascertain the relevancy of the "preference for certain contractors" referenced in NRS 338.147. Respondents claiming preference shall submit with their Bid the "Certificate of Eligibility" issued by the State of Nevada Contractor's Board as proof of Contractor's compliance with the provisions of NRS 338.147. Failure to submit the Certificate of Eligibility with the sealed Bid shall result in the waiver of any bidder





preference. In the event Respondent claims a bidder preference pursuant to NRS 338.147, the RSCVA strongly encourages Respondent to deliver to the RSCVA an affidavit satisfying the requirements of NRS 338.0117 with the Bid response. However, pursuant to NRS 338.147(2)(a)(3) the Respondent may deliver the foregoing affidavit up to two (2) hours after the opening of the bids, all as set forth in NRS 338.147(2)(a)(3). Failure to timely submit the foregoing affidavit shall result in a waiver of any bidder preference.

Bidder has carefully examined the specifications, and all provisions relating to the item(s) to be furnished or the work to be done; understands the meaning, intent, and requirements.

**CC. Tax Exemption**

The Authority is a tax-exempt public entity and is not generally subject to federal excise, state, or local taxes. The Authority is specifically limited in its payment of sales tax per NRS 372.325. No additional taxes may be added or "passed through" as a result of any agreement.

**DD. Venue**

This agreement shall be governed by and interpreted according to the laws of the State of Nevada, and venue for any proceeding shall be in Washoe County.

**EE. Withdrawal of Bids/Proposals**

Bids/Proposals may be withdrawn by written or facsimile notice received prior to the exact hour and date specified for receipt of bid. A bid/proposal may also be withdrawn in person by a Bidder, or Bidder's authorized representative, prior to the exact hour and date set for receipt of bids. Telephone withdrawals are not permitted.



### **XIII. BASE BID FORM**

Project: 2022-OP03, PWP-WA-2023-439

Project Title: Reno-Sparks Convention Center Sections D1, D2-1, and D2-2 Roof Replacement and Refurbishment Project  
4590 S. Virginia Street  
Reno, Nevada 89502  
Project No. 2023-OP03

Owner: Reno-Sparks Convention and Visitors Authority  
4065 S. Virginia Street, Ste 100  
Reno, Nevada 89502

Amy Pickens  
Telephone No. 775.335.8839  
E-mail: [apickens@renotahoeusa.com](mailto:apickens@renotahoeusa.com)

Roofing Consultant: Benchmark, Inc.  
6065 Huntington Court NE  
Cedar Rapids, IA 52402

Doug Henkel  
Telephone No. 319.393.9100  
E-mail: [dhenkel@benchmark-inc.com](mailto:dhenkel@benchmark-inc.com)



**BID FORM**

To: Reno-Sparks Convention and Visitors Authority

Name of Bidder: \_\_\_\_\_

Date of Bid: \_\_\_\_\_

**1.01** Pursuant to and in compliance with the Invitation to Bid and the Bidding Documents relating to the construction of:

2023-OP03-PWP-WA-2023-439 Reno-Sparks  
Convention Center Sections D1, D2-1, and D2-2  
Roof Replacement and Refurbishment Project  
Reno, Nevada 89502  
Project No. 2023-OP03  
Benchmark Project No. 23RENRENOR013B

Including Addenda \_\_\_\_\_

The undersigned, having become thoroughly familiar with the terms and conditions of the Bidding Documents and with local conditions affecting the performance and cost of the work at the place where the work is to be completed and after having been given ample opportunity to fully inspect the site in all particulars, hereby proposes and agrees to fully perform the work within the time stated, including furnishing any and all labor, materials, services, equipment and all applicable taxes necessary to construct and complete said work in accordance with the Contract Documents, for the following sum(s) of money:

Refer to Section 01 23 00-Alternates. Exclude value of each Alternate from the associated Base Bid, as described

A. Base Bid: Perform roof replacement on Section D2-1 and roof refurbishment on Section D2-2 per the drawings and specification.

\_\_\_\_\_  
\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Total cost of construction materials included in the bid above \$\_\_\_\_\_

Total square footage included in bid \_\_\_\_\_ Sq. Ft

B. Alternate Bid No. 1: Perform roof refurbishment on Section D-1 as specified in Section 01 23 00 – Alternates.



Add to Base Bid.

\_\_\_\_\_ Dollars (\$\_\_\_\_\_)

Total cost of construction materials included in bid above \$\_\_\_\_\_

Total square footage included in bid above \_\_\_\_\_ Sq. Ft.

C. Unit Pricing

1. For changing specified quantities of work from those required by the Contract Documents, upon written instructions of the Owner, the following unit prices shall prevail. Unit prices include all materials, installation, labor, equipment, delivery, taxes, insurance, services, overhead, and profit.
2. Refer to Sections 00 21 13 - Instructions to Bidders and 01 22 00 -Unit Prices.
3. Refer to Summary of Work notes on Drawings for stipulated quantity allowances of specific unit price-based work.
4. Schedule of Unit Prices:

<b><u>Description</u></b>	<b><u>Unit Price</u></b>
Replace 3/4" to 1" sealant joint	\$_____
	Per Linear Foot
Replace 1" to 1-1/2" sealant joint	\$_____
	Per Linear Foot
Install roof system walkway	\$_____
	Per Linear Foot
Replace insulation level with surrounding insulation	\$_____
	Per Square Foot
Paint surface rusted steel decking	\$_____
	Per Square Foot
Replace steel decking	\$_____
	Per Square Foot



D. Performance Bond and Payment Bond

1. This bid includes the cost of a Performance Bond and Payment Bond. By signing and submitting this bid, the Bidder certifies that they will furnish these bonds in amounts sufficient to cover the total proposed cost of the work, including Base Bid and all Alternates. The bonds shall be amended and maintained current with all contract Change Orders.
2. The cost of these bonds is \_\_\_\_\_% of the total proposed cost of the work, including Base Bid and all Alternates.

E. Bid Bond

1. Accompanying this bid is a bid bond as specified in Section **XI. Instructions to Bidders**, payable without condition to the Owner, equaling no less than 5% of the total proposed cost of the work, including the Base Bid and all Alternates. It is agreed that the bid security will be the measure of liquidated damages which the Owner will sustain by failure, neglect, or refusal of Bidder to deliver the signed contract, bonds, and required insurance documentation within ten days after notification of contract award is made by the Owner.

F. Change Orders

1. The following fees shall be used for lump sum pricing and actual cost pricing of additions and deletions to the work required by the Contract Documents. The following fees are not applicable for unit price-based change orders; and shall not be applied to hourly rates or pricing to which overhead and profit have been included, or to taxes.
  - a. For any additions to the work authorized by the Owner:

The contract sum shall be revised to include the actual cost of the work required for such additions plus \_\_\_\_\_ percent (\_\_\_\_%).
  - b. For deletions from the work authorized by the Owner:

The contract sum shall be reduced by an amount equal to the cost savings realized for work not performed by reason of such deletions plus \_\_\_\_\_ percent (\_\_\_\_%).

G. Time of Commencement, Completion and Damages

1. Base Bid: Contractor shall commence work \_\_\_\_\_ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in \_\_\_\_\_ (calendar) days.



2. If the Owner awards Alternate Bid No. 1, add  / deduct   
\_\_\_\_\_ (calendar) days to / from the performance period.
3. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within \_\_\_\_\_ (calendar days) after achieving substantial completion.
4. Time is expressly declared to be of the essence in completion of the work covered by these Bidding Documents, and the Contractor shall be liable for actual damages for delay in completion of work. Actual damages include, but are not limited to, increased consulting fees, additional construction observation fees, travel expenses, and all other costs incurred as a result of the delay in completion. Where the contract allows additional time for completion of the work, the new time limits will be of the essence of the contract.
5. In submitting this bid, the Bidder assures the Owner that availability of labor, material, equipment, services, and other necessary resources are available to meet the proposed substantial completion date.

**1.02** By signing this bid, the Bidder certifies the following:

- A. All information submitted on this bid form is accurate and true to the best of the Bidder's knowledge, and the Bidder has performed due diligence as necessary to provide responsible information.
- B. This bid has been arrived at independently without consultation, communication, or agreement as to any matter relating to this bid with any other Bidder or with any competitor.
- C. This bid is in compliance with all local, state, and applicable codes.
- D. The Bidder and any proposed Subcontractors are duly licensed with all applicable authorities having jurisdiction, as required to legally perform the work described by the Bidding Documents at the project location.
- E. The Bidder will maintain strict confidentiality with respect to information submitted on this bid form, any project-related documents obtained during the bidding process, photographic or video images of the site, project-related emails or other correspondence, or information learned through visual review of the facility or project site.
- F. Bidder will comply with the terms of any confidential agreements made with the Owner during the bidding of this project, as applicable.
- G. This bid shall remain open and not be withdrawn for a period of 90 calendar days from the date prescribed for its opening.



- H. If the Owner provides written notice of award to the undersigned within 90 calendar days, the Bidder shall execute and deliver the signed contract agreement, Performance Bond, Payment Bond, required insurance documentation, and any other submittals as specified in the Bidding Documents, together, all within ten calendar days after the Owner issues the notice of award.
- I. The Bidder is an equal opportunity employer, and does not discriminate, and will take "affirmative action" measures to ensure against discrimination in employment, recruitment, advertisements for employment, compensation, termination, upgrading, promotions, and other conditions of employment against any employee or job applicant on the bases of race, creed, color, national origin, sex, or any other legally protected characteristics. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful discrimination.
- J. The Bidder provides a work environment that is free from harassment based upon an individual's sex, race, ethnicity, national origin, age, religion, or any other legally protected characteristics. All employees, including supervisors and other management personnel, are expected and required to abide by this policy. No person will be adversely affected in employment with the employer as a result of bringing complaints of unlawful harassment.

**1.03** By signing this bid, the Bidder implies their understanding of the following conditions:

- A. The Owner reserves the right to reject any and all bids, waive irregularities or technicalities in any bid, and accept any bid in whole or in part which it deems to be in its best interest.
- B. If notice of award is issued after 90 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty.

**1.04** The name(s) and title(s) for all persons interested in the foregoing bid as principal(s) are:

**Note:** *If Bidder is a corporation, provide names of president, controller, and secretary; if a partnership, and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.*

Name	Title
_____	_____
_____	_____
_____	_____



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**1.05** Notice of award or requests for additional information may be addressed to the undersigned at the address set forth below.

**1.06** The Legal Name, State of Incorporation, Address, Contact Information, and Federal Tax Identification Number for the Bidder are:

**Note:** *If Bidder is a corporation, provide legal name of corporation, state where incorporated, together with the address and contact information and signature of the officer authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, provide legal name of firm, together with the address and contact information and signature(s) of the partner(s) authorized to sign contracts on behalf of the partnership.*

Legal Name of Bidder:

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State of Incorporation:

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Business Address:

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---

---

---

Telephone Number:

---

E-mail Address:

---

Federal Tax ID Number:

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**1.07** Signature of Authorized Bidder Representative

Signature: \_\_\_\_\_

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

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**-End of Section-**



#### **XIV. RENO-SPARKS CONVENTION AND VISITORS AUTHORITY – 5% BID BOND**

KNOW ALL MEN BY THESE PRESENTS: That we the undersigned \_\_\_\_\_, as "Principal," and \_\_\_\_\_, as "Surety," are hereby held and firmly bound unto the Reno-Sparks Convention and Visitors Authority, as "Obligee," in the penal sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) for the payment of which, well and truly to be made, the Principal and Surety bind themselves, their heirs, executors, and administrators, successors, and assigns, jointly and severally, by this instrument. The condition of the obligation of this bid bond is as follows:

WHEREAS, NRS 332.105 authorizes local governments to require bid bonds to insure execution and proper performance of the Contract and the Bonding Company has an "A" or better rating with Moody's or A.M. Best and T-Listed with the U.S. Treasury Department;

AND, WHEREAS, the Principal has submitted a bid for Bid # **2023-OP03 PWP-WA-2023-439** for the **RENO-SPARKS CONENTION SECTIONS D1, D2-1, D2-2 ROOF REPLACEMENT AND REFURBISHMENT PROJECT.**

NOW, THEREFORE,

- (a) If said Bid shall be rejected; or
- (b) If said Bid shall be accepted and the Principal shall execute and deliver the contract in the bid documents ("Contract") to Obligee in accordance with the terms of the bid documents, and give such bond or bonds as may be specified in the bid or contract documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or
- (c) If the Principal shall pay to the Obligee the full amount of the bid bond as a penalty irrespective of the Obligee's actual damages in the event of the failure of the Principal to enter into such Contract and give such bond or bonds,

then, this obligation shall be null and void. Otherwise, it shall remain in full force and effect, it being expressly understood and agreed that the liability of the Surety (but not of the Principal) for any and all claims hereunder shall, in no event, exceed the penal amount of the obligation as herein stated.

The Surety, for the consideration for which this bond was executed, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid, and hereby waives notice of any such extension.



**IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and the Surety has caused their seal to be hereto affixed and these present to be signed by their proper officers.**

Signed, Sealed, and dated: \_\_\_\_\_

\_\_\_\_\_

Principal

By: \_\_\_\_\_

\_\_\_\_\_

Surety

By: \_\_\_\_\_

**PART ONE – GENERAL****1.01 Description**

- A. This section outlines the administrative procedures and requirements in effect under this contract. The Contractor shall advise all their administrative personnel, field personnel, and subcontractors of the requirements of this section.
- B. If a given requirement of this section contradicts a requirement of any Owner-furnished documents, the Owner-furnished requirement takes precedence.

**1.02 Quality Assurance**

- A. Contractor shall maintain an up-to-date set of the following construction documents, on the roof, for use by Contractor's field personnel as a basis for execution of the work:
  - 1. Project Manual
  - 2. Addenda
  - 3. Drawings
  - 4. Finalized Submittals with Review Notations
  - 5. Approved Change Directives and Change Orders
  - 6. Contractor's Safety Plan
  - 7. Full set of SDS

**PART TWO – PRODUCTS****2.01 No products are required in this section.****PART THREE – EXECUTION****3.01 Project Meetings**

- A. Preconstruction Meeting
  - 1. Preconstruction meeting will be scheduled within 14 days after the Owner has issued notice to proceed. Attendance by authorized representatives of the Contractor and all major subcontractors is required. The Owner's Representative will advise other interested parties and request their attendance, unless the specifications assign this responsibility to others.
  - 2. Minimum Agenda – Review and discuss the following:
    - a. Introduce Representatives of the Owner, Consultant, Contractor, subcontractors, and Manufacturer
    - b. Organizational arrangement and responsibilities of Contractor's and subcontractor's personnel

- c. Channels and procedures for communication
  - d. Contractor's preliminary construction schedule including bar chart schedule, graphic schedule and sequence plans, and critical path items
  - e. Owner-furnished scope of work and/or coordination items that require action by Owner's Representative
  - f. Scheduling of project meetings
  - g. Status of submittals, shop drawings and other data submitted to the Owner for review
  - h. Invoicing procedures, schedule of values, unit prices, and quantity allowances
  - i. Contractor's daily reports and unit price work tracking/verification
  - j. Processing of field decisions, change directives, and change orders
  - k. Rules and regulations governing performance of the work
  - l. Logistics, staging, access, parking, protection, rain day activities, interior responsibilities, and other related matters
  - m. Procedures for safety and first aid, security, emergency procedures, housekeeping, and other related matters
  - n. Manufacturer inspections and quality control
  - o. Final inspection and project closeout
  - p. Review project scope, including project manual, addenda, and drawings
  - q. Review minimum Contractor-furnished construction documents to be provided on the roof and maintained current through the project's duration, for use by Contractor's field personnel, per 1.02, B. (i.e., project manual, addenda, drawings, submittals, preconstruction meeting minutes, change directives, change orders, safety plan and SDS).
  - r. Address questions or clarifications regarding the project
- B. Progress Meetings
- 1. Progress meeting shall be held in conjunction with site visits by the Consultant, when requested by the Owner, Consultant, or Owner's Representative.
  - 2. Unless otherwise approved by the Owner's Representative, the Contractor shall assign the same person or persons to represent the Contractor and major subcontractors at project meetings throughout progress of the work. Subcontractors, material suppliers, and others may be invited to attend those project meetings in which their aspects of the work are involved.
  - 3. Typical Agenda
    - a. Review, revise as necessary, and approve minutes of previous meeting.

- b. Review progress of the work since last meeting including bar chart schedule and graphic schedule and sequence plans.
  - c. Identify problems that impede planned progress and critical path, if applicable.
  - d. If necessary, discuss Contractor's recommended strategy and corrective measures to complete the work within the timeframe set forth in the contract agreement.
  - e. Review and plan future activities, including coordination by Owner's Representative and/or Contractor.
  - f. Review status and deadlines for administrative processes.
  - g. Review any outstanding action items and establish procedures and dates for resolution.
  - h. Complete other current business.
4. The proceedings of these meetings will be recorded by the Owner's Representative and distributed to meeting attendees and other project team members.
  5. The Owner's Representative conducting meetings, recording and distributing meeting minutes on behalf of the Owner will not be construed as coordinating or scheduling Contractor's work.

### 3.02 Submittals

- A. Submittal Requirements
  1. Transmit each submittal with transmittal letter indicating date, project title, project number, Contractor's name and address and description of content.
  2. Required submittals are listed in Section 01 33 24 – Schedule of Pre-Job Submittals.
  3. Submittal requirements are found here and in the technical sections of the specifications. Contractor shall complete submittals as required by the Contract Documents and revise and resubmit as necessary to establish compliance with the specified requirements.
  4. Prior to each submittal, Contractor shall carefully review and coordinate all aspects of each item being submitted, and check each submittal to verify conformance with the requirements of the Contract Documents. Certify this coordination has been performed by affixing the Contractor's review stamp and signature to each submittal.
  5. Contractor shall electronically transmit submittals to the Owner's Representative, as Portable Document Format (PDF) files. **Contractor shall not secure or password protect electronic files.**
  6. Submittals shall be organized in the Portable Document Format (.pdf) file with a divider page for each section of the specifications, as indicated on the schedule of pre-job submittals. All submittals required under each tab shall be placed in the same order as indicated on the schedule. The Contractor's transmittal letter shall be provided as the first page of the document.

7. Delays caused by tardiness in receipt of submittals, or caused by not providing submittals in the specified format, will not be an acceptable basis for extension of the contract completion date.
  8. Review by the Owner's Representative will not be construed as a complete check but only that the general method of construction and detailing is satisfactory. Review will not relieve the Contractor from responsibility for errors that may exist.
  9. The Owner reserves the right to delay the project start and/or withhold payment until pre-job submittals are complete and reviewed.
- B. Submittal Schedule
1. Contractor shall transmit submittals allowing the Owner's Representative 14 calendar days of review time. All submittals shall be made far enough in advance of scheduled dates for installation to provide all time required for reviews, for possible revisions and resubmittals, and for placing orders and securing delivery.
- C. Shop Drawings and Coordination Drawings
1. Submitting shop drawings is a project requirement. Shop drawings are required for:
    - a. Any proposed deviations from project drawings (submittal does not constitute approval). Clearly mark all such deviations as "proposed change to Contract Documents."
    - b. Tapered insulation layout, cross sections of profiles, and details of fabrication.
    - c. Sheet metal fabrication, metal type and gauge, joining methods, fastener types, fastener placement, and sealant joint installation.
    - d. As required elsewhere in the Contract Documents.
  2. Shop drawings shall have the following attributes:
    - a. All shop drawings shall be of sufficient scale to show all pertinent aspects of the item.
    - b. Provide one copy of each sheet.
    - c. Shop drawings shall show dimensions of fabricated items, joining methods, fastener type and frequency, and relationships of building components.
    - d. Shop drawings shall show more detail, not less, than the Contract Documents.
- D. Manufacturer's Literature
1. Submit Manufacturer's literature for materials being incorporated into the work. Where contents of submitted literature from Manufacturer include data not pertinent to the submittal, clearly indicate which portion of the contents is being submitted for review.

- E. Samples
1. Samples need not be submitted for items specified by product name and Manufacturer unless a decision is required regarding color, style, or finish. Samples shall be of the precise article proposed to be furnished.
  2. Unless the precise color is specifically described in the Contract Documents, submit accurate color charts to the Owner's Representative for review and selection whenever a choice of color is available in a specified product.
    - a. If providing electronic submittals, provide supplemental color charts and/or physical material samples for color selection under separate cover. Color selections will not be determined from electronic versions of color charts or samples, unless specifically allowed by the Owner's Representative.
    - b. Unless otherwise specified, submit two copies and/or samples.
  3. Submit other samples as called for in individual specification sections.
- F. Notice of Award/Guarantee Application
1. Submit copy of notice of award or guarantee application to the roof system Manufacturer and accessory Manufacturers, as required to deliver all specified warranties.
    - a. All project information shall be accurately and completely filled out by the Contractor, and shall be based on the specified requirements.
    - b. Roof section identification references (e.g. numbering or lettering tags) shall match those referenced in the Contract Documents so the Manufacturer's records and final warranty documents are properly coordinated with the project areas.
    - c. Benchmark, Inc. shall be noted as the designer of record where this information is requested on the Manufacturer's forms.
  2. When available, submit written approval of notice of award or guarantee application from the Manufacturer(s).
    - a. Prior to submitting this information to the Owner's Representative for review, Contractor shall review for conformance with the requirements of the Contract Documents and coordinate the revision of any deviations.
- G. Substitutions
1. Do not substitute alternative products, equipment, or installation procedures unless allowed by the Contract Documents, and then only after the Owner's Representative has provided written authorization.
  2. Evaluation of proposed substitutions will be based on the standards of quality established in the Contract Documents. If standards are not referenced, then the current published standards by the Manufacturer of the basis of design product shall be used for comparison of proposed substitutions.



3. As part of any proposed substitution, the Contractor shall furnish a detailed and complete analysis and comparison of the proposed product(s) and/or system(s) to the associated basis of design product(s) or system(s).
  4. Substitutions shall be proposed during the project bidding process, at least seven days prior to the established bid due date. No guarantee of approval of any proposed substitutions is implied, unless documented by an Addendum to the Contract Documents during the bidding process.
  5. Where the phrase "or equal" or "or Owner approved equal" occurs in the Contract Documents, do not assume alternative materials, equipment, or installation procedures will be approved as equal, unless the Owner's Representative has authorized the substitution.
  6. The decision of the Owner's Representative will be final.
- H. Contact/Subcontractor List
1. Submit contact list to the Owner's Representative.
  2. The contact list shall include the following information for the Contractor and all subcontractors:
    - a. Trade
    - b. Company Name and Address
    - c. Project Manager
    - d. Field Supervisor
    - e. Safety Manager
    - f. Telephone Numbers
    - g. E-mail Addresses
    - h. Two 24-Hour Emergency Contact Phone Numbers
    - i. Safety Director 24-Hour Emergency Contact Phone Number
- I. Building Permit
1. The Contractor shall secure a building permit and arrange for all applicable third-party services and inspections required by authorities having jurisdiction. The Contractor shall deliver to the Owner a copy of the final approval of the permit.
  2. If a building permit is not necessary, the Contractor shall provide a letter of explanation with the project submittals, with supporting documentation from authorities having jurisdiction.
- J. State License
1. Submit photocopy of Contractor's and Subcontractors' State Licenses.

2. If the state in which the project is located does not license Contractors, the Contractor shall provide a letter of explanation with documentation.
- K. Payment Application and Schedule of Values
1. Submit proposed payment application and schedule of values to be used in project invoicing.
  2. Payment application shall be provided on AIA Document G702, unless otherwise directed or approved by the Owner.
  3. Schedule of values shall be provided on AIA Document G703, unless otherwise directed or approved by the Owner.
  4. Schedule of values shall itemize the following, at a minimum (the total of all items shall equal the contract sum):
    - a. Project Administration (submittals, Manufacturer support services, warranties, reporting, and closeout)
    - b. Mobilization and Safety
    - c. Roofing Materials
    - d. Sheet Metal Materials
    - e. Demolition and Disposal (Itemize by Roof Section)
    - f. Roofing Construction (Itemize by Roof Section)
    - g. Sheet Metal Construction (Itemize by Roof Section)
    - h. Demobilization and Final Cleanup
    - i. Individually list all Subcontracts and Value for Each
    - j. Individually list all Quality Allowances and Value for Each (Itemize by Roof Section if requested by the Owner's Representative)
    - k. Individually approved Contract Change Orders and Value for Each
- L. No Asbestos Statement
1. Contractor shall submit on letterhead, a written statement certifying that no products containing asbestos or asbestos-related materials will be used on this project. Include date, project, and project number on statement.
- M. Preconstruction Damage Report
1. Prior to beginning the contract work, the Contractor shall inspect the site with the Owner and document any pre-existing damage to the interior and exterior. Report shall be generated using the form provided.

**3.03 Review and Transmission of Submittals**

- A. The Owner's Representative will review all submittals and indicate the following on the Schedule of Pre-job Submittals:
1. "No Exceptions" This notation indicates the Contractor may proceed with fabrication or purchase of the item.
  2. "Make Corrections Noted" This notation indicates the submittal is considered to be complete, if the Contractor agrees with and makes the noted corrections. If the Contractor does not agree with the noted corrections and wishes to make other changes not contemplated in the first review, then resubmittal is required. Otherwise, resubmittal is not required.
  3. "Revise and Resubmit" Contractor shall make indicated changes necessary to comply with Contract Documents and review notes, and then resubmit. Make resubmittals as required prior to fabricating or purchasing items.
  4. "Rejected" Submittal does not comply with Contract Documents. Review project requirements and resubmit item. Make resubmittals as required prior to fabricating or purchasing items.
- B. The Owner's Representative will electronically transmit the reviewed submittals to the Contractor and owner, with comments made accordingly.
- C. Make all revisions required by the Owner's Representative. If the Contractor considers any required revision to be a change, the Owner's Representative shall be notified as provided for under "Changes" in the Owner-Contractor Agreement.
- D. Show each drawing revision by number, date, and subject in a revision block on the drawing, make only those revisions directed by the Owner's Representative.
- E. When the submittal process has been completed for a given item, resubmittal for substitution of materials, equipment, or installation procedure will not be considered, unless accompanied by an acceptable explanation as to why the substitution is necessary.

**3.04 Construction Scheduling**

- A. To assure adequate planning and execution of the work so the work is completed within the number of calendar days allowed in the contract, and to assist the Owner in evaluating the progress of the work, prepare and maintain the schedules and reports described in this section.
- B. Definitions
1. "Day" used throughout the contract, unless otherwise stated, means "calendar day."
- C. If any activity is not completed on or before the stated scheduled date, the Owner's Representative will have the right to order the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
- D. If any activity is 30 or more days behind schedule, the Owner will have the right to perform the activity or have the activity performed by whatever means the Owner deems appropriate.

- E. Costs incurred by the Owner, Owner's Representative, or Consultant in connection with expediting construction activity under this article may be deducted from the contract sum by the Owner.
- F. It is expressly understood and agreed that failure by the Owner to exercise the option to either order the Contractor to expedite an activity or to expedite the activity by other means will not be considered precedent-setting for any other activities.
- G. Construction Schedule Submittal
1. As part of the pre-job submittal process, develop and submit a preliminary construction schedule, which shall consist of a bar chart schedule and coordinated graphic schedule and sequence plans. This submittal will be used as the basis for discussion at the preconstruction meeting.
  2. The bar chart schedule format shall sequentially list all key activities in rows (from top to bottom), with all calendar days listed in columns (from left to right).
  3. A complete list of activities shall be provided for each roof section in the project scope, arranged in the proposed sequence of completion.
  4. Activities shown on the bar chart schedule shall include, but are not necessarily limited to:
    - a. Submittals, shop drawings, and samples, and 14 calendar day review period by Owner's Representative.
    - b. Preconstruction meeting
    - c. Procurement of equipment and materials
    - d. Project mobilization and safety setup
    - e. Interior protection
    - f. Roof construction
    - g. Sheet metal
    - h. Miscellaneous work
    - i. Final cleanup
    - j. Substantial completion
    - k. Final inspection by Manufacturer
    - l. Final inspection by Owner and Owner's Representatives
    - m. Punch list completion
    - n. Project closeout/warranties
    - o. Final completion

5. Provide a graphic schedule and sequence plan, coordinated with the bar chart schedule, depicting the Contractor's planned daily progress of the work. Plan shall be provided on roof plans from the Contract Documents or an aerial image.
6. Refer to Sample Bar Chart Schedule and Sample Graphic Schedule and Sequence Plans after this section, for acceptable formats and additional requirements.
7. Following the preconstruction meeting, Contractor shall revise the bar chart schedule and graphic schedule and sequence plans within seven business days, and resubmit to the Owner's Representative. Following review, Contractor shall distribute the schedule to all interested parties.
8. Contractor shall update and distribute bar chart schedule and graphic schedule and sequence plans on a weekly basis, with submittals occurring on the day of week requested by the Owner's Representative. If the progress of the work does not vary from the prior issuance of the schedule, the prior schedule may be re-dated and resubmitted. If the progress of the work varies from the prior schedule, the updated submittal shall depict and describe the Contractor's plan to complete the work either on or before the contract completion date, including excusable delays as allowed by the terms of the Contract Agreement.
9. The Owner reserves the right to withhold payment for failure to submit specified schedule information.

### **3.05 Progress Reporting and Unit Price Work Documentation**

- A. The Contractor shall complete a daily progress report. Progress reports shall be generated using the form provided, to provide a continuous record of the progress of the work.
- B. Contractor shall complete one form for each workday, including work days canceled or shortened due to weather, material shortages, or labor conditions.
- C. Forms shall be legibly filled out in ink with all pertinent items completed.
- D. Progress reports are to be filled out on a daily basis by the Contractor's job site representative, who shall be in a supervisory position. The Owner's Representative shall receive all progress reports on a weekly basis. Provide one hard copy or an electronically transmitted Portable Document Format (.pdf) file.
- E. The Owner reserves the right to withhold payment for failure to submit specified progress reports.
- F. Where the Contract Documents require specific parts of the work to be performed on a unit price basis, the Contractor shall document expended quantities on a daily basis, and obtain verification and signature by the Owner's Representative where indicated. Where the Contract Documents define quantity allowances for specific unit price work, a running total shall be maintained by the Contractor for each unit price work item, as indicated on the progress report form. Provide supplemental documentation of unit price work quantities and locations, as may be required by the Owner's Representative, and attach to the progress reports as instructed. The Owner reserves the right to deny reimbursement for unit price work if the Contractor fails to provide the specified documentation.

### **3.06 Changes to the Work**

- A. All changes to the work shall be documented with Change Directives, approved in writing by the Owner, Contractor, and Roofing Consultant (Owner's Representative).

**3.07 Project Closeout****A. Project Completion**

1. When the Contractor is complete, Contractor shall:
  - a. Submit written certification to the Owner through the Owner's Representative that the project, or designated portion of the project, is complete and ready for inspection.
  - b. Submit list of major items to be completed or corrected.
  - c. Submit written certification that the Manufacturer has inspected the roof and that it complies with all provisions for issuance of the warranty.
2. Owner and/or Owner's Representative will make an inspection within 10 days after receipt of certification. Contractor shall provide access to all roofs for inspection, where a permanent means of access does not exist.
3. If Owner's Representative considers the work to be complete:
  - a. Owner's Representative will prepare and submit to Contractor a Completion Punch List, listing all items to be completed or corrected as determined by the inspection.
  - b. Contractor shall then complete work listed for completion or correction, sign the Completion Punch List forms, and return one signed hard copy or an electronically transmitted Portable Document Format (.pdf) file to the Owner's Representative.
4. If Owner's Representative considers the work not to be complete:
  - a. The Owner's Representative will notify Contractor in writing stating reasons.
  - b. Contractor shall then complete work and send second written notice to Owner's Representative certifying that the project is complete.
  - c. Owner's Representative will reinspect work within 10 calendar days after receipt of certification. Contractor shall provide access to all roofs for inspection, where a permanent means of access does not exist. Consultant (Owner's Representative) will then prepare and submit to Contractor a completion punch list.
  - d. Contractor shall then complete work listed for completion or correction, sign the Completion Punch List forms, and return one signed hard copy or an electronically transmitted Portable Document Format (.pdf) file to the Owner's Representative.

**B. Completion Inspection**

1. At the discretion of the Owner and the Owner's Representative, the Owner's Representative may make a final inspection within 10 calendar days after receipt of the signed Completion Punch List. Contractor shall provide access to all roofs for inspection, where a permanent means of access does not exist.

2. If Owner's Representative considers the work to be finally complete in accordance with the requirements of the contract documents, Owner's Representative will request Contractor to make project closeout submittals.
  3. If Owner's Representative does not consider the work to be finally complete:
    - a. Owner's Representative will notify Contractor in writing stating reasons.
    - b. Contractor shall take immediate steps to remedy the stated deficiencies and shall send written notice to Owner's Representative certifying that work is complete.
    - c. Owner's Representative will reinspect work within 10 calendar days after receipt of certification. Contractor shall provide access to all roofs for inspection, where a permanent means of access does not exist.
- C. Reinspection Costs
1. If Owner's Representative is required to perform a second (or subsequent) inspection(s) because of failure of work to comply with certifications of Contractor, Owner will deduct amount for additional inspection services from final payment to Contractor.
- D. Closeout Submittals
1. Transmit closeout submittals with transmittal letter indicating date, project title, project number, Contractor's name and address and description of content.
  2. Required closeout submittals are summarized in Section 01 78 00 – Schedule of Closeout Submittals. Contractor shall include a copy of the schedule after the transmittal letter and before the closeout submittals, with all included items indicated by checking off in the appropriate column.
  3. Multiple submittal check-off columns are provided in the event a resubmittal is required. The Owner's expectation is that all required closeout submittals will be transmitted for review as a single, complete package. Incomplete closeout submittal packages may be returned without review.
  4. Closeout submittals shall be one hard copy, or an electronically transmitted Portable Document Format (.pdf) file consisting of the following:
    - a. Warranties, Manufacturer's punch lists, documentation of punch list completion, and Manufacturer's current published roof maintenance directives as specified in Section 01 78 36 - Warranties.
    - b. AIA G706 – Contractor's Affidavit of Payment of Debts and Claims.
    - c. AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.
    - d. Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.
    - e. AIA G707 – Consent of Surety to Final Payment

- f. Evidence that the jurisdictional authorities that issued permits have accepted the project and closed-out the respective permits.
- g. Final adjustment of accounts including:
  - 1) Original contract sum
  - 2) Additions and deductions resulting from (if applicable):
    - A) Previous Change Orders
    - B) Adjustment of Contract Allowances
    - C) Unit Price Work
    - D) Other adjustments
    - E) Deductions for uncorrected work
    - F) Deductions for reinspection payments
    - G) Deductions for actual damages
  - 3) Total contract sum as adjusted
  - 4) Previous payments
  - 5) Sum remaining due
- E. Owner's Representative will prepare final Change Order, reflecting approved adjustments to contract sum not previously made by Change Order.
- F. Final Application for Payment
  - 1. Contractor shall submit final payment application in accordance with conditions of the contract.

**- End of Section -**





# DAILY PROGRESS REPORT

Project: Reno-Sparks Convention Center  
 2023 Roof Replacement and  
 Refurbishment Project  
 Sections D1, D2-1, and D2-2  
 4590 S. Virginia Street  
 Reno, Nevada 89502

Date:

Day: S M T W TH F S

Project No.: 23RENRENOR013C

Weather: CLEAR P/C OVERCAST RAIN FOG

Owner: Reno-Spark Convention and  
 Visitors Authority  
 4590 S. Virginia Street, Suite 100  
 Reno, Nevada 89502

Temperature: 0-31 32-40 41-60 61-80 81-100 100+

Wind: STILL LIGHT MODERATE HIGH

Humidity: DRY LIGHT MODERATE HUMID

Entity	Trade	Hours Worked	Start Time	Stop Time
[General Contractor]	[e.g. Roofing Contractor]			
[Subcontractor A]	[e.g. Sheet Metal]			
[Subcontractor B]	[e.g. Plumbing]			
[Subcontractor C]	[e.g. Mechanical]			

Unit Price Description	Unit (Quantity Allowance)	Quantity Today	Quantity To Date	Verified By:
Replace 3/4" to 1" sealant joint	Linear Feet (8)			
Replace 1" to 1-1/2" sealant joint	Linear Feet (180)			
Install roof system walkway	Linear Feet (200)			
Replace insulation level with surrounding insulation	Square Feet (No Q/A)			
Paint surface rusted steel decking	Square Feet (No Q/A)			
Replace steel decking	Square Feet (No Q/A)			

Type of Roof System: \_\_\_\_\_

Roof Section(s) Worked on: \_\_\_\_\_

Materials Delivered Today: \_\_\_\_\_

Total Squares Installed Today: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_



## SAMPLE: GRAPHIC SCHEDULE AND SEQUENCE PLAN



### Miscellaneous Graphic Schedule and Sequence Plan Requirements:

1. Roof plans from Contract Documents or an aerial image shall be used as background.
2. Projects with multiple phases shall have one plan provided for each individual phase.
3. Daily production areas shall be marked DAY 1, DAY 2, etc. so the information remains relevant in the event of weather delays and/or weekend work.
4. Contractor shall revise and resubmit on a weekly basis to reflect any changes to the project schedule and/or work sequence.
5. If requested by the Owner's Representative, Contractor shall post a full-sized copy of the current schedule and sequence plan for reference by the project team, in a mutually agreed upon location.

PROJECT NO.: 23RENRENOR013C

PROJECT: Reno-Sparks Convention Center  
2023 Roof Replacement and Refurbishment Project  
Sections D-1, D1-1, and D1-2  
4590 S. Virginia Street  
Reno, Nevada 89502

CONTRACTOR: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

SUBMITTAL NO: \_\_\_\_\_

This review is only for general conformance with the design concepts and information given in the Contract Documents, and does not relieve the Contractor of responsibility for conformance with the Contract Documents and applicable Codes; all of which have priority over the submittals. Contractor shall be responsible for accuracy and completeness of submitted information. Corrections or comments made on the submittals by the reviewer do not relieve the Contractor from being responsible for compliance with the Contract Documents. Review of a specific item does not constitute review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the job site; for information that pertains solely to the fabrication process or to means, methods, techniques, sequences, and procedures of construction; for coordination of the work of all trades; and performing all work in a safe and satisfactory manner.

REVIEWED BY: \_\_\_\_\_

DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all items listed in the schedule in accordance with Section 01 30 01 - Project Administration, allowing 14 days for review by the Owner's Representative.
2. Contractor shall clearly indicate which information on each submittal is pertinent to the project.
3. Contractor shall refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				

**ARTICLES XI AND XII**

**Performance Bond, Payment Bond and Bid Bond / General Terms and Conditions**

Copy of Performance Bond									
Copy of Labor and Material Payment Bond									
Copy of Certificate of Insurance									

**DIVISION 01 - GENERAL REQUIREMENTS**

**01 30 01**

**Project Administration**

Notice of Award or Guarantee Application to Roof Manuf.									
Roof Manufacturer's Approval of NOA or Guarantee App.									
Contact/Subcontractor List									
Building Permit									
Copy of Contractor's State License									
Proposed Schedule of Values									
Bar Chart Schedule									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
	Coordinated Graphic Sequence and Schedule Plans									
	No Asbestos Statement									
	Preconstruction Damage Documentation									
<b>01 35 24</b>	<b>Construction Project Safety</b>									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets									
<b>DIVISION 05 - METALS</b>										
<b>05 01 30.61</b>	<b>Steel Roof Decking Repair/Replacement</b>									
	List of Materials									
<b>DIVISION 06 - WOOD, PLASTICS AND COMPOSITES</b>										
<b>06 10 53</b>	<b>Miscellaneous Rough Carpentry</b>									
	List of Materials									
<b>DIVISION 07 - THERMAL AND MOISTURE PROTECTION</b>										
<b>07 21 16</b>	<b>Batt Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
<b>07 22 16</b>	<b>Roof Board Insulation</b>									
	Manufacturer's Literature									
	List of Materials									
<b>07 54 20.02</b>	<b>Adhered KEE Thermoplastic Membrane Roofing</b>									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawing For Proposed Temporary Water Cutoff									
<b>07 57 13.02</b>	<b>Fluid Applied Reinforced Acrylic Coating</b>									
	List of Materials									
	Manufacturer's Recommended Methods of Installation									
<b>07 62 00.02</b>	<b>Sheet Metal Flashing and Trim</b>									
	Product Information or Material List for All Accessories									
	Color Chart or Samples For Metal Color Selection									

General Information		Transmittal No.					Action			
Specification Section	Submittal	"X" If Included					No Exceptions	Make Corrections Noted	Revise and Resubmit	Rejected
		1	2	3	4	5				
07 72 64	<b>Prefabricated Grease Containment System</b>									
	Manufacturer's Literature									
	Manufacturer's Recommended Installation Methods									
	Manufacturer's Maintenance Recommendations									
07 92 00	<b>Joint Sealants</b>									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Sealant Color Selection									

**PART ONE – GENERAL****1.01 Description**

- A. This section is intended to assure adequate planning and execution of the project, to maintain proper facility security and to assist the Owner with eliminating workplace hazards, production disruptions, product damage, and inconvenience.
- B. The Contractor shall advise all administrative and field personnel, Subcontractors, and material suppliers of the requirements of this section.
- C. Any delays experienced due to the Contractor's failure to provide proper notifications and coordination shall be at the Contractor's expense.
- D. If any conflict should arise over a specific provision of this section, the Owner's decision shall be final.
- E. Coordinate the requirements of this section with related requirements specified elsewhere in the Contract Documents. Immediately inform the Owner's Representative of any conflicts.
- F. Refer to related information on the drawings.

**1.02 Qualifications of Project Supervisors**

- A. Individuals supervising the work included in this specification section shall be competent and qualified person(s) who are a full-time employee of the prime contractor. A subcontractor's employee shall not be the project supervisor. The project supervisor shall be present on the project site throughout the entire construction process.
- B. Contractor shall have a foreman or superintendent present on the project site throughout the entire construction project, who is fluent in the English language (both written and verbal) and is capable of clear communications with Contractor's workforce, Owner's Representatives and others involved with the project's execution.

**1.03 Submittals**

- A. General: Comply with all related Division 01 requirements.

**PART TWO – PRODUCTS****2.01 Not Used****PART THREE – EXECUTION****3.01 Coordination with Facility Operations**

- A. The Contractor shall note that the building will be occupied and in use at all times during this work. The Contractor shall provide and maintain all OSHA or Owner required danger signs, guards, and/or obstructions necessary to protect the public and workers from dangers associated with the work.
- B. Coordinate all work throughout the duration of the project as to minimize disruption of facility operations.



- C. Schedule and coordinate all aspects of the work to maintain the building in a totally watertight condition, no exceptions.
- D. Contractor shall provide a minimum of 48-hours' notice for all activities requiring coordination or action on the part of the Owner or Owner's Representative.
- E. Coordinate roofing work around events, as directed by the Owner.

### 3.02 Temporary Facilities and Utilities

- A. Temporary facilities provided by the contractor shall include, but are not limited to:
  - 1. Temporary sanitary facilities.
- B. Project Requirements
  - 1. Contractor shall furnish all required electricity.
  - 2. The on-site project supervisor shall carry a reliable cellular phone on the project site at all times.
  - 3. Contractor shall provide temporary sanitary facilities in the quantity required for use of all personnel. Maintain in a sanitary condition at all times.
- C. Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the work.
- D. Remove all such temporary facilities and controls as rapidly as progress of the work will permit or as directed by the Owner's Representative.

### 3.03 Staging Areas

- A. Contractor shall perform all material storage and staging activities within those locations approved by the Owner's Representative.
- B. Refer to the drawings for allowable staging area.
- C. Contractor shall barricade all adjacent roof areas. Contractor shall prohibit traffic on all adjacent roof areas; unless approved by the Owner and protected by the Contractor as specified. At the Owner's discretion, any damage to adjacent roof areas caused by the Contractor shall be repaired by an approved applicator at no additional cost to the Owner.
- D. All roads and doorways shall remain open, unless approved otherwise by the Owner's Representative.
- E. Contractor shall not block access to dumpsters, and shall maintain safe clearance from all equipment, tanks, and valves.
- F. Contractor shall implement measures to protect the staging areas from damage. At the Owner's discretion, any damage to staging areas caused by the Contractor shall be repaired to match the pre-existing conditions at no additional cost to the Owner.
- G. Furnish and install continuous 6' chain link fencing around all ground level staging areas, equipment, and materials.

- H. When approved by the Owner's Representative, building entrances shall be blocked-off when pedestrians could be endangered by the overhead construction activities or adjacent ground level staging operations. Where blocking of entrances is not approved, provide alternative pedestrian protection as approved in advance by the Owner's Representative.

### **3.04 Minimum Roof Protection Requirements**

- A. At a minimum, Contractor shall install temporary 3/4" plywood walkways over moisture resistant insulation on all roof areas where equipment, materials and/or personnel are loaded onto or traverse over the roof system. The Contractor shall obtain the Owner's permission prior to installing the temporary walkways.

### **3.05 Roof Damage Control**

- A. Contractor shall be responsible for protection of new and existing roof surfaces from construction traffic damage. Contractor shall be responsible to implement additional roof protection and related activities as they may deem necessary to prevent construction-related damage.
- B. Contractor shall inspect all areas on a daily basis, and repair any areas of damage before leaving the job site that day.
- C. Contractor shall be responsible for damage to the roof system caused by cleaning and preparation procedures such as, but not limited to, power washing. Contractor shall also be responsible for any damage to the roof system from adjacent work such as, but not limited to, cutting, grinding, welding, scaffolding, moving equipment and materials, wall and flashing work, as well as materials and/or chemicals introduced onto the roof system. Any damage shall be promptly made watertight before leaving the job site that day. Permanent repairs or replacements shall be subsequently performed by the Contractor in an Owner-approved manner, at no additional cost to the Owner. Contractor shall obtain written approval of repair methods prior to proceeding with corrective work, and shall coordinate schedule of corrective work with the Owner and Owner's Representatives.

### **3.06 Access and Logistical Requirements**

- A. Protect the building from staining or damage where ladders, scaffolding, and/or chutes are set up against the building.
- B. If ladders are used for access they must be removed and secured on a daily basis.
- C. Protect the building from staining and damage where hoisting operations occur.
- D. Roof access for Contractor's personnel shall be via interior stairwell and roof hatch or as approved by the Owner's Representative.
- E. If a crane is used, blocking of the street may be required. Bidders shall research associated permit requirements, barricade/traffic control procedures, pedestrian protection, and time restrictions. All applicable costs shall be included in the Contractor's bid.
- F. Provide protection and cleaning of all stairwells, hallways, floor surfaces, and any other areas approved for access.
- G. Contractor employees shall be required to wear clean footwear or disposable footwear covering (booties) whenever inside the building.

- H. The Owner reserves the right to revoke interior access privileges if Contractor fails to maintain housekeeping or observe other Owner requirements. If interior access privileges are revoked, the Contractor shall provide alternative means of access to work at no additional cost to the Owner.
- I. The use of Owner's facilities, such as the cafeteria or washrooms will not be allowed.
- J. Roof access shall be as approved by the Owner.
- K. Contractor shall protect and properly barricade all access and staging areas.
- L. Contractor shall only park in the Owner-approved areas.

### 3.07 Interior Activities

- A. Contractor shall provide and maintain Owner-approved interior activities during all work that could potentially result in debris or construction materials entering the building, or whenever building occupants could be in danger.
- B. Contractor shall coordinate all work with the Owner's Representative to allow coordination and adequate notification to building occupants.
- C. Contractor's competent person shall be capable of fluent conversation with facility employees, the Contractor's employees, and any Subcontractor's employees.
- D. Contractor shall provide interior personnel and the rooftop supervisor with two-way radios. Interior personnel and the rooftop supervisor shall maintain full radio contact at all times that the Contractor is inside the building.
- E. Contractor shall follow these additional requirements at a minimum:
  - 1. Areas of Deck Replacement or Roof Openings
    - a. At any time that the deck requires removal or an opening will be created, the Contractor shall first provide a competent person to barricade off the interior floor a safe distance out from the roof work area(s), provide warning signage, monitor the interior activities, notify employees of overhead hazards, restrict/coordinate access within the barricaded area, and manage housekeeping.
    - b. Work may only occur when the barricaded area is clear of building occupants.
    - c. Immediately upon replacement of the decking or closing the opening, the Contractor shall provide any necessary housekeeping, including sweeping down all floor areas, cleaning off all elevated areas and equipment, properly disposing of the debris, and removing all barricades. Contractor shall immediately notify the Owner's Representative when unimpeded access can resume under the work zone.
  - 2. Areas Without Deck Replacement or Roof Openings
    - a. Whenever debris or construction materials could enter the building, or whenever building occupants could be in danger, Contractor shall provide a competent person to monitor interior activities, notify employees of overhead hazards, and manage housekeeping.

- b. Prior to the end of each day's work, the Contractor shall sweep down all floor areas, clean off all elevated areas and equipment, and properly dispose of the debris.

### **3.08 Relocation of Building Contents**

- A. Contractor shall provide Owner a minimum of 48-hours notice to relocate building contents.
- B. Relocation of building contents is at the discretion of the Owner. No additional cost will be incurred by the Owner in the event building contents cannot be moved.

### **3.09 Security Requirements**

- A. All workers shall sign in at the designated security station, prior to accessing the facility.
- B. All workers shall present a photo ID when signing in.
- C. Personal belongings brought on site will be subject to search by security personnel at any time.

### **3.10 Rain Day Activities**

- A. The Contractor shall visit the project site on all rain days and make all necessary corrections to ensure watertightness of the building and roof system, and proper protection of all materials.
- B. The Contractor's representative shall contact the Owner's Representative prior to leaving the project site on such days.

### **3.11 Labor Forces and Completion of Work**

- A. The project shall be fully staffed with qualified and trained personnel at all times.
- B. Once established, the crew size shall not be reduced by more than 20 percent without prior approval of the Owner.
- C. All work shall be completed within two weeks of the last day of field membrane installation, and before the required completion date.

### **3.12 Employee Conduct**

- A. All Contractor employees shall conduct themselves in a professional manner at all times.
- B. Tobacco use, including smoking, e-cigarettes, or chewing tobacco, shall not occur on the roof or in the facility. Comply with Owner's requirements with respect to tobacco use in all other areas of the Owner's property.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. This section is provided to identify and emphasize the importance of safe working conditions, and to help assure a safe work site environment for the employees of all Contractors, Subcontractors, Consultants, Manufacturer's Representatives, Owner's Representatives and Employees, Owner's Vendors, and all other site occupants. If any conflict arises over a specific provision or requirement, the laws and rules governing the specific project location shall be followed.
- B. The Contractor shall have sole responsibility for construction project safety.

**1.02 Related Work**

- A. Additional safety-related items may be found elsewhere in the contract documents.

**1.03 Standards**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Occupational Safety and Health Act of 1970.
  - 2. State, County, and City regulations, as applicable to the project location.

**1.04 Quality Assurance**

- A. Per OSHA 29 CFR 1926.20(b), it is the Contractor's responsibility to prevent accidents on the project. Activities related to accident prevention include, but are not limited to the following:
  - 1. Initiate and maintain a safety program.
  - 2. Designate a competent person to make frequent and regular inspections of the job site, materials and/or equipment.
  - 3. Identify unsafe tools, materials, and/or equipment, and remove from the job site. Unsafe items which can not be removed from the job site shall be tagged and/or locked out rendering them inoperable.
  - 4. The contractor shall permit only employees qualified by training or experience to operate equipment or machinery.
- B. At a minimum, the Contractor's first inspection shall be performed no later than the first week of the project. After the first inspection, subsequent inspections shall be performed a minimum of every 30 days, or as required by the referenced standards.
- C. A competent person designated by the Contractor shall perform all inspections and shall have authorization to take prompt corrective measures. The competent person may be an employee of the Contractor or a Subcontractor. Proof of the qualified person's education, training, and qualifications must be provided for verification, upon the request of the Owner or Owner's Representative.

- D. The Contractor's competent person making safety inspections shall prepare a report for each job site safety inspection. The Contractor shall submit each report to the Owner's Representative within five calendar days of the inspection.
- E. Contractor shall have sole responsibility for maintaining the job site in compliance with all applicable regulations, Owner requirements, and the Contractor's pre-job site safety plan/assessment. This responsibility shall apply whether or not the Owner or Consultant is present on the job site.
- F. Contractor shall also appoint a competent person to be present at all times on the project site. The Contractor's competent person shall have authority to make decisions regarding safety and health issues on the Contractor's behalf. The competent person shall speak fluent English and must be capable of oral and written communication with all project participants.
- G. The Contractor's employees, Subcontractor's employees, Owner, or Owner's Representative shall all have the authority to stop any witnessed unsafe work practices.
- H. At a minimum, Contractor shall maintain Safety Data Sheets (SDS) at the job site in accordance with OSHA and Owner requirements.
- I. One full and current set of SDS shall be located on the roof, in addition to other sets that the Contractor maintains on site.

#### 1.05 Submittals

- A. Contractor shall submit a pre-job site safety plan/assessment, which is prepared by the Contractor's safety professional. This plan/assessment shall outline specific safety considerations for each individual section or level of roof included in the project. Examples of items that shall be included in the safety plan/assessment include:
  - 1. Laydown/staging areas
  - 2. Crane/hoist
  - 3. Setup, material storage and material handling
  - 4. Fall protection
  - 5. Skylights and roof openings
  - 6. Hot work/fire protection
  - 7. Pedestrian/vehicular safety
  - 8. Interior safety
  - 9. Personal protective equipment (PPE)
  - 10. Emergency Action Plan per OSHA 29 CFR 1926.35
  - 11. Any other pertinent, site-specific issue(s) listed

- B. Contractor shall submit SDS for all construction materials and other substances to be used on the project.
  - 1. Review of the Contractor's SDS submittal by the Owner or Owner's Representative is for general conformance only. Contractor shall be responsible to ensure that the set of SDS is complete, up to date, and accurate.
  - 2. After completion of the pre-job submittal process, Contractor shall accurately maintain all sets of SDS on the project site, with modifications being made when either of the following occur:
    - a. When revised SDS are issued by material and/or substance Manufacturers.
    - b. When materials and/or substances are brought to the project site that were not anticipated when the existing set was assembled.

## **PART TWO – PRODUCTS**

### **2.01 Materials and Equipment**

- A. General: Contractor shall supply all necessary materials and equipment required to complete the work in a manner consistent with a safe work site and as required by regulatory agencies.
- B. All equipment used on the project shall be maintained in a safe operating condition for the project's duration. Equipment that is unsafe or in disrepair shall be tagged and removed from service immediately and returned to service only after being properly repaired and made safe. Any tagged equipment that will not be repaired by the Contractor shall be removed from the job site immediately. Refer to OSHA 29 CFR 1926.20(b)(3).
- C. Dispose of any solvents, containers, and other regulated materials in strict accordance with all applicable laws and regulations.

## **PART THREE – EXECUTION**

### **3.01 General**

- A. The safety requirements specified in this section are broad in nature by design. The Contractor shall augment the information contained in this section as necessary, with more specific information from OSHA, Owner's safety requirements, material and equipment Manufacturers' safety recommendations, and roofing industry requirements and standards.
- B. Where parts of OSHA 1926 standards are listed in this section, the intent is only to provide general references, and not to, in any way, limit the applicability of the OSHA standard with respect to execution of this project. The Contractor shall be responsible to comply with all aspects of OSHA 1926 standard that apply to the performance of this project.

### **3.02 Contractor Employee Training**

- A. Per OSHA 29 CFR 1926.20(f)(2) Contractor and Subcontractors shall provide adequate training for employees to ensure their safety and the safety of others on the project site.
- B. Contractor and Subcontractors shall provide instruction in the proper operation of power tools, hoisting equipment, tankers, scaffolding, ladders, powered carts, and all other pieces of equipment employees will be required to use in completion of the work.

- C. Contractor and Subcontractors shall ensure each worker is aware of job and site-specific hazards and of the safety precautions appropriate for each.
- D. Contractor and Subcontractors shall present a safety and loss prevention orientation program to each new employee before that employee starts work.
- E. Contractor and Subcontractors shall inform their employees of all health and safety rules pertaining to their particular job.
- F. Contractor and Subcontractors shall inform their employees of location and use of safety devices such as first aid kits, phones, and fire extinguishers.
- G. Contractor shall implement a regular system of work inspection to detect and correct hazardous conditions, safety rule violations, and unsafe working practices.
- H. Contractor shall ensure that their workers and any Subcontractor's workers participate in any safety orientations or training programs required by the Owner.
- I. Employees shall be trained regarding any job site alarms, code signals, evacuation warnings, appropriate responses, and requirements for any actions that will need to be taken.

### **3.03 Accident Investigation and Reporting**

- A. Contractor and Subcontractors shall immediately investigate any and all accidents on the job site and shall follow all applicable reporting requirements. An accident investigation and report shall be immediately made by the Contractor's designated competent person on site. Contractor shall provide to the Owner a copy of the completed Accident Report, Employer's First Report of Injury or Illness, and other such reports required by federal, state, county, and municipal safety regulations. At a minimum, all reporting and record keeping requirements shall be in accordance with OSHA regulations.
- B. In addition to investigation and reporting required under 3.03, A, perform investigation and reporting of accidents as required by the Owner's safety requirements and policies, where applicable.

### **3.04 First Aid**

- A. Per OSHA 29 CFR 1926.50 Contractor and Subcontractors shall be responsible for providing first aid and medical treatment for their employees. The names, addresses, and telephone numbers of nearby urgent care, hospital, and ambulance services shall be conspicuously posted, as required by law.
- B. ANSI-approved first aid kit(s) shall be located at all times on the roof and shall be conspicuously located and readily accessible at all times. The first aid kit(s) shall be of appropriate size(s), location(s), and composition(s) given the number of workers, work locations, and types of work being performed.

### **3.05 Individual Conduct and Safety**

- A. Contractor's and Subcontractors' employees shall be made aware of and comply with the following rules:
  - 1. Alcohol and/or illegal drugs shall not be permitted. Employees under the influence of these substances shall not be permitted on the job site.



2. Prescription drugs with side effects that impair an employee's ability to perform their work duties in a safe manner, shall not be permitted. Employees under the influence of these substances shall not be permitted on the job site.
3. Employees entering job site found to be under the influence of alcohol and/or drugs will be subject to removal from the job site.
4. The carrying of firearms and all other weapons is prohibited on the job site.
5. Fighting, gambling, stealing, soliciting, and inappropriate behavior is prohibited on the job site.
6. Abusive language, harassment, bullying, or other disrespectful behavior will not be tolerated and may be considered grounds for removal of an employee from the job site.

### **3.06 Personal Protective Equipment (PPE) and Clothing**

- A. Per OSHA 29 CFR 1926.95, Contractor and Subcontractors shall furnish and require the use and wearing of PPE and protective clothing by their employees.
- B. Per OSHA 29 CFR 1926.102, Contractor and Subcontractors shall require their employees to wear approved eye and face protection when warranted by exposure to hazards, and/or where mandated by facility safety requirements. Safety glasses with side shields are required in all circumstances where there is an exposure to flying particles. Plastic face shields are required to be worn for guarding against flying particles and spraying liquids and/or corrosives.
- C. Contractor and Subcontractors shall require their employees to wear appropriate clothing at all times on the job site.
- D. Per OSHA 29 CFR 1926.100, Contractor and Subcontractors shall require their employees to wear hard hats at all times there is a possibility of head injury from impact, flying or falling objects, and/or where mandated by facility safety requirements.
- E. Per OSHA 29 CFR 1926.101, Contractor and Subcontractors shall require their employees to wear hearing protection where mandated by OSHA regulations and/or facility safety requirements.
- F. Contractor and Subcontractors shall require their employees to wear protective footwear where mandated by OSHA regulations and/or facility safety requirements. Safety toe footwear shall comply with OSHA 29 CFR 1926.96.
- G. Per OSHA 29 CFR 1926.28(a), Contractor and Subcontractors shall require their employees to wear hand protection to protect employees' hands from potential injury due to exposure to sharp materials, chemicals, hot or cold surfaces, electrical dangers, welding burns, and skin absorption of harmful substances.

### **3.07 Housekeeping**

- A. Per OSHA 29 CFR 1926.25, Contractor and Subcontractors shall maintain good housekeeping standards at all times as an integral part of the work. Contractor and Subcontractors shall perform daily cleanup of work areas, material and equipment storage areas, laydown areas, and personnel areas.

- B. Materials shall be stored such that safe clearances are maintained and tipping or wind movement of stacked material does not occur. Loose materials on the roof must be secured so that they cannot become wind-blown or be bumped off.
- C. All roofs shall be kept free of any loose material, packaging, aluminum cans, bottles, clothing, or similar debris that could restrict drainage devices and potentially cause retention of water on the roof surface.
- D. Accumulation of material that may create a fire hazard is not permitted.
- E. When using the roof for storage, Contractor shall prevent placement of excessive quantities of materials in a single area and shall be responsible for ensuring that overloading of the roof structure does not occur during material handling/storage.
- F. Contractor shall be responsible for making all roof areas watertight at the end of each work shift. Contractor's or Subcontractors' failure to make the roof watertight at the end of the workday may be considered grounds for dismissal.

### 3.08 Signs and Barricades

- A. Per OSHA 29 CFR 1926 Subpart G, Contractor and Subcontractors shall erect barriers and/or barricades when overhead work is occurring, when equipment or cranes are being used or moved, or any other time personnel could be at risk during hazardous operations. Barriers and barricades shall be erected before starting the work requiring isolation/protection. If the barricades are in a roadway or walkway, blinking lights shall be used after dark. When the work is completed and hazards are no longer present, the barricades shall be promptly removed from the job site.
- B. Contractor or Subcontractors are forbidden to remove posted signs, unless otherwise approved in writing by the Owner and/or authorities having jurisdiction.
- C. Traffic control signage shall be constructed of metal and conform to the latest edition of *Manual of Uniform Traffic Control Devices (MUTCD)*.

### 3.09 Fall Protection

- A. Per OSHA 29 CFR 1926 Subpart M, Contractor and Subcontractors shall implement fall protection when dictated by criteria contained in the referenced standard. One of the following methods of fall protection shall be implemented, as determined by the Contractor to ensure worker safety and conformance with OSHA regulations at a minimum.
  - 1. Fall restraint (motion stopping) system.
  - 2. Personal fall arrest system with warning lines.
  - 3. Safety monitor system with warning lines.
- B. The three fall protection methods are listed in order of Benchmark, Inc. preference, with a fall restraint (motion stopping) system being the most preferred and the safety monitor system being the least preferred.
- C. All plastic domed skylights or smoke hatches, open mechanical curbs, openings in the roof deck, and similar openings or holes which could be potential fall hazards shall be guarded at all times to prevent accidental falls. Guarding shall meet OSHA standards at a minimum.

**3.10 Ladders and Scaffolding Towers**

- A. Comply with OSHA CFR 1926 Subparts L and X.
- B. Contractor and Subcontractor provided ladders shall be free of defects. Ladders with split or cracked side rails, damaged rungs, missing feet, or other defects shall not be brought to the project site. Ladders set up near doorways, walkways, or other congested areas shall be barricaded or guarded.
- C. Ladders shall be of adequate length to safely access adjacent surfaces and must extend at least 3' or 4 rungs above the upper landing.
- D. Place straight ladders on solid, level footings with the foot of the ladder a minimum distance from the wall equal to 1/4 the length of the ladder from the resting point.
- E. Straight ladders shall have non-skid feet and be securely tied off.
- F. Limit use of step ladders to applications allowed by OSHA and approved by the Owner. Step ladder usage shall be in strict accordance with OSHA standards.
- G. When climbing a ladder, users shall face the ladder and use both hands going up or down so as to maintain three points of contact.
- H. Users shall not climb or descend ladders with tools, equipment, or material in their hands.
- I. Metal ladders shall not be used.
- J. Roofs not able to be accessed using a 40 foot or shorter ladder must be accessed by alternative means. If access cannot be achieved from other roofs or through the building interior, then an OSHA approved scaffolding tower with access ladder shall be erected and maintained by the Contractor or a qualified scaffolding Subcontractor.

**3.11 Fire Protection**

- A. Comply with OSHA CFR 1926.24 and CFR 1926 Subpart F.
- B. At a minimum, Contractor and Subcontractors shall provide and maintain fully charged, inspected, and tagged fire extinguishers at all times on occupied roof sections and staging areas. All fire extinguishers shall be minimum 20 lb., type ABC. At a minimum, one fire extinguisher shall be provided for each 3,000 square feet of roof area under construction. Travel distance from any point of the protected area to the nearest fire extinguisher shall not exceed 50 feet.
- C. The Contractor shall ensure that all required fire extinguishers are maintained in a fully charged and operable condition, including testing, inspections and tagging. Fire extinguishers with out-of-date inspection tags shall be removed and replaced immediately.
- D. Smoking may be prohibited on the job site for various reasons. Employees will be expected to obey all No Smoking signs. If project areas are not marked with No Smoking signs, it shall be assumed that smoking is prohibited unless otherwise approved by the Owner. Strictly comply with Owner's site-specific requirements. Violation of smoking policies may be grounds for employee or company dismissal, depending on Owner's requirements.
- E. Store all flammable liquids in approved safe containers. Contents shall be described and marked flammable.

- F. Flammable liquids in excess of ten gallons shall not be stored on the roof overnight unless specific written authorization is provided in advance by the Owner.
- G. When using flammable liquids for cleaning, dispose of the rags in approved containers or remove them from the roof daily to prevent possible spontaneous combustion.
- H. Never store bulk flammable material or liquids closer than 25' from open flames or other source of ignition.
- I. All hot work must be done in accordance with permit procedures in use at the facility. Obtain all necessary approvals prior to proceeding with any work that could result in a flame or spark.

### 3.12 Electrical Safety

- A. Comply with OSHA CFR 1926 Subparts I and K.
- B. All electrical circuits shall utilize ground-fault circuit interrupters (GFCI) to protect workers from injury.
- C. Regularly inspect all power cords. Any defective power cords shall be taken out of service and removed from the job site immediately.
- D. Only double insulated power tools shall be used.
- E. Regularly inspect all power tools. Any defective tools, including tools with damaged or repaired power cords, shall be taken out of service, and removed from the job site immediately.
- F. When working on powered equipment, and power must be disconnected to perform the required work, the Contractor shall implement lock-out and tag-out procedures to protect workers from injury.
- G. Per OSHA CFR 1926.1408(h), Contractor and Subcontractors shall maintain the following clearances from overhead powerlines, depending on the voltage, to prevent arcing and electrocution.

TABLE A – MINIMUM CLEARANCE DISTANCES

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet)
up to 50	10
over 50 to 200	15
over 200 to 350	20
over 350 to 500	25
over 500 to 750	35
over 750 to 1,000	45
over 1,000	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution)

**Note:** The value that follows "to" is up to and includes that value. For example, over 50 to 200 means up to and including 200kV.

### 3.13 Crane and Hoist

- A. Per OSHA CFR 1926 Subpart CC, for all crane and rigging operations on site a Certified Crane Operator and qualified rigger(s) shall be used.

- B. Contractor shall comply with the Manufacturer's specifications and limitations. Rated load capacities, recommended operating speeds, and special hazard warnings or instructions shall be conspicuously posted on all equipment. Instructions or warnings shall be visible from the operator's station.
- C. Accessible areas within the swing radius of the rear of the rotating superstructure shall be properly barricaded to prevent the public or employees from being struck or crushed by the crane.
- D. All crawler or truck cranes in use shall meet the requirements as prescribed in the ANSI B30-5-1968 Safety Code for Crawler and Truck Cranes.
- E. Inspect all rigging equipment prior to use (chains, ropes, slings, shackles, etc.). Remove any defective equipment from the job site.

### **3.14 Public Liability**

- A. Unauthorized persons are not allowed access to the roof at any time. Contractor shall control access to the roof.
- B. Barricades and signs shall be posted on the ground around the work area to warn the public.
- C. Locate air intake ducts, air conditioners, and/or air pumps. Notify Owner's Representative when dust or fumes may be drawn into the facility so that the unit may be shut down and/or covered.
- D. At the end of each work shift, lock and secure the tanker, lock trucks, deactivate hoisting equipment, and take down and secure all ladders.
- E. Park vehicles so that they do not pose a hazard to other traffic moving around the job site. Trucks and equipment should not block sidewalks or other pedestrian travel ways without providing a clear, well-marked, alternate route of travel.

**- End of Section -**

PROJECT NO.: 23RENRENOR013C  
 PROJECT: Reno-Sparks Convention Center  
 2023 Roof Replacement and Refurbishment Project  
 Sections D-1, D1-1, and D1-2  
 4590 S. Virginia Street  
 Reno, Nevada 89502

DATE: \_\_\_\_\_  
 SUBMITTAL NO: \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

**NOTES:**

1. Contractor shall submit transmittal letter and all listed items in accordance with Section 01 30 01 - Project Administration.
2. Refer to Section 01 30 01 - Project Administration and submittal requirements in each specification section for additional information.

General Information		Transmittal No.					Action	
Specification Section	Submittal	"X" If Included					Accepted	Revise and Resubmit
		1	2	3	4	5		

**DIVISION 01 - GENERAL REQUIREMENTS**

**01 30 01 Project Administration**

Signed Completion Punch List							
AIA G706 – Contractor's Affidavit of Payment of Debts and Claims							
AIA G706A – Contractor's Affidavit of Release of Liens, including supporting documentation from the Contractor, subcontractors, suppliers, and others who may have lien rights against the Owner.							
Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.							
AIA G707 – Consent of Surety to Final Payment							
Building Permit Closeout Documentation							
Final Adjustment of Accounts, As Specified.							

**01 78 36 Warranties**

Manufacturer's Final Inspection Report/Punch List							
Contractor's Certification of Punch List Completion							
Manufacturer's Report if Reinspection of Punch List is Required							
Roofing Membrane Manufacturer's Warranties							
Sheet Metal Finish Warranties							
Fluid Applied Reinforced Roofing System Warranty							
Accessory Warranties as Specified							
Contractor's Warranty							
Roofing Manufacturer's Maintenance Directives							

**PART ONE – GENERAL****1.01 General Requirements**

- A. Upon completion of work and prior to final payment, Contractor shall pay all required fees, secure all required inspections, and complete any other actions necessary to secure and deliver the specified warranties and related documents to the Owner.
- B. The warranty start date shall be no earlier than the date the Contractor certifies completion of all Manufacturer final inspection punchlist(s). In instances where the Manufacturer requires reinspection of the final inspection punchlist, the warranty start date shall be no earlier than the date the Manufacturer certifies that the Contractor completed all punchlist items to the Manufacturer's satisfaction.
- C. Manufacturers' warranties shall cover defects in materials and workmanship, shall not include any buy-out clauses, and shall not be prorated.
- D. All warranties shall contain written provisions stating that they will be fully transferable at any time during the specified warranty period.
- E. Warranties issued prior to the Manufacturer's final inspection, such as offered under the Manufacturer's pre-issue or early bird warranty programs, are not approved.

**1.02 Manufacturer's Warranties**

- A. The Contractor shall make all necessary notices for warranty purposes to the Manufacturer(s), as required to secure timely inspections and issuance of the specified warranties.
- B. After Manufacturers' final inspections, submit Manufacturers' final inspection reports and/or punch lists, and Contractor's certification that all identified corrective work has been corrected as required by the Manufacturers. If a Manufacturer requires reinspection of an issued punch list, submit certification from the Manufacturer that punchlist items have been completed to the Manufacturer's satisfaction.
- C. The following roofing Manufacturer's warranty shall be provided:
  - 1. Primary roofing membrane Manufacturer's 15-year , no dollar limit (NDL) labor and material warranty.
  - 2. Fluid Applied Reinforced 10-year Roofing System Warranty.
- D. Provide the following accessory warranties, each signed by the respective Manufacturer(s) and referencing the Owner and project area(s) under contract:
  - 1. Shop-fabricated Prefinished Sheet Metal Components: 25-year minimum warranty for Kynar 500/Hylar 5000 metal finish integrity and color retention. The paint film shall be guaranteed against cracking, peeling, and chalking in excess of ASTM D659 number 8 rating or fade in excess of 5 units per ASTM D2244, under normal weather and atmospheric conditions.

**1.03 Contractor Warranty**

- A. The Contractor shall guarantee all materials and workmanship for a period of two years from the date of acceptance of the completed work by the Owner. The Contractor shall make good any defects in materials or workmanship that may develop during the two-year period by repairing or replacing such defects at without cost to the Owner.
- B. Contractor's warranty shall be prepared and submitted using the form provided in this section.

**1.04 Maintenance Directives**

- A. Manufacturer's warranty submittal shall include the Manufacturer's current published roof maintenance directives for the specified roof system type(s).

**PART TWO – MATERIALS****2.01 Not Used****PART THREE – EXECUTION****3.01 Not Used**



**CONTRACTOR'S WARRANTY**

Trade: All Contract Work

Manufacturer and Roof System Installed: \_\_\_\_\_

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

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

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

Contractor E-mail: \_\_\_\_\_

Contract Number and Date: \_\_\_\_\_

Project and Location Reno-Sparks Convention Center  
2023 Roof Replacement and Refurbishment Project  
4590 S. Virginia Street  
Reno, Nevada 89502

Area of Roof Installation: Sections D1, D2-1, and D2-2

Date of Acceptance  
(Effective Warranty Date): \_\_\_\_\_

1. Contractor guarantees to Owner that the work identified above has been installed in accordance with the Contract Documents for the above referenced project, and meets the minimum requirements of the Manufacturers of all materials used in performance of the work.
2. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will make good any deficiencies that develop as a direct result of workmanship defects, by repairing or replacing such defects. All corrective work shall utilize materials and installation procedures in strict accordance with the Contract Documents.
3. Contractor guarantees to Owner that Contractor for a period of two years commencing with the date of Owner's acceptance of the installation, will maintain all sheet metal flashing in a watertight condition without cost to the Owner.
4. Contractor's liability hereunder shall be limited to the repair or necessary replacement of any defective component of the work without cost to Owner and shall not include incidental or consequential damages.

\* By: \_\_\_\_\_

Title: \_\_\_\_\_

Company: \_\_\_\_\_

Date Executed: \_\_\_\_\_

*\* Warranty must be signed by a Company Officer*

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Provide all labor, materials, equipment, and tools to prepare the existing roofing system for the specified work, as designated in the specifications or on the drawings.
- B. Provide for the proper disposal of all existing materials to be removed, as designated in the specifications or on the drawings.
- C. Provide for the cleanup of excess materials, equipment, tools, and construction debris, as required to maintain the project site in a neat and orderly condition.

**1.02 Standards**

- A. Resource Conservation and Recovery Act of 1976.
- B. State, County, and City requirements, as applicable.

**1.03 Scheduling and Coordination**

- A. Schedule and coordinate the roof demolition and/or preparation work with the new work in such a manner as to keep the new insulation and roofing materials, building, and building interior absolutely dry and watertight.
- B. Coordinate all work with related trades and the Owner, to minimize any disruptions of the Owner's operations.
- C. Refer to related requirements specified elsewhere in the Contract Documents.

**1.04 Disposal**

- A. All debris shall be stored in containers approved by the Owner's Representative, and removed from the roof on a daily basis.
- B. Keep Owner's property clean of any construction debris.
- C. Contractor shall dispose of construction debris in accordance with the referenced standards.

**PART TWO – PRODUCTS****2.01 Cleaners**

- A. Cleaners used in conjunction with surface preparation work shall meet local code requirements for runoff water quality.
- B. Cleaners and/or solvents shall not have a detrimental effect on the new or existing roof systems or the roof and building drainage system.

**PART THREE – EXECUTION****3.01 Protection of Surfaces**

- A. Contractor shall take all precautions during demolition and preparation necessary to protect the building and adjacent surfaces from being soiled or damaged.
- B. Contractor shall restore to original condition any damage caused during work performed under this section.
- C. Keep roof surface clean of any debris that might prevent proper drainage.
- D. At start of each workday, drains located within daily work area shall be temporarily plugged to prevent debris from falling into the drain. Plugs shall be removed at the end of each workday.
- E. Prior to demolition work, verify that all soil pipes, flues, steel members, and other similar penetrations are secured to the building structure. Coordinate removal or securement of all unsecured penetrations prior to the start of demolition work.

**3.02 Debris Handling**

- A. No material shall be dropped to any point lying outside the exterior walls of the structure, unless otherwise approved in writing by the Owner's Representative.
- B. All material chutes or section of chutes at an angle greater than 45° from the horizontal shall be entirely enclosed.
- C. On all buildings over 20' in height, debris shall be transported using a fully enclosed receptacle that is mechanically lowered. A fully enclosed trash chute may also be used where appropriate for height of the building.
- D. Chutes may be job-fabricated or purchased premanufactured. If premanufactured chutes are used, Manufacturer's setup and operating instructions shall be followed.
- E. When installing trash chutes, proper counterbalance shall be used to offset the weight and use of the chute. If wood boards or metal struts are used, they shall be set up to prevent a tripping hazard to employees. A safety factor of 5 shall be used to determine counterbalance.
- F. No job site materials shall be used to counterbalance a chute.
- G. Guard rails shall be installed on either side of the chute, to a distance of 6 feet minimum from the opening. Guardrails shall be installed according to OSHA standards.
- H. Where the material is dumped from mechanical equipment or wheelbarrows, a securely attached toeboard or bumper not less than 4" thick and 6" high shall be provided at each chute. Additionally, the Contractor shall use a guard around the top of the chute to prevent any debris from falling next to the chute.
- I. Chutes shall be designed and constructed of such strength as to eliminate failure due to impact of materials or debris loaded therein.

**3.03 Disposal**

- A. Properly dispose of all construction debris on a daily basis.

- B. Do not store debris on roof unless otherwise directed by the Owner. Contractor shall not overstress the roof decking.

### 3.04 Preparation of Surfaces

- A. The extent of preparation of surfaces is listed in each section of the specifications and notes on the drawings.
- B. All debris shall be removed from the surface. The surface shall be broom clean at a minimum, and additionally prepared as noted on the drawings, as specified elsewhere, and as required by the Manufacturer of materials to be applied.

### 3.05 Cleanup

- A. Throughout the duration of the project, retain all stored materials and equipment in an orderly arrangement allowing maximum access, not impeding drainage or traffic and providing the required protection of materials.
- B. Weekly, and more often if necessitated by job conditions, Contractor shall inspect all arrangements of materials stored on site and restack, tidy and resecure as required.
- C. Contractor shall clear the construction areas and shall provide for the removal of all construction debris from the site. Contractor shall not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this work. Contractor shall provide storage of all items awaiting removal from the project site, observing all requirements for fire protection, and protection of the surrounding site.
- D. Daily and more often if necessitated by job conditions, Contractor shall inspect the site and pickup all scrap, debris, and waste material. Contractor shall remove such items promptly, leaving the construction area and site clean daily.
- E. Contractor shall be responsible to assure that their subcontractors have properly removed and disposed of all debris relating to their contract.
- F. At least twice each month and more often if directed by the Owner, Contractor shall completely remove all scrap, debris, and waste material from the project site. Contractor shall maintain the site in a neat and orderly condition at all times.
- G. At the completion of the contract, Contractor shall remove from the project site all equipment, tools, excess materials, and construction debris related to their contract. Contractor shall be responsible to assure that their subcontractors have properly removed from the project site all equipment, tools, excess materials, and construction debris related to their contract.
- H. Contractor shall be responsible for returning all areas set aside for staging and storage to their original condition.
- I. Contractor shall repair damage and remove stains caused by work related to their contract.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Work includes, but is not necessarily limited to:
  - 1. Remove existing steel decking, where required due to corrosion, by breaking welds or removing fasteners, and removing entire sheet. Replace with new decking per drawings and specifications.
  - 2. Wirebrush and prime paint surface rusted steel decking, where the level of corrosion does not necessitate deck replacement.
- B. If loosening, temporary supporting, and reattachment of deck-mounted equipment/piping is required for performance of decking replacement work, the Contractor shall provide the associated work under the appropriate bid price.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *Steel Deck Institute Design Manual*, Steel Deck Institute
  - 2. *Steel Deck Construction Handbook*, Steel Deck Institute
  - 3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 4. *Annual Book of ASTM Standards*, ASTM International
  - 5. *ASCE/SEI 7 - Minimum Design Loads for Buildings and Other Structures*, American Society of Civil Engineers
  - 6. *Surface Preparation Standards*, Society for Protective Coatings (SSPC) and the National Association of Corrosion Engineers International (NACE)
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.

**1.04 Delivery, Storage, and Handling**

- A. Deliver materials to the job site in original, unopened bundles. Materials are to be stored off the ground with one end elevated to provide drainage and are to be protected from the elements with weatherproof tarps ventilated to avoid condensation.
- B. Keep all materials clearly identified with all identifying marks legible. Keep all damaged material clearly identified as damaged and stored separately to prevent its inadvertent use.
- C. Do not allow installation of damaged or otherwise non-complying material.
- D. Use all necessary means to protect the materials in this section before, during, and after installation, and to protect the work and materials of all other trades.
- E. In the event of damage, immediately make all necessary repairs and replacements subject to the approval of, and at no additional cost to the Owner.
- F. Roof surfaces shall be protected from damage at all times.

**1.05 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 Steel Decking**

- A. Steel roof decking shall be G90 galvanized steel.
- B. Roof decking shall conform to ASTM A 653 (G90 Galvanized or G90 Galvalume Coated) Grade 33, having a minimum yield strength of 33 ksi.
- C. New steel decking and side lap configuration shall match existing decking profile, with flutes able to nest with existing decking flutes at side and end laps. Contractor shall field verify existing decking profile.
- D. New decking sheet size shall match existing decking sheet size. Contractor shall field verify existing decking sheet size.
- E. Steel roof decking shall be 20-gauge.
- F. Flat stock decking repair material, if necessary, shall be 18-gauge, G90 galvanized or Galvalume coated steel.

**2.02 Fasteners**

- A. Fasteners for securement of steel decking to structural supports or for steel decking and steel flat stock side laps shall be self-drilling, screw type fasteners. Powder-activated or compressed air-actuated fasteners will not be accepted or used.
- B. Fasteners shall be listed in RoofNav as FM Global approved products.

- C. Approved Products
  - 1. Teks 5 HWH 12-24 x 1.5" by ITW Buildex – For fastening of steel decking to structural members.
  - 2. Teks 1 HWH 10-16 x 3/4" by ITW Buildex – For fastening of steel decking side laps and flat stock repair materials.
  - 3. Approved equal

### 2.03 Primers and Paints – Galvanized Steel Decking

- A. Steel Decking Primer – Approved Products
  - 1. Pro Industrial Pro-Cryl Universal Acrylic Primer by Sherwin-Williams
  - 2. Approved equal
- B. Steel Decking Paint – Approved Products
  - 1. Pro Industrial DTM Acrylic Coating by Sherwin-Williams
  - 2. Approved equal

## PART THREE – EXECUTION

### 3.01 Deck Replacement Criteria

- A. Deck replacement shall be performed where the level of deck corrosion reduces the pullout resistance of the roof insulation and/or roof membrane fasteners, as compared to adjacent areas of decking that are not corroded.
- B. Where the decking is surface rusted, but the level of corrosion does not reduce fastener pullout resistance, the decking shall be wire brushed and prime painted, as specified within this section.

### 3.02 Installation – Deck Replacement

- A. Steel roof decking shall be replaced in full-length sheets to match existing decking layout, unless otherwise stated elsewhere.
- B. Attachment zones shall be calculated based upon the version of ASCE-7 mandated by the building code.
- C. Steel roof decking shall be fastened to the structural members directly through bottom of the rib.
- D. Screws shall be spaced 12" o.c. at ends and all supports. Screws shall be spaced 6" o.c. at ends, and all supports.
- E. Side laps shall be fastened together, not exceeding 36" o.c. in center-to-center between each side lap fastener, or side lap fastener and support.

- F. Fasten the decking to the structural members at each side lap, regardless of resultant fastener spacing. For nested-style side laps, ensure fasteners penetrate all decking panels at the laps. For interlocking-style side laps, install one fastener on each side of the lap.
- G. End laps shall be 2" minimum.
- H. Ensure workers stand on the upper decking panel when fastening laps.
- I. Ensure the fasteners do not penetrate conduit or miscellaneous piping located at bottom of the decking.
- J. Place decking in straight alignment with adjoining decking units for entire length of run.
- K. Place decking units flat and square, secured to adjacent framing without warp or excessive deflection.
- L. Cut and neatly fit decking around roof penetrations.
- M. For openings less than 12" x 12" in size, G90 galvanized sheet metal may be used for the repair, overlapping the adjacent decking 18" on all sides. Sheet metal repair shall be fastened to existing decking units with side lap fasteners spaced 6" o.c.
- N. For openings less than 24" x 24" in size but greater than 12" x 12" in size, partial decking sheet may be used for the repair, overlapping the adjacent decking 18" minimum at end laps. Fasten repair material to the existing decking with side lap fasteners spaced 6" o.c. If structural members are present, fasten decking to steel as specified.
- O. For openings larger than 24" x 24" in size without supplementary framing, full decking sheets spanning three or more structural members shall be utilized. Fasten decking to structural members and install side lap fasteners as specified for steel decking replacement areas.
- P. Where an obsolete curb is removed and supplementary framing exists, decking may be installed over the void and 18" beyond framing members at each end of decking sheets. Fasten decking to framing members and install side lap fasteners as specified for steel decking replacement areas.

#### **3.04 Surface Rust Repair - General**

- A. Perform all preparation and cleaning procedures in strict accordance with the paint Manufacturer's recommendations.
- B. Surface rust areas shall be wire brushed to remove any loose or foreign materials that would adversely affect adhesion or function of applied coating. Surface preparation shall meet or exceed SSPC-SP2.
- C. Stir all materials before application to produce a mixture of uniform density and as required during the application of materials. Do not stir into the material any film that may form on the surface.
- D. Coverage of all coating applications shall be complete and of uniform thickness.
- E. Allow paint to dry prior to installing subsequent roof system components.



**3.05 Priming and Painting - Galvanized Steel Decking**

- A. Over the prepared and cleaned surfaces, apply one coat of rust-inhibitive primer. Application rate shall provide for 5.0 – 10.0 wet mils and 1.8 – 3.6 dry mils.
- B. After primer has dried, apply one coat of paint. Coverage shall be complete and of uniform thickness. Application rate shall provide for 6.0 – 9.5 wet mils and 2.5 – 4.0 dry mils.

**3.06 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Work includes, but is not necessarily limited to:
  - 1. Installation of nailers, plywood per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.

**1.04 Delivery, Storage, and Handling**

- A. Store all materials up, off of the roof or ground, and covered with weatherproof tarps anchored sufficiently, so as to resist wind blow-off. Roof surfaces shall be protected from damage at all times.
- B. Keep all materials clearly identified with all grade marks legible. Keep all damaged material clearly identified as damaged and stored separately to prevent its inadvertent use.
- C. Do not allow installation of damaged or otherwise non-complying material.
- D. In the event of damage, immediately make all necessary repairs and replacements to the approval of and at no additional cost to the Owner.

**1.05 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 Wood Nailers and Dimension Lumber**

- A. Lumber shall have Gradestamp indicating #2 or better, construction grade, S4S, produced in North America. Lumber Gradestamp indicating lumber importation from outside of North America is unacceptable.
- B. Size shall be as indicated on the drawings or meet performance criteria noted on the drawings.

**2.02 Plywood**

- A. All plywood shall be minimum 5/8", APA Rated Exterior, Structural 1. Only waterproof glue is acceptable. Plywood shall have PS-1 Gradestamp. PRP-108 Gradestamp without PS-1 is unacceptable.
- B. Plywood thickness shall be as indicated on the drawings.

**2.03 Carbon Steel Fasteners**

- A. All fasteners shall be carbon steel with corrosion-resistant coating.
- B. Fasteners shall be FM Global approved and meet FM 4470.
- C. Contractor shall field verify existing and new substrates and select appropriate fasteners from the specified options to meet the intent of the drawings, specifications, and specified standards. Contractor shall coordinate all fastener types, dimensions, head styles, drill points and threads per inch. If a required fastener is not included in the specifications or noted on the drawings, Contractor shall submit a request for clarification to the Owner's Representative before proceeding.
- D. Masonry/Concrete Fasteners
  - 1. Corrosion-resistant, threaded fastener, #14 minimum.
  - 2. Fasteners shall be of length to provide 1.5" minimum embedment into concrete and masonry substrates.
  - 3. Approved Products
    - a. #15 Dekfast by SFS Group USA, Inc. with E-coat
    - b. #14 Heavy Duty Roofing Fastener by OMG, with CR-10 coating
    - c. HeadLok SP Fastener by OMG, with CR-10 coating
    - d. Trufast #14 HD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
    - e. Specified roof system Manufacturer equivalent
- E. Steel Decking/Wood Fasteners
  - 1. Corrosion-resistant, self-tapping, self-drilling screw, #14 minimum.
  - 2. Fasteners shall be of length to provide 1.5" penetration into substrates.

3. Approved Products
  - a. #15 Dekfast by SFS Group USA, Inc. with E-coat
  - b. #14 Heavy Duty Roofing Fastener by OMG, with CR-10 Coating
  - c. HeadLok SP Fastener (steel deck) or HeadLok GP Fastener (wood) by OMG, with CR-10 coating
  - d. Trufast #15 EHD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
  - e. Trufast SIP LD by Altenloh, Brinck & Co. U.S., Inc., with E-coat
  - f. Specified roof system Manufacturer equivalent

### **PART THREE – EXECUTION**

#### **3.01 Protection**

- A. Protect adjacent surfaces as required to prevent damage when storing, cutting, handling and installing the work described by this section.
- B. Contain and immediately remove sawdust, to prevent contamination of substrates to receive subsequent construction. Replace any damaged components or construction at no cost to the Owner.

#### **3.02 Lumber and Nailers**

- A. Lumber and nailers shall be installed per detail drawings. Screws shall be used for all carpentry work.
- B. Discard units of material with defects that might impair quality of work and units that are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- C. Set lumber and nailers to required levels and lines with members plumb and true.
- D. Lumber shall be installed with 1/4" gap between ends of adjoining pieces.
- E. Where two or more pieces of lumber are stacked, butt joints shall be offset 12" minimum between adjacent layers.

#### **3.03 Plywood**

- A. Plywood shall be installed per detail drawings. Screws shall be used for all plywood attachment.
- B. Plywood joints shall be true and well fitting, allowing for expansion and contraction. Allow 1/8" at end and edge joints.
- C. Plywood fasteners shall be installed in a uniform grid pattern, with a maximum spacing of 18" o.c. between adjacent fasteners.
- D. Where fastening to steel stud framing, fasten to each framing member at 6" o.c.

- E. If plywood facing is installed over a curb, offset plywood joints a minimum of 24" from underlying butt joints in the curb.
- F. Individual pieces of plywood shall be a minimum of 24" wide with a minimum of two vertical fastener rows applied.
- G. Bevel cut edges of plywood at 45-degrees, if shown on the detail drawings.

**3.04 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.05 Cleaning**

- A. Debris from carpentry work shall be frequently and thoroughly removed from construction areas as it accumulates.
- B. Clean debris and properly dispose of all construction debris such as wood trimmings, sawdust, and fasteners, prior to proceeding with subsequent parts of the work.
- C. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install fiberglass batt insulation complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Delivery, Storage, and Handling**

- A. Use all means to protect the materials of this section before, during, and after installation, and to protect the work and materials of all other trades. Roof surfaces shall be protected from damage at all times.
- B. Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Materials to be stored up, off the roof deck or ground, and covered with weatherproof tarps anchored sufficiently, so as to resist wind blow-off. When storing materials on the roof, do not overstress the deck.
- C. In the event of damage, immediately make all repairs and replacements to the approval of the Owner's Representative and at no additional cost to the Owner.

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature for products to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.

**PART TWO – PRODUCTS****2.01 Batt Insulation**

- A. Fiberglass Batts: Unfaced, reinforced fiberglass batts as manufactured by Owens-Corning or Johns Manville.
- B. Batt thickness is to be twice the dimension of the opening to which it is being inserted.

**2.02 Polyethylene Vapor Retarder**

- A. Approved Products
  - 1. Generic 6-mil polyethylene sheet

**2.03 Seam Tape**

- A. Seam tape shall be a 4" wide, heavy duty, weather resistant, rubber adhesive tape.
- B. Approved Products
  - 1. Vapor Block Tape (Part #VBT4X210) by Americover
  - 2. Approved equal

**PART THREE – EXECUTION****3.01 Installation**

- A. Where shown on the drawings, install polyethylene vapor retarder. Seal all joints and edges vapor tight using seam tape.
- B. Install fiberglass batt insulation as indicated on the detail drawings. Insulation is to be securely wedged into place and shall fill all voids.

**3.02 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.03 Cleaning**

- A. Contractor shall follow the requirements to Section 02 41 20 – Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Provide and install roof board insulation and means of securement complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package, or container indicating that materials have been produced under U.L.'s classification and follow-up service.

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  2. Complete material list of all items proposed to be furnished and installed under this section.



**1.05 Delivery, Storage, and Handling**

- A. Deliver materials to job site in their original unopened containers, no sooner than 14 days prior to start of project. Package labels shall indicate material name, production date, and/or product code. Slit Manufacturer-supplied plastic covering and cover with weatherproof tarps that are securely anchored to prevent blow-off.
- B. Store materials in dry, raised, protected areas in an upright position. Control temperature of storage areas in accordance with Manufacturer's instructions. Protect materials from exposure to the elements. When storing materials on the roof, do not over stress the deck.
- C. Use all necessary means to protect the materials in this section before, during, and after installation, and to protect the work and materials of all other trades.
- D. In the event of damage, immediately make all necessary repairs and replacements subject to the approval of and at no additional cost to the Owner.
- E. Follow the Manufacturer's recommendations for storage of temperature-sensitive materials.

**1.06 Scheduling**

- A. Work shall be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

**1.07 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. All materials used on this project shall be compatible with the existing conditions and with each other.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Insulation, fasteners, and/or adhesives used on this project shall be approved by the roofing membrane Manufacturer, shall be compatible with the roof system specified, and shall qualify for the specified roofing membrane Manufacturer's warranty.

**2.02 Insulation Materials**

- A. Polyisocyanurate Foam Roof Insulation - Glass Reinforced Facer (GRF)
  - 1. Insulation shall be a closed-cell, polyisocyanurate foam core with fiberglass-reinforced felt facers conforming to ASTM specification C 1289, Type II, Class 1. Foam core shall have a rated flame spread of 75 or less in accordance with ASTM E 84. Insulation shall have minimum compressive strength of 20 psi (Grade 2) in accordance with ASTM C 1289.

2. Approved Products
    - a. FTR-Value by Seaman Corporation
  3. Flat Stock Insulation Requirements
    - a. Insulation shall be supplied in 4' x 4' or 4' x 8' boards. Insulation shall be flat stock 2.5".
  4. Tapered Insulation Requirements
    - a. Insulation shall be supplied in 4' x 4' boards. Insulation panels shall slope 1/4" for crickets and 1/2" for drain sumps per foot.
- B. Gypsum Cover Board
1. Non-structural, moisture resistant gypsum panel. Gypsum board shall conform to ASTM C 1177 or ASTM C 1278. Gypsum board product shall be specifically recommended for the type of membrane application required by the Contract Documents, as applicable.
  2. Approved Products
    - a. DensDeck Prime by Georgia-Pacific Gypsum Corp.
    - b. SECUROCK Glass-Mat Roof Board by United States Gypsum Company
  3. Insulation Requirements
    - a. Gypsum board shall be supplied in 4' x 4' or 4' x 8' sheets. Gypsum board shall be flat stock 1/4" thick.
- C. Tapered Fiberboard Edge Strip
1. Wood fiber insulation boards factory-cut to provide slope. Insulation shall conform to ASTM C 208.
  2. Approved Products
    - a. As approved by the roof membrane Manufacturer.
  3. Insulation Requirements
    - a. Insulation shall be supplied in 6" x 4' boards. Insulation shall be tapered from 0" to 1/2" across width of board.

### 2.03 Insulation Fasteners

- A. Steel Decking
1. Corrosion-resistant, self-tapping, self-drilling #12 threaded fastener with #3 Phillips head. Fasteners with hex washer heads (HWH) fasteners are not approved. Fastener shall be carbon steel with corrosion-resistant coating.
  2. Corrosion-resistant 3" Galvalume-coated steel plate with flat bottom design to provide a low profile over rigid substrates.

3. Fastener and plate shall be tested and approved by FM Global to ensure compliance with the requirements of FM Approval Standard 4470.
4. Approved Products
  - a. FTR Insulation Fastener and FTR Round Steel Insulation Plate by Seaman Corporation
5. Steel Deck: Fasteners shall be the shortest length to penetrate the top flange of the deck by 3/4".
6. Fasteners must not penetrate bottom rib of steel deck. Fasteners shall not protrude below the bottom rib of steel deck.

### **PART THREE – EXECUTION**

#### **3.01 Description**

- A. The latest Manufacturer specifications and installation instructions shall be followed along with the following requirements. These specific minimum requirements must be included in the bid and shall not be altered.
- B. Inspection
  1. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- C. Preparation and Surface Conditions
  1. Before insulation application is started, remove trash, debris, grease, oil, water, moisture, and contaminants from substrate to receive insulation.
  2. Prepare all surfaces in accordance with applicable specification sections.
  3. Protect adjacent areas from damage.
  4. Surfaces scheduled to receive insulation shall be free of any standing water, frost, snow, or loose debris.
  5. Substrate shall be smooth, free of sharp projections, and free of obvious depressions.
  6. All nailers shall be installed prior to installing insulation.
- D. Installation – General
  1. Perform all related work specified elsewhere necessary for the installation of the specified roof insulation.
  2. Ensure that fasteners do not penetrate conduit or other miscellaneous items located on the underside of the roof deck, or spall the underside of the deck.

3. Install plates and fasteners tight and flat to substrate with no dimpling of the substrate surface. Prevent deformation of plates due to overdriving fasteners. Do not underdrive fasteners so that the plate is able to spin freely.
4. Do not apply insulation materials when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present.
5. Install tapered insulation cricket at the upslope side of each curb that is 18" or wider. Cricket shall extend out half the width of the curb and the cricket's slope shall be twice the opposing field slope.
6. Attachment zone dimensions shall be calculated based upon the code-mandated version of ASCE-7.
7. Refer to the material Manufacturer's published product data sheets and installation instructions for information regarding acceptable temperature ranges and other weather-related criteria that might affect the installation schedule.
  - a. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  - b. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.
  - c. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  - d. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  - e. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.

### 3.02 Mechanically Fastened Construction

#### A. Single Layer

1. Insulation shall be installed with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
2. Areas of damage or broken corners shall be cut out and replaced with pieces 12" x 12" minimum, fastened into place.
3. Fastener spacings shall be as defined on the drawings, but no less than two fasteners per each piece of insulation.
4. Fasten insulation with screw and plate type fasteners.

- B. Multiple Layers
1. Bottom layer of insulation shall be installed with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
  2. Areas of damage or broken corners shall be cut out and replaced with pieces 12" x 12" minimum.
  3. Additional layer(s) of insulation shall be installed over preceding layer(s) with all joints tightly butted and end joints staggered 12" minimum. Insulation shall fit tightly against all adjacent substrate surfaces and penetrations.
  4. Insulation joints in each layer shall be offset a minimum of 12" from insulation joints in the preceding layer, including all daily tie-off locations.
  5. Areas of damage or broken corners shall be cut out and replaced with pieces 12" x 12" minimum, fastened into place.
  6. Fastener spacings shall be as defined on the drawings, but no less than two fasteners per each piece of insulation.
  7. Fasten the top layer of insulation boards with screw and plate type fasteners.

### 3.03 Tapered Insulation

- A. Install tapered saddles in valleys, where indicated on the finalized shop drawings in the sizes shown. End of saddle shall provide for slope into the sump at the drainage device. End of saddle shall be of sufficient width at sump such that flat spots do not occur in valley. Saddle slope shall be twice the field slope, unless otherwise noted on the drawings.
- B. Utilize tapered insulation panels and tapered edge strips to construct sumps at roof drains and scuppers, where detailed. Size shall be as shown on the finalized shop drawings. Delete thermal insulation within sumps, as required, for installation of tapered panels, so as to provide continuous slope down to drainage device, without creating a sharp/steep sloped transition. At no time shall slope within drain sump exceed 1:12, unless otherwise noted in drawings.
- C. Utilize tapered edge strip at transitions in construction of more than 1/4", and in other specified locations, to provide a smooth transition and proper support for the membrane system or subsequent insulation layer. Field cut and shape edge strip as required. Direct slope of edge strip to provide for proper drainage.

### 3.04 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed. Verify that insulation boards are positively secured.
- B. Contractor shall correct any deficient work prior to installing subsequent work.

### 3.05 Cleaning

- A. Contractor shall follow the requirements to Section 02 41 20 - Roof Demolition and Cleanup.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install a weather and watertight adhered KEE roof complete, in-place, per the drawings and specifications.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the Manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package, or container, indicating that materials have been produced under U.L.'s classification and follow-up service.
- E. The Contractor shall not subcontract the installation of the roof system covered under this specification to an individual or a firm that is not a full-time employee of the Contractor's company. Included shall be the following components:
1. Insulation
  2. Roof Membrane
  3. Flashings
  4. Roof Walkways

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Contractor's proposed detail for temporary water cutoff installation.

**1.05 Delivery, Storage, and Handling**

- A. Protection: Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Delivery and Storage: Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Package labels shall indicate material name, production date, lot number, and/or product code. Materials shall be stored up, off of the roof deck or ground and covered completely with weatherproof tarps that are securely anchored, so as to resist wind blow-off. When storing materials on the roof, do not over stress deck.
- C. Replacements: In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

**1.06 Scheduling**

- A. Work is to be performed on a daily basis with each section completed before progressing to the next day's work, unless specifically directed otherwise by the Owner's Representative.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

**1.07 Warranty**

- A. See Section 01 78 36 - Warranties.

**PART TWO – PRODUCTS****2.01 General**

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the membrane Manufacturer are to be purchased from a Manufacturer-approved source.
- B. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- C. No product shall contain any asbestos or asbestos-related products.

**2.02 Products Supplied by Manufacturer**

- A. Roof Membrane
  - 1. Roof membrane shall be polyester reinforced ketone ethylene ester (KEE) sheet membrane as manufactured by Seaman Corporation. Sheet width shall be a maximum of 100".
  - 2. Roof membrane color and all accessory membrane items shall be standard Off-White.
  - 3. Membrane shall be 50-mil nominal FiberTite XT.
  - 4. Only one width of roll goods shall be supplied for all field sheets on the entire project, unless specified otherwise.
  - 5. T-Joint Covers - FiberTite T-Joint Covers, 60-mil non-reinforced KEE membrane, 4" x 4" with rounded corners, as supplied by Seaman Corporation.
  - 6. Cover Strips - Specified field membrane material 6" in width.
- B. Flashing Membrane
  - 1. Flashing membrane shall be polyester reinforced KEE membrane as manufactured by Seaman Corporation.
  - 2. Membrane shall be 50-mil nominal FiberTite XT.
  - 3. Non-reinforced KEE membrane - 60-mil FTR Non-reinforced Sheet as supplied by Seaman Corporation.
  - 4. Pre-molded KEE accessories - 55-mil Pre-Molded Pipe Flashing, 70-mil WRAPID Flash, and 80-mil Pre-Molded Inside/Outside Corner, as supplied by Seaman Corporation.
- C. Field and Flashing Membrane Adhesive - FTR-190e Bonding Adhesive - Solvent based contact adhesive supplied by Seaman Corporation.
- D. Membrane Coated Sheet Metal - FiberClad Coated Metal - 20-mil polymeric coating laminated to 24-gauge G90 galvanized sheet metal, supplied by Seaman Corporation.
- E. Base Termination Plates and Fasteners
  - 1. Corrosion-resistant coated, self-tapping, self-drilling #15-13 buttress threaded screw with #3 Phillips low profile truss head. Fastener shall be carbon steel with corrosion-resistant coating.
  - 2. Corrosion-resistant, Galvalume coated 18-gauge steel, factory-made plate.
  - 3. Fastener and plate shall be tested and approved by FM Global to ensure compliance with the requirements of FM Approval Standard 4470
  - 4. Approved Products
    - a. FTR Magnum Fastener and FTR Magnum-Plus Stress Plate by Seaman Corporation



- F. Membrane Cleaner - FiberTite Seam Cleaner, as supplied by Seaman Corporation.
- G. Walkway - FiberTite KEE TuffTrac, 30" x 100' x 60-mil high strength, textile reinforced walkway material, embossed with a low-profile diamond plate design that provides slip resistance and positive traction. Color shall be yellow.
- H. Sealant Tape - 1/8" x 3/4" butyl tape, as supplied by Seaman Corporation.
- I. Water Cutoff Sealant - FTR #101 Sealant by Seaman Corporation.
- J. Termination Bar - FTR Termination Bar - 1/8" x 1" x 10' extruded aluminum bar with pre-punched slots at 8" o.c.

**2.03 Other Materials**

- A. Sheet Metal Nails
  - 1. 1-1/4" minimum x 11-gauge, 3/8" head, hot dip galvanized, ring shank roofing nails shall be used where specified on the drawings for concealed fastening into wood.
  - 2. Approved Products
    - a. STORMGUARD by Maze Nails
    - b. Approved equal
- B. All other materials not specifically described in this section but required for a complete and proper installation of the work shall be as selected by the Contractor, approved by the Manufacturer, and subject to the approval of the Owner.

**PART THREE – EXECUTION****3.01 Description**

- A. The latest Manufacturer specifications and installation techniques are to be followed along with the following requirements. These specific minimum requirements must be included in bid and are not to be altered.

**3.02 Inspection**

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Contractor shall monitor the installation to ensure proper adhesion is being achieved in all areas. Contractor shall adjust means and methods, as necessary, to achieve positive bond of membrane to substrates and at splices between components.

**3.03 Surface Conditions**

- A. Surfaces scheduled to receive roofing are to be free of any standing water, frost, snow, or loose debris.
- B. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- C. All metal fittings specified or shown on drawings are to be in-place before roofing.

- D. All nailers shall be securely installed prior to roofing.
- E. All surfaces scheduled to receive FiberTite membrane must be clean and smooth.
- F. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published product data sheets and installation instructions.

### 3.04 Installation – General

- A. Perform all related work specified elsewhere necessary for the installation of the specified membrane system.
- B. Ensure that fasteners do not penetrate conduit, post tension cables, or other miscellaneous items located within or on the underside of the roof deck.
- C. Owner's Representative may take a seam sample of approximately 8" x 8" twice daily. Contractor shall be responsible for making watertight each sample area immediately after sample is cut.
- D. Refer to the material Manufacturer's published product data sheets and installation instructions for information regarding acceptable temperature ranges and other weather-related criteria that might affect the installation schedule.
  - 1. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  - 2. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.
  - 3. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  - 4. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  - 5. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.
- E. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's Representative and membrane Manufacturer.
- F. Adhesive application rates shall be as specified by the membrane Manufacturer.
- G. Adhesives shall be applied so as to achieve full coverage, in an even coat, without holidays, globs, puddles, or other irregularities. Prevent adhesive contamination of lap seams and areas to receive water cutoff sealant.

- H. All membrane rolls shall run the same direction within a given roof section. Once roll direction has been determined, do not change roll direction.
- I. Tack welding of the membrane is strictly prohibited during the sheet layout process or at any other time.

### 3.05 Installation of Roofing Membrane

- A. Over the properly installed/prepared substrate surface, unroll and position the membrane, without stretching, and fold the sheet to allow a workable exposure of the underside of the sheet. Sheets shall overlap a minimum of 3" at all side and end laps. When placing the membrane, ensure seam locations are held back a minimum of 24" from edges of drainage devices.
- B. Laps in the membrane sheets shall be oriented as to not oppose the direction of drainage.
- C. Apply FTR-190e bonding adhesive in a uniform fashion over a properly prepared substrate and the back of the membrane by spraying or rolling as approved by the Manufacturer. full coverage shall be provided. Do not dump or pour adhesive from cans. Roller applied adhesive shall utilize a 3/8" nap solvent-resistant paint roller. Spray applied adhesive must be spread out by roller to ensure uniform coverage. Adhesive shall be applied to the substrate and to the back of the membrane at the rates specified by the membrane Manufacturer, and shall be sufficient to achieve full coverage on both surfaces. The amount of substrate that can be coated with a workable amount of adhesive will be determined by application method, ambient temperature, humidity, and available manpower. The adhesive shall be allowed to dry or cure to the point of being tacky but not stringy to the touch before installing the membrane. Do not allow the adhesive to dry out completely on either surface.
- D. Carefully turn down membrane to make contact with the previously coated surface of the substrate, avoiding wrinkles or air pockets.
- E. Broom the adhered portion of the membrane to ensure full contact, and complete the bonding process by firmly pressing the bonded membrane into place with a weighted, foam-covered lawn roller.
- F. Repeat the application process for the remaining unbonded portion of the membrane.
- G. Seaming area shall be clean and free of dust, dirt, debris, and adhesives. When cleaning is required, follow the Manufacturer's procedures for cleaning.
- H. Laps shall be hot air welded using an automatic welder approved by the membrane Manufacturer and Owner. Laps shall be welded daily. All locations of machine starts and stops shall be marked on the membrane by the machine operator as they occur, so these locations can be carefully probed.
- I. All seams shall be fully welded a minimum of 1.5" from the edge of the lap joint.
- J. Allow seams to cool and then check for fishmouths and other voids. Repairs shall be made daily by hot air welding.
- K. All T-laps shall be dog eared, hand rolled, and patched, using hot air welded T-joint covers, as supplied by the membrane Manufacturer. Color shall match the field membrane color.
- L. After installation of the field membrane and before installation of flashings, the field membrane shall be secured at roof perimeters and penetrations as shown on the drawings.

- M. Membrane fasteners and plates shall be installed around all penetrations and all changes in plane greater than 15°. Soil pipes, stacks, supports, and posts require four fasteners placed evenly around the penetration, unless otherwise shown on the drawings.

### 3.06 Flashings

- A. Flashings shall be constructed and terminated as per the detail drawings. Flashings shall extend a minimum of 6" onto the roof membrane and 8" up the vertical substrate.
- B. Apply bonding adhesive as recommended by the Manufacturer over the clean, dry, compatible substrate and to the back of the membrane using an approved solvent-resistant roller.
- C. Allow adhesive to dry to the point of being tacky, but not stringy to the touch. Do not allow adhesive to dry completely. The coated membrane shall be placed onto the previously coated substrate, being careful to avoid wrinkles or air pockets. The flashings shall be pressed firmly into place using a hand roller.
- D. The specified water cutoff sealant shall be applied behind the top edges of the flashings. The top edges of flashings shall be fastened per the Manufacturer's requirements at a minimum, unless superseded by the detail drawings.
- E. All flashings shall be fully bonded to the substrate.
- F. All flashings shall receive a hot air welded patch at all vertical to horizontal transition per applicable detail.
- G. Utilize all premanufactured components available by the membrane Manufacturer in construction of flashings, including inside/outside corners, pipe boots, and cone flashings. Color shall match the field membrane.

### 3.07 Roof Drains

- A. Remove all existing roofing materials from the drain bowl and clamping ring. Wire brush drain and clamping ring flanges down to cast iron surface.
- B. Install tapered insulation drain sump.
- C. Position the membrane over the drain ensuring all membrane seams are located 24" minimum from edges of drain bowls.
- D. Install target flashing if shown on the drawings or if required to meet Manufacturer's standards. Target flashings shall be constructed using non-reinforced KEE membrane.
- E. Cut circular hole with 1" of membrane extending past drain bolt locations.
- F. Cut holes in the membrane for the bolts to penetrate through. **Do not cut notches back to the bolt locations.**
- G. Apply water cutoff sealant over the drain bowl flange, using a minimum of one-half tube per drain.
- H. Install the drain clamping ring and tighten all bolts to achieve complete compression. All bolt locations must be functional.
- I. Functional drain clamping rings and strainers shall be provided at all drains on a daily basis.

**3.08 Membrane-Clad Metal Flashings**

- A. Where indicated by the drawings and specifications, supply, fabricate and install membrane-clad metal flashings.
- B. Form and install flashings in the shapes and profiles indicated on the detail drawings.
- C. Metal flashings shall be fastened according to the detail drawings. Manufacturer's fastening requirements shall be followed if they exceed the requirements of the drawings and specifications.
- D. All flashings shall be installed concurrently with the roof membrane as the construction progresses. No temporary flashings are allowed without prior written approval from the Owner's representative and membrane Manufacturer.
- E. Hot air weld membrane patches over all vertical flashings seams at the horizontal to vertical transitions

**3.09 Membrane Patching**

- A. Where adjacent patches are within 12" of each other, one long patch shall be used to incorporate both locations to be patched, as opposed to using two smaller separate patches.
- B. Patches shall not overlap onto one another. Any locations where patches overlap shall be covered with one large patch that completely covers all edges of underlying patches. Edges of this large patch shall be welded onto the primary field or flashing membrane material, and not onto the underlying patching materials. Where installation of this large patch results in the formation of three-way overlaps, subsequently patch these T-joints as specified.
- C. Provide corrective patching of all membrane cuts, punctures, and defective seams unable to be properly repaired by hot air welding.
- D. The Owner may require removal and replacement of the roof system at any area containing more than six patches in a 10' x 10' area, when the repairs are required due to poor workmanship or roof membrane damage.

**3.10 Roof Walkways**

- A. Walkways shall be installed in a neat, orderly fashion and where indicated on roof plans or in specifications.
- B. Chalk line walkway locations on roof membrane and position walkway in-place, using chalk line as a guide.
- C. FiberTite TuffTrac Walkway: Clean and prepare roof membrane surface as recommended by the Manufacturer. Install walkway continuous and centered with previously installed walkway material. Leave a 4" drainage gap between all adjacent sections of walkway. Do not apply walkway material over field membrane seams, centering 4" gaps parallel with and over seam edges. Walkway shall be adhered in the center with all edges continuously hot air welded watertight.

**3.11 Temporary Water Cutoffs**

- A. Temporary water cutoffs shall be constructed at the end of each working day to protect the insulation, roofing, building, and building interior from damage due to wind, snow, and rain.

- B. Contractor shall provide methods and materials compatible with the membrane, to provide a positively adhered weather and watertight seal, capable of withstanding inclement weather and ponded water.
- C. Construction of temporary water cutoffs is to be detailed by the Contractor and approved by the Manufacturer and the Owner's Representative.
- D. Temporary water cutoffs and contaminated membrane shall be neatly trimmed and removed at the start of the next workday.

**3.12 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.13 Cleaning**

- A. Contractor shall follow the requirements of Section 02 41 20 - Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE - GENERAL****1.01 Description**

- A. Furnish and install weather and watertight fluid-applied reinforced acrylic coating system complete, in place, per the drawings and specifications.
- B. Manufacturer is responsible for conducting and/or approving adhesion tests to verify coating compatibility.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *The NRCA Roofing and Waterproofing Manual*, National Roofing Contractors Association
  - 2. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 3. *Annual Book of ASTM Standards*, ASTM International
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the workers.
- C. Roofing Inspections: Make all required notifications and secure all required inspections by the manufacturer of the approved materials to facilitate issuance of the specified roof warranty.
- D. U.L. Listing: Provide materials bearing Underwriters Laboratories (U.L.) marking on bundle, package or container indicating that materials have been produced under U.L.'s classification and follow-up service.
- E. The Roofing Contractor shall not subcontract the installation of the roof system covered under this specification to an individual or a firm that is not a full-time employee of the Roofing Contractor's company.
- F. The roofing contractor shall be certified by the manufacturer to install the products listed under this section.
- G. Adhesion Testing: If required by the manufacturer, perform field adhesion testing of specified coating system in accordance with the Manufacturer's requirements.

**1.03 References**

- A. References: Materials used in this section shall be listed in the reference(s) below. The reference(s) used shall be the latest published edition available on the date the Contractor submits its price proposal to the Owner.
  - 1. *UL Product iQ* <https://productiq.ulprospector.com> UL Solutions

**1.04 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Complete material list of all items proposed to be furnished and installed under this section.
  - 2. Manufacturer's recommended methods of installation.
    - a. When approved by the Owner, the manufacturer's recommended methods of installation, unless superseded by the specification, will become the basis for inspecting and acceptance or rejection of the actual installation procedures used in this work.

**1.05 Product Handling**

- A. Protection: Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Delivery and Storage: Deliver materials to the job site in original, unopened containers no sooner than 14 days prior to start of job. Package labels shall indicate material name, production date, lot number, and/or product code. Materials shall be stored up, off of the roof deck or ground and covered completely with weatherproof canvas tarpaulins that are securely anchored so as to resist wind blow-off. Do not over stress the deck, when storing materials on the roof.
- C. Replacements: In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the manufacturer's recommendations for storage of temperature sensitive materials. Store materials in a dry area above 40°F and protect from water and direct sunlight.

**1.06 Scheduling**

- A. Work is to be performed on a daily basis with each section completed before progressing to the next day's work unless specifically directed otherwise by the Owner's Representative.
- B. Mechanical units (blowers, HVAC) should be prevented from distributing chemical solvent fumes into the building.
- C. Coatings should be protected from traffic and other abuse until completely cured and installation is complete.
- D. Application shall proceed to dry, clean surfaces only. In planning work, consider environment and weather-related conditions such as frost, mist, dew, condensation, humidity, and temperature. Temperature should be above 40°F, and more than 5°F above the dew point and rising, for best application results. Do not apply coating if the temperature is expected to drop below 40°F within 48 hours after application.

**1.07 Warranty**

- A. See Section 01 78 36 - Warranties.



**PART TWO - PRODUCTS****2.01 General**

- A. Minimum product requirements have been listed. All of these components must be used and bid. Products not supplied by the manufacturer are to be purchased from a manufacturer-approved source.
- B. Manufacturer supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- C. No product shall contain any asbestos or asbestos-related products.

**2.02 Acceptable Manufacturers**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Acrylic Coatings
    - a. ElastaHyde #720 ARC by Western Colloid.
    - b. Approved equal.
  - 2. Reinforcement (Field of Roof)
    - a. #326 Firm Stitchbonded Polyester Fabric, 2.75 oz. by Western Colloid.
    - b. Approved equal.
  - 3. Reinforcement (Detail Work)
    - a. #272 Heavy Soft Stitchbonded Polyester Fabric, 3.00 oz by Western Colloid.
    - b. Approved equal.
  - 4. Elastic Cement
    - a. #800 Elastic Cement by Western Colloid.
    - b. Approved equal.
  - 5. All Weather Elastic Cement
    - a. #8000 Elastic Cement by Western Colloid.
    - b. Approved equal.
  - 6. Asphalt Emulsion
    - a. #298 Asphalt Emulsion by Western Colloid.
    - b. Approved equal.

7. Bonding Primer
  - a. #970 Bonding Primer by Western Colloid.
  - b. Approved equal.
8. Seamless Walkway Coating
  - a. #850 SWS coating by Western Colloid.
  - b. Approved equal.

### PART THREE – EXECUTION

#### 3.01 Installation – General

- A. Examine the areas and conditions under which work in this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until such conditions have been corrected.
- B. Perform all related work necessary for the installation of the specified work.
- C. The Contractor shall provide all measures necessary to protect adjacent structures, equipment, and surfaces from spills, overspray, contamination, etc., as required, and at no additional cost to the Owner.
- D. Ensure materials and debris do not enter the building interior.
- E. References to a "three-course" shall be as follows unless otherwise stated herein:
  1. Install a layer of #800 elastic cement at a rate of three gallons per 100 square feet.
  2. Immediately embed the polyester fabric into the wet material ensuring that the fabric is free of all air pockets and wrinkles.
  3. Install a layer of #800 elastic cement at a rate of three gallons per 100 square feet.
- F. References to a "five-course" shall be as follows unless otherwise stated herein:
  1. Apply the first application of #800 elastic cement with a brush or trowel extending 2" beyond the polyester application to follow.
  2. Immediately embed the polyester fabric into the wet material ensuring that the fabric is free of all air pockets and wrinkles.
  3. Apply the second application of #800 elastic cement making sure that the polyester is evenly covered and that the edges of the detail are properly feathered.
  4. Once cured, repeat steps 2 through 4 as described above.
  5. Do not apply #800 in a thickness greater than 3/16" (both coats) as this may cause improper curing. If thicker applications are required, allow to cure and apply an additional coat.
  6. Best results are achieved if #800 elastic cement is coated with ElastaHyde following full cure.

**3.02 Surface Preparation****A. Existing Roof Membrane**

1. Remove all dirt, dust, and foreign debris by vacuum, washing, sweeping, or power blower. The entire surface shall be properly cleaned, so as to receive proper attachment of the new fluid applied membrane. Areas of light dirt and dust may require only sweeping or power blowing. Areas of heavier dirt, dried mud, or contamination may require washing. Use cleaning agents as recommended by manufacturer if required. Surface shall be smooth, clean, and dried prior to proceeding with repairs. Prime as required.
2. Roof membrane shall be repaired to a watertight condition prior to application of the fluid applied reinforced roofing membrane.
3. Verify that the field, all roof penetrations, and flashings are properly installed, sealed and secured.
4. Repair and dress roof area as needed with special attention to penetrations, pipes, terminations, and flashings.

Small splits and irregularities are to be repaired using a three-course method with elastic cement. To the area needing repair, apply elastic cement at a rate of five gallons per 100 square feet (approximately 1/8"). Into the wet elastic cement, embed one ply of polyester fabric. Brush the fabric into the elastic cement to ensure full saturation, having no wrinkles or voids. Over the fabric, apply another layer of elastic cement at a rate of four gallons per 100 square feet. Allow to dry.
5. Valleys and ponding areas shall be washed and may require priming so as to receive a positive attachment of the system. If priming is necessary to any area, use #298 Asphalt Emulsion diluted 20 to 30 percent with water as primer. Apply vigorously with brush and allow to dry.

Valley and ponding areas shall receive an extra ply of polyester set in #298 Asphalt Emulsion prior to the application of the membrane.

**3.03 Fluid Applied Reinforced Roof Membrane Application****A. Inspection**

1. Prior to application of coating, inspect the surface to ensure the conditions of Article 3.03 have been met.
2. The surface shall be free of moisture, frost, dust, debris, oils, tars, grease, or other contaminants which may impair adhesion of the coating to the surface. The surface shall be clean, dry, sound, smooth, and free of voids, or blisters. Any damage shall be repaired prior to coating application.
3. Make sure all environmental conditions of Article 1.06 are met prior to application.

**B. Wall Flashings**

1. Prior to application of the reinforced coating to the field of the roof, install the wall flashings.
2. Install a 12" strip-in ply of polyester fabric 6" on the horizontal surface and 6" on the vertical surface, set into a full coat of five gallons per 100 square feet of asphalt emulsion, achieving full saturation.

3. Apply a three-course application of #800 elastic cement and reinforcement over the termination bar.
  4. Extend the field ply of polyester fabric into a full coat of five gallons per 100 square feet of asphalt emulsion just above the top of the termination bar a few inches below the coping or counterflashing metal. Extend the second field ply of polyester fabric in full coat of 5 gallons per 100 square feet of asphalt emulsion to just above the first ply of reinforcement and emulsion.
- C. Curb Flashings
1. Prior to application of the reinforced coating to the field of the roof, install the curb flashings.
    - a. Extend the field ply of polyester fabric into a full coat of five gallons per 100 square feet of asphalt emulsion just above the top of the termination bar a few inches below the coping or counterflashing metal. Extend the second field ply of polyester fabric in full coat of 5 gallons per 100 square feet of asphalt emulsion to just above the first ply of reinforcement and emulsion.
- D. Roof Drains
1. Remove the existing drain cover and clamping ring from the drain assembly.
  2. Clean the drain assembly and existing membrane of debris and dirt and remove any loose or flaking existing material. Wire brushing may be necessary to remove any rust that may be present.
  3. Apply a five-course application of #800 elastic cement and polyester and allow to cure.
  4. Apply water cutoff sealant between the membrane and the drain bowl. Replace clamping ring.
  5. Install the two-ply reinforced emulsion and acrylic coating system per Article 3.03, Paragraph F Field Membrane Base Coat and Paragraph H Field Membrane Topcoat.
- E. Pipe and Penetrations
1. Apply a three-course application to all pipes and supports. A three-course application needs to be applied to all corners at curbs or any other location previously repaired.
- F. Field Membrane Base Coat
1. Over the properly prepared surface, apply a coat of #298 Asphalt Emulsion at a rate of six gallons per 100 square feet. Immediately following and starting at the low edge of the roof, embed a 1/2 width of polyester felt continuing up the roof with full width sheets. Over the first ply of polyester felt, apply a second coat of asphalt emulsion at a rate of six gallons per 100 square feet. Immediately following, and starting at the low edge of the roof, embed a full width second ply of polyester felt. Overlap each ply a minimum of 3". End laps shall overlap a minimum of 4". Lightly broom each ply of polyester felt to achieve full saturation having no wrinkles or voids. Polyester shall terminate 2" above the wall. Do not walk on the polyester during application while emulsion is still wet causing displacement of the #298 Asphalt Emulsion. Do not apply a topcoat of #298 Asphalt Emulsion to the polyester. Allow to cure.

2. If excess emulsion or a topcoat of emulsion is applied to the surface of the polyester fabric, it is necessary to apply an application of #970 A2A primer to ensure adhesion of the ElastaHyde. Wash roof surface to remove any asphaltic residue that may cause lack of adhesion or "tobacco staining". Apply the primer at a rate of 1/2 gallon per 100 square feet and allow to thoroughly dry. (If polyester fabric is left properly exposed this step may be eliminated.)

G. Ponding Areas

1. Areas where water ponds shall receive an extra ply of polyester fabric set in the acrylic coating. In addition, valleys, waterways, and any locations where water ponds for more than 48 hours shall receive an extra ply of polyester fabric set in the acrylic coating. This will include three each full width runs of polyester reinforced acrylic along both edges and in the center valley of Sections D1 and D2-2. The extra ply is to extend 12" beyond the ponding area or as needed to extend beyond the drain sump. To this area, set one ply of polyester into a three gallons per 100 square feet application of acrylic coating and broom lightly to achieve full saturation, having no wrinkles or voids. This application shall be applied after the roof membrane and prior to the final coatings of acrylic coating.

H. Field Membrane Topcoat

1. After the emulsion membrane has completely dried, apply the ElastaHyde #720 ARC coating. To prevent damage to the membrane, this should be applied early in the day prior to the heating and softening of the emulsion surface. If surface becomes soft and sticks to equipment or feet, discontinue application. Wash roof surface to remove any asphaltic residue that may cause lack of adhesion or "tobacco staining." Apply over the entire roof surface a first coat of ElastaHyde elastomeric roof coating at a rate of 1.5 gallons per 100 square feet and allow to dry for 24 hours. Over the first coat, apply a second (final) coat of ElastaHyde reflective surface coating at a rate of 1.5 gallons per 100 square feet. This shall be done in a "cross hatch" manner (each coat shall be at a right angle to the previous). Before application, mix well and strain if spray applying. Do not thin or dilute.

### 3.05 Cleaning

- A. Contractor shall follow the requirements of Section 02 41 20 – Roof Demolition and Clean-Up.

- End of Section -

**PART ONE – GENERAL****1.01 Description**

- A. Furnish and install roof-related sheet metal work per the drawings and specifications, including all joining, clips, fasteners, sealants, and related accessories to make weathertight and watertight.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. *ANSI/SPRI/FM 4435/ES-1 Test Standard for Edge Systems Used with Low Slope Roofing Systems*, Single Ply Roofing Industry (SPRI)
  - 1. *Architectural Sheet Metal Manual*, Sheet Metal and Air Conditioning Contractors National Association (SMACNA)
  - 2. *The NRCA Roofing and Waterproofing Manual* National Roofing Contractors Association
  - 3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins
  - 4. *Annual Book of ASTM Standards*, ASTM International
  - 5. Sealant, Waterproofing & Restoration Institute (SWR Institute) written recommendations and technical bulletins
- B. Qualifications of Installers: Use adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Product information or material list noting fasteners, sealants, sealant primers, sealant tapes, and other required accessories.
  - 2. Color chart or physical samples for selection of prefinished metal color by the Owner.

**1.04 Delivery, Storage, and Handling**

- A. Use all means to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades. Roof surfaces shall be protected from damage at all times.

- B. Deliver only new materials to the job site. Materials to be stored in such a manner as to be protected from wind displacement, rain, snow, or inclement weather. Do not overstress the deck, when storing materials on the roof.
- C. In the event of damage, immediately make all repairs and replacements to the approval of the Owner and at no additional cost to the Owner.
- D. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

#### **1.05 Scheduling**

- A. All new sheet metal work shall be closely coordinated with the installation of the new roofing system.
- B. Sheet metal shall be installed directly after roofing work such that roofing terminations are not left unprotected by metal. Where specified, fully-detailed flashing termination bars are allowable to function as weathertight temporary coverings.

#### **1.06 Warranty**

- A. See Section 01 78 36 - Warranties.

### **PART TWO – PRODUCTS**

#### **2.01 General**

- A. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract. Otherwise, substitutions shall not occur.

#### **2.02 Materials**

- A. Sheet metal components, metal types, finishes, gauges/thicknesses, and joint types are specified in the detail drawings.
- B. Contractor shall use gauges or thicknesses listed in the drawings or as prescribed in the referenced standards for specific girths, whichever is greater.
- C. Where sheet metal material or gauge is not indicated on the drawings, provide the highest quality and gauge commensurate with the referenced standards.
- D. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract.

#### **2.03 Material Specifications**

- A. Galvanized Steel
  - 1. Steel shall be supplied with G90 galvanized finish.

2. Specifications References
  - a. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process
- B. Kynar Prefinished Steel
  1. G90 galvanized steel with a polyester wash coat on the concealed side, and Kynar 500/Hylar 5000 coating on the exposed side.
  2. Approved Products
    - a. UNA-CLAD by Elevate/Holcim US
    - b. PAC-CLAD by Peterson Aluminum Corporation
    - c. ColorKlad by Ryerson Inc.
    - d. Approved equal
  3. Color shall be selected by the Owner from the Manufacturer's standard colors.
  4. Continuous clips, where specified for use, shall be galvanized steel, one gauge thicker than the primary component being secured.

#### 2.04 Coated Carbon Steel Fasteners

- A. All fasteners shall be carbon steel with corrosion-resistant coating, unless otherwise noted. Fasteners shall show no more than 15 percent red rust corrosion after 30 cycles of Kesternich testing.
- B. Masonry/Concrete Fasteners
  1. Fasteners shall be threaded or expansion type as shown on the drawings.
  2. Threaded fasteners shall be 1/4" minimum with hex washer head.
  3. Expansion fasteners shall be 1/4" zinc-alloy jacketed with stainless steel or zinc-alloy drive pin and 1/2" minimum mushroom head (nylon or plastic anchors are not approved).
  4. Fasteners exposed to weather shall be supplied with aluminum or corrosion-resistant steel washer with watertight bonded EPDM gasket.
  5. Approved Products
    - a. Tapcon HWH with Climaseal Coating by ITW RED HEAD
    - b. UltraCon+ HWH with Stalgard Coating by DeWALT
    - c. ZAC Anchor Termination Fastener ZA-#14 with epoxy e-coat by SFS Group USA, Inc.
    - d. Powers Zamac Hammer-Screw with Zinc-Plated Carbon Steel Drive Screw by DeWALT



- e. Metal Hit Anchor by Hilti
  - f. Masonry Anchor by OMG
  - g. Zinc Nailin Termination Fastener by SFS Group USA, Inc.
  - h. Approved equal
6. Fasteners shall be of sufficient length to penetrate the substrate a minimum of 1-1/2" deep.
- C. Steel/Wood Fasteners
1. Corrosion-resistant threaded fasteners of the types and minimum sizes specified for each application.
  2. Fasteners exposed to weather shall be supplied with aluminum or corrosion-resistant steel washer with watertight bonded EPDM gasket.
  3. Approved Products: Sheet Metal-to-Sheet Metal Stitch Fasteners Exposed to Weather
    - a. TEKS 1 ABOT MAXISEAL 1/4-14 x 7/8" with Climaseal Coating by ITW Buildex
    - b. 1/4-14 x 7/8" ZAC Impax Lap (5/16) Panel to Panel Fastener by SFS Group USA, Inc.
    - c. 1/4-14 x 7/8" Drilit #1DP HWH with Stalgard Coating by Elco Construction Products/DeWALT
    - d. Approved equal
  4. Approved Products: Sheet Metal-to-Metal Framing Fasteners Exposed to Weather
    - a. TEKS 5 HWH/BD 12-24 with Climaseal Coating by ITW Buildex
    - b. #12-24 ZAC Impax SD5 Metal to Metal Fastener SFS Group USA, Inc.
    - c. #12-24 Drilit #5DP HWH with Stalgard Coating by Elco Construction Products/DeWALT
    - d. Approved equal
  5. Approved Products: Sheet Metal-to-Wood Fasteners Exposed to Weather
    - a. TruGrip SHARP HWH/BD 9-15 with Climaseal Coating by ITW Buildex
    - b. ZAC Anchor Termination Fastener ZA-#14 with epoxy e-coat by SFS Group USA, Inc.
    - c. 1/4-14 ZAC Type AB Self-Tapping Metal to Wood or Metal Fastener by SFS Group USA, Inc.
    - d. TapFast with Stalgard Coating by Elco Construction Products/DeWALT

- e. Approved equal
- 6. Approved Products: Concealed Sheet Metal-to-Steel Framing Fasteners
  - a. Corrosion-resistant, #2 Phillips or square drive #8-18 screw with #2 self-tapping drill point and 0.42" minimum modified truss head or pancake head design.
- 7. Approved Products: Concealed Sheet Metal-to-Sheet Metal Stitch Fasteners
  - a. Corrosion-resistant, #2 Phillips or square drive #8-18 screw with #2 self-tapping drill point and 0.42" minimum modified truss head or pancake head design.
- 8. Fasteners to be of sufficient length to penetrate through steel 1" minimum and into wood 1.5" minimum.
- D. Closed End Self Sealing Pop Rivets
  - 1. Watertight closed-end pop rivets with steel mandrel; dome head; aluminum, steel, or copper body to match sheet metal material; 3/16" rivet body diameter; with grip ranges as required to execute concepts required by the drawings.
  - 2. Rivets shall be color matched where used with prefinished sheet metal.
  - 3. Approved Products
    - a. Stanley Engineered Fastening
    - b. aDP Rivet
    - c. Approved equal
- E. Sheet Metal Nails
  - 1. 1-1/4" minimum x 11-gauge, 3/8" head, hot dip galvanized, ring shank roofing nails shall be used where specified on the drawings for concealed fastening into wood.
  - 2. Approved Products
    - a. STORMGUARD by Maze Nails
    - b. Approved equal

## 2.05 Other Materials

- A. Flashing Membrane
  - 1. Flashing and detailing of flanged sheet metal components shall be achieved with flashing membrane supplied by the roof membrane Manufacturer. Refer to the associated Division 07 roof membrane specification section for approved products.

- B. Sealants and Related Accessories
1. General: Unless specifically directed otherwise by the Owner's Representative, use only the type of sealants described in this section. Color of sealant shall be determined in the pre-job submittal process.
    - a. Approved Products: Polyether (Hybrid) Sealant
      - 1) MasterSeal NP 150 by Master Builders Solutions Construction Systems US, LLC
      - 2) SikaHyflex-150 LM by Sika Corporation U.S.
      - 3) DuraLink 50 by CHEM LINK
      - 4) Approved equal
  2. Cleaner
    - a. Industrial solvent recommended by the sealant Manufacturer, such as Isopropyl Alcohol, Naphtha, Mineral Spirits, Xylol, Toluene, MEK, or Manufacturer-supplied cleaner.
  3. Primer
    - a. General: Furnish primer recommended by the sealant Manufacturer for use with the selected sealant on the substrate type to receive the sealant.
    - b. Approved Products: Primer for Polyether (Hybrid) Sealant
      - 1) MasterSeal P 173 by Master Builders Solutions Construction Systems US, LLC
      - 2) Sikaflex Primer 429 by Sika Corporation U.S.; porous surfaces only.
      - 3) As recommended by CHEM LINK for DuraLink 50
  4. High Temperature Resistant Sealant
    - a. Approved Products
      - 1) DOWSIL 736 Heat Resistant Sealant by Dow Corning Corporation
      - 2) Approved equal

### **PART THREE – EXECUTION**

#### **3.01 Inspection**

- A. Examine the areas and conditions under which work of this section will be installed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- B. Verify that the work by all other trades has been completed prior to installing roof-related sheet metal work.

**3.02 General**

- A. Install all materials and components in accordance with Manufacturer's instructions, to ensure finished system meets the intent of the drawings, specifications and specified standards.
- B. Where prefinished sheet metal is used, remove protective vinyl film immediately before installation.
- C. Refer to the material Manufacturer's published product data sheets and installation instructions for information regarding acceptable temperature ranges and other weather-related criteria that might affect the installation schedule.
  - 1. Do not install materials if substrate temperature falls outside the acceptable ranges defined in the material Manufacturer's published information.
  - 2. Commence with application of systems and materials only when ambient temperatures and other weather-related criteria are forecast to satisfy the Manufacturer's requirements for all components to be installed.
  - 3. To the extent defined by the Manufacturer's published information, consideration shall be made for cure times after installation. Do not proceed with material or system application if Manufacturer's requirements are not able to be met during the full recommended curing period.
  - 4. Any exceptions shall require the Contractor to provide a project-specific letter from the material Manufacturer's technical services department approving a deviation to install or cure a given material outside the published parameters. Where a deviation letter is provided, Manufacturer shall clearly state the revised acceptable limitations to be followed by the Contractor.
  - 5. Refer to Manufacturer's published installation instructions and applicable technical bulletins for specialized cold or hot weather application techniques. When weather conditions on the project site meet the specified criteria, proceed in accordance with the Manufacturer-recommended techniques.

**3.03 Fabrication**

- A. Sheet metal shall be formed accurately to sheet shapes as indicated on the drawings. Contractor shall be responsible for coordination of all dimensions. Review of shop drawings by the Consultant shall not be construed as approving unspecified dimensions.
- B. Counterflashings shall overlap base flashings a minimum of 3".
- C. Where the drawings indicate counterflashings being installed tight to roof membrane flashings, over-break as required to provide spring tension against roof flashing surface.
- D. Where underplates are specified on the drawings, Contractor shall size smaller than the primary component to ensure a proper fit.
- E. Miter all inside and outside corner joints in expansion joint covers.
- F. Break sheet metal components where they cross building expansion joints, if applicable.
- G. All exposed edges of cut sheet metal shall be folded back on concealed surfaces, with 1/2" hem created. Where sheet metal contacts roof system flashings, break hems such that unfolded edges do not contact the roofing material.

- H. Form, fabricate, and install all sheet metal with allowances made for expansion and contraction in the finished work.
- I. At multi-piece sheet metal expansion joint covers, form all pieces, including continuous sliding clips, use the specified gauge or thickness of material for all pieces.
- J. Crimped joints shall be continuously formed, full length.
- K. Where a continuous clip is specified on the drawings, the primary component shall be continuously crimped along the bottom edge of the clip.

### 3.04 Dissimilar Metals

- A. Dissimilar materials in contact, which are subject to electrolysis and galvanic corrosion, shall be protected against such action prior to installation. Protective materials shall not be visible after installation. Protect metals using coatings recommended by Manufacturer, or separate using felt, sealant tape or EPDM membrane.

### 3.05 Weatherproofing

- A. Finish all sheet metal watertight and weathertight where so required.
- B. Make all lap seams in the direction of the water flow.
- C. Weatherproof laps between adjacent sheet metal components using continuous application of specified sealant.
- D. Prior to installing sheet metal, all substrates shall first be protected from water intrusion by use of the specified flashing detail where shown, or by use of supplemental waterproofing using specified roof membrane where not shown. The membrane shall be adhered to the substrates unless otherwise shown on the drawings and shall make the flashing detail watertight independent of the sheet metal components are installed over it. All laps in the membrane material shall be seamed watertight per the Manufacturer's published installation instructions.

### 3.06 Joints

- A. Join parts with closed-end rivets or sheet metal screws where necessary for strength or stiffness.
- B. Provide suitable watertight expansion joints for all sheet metal as required for proper installation in accordance with the schedule of roof-related sheet metal and detail drawings.
- C. Sealant application shall be neatly and thoroughly performed by qualified personnel, for a continuous watertight seal. Sealant shall be continuously installed behind and above sheet metal terminations, within all loose lock joints, between joint underplates and primary components pieces, and in other locations indicated on the drawings.
- D. All exposed sealant joints shall be dry tooled to the profile indicated on the detail drawings. If required, Contractor shall build custom tools on job site, if necessary, to provide the specified profiles.
- E. Concave sealant joint profiles that could potentially hold water will be considered defective and require removal and replacement.

- F. All surfaces to receive sealant shall be thoroughly cleaned as recommended by the sealant Manufacturer. All bitumen coating materials, roof cement, adhesive residue, rust, old caulking and/or other contaminants shall be removed down to the substrate to which sealant bonding is intended.
- G. All surfaces to receive sealant shall be primed initially with the sealant Manufacturer's recommended primer. Strictly adhere to Manufacturer's instructions regarding substrate preparation, primer application and wait time, and maximum exposure time before sealant application.

### 3.07 Fastening

- A. Secure sheet metal components as indicated on the drawings. Do not install exposed fasteners on a horizontal plane, unless specifically shown on the drawings or otherwise authorized by the Owner's Representative.
- B. All fasteners exposed to the weather shall have washers with bonded watertight EPDM gaskets. Ensure that fasteners are not overdriven such that EPDM gasket damage results. Remove and replace all such damaged fasteners, using oversized fasteners.
- C. Where pre-drilling of metal is required, remove any pigtails prior to installing fasteners.
- D. Where pre-drilling of concrete and/or masonry is required for fastener installation, utilize bit type and size, and hole depth recommended by the fastener Manufacturer. Remove drilling dust from fastener holes prior to installing fasteners.
- E. Do not fasten adjacent pieces of sheet metal together at laps or at joint covers, so sheet metal components are able to expand and contract.
  - 1. If an underplate is specified, install underplate first, then gap adjacent pieces with butt joint centered over plate. Fasten at least 1/2" beyond edges of underlying joint cover.
  - 2. If a lap joint is specified, fasten each adjacent piece 1/2" beyond the overlapping metal.
- F. For fastening into concrete and masonry use specified threaded or friction-fit fastener as indicated on the drawings. Plastic or nylon anchors shall not be used.
- G. For exposed fastening into wood, use specified screws.

### 3.08 Protection

- A. Roof surfaces and flashing shall be adequately protected to prevent damage during the installation of metal work or during storage of the required materials. The Contractor shall replace any damaged construction, at no cost to the Owner.
- B. Protect installed work to ensure no damage occurs prior to project completion.

### 3.09 Verification

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.10 Adjusting**

- A. Repair minor damages to finish in accordance with Manufacturer's instructions and as approved by the Owner's Representative.
- B. Remove and replace any damaged components that cannot be successfully repaired, using new material to the approval of the Owner's Representative.

**3.11 Cleaning**

- A. Debris from sheet metal work shall be frequently removed from building site as it accumulates.
- B. Leave job site clean at completion of work, and properly dispose of all construction debris such as metal trimmings, fasteners, rivet nails, sealant tube ends and similar scrap.
- C. Clean materials promptly after installation in accordance with Manufacturer's instructions. Limit cleaners to those recommended by the Manufacturer so as to avoid staining or damaging finishes.
- D. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

**PART ONE – GENERAL****1.01 Section Includes**

- A. Furnish and install complete prefabricated grease containment system(s), complete, in-place per the drawings and specifications.

**1.02 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Manufacturer's recommended methods of installation.
    - a. When approved by the Owner's Representative, the Manufacturer's recommended methods of installation, unless superseded by the specification, shall become the basis for inspecting, and acceptance or rejection of the actual installation procedures used in this work.
  - 3. Submit Manufacturer's printed maintenance recommendations.

**1.03 Quality Assurance**

- A. Installer's Qualifications: Installer shall use trained, skilled workers for proper installation. Installer shall view the Manufacturer's instructional video prior to installing the work.

**1.04 Maintenance Data**

- A. Review recommended maintenance schedule and procedures with Owner's maintenance personnel.
- B. Provide Owner's maintenance personnel with a copy of the Manufacturer's printed maintenance requirements, independent of the submittal process.

**PART TWO – PRODUCTS****2.01 Acceptable Products**

- A. High Capacity (8") Grease Gutter System by Omni Containment Systems L.L.C.
- B. Contractor shall be responsible for verification of size required for each specified location and coordination with the Manufacturer to ensure proper fit.

**PART THREE – EXECUTION****3.01 Installation**

- A. Assemble and install grease gutter system and all filter media in compliance with Manufacturer's printed instruction.



**3.02 Filter Supplies**

- A. Contractor shall provide to the Owner four replacement filter kits.

**3.03 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

**3.04 Cleaning**

- A. Contractor shall follow the requirements of Section 02 41 20 – Roof Demolition and Cleanup.

**- End of Section -**

**PART ONE – GENERAL****1.01 Description**

- A. Prepare all joints and install sealant where referenced in the contract documents, as required to provide a positive barrier against passage of air and moisture.
- B. Where repair of existing sealant joints is performed, provide sealant material compatible with the composition of the existing adjacent sealant.

**1.02 Quality Assurance**

- A. Standards: Comply with all pertinent standards specified in the contract documents, including those listed below. If the building code references a specific edition or revision of an individual standard, then comply with that edition or revision. Otherwise, comply with the latest published edition or revision available on the date the Contractor submits its price proposal to the Owner.
  - 1. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
  - 2. *Annual Book of ASTM Standards*, ASTM International
    - a. ASTM C 1521 - Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
  - 3. Sealant, Waterproofing & Restoration Institute (SWR Institute) written recommendations and technical bulletins.
- B. Qualifications of Installers: Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this section.
- C. In acceptance or rejection of the work of this section, the Owner will make no allowance for lack of skill on the part of the workers.

**1.03 Submittals**

- A. General: Comply with submittal requirements specified in Division 01.
- B. Provide the following submittals:
  - 1. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
  - 2. Complete material list of all items proposed to be furnished and installed under this section.
  - 3. Color chart or physical samples for selection of sealant color by the Owner.

**1.04 Delivery, Storage, and Handling**

- A. Deliver materials to the job site in original, unopened containers. Materials are to be stored in a protected area between 40° to 80°F unless otherwise approved by the sealant Manufacturer. Protect unopened containers from heat and direct sunshine.

- B. Do not retain on the job site any material that has exceeded the shelf life recommended by its Manufacturer.
- C. Protect all surfaces from staining or damage. All damaged work shall be repaired or replaced as directed by the Owner's Representative and at no additional cost to the Owner.

### 1.05 Scheduling

- A. All sealant application shall be closely coordinated with installation of related work under the contract.

### 1.06 Warranty

- A. All installed materials and workmanship provided under this section of the specifications shall be guaranteed in writing by the Contractor for two years.
- B. The Contractor shall maintain all sealant work in a functional and weathertight condition without cost to the Owner during the Contractor's warranty period.
- C. See Section 01 78 36 – Warranties.

## PART TWO – PRODUCTS

### 2.01 General

- A. Manufacturer-supplied V.O.C. compliant products shall be bid and used if V.O.C. regulations are in effect at the project location at the time of bidding.
- B. No product shall contain any asbestos or asbestos-related products.
- C. Approved equal products must be proposed prior to the bid due date, and approval shall be granted by the Owner prior to award of contract. Otherwise, substitutions shall not occur.

### 2.02 Sealants

- A. General: Unless specifically directed otherwise by the Owner's Representative, use only the type of sealants described in this section. Color of sealant shall be determined in the pre-job submittal process.
  - 1. Approved Products: Polyether (Hybrid) Sealant
    - a. MasterSeal NP 150 by Master Builders Solutions Construction Systems US, LLC
    - b. SikaHyflex-150 LM by Sika Corporation U.S.
    - c. DuraLink 50 by CHEM LINK
    - d. Approved equal

### 2.03 Cleaner

- A. Industrial solvent recommended by the sealant Manufacturer, such as Isopropyl Alcohol, Naphtha, Mineral Spirits, Xylene, Toluene, MEK, or Manufacturer-supplied cleaner.

**2.04 Primer**

- A. General: Use type of primer recommended by the sealant Manufacturer for use with the selected sealant on the substrate type to receive the sealant.
  - 1. Approved Products: Primer for Polyether (Hybrid) Sealant
    - a. MasterSeal P 173 by Master Builders Solutions Construction Systems US, LLC
    - b. Sikaflex Primer 429 by Sika Corporation U.S.; porous surfaces only.
    - c. As recommended by CHEM LINK for DuraLink 50

**2.05 Backer Rod**

- A. General: Use only those backup materials that are specifically recommended for this installation by the sealant Manufacturer and that are closed-cell, non-absorbent, non-staining, and non-gassing when punctured. Backup materials must be 1.5 times the width of the joint.
- B. Approved Products
  - 1. MasterSeal 921 by Master Builders Solutions Construction Systems US, LLC
  - 2. Sika Backer Rod by Sika Corporation U.S.
  - 3. HBR-Rod by CHEM LINK
  - 4. KOOL-ROD by W.R. Meadows, Inc.
  - 5. Approved equal

**2.06 Other Materials**

- A. All other materials not specifically described but required for complete and proper sealant installation shall be first quality of their respective kinds, new, and as selected by the Contractor and subject to the approval of the Owner.

**PART THREE – EXECUTION****3.01 Inspection**

- A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

**3.02 Preparation**

- A. General
  - 1. Surfaces must be structurally sound; fully cured; dry; clean; and free of dirt, laitance, moisture, loose particles, oil, grease, asphalt, tar, paint, wax, rust, waterproofings, curing and parting compounds, incompatible sealant and residue, and membrane materials.
  - 2. Prime all surfaces to which sealant bonding is intended.

3. Remove all old sealants, primer, and residue, and joint fillers/backings. If oils from old sealants have penetrated surfaces, grind to new clean surface.
  4. Do not apply sealant when the surface temperature is below 40°F or above 125°F, or when temperature may fall to below 40°F within 24 hours, unless otherwise approved in writing by the sealant Manufacturer. Do not apply materials when surfaces are damp or during cold, rainy, or frosty weather.
- B. Concrete and Masonry Surfaces
1. Grind all mortar joints until sound mortar is reached. Repoint back to provide required soft joint dimension using mortar.
  2. All surfaces in contact with the sealant shall be dry, sound, well brushed, and wiped free from dust.
  3. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
  4. Remove all bitumen, coating materials, roof cement, adhesive residue, old sealants and/or other contaminants from all surfaces to which sealant bonding is intended.
  5. Where surfaces have been treated or laitance exists, remove the contaminants by use of sandblasting, wire brushing, or grinding.
  6. Remove all debris and mortar from the joint cavity.
- C. Steel Surfaces
1. Use solvent to remove chemical residue, oil, and grease, wiping the surfaces with clean rags.
  2. Remove protective coatings scale, rust, or other contaminants on steel by sandblasting or by a solvent that leaves no residue.
  3. Remove all bitumen, coating materials, roof cement, adhesive residue, old sealant, and/or other contaminants from all surfaces to which sealant bonding is intended.
- D. Aluminum Surfaces
1. Aluminum surfaces in contact with sealant shall be cleaned of temporary protective coatings, chemical residue, lacquer, dirt, oil, grease, or other contaminants.
  2. Remove all bitumen, coating materials, roof cement, adhesive residue, old sealant, and/or other contaminants from all surfaces to which sealant bonding is intended.
  3. When masking tape is used for a protective cover, remove the tape just prior to applying the sealant.
  4. Use only such solvents to remove protective coatings as are recommended for that purpose by the Manufacturer of the aluminum work and are non-staining.

### 3.03 Priming

- A. Apply primer to the cleaned and prepared joint surfaces by brushing on a thin, uniform coat. Use primer as is; do not thin. Too much primer may act as a bondbreaker. Porous surfaces require more primer; however, do not overapply.

- B. Allow primer to dry tack free before applying sealant. Dry time will vary depending on temperature humidity.
- C. After priming, sealant must be applied within the timeframe required by the sealant Manufacturer, and always during the same workday.

#### 3.04 Installation of Backer Rod

- A. Use only the backer rod material recommended by the sealant Manufacturer for each joint and sealant type.
- B. Compress the backer rod material 25 percent to 50 percent to achieve a positive and secure fit.
- C. Do not twist or stretch backer rod material.
- D. Control depth of backer rod installation using a template or roller gauge, as required to ensure proper sealant depth at joint.
- E. Install backer rod after joint preparation and cleaning, and after primer has dried.

#### 3.05 Joint Design

- A. Joint depth shall never be greater than width. Strictly follow the sealant Manufacturer's recommended joint dimensions.
- B. Joint dimensions shall meet the following at a minimum:
  - 1. Where joint width is 3/4" to 1" wide, sealant depth at midpoint shall be 3/8" to 1/2".
  - 2. Where joint width is 1" to 1.5" wide, sealant depth at midpoint shall be 1/2".
- C. Sealant depth shall be controlled using backer rod material to maintain the required joint dimensions.
- D. Use measures to prevent three-point bonding at all joints.

#### 3.06 Installation of Sealant

- A. Prior to installation of sealant, verify joint has been primed, verify that the required width to depth ratio has been provided, and verify that the primer has sufficiently dried.
- B. Thoroughly and completely mask all joints where the appearance of sealant on adjacent surfaces would be objectionable.
- C. Do not open cartridges, sausages, or pails until preparatory work has been completed.
- D. Priming and sealant application must be done in the same workday.
- E. Sealant application shall be neatly and thoroughly performed by qualified personnel, for a continuous watertight seal. Install the sealant in strict accordance with the sealant Manufacturer's recommendations, thoroughly filling all joints to the recommended depth.
- F. Apply sealant under pressure with hand or power-actuated gun or other appropriate means. Guns shall have nozzle of proper size and shall provide sufficient pressure to completely fill joints as designed.

- G. Fill joints from the deepest point to the surface by holding a properly sized nozzle against the back of the joint.
- H. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- I. Dry tool all joints to the profile shown on the detail drawings. Contractor shall create custom tool if required to provide the specified joint profile. Do not use soapy water, or other tooling agents.
- J. Tooling shall be done immediately after sealant application.
- K. Remove masking tape immediately after joints have been tooled.
- L. Protect sealants until cured.

### **3.07 Verification**

- A. Contractor shall inspect the work described by this section of the specification and shall verify that all components are complete and properly installed.
- B. Contractor shall correct any deficient work prior to installing subsequent work or notification of completion.

### **3.08 Cleaning**

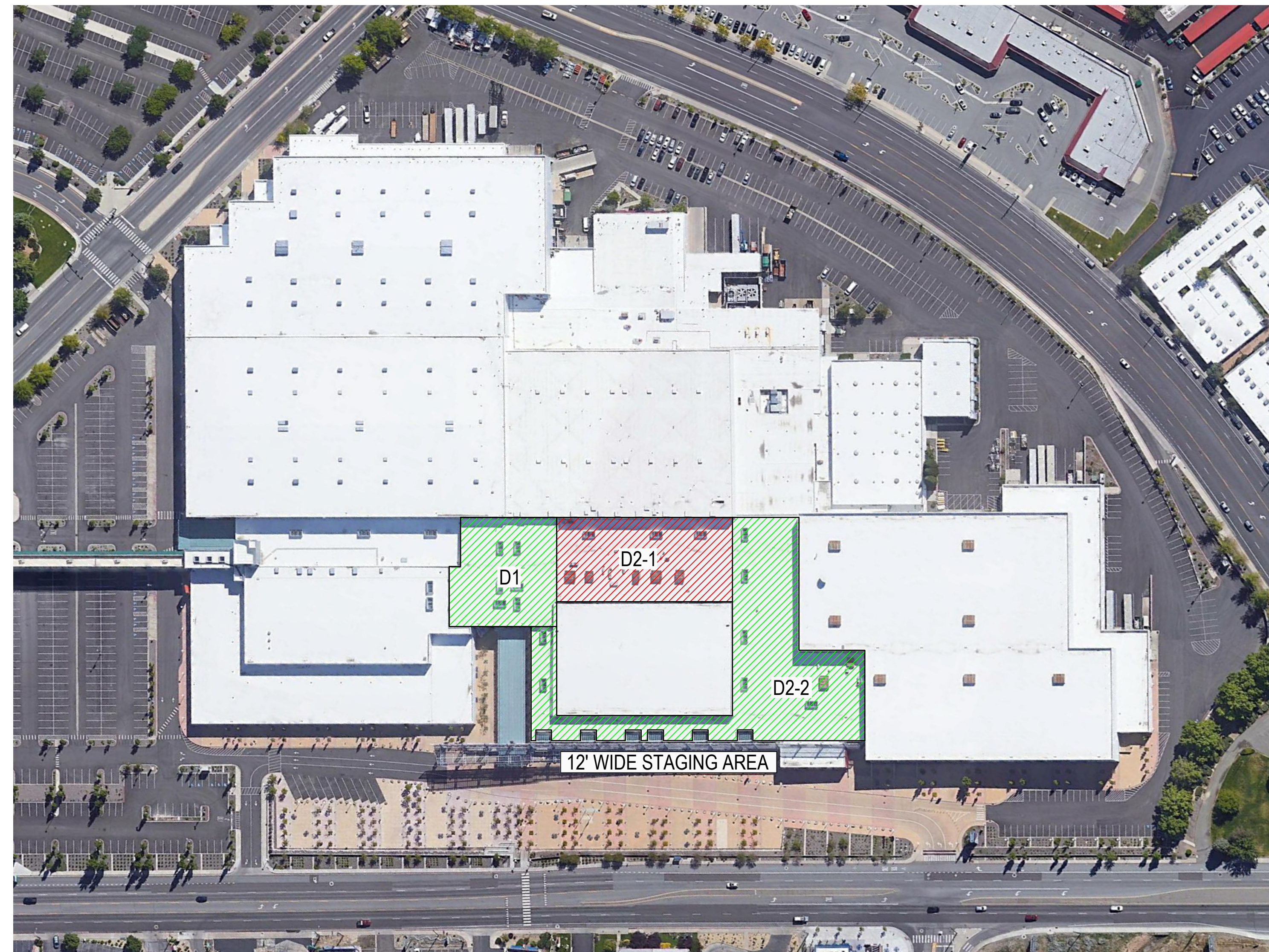
- A. Keep adjacent surfaces clean and free from sealant as the installation progresses. Use solvent or cleaning agent as recommended by the sealant Manufacturer, which will not alter the appearance of the cleaned surfaces.
- B. Refer to Section 02 41 20 – Roof Demolition and Cleanup for additional requirements.

**- End of Section -**

# RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

4590 S. VIRGINIA STREET  
RENO, NEVADA 89502

## RENO-SPARKS CONVENTION CENTER 2023 ROOF REPLACEMENT AND REFURBISHMENT PROJECT SECTIONS D1, D2-1 AND D2-2 PROJECT NO. 2022-05



AERIAL IMAGE  
SCALE: NONE

- LEGEND**
- ROOF REPLACEMENT AREA
  - ROOF REFURBISHMENT AREA
  - B** ROOF SECTION

### SHEET INDEX

- |       |  |
|-------|--|
| R0.01 | TITLE SHEET                                    |
| R0.02 | SUMMARY OF WORK                                |
| R1.01 | ROOF PLAN - SECTIONS D1, D2-1 AND D2-2         |
| R1.02 | DESIGN DATA AND ATTACHMENT PLAN - SECTION D2-1 |
| R2.01 | ATTACHMENT DETAILS                             |
| R2.02 | SHEET METAL SCHEDULE AND DETAILS               |
| R2.03 | DETAILS  |
| R2.04 | DETAILS  |
| R2.05 | DETAILS  |

REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/06/2023	DHAB
NA	BD SET	07/10/2023	DHAB

DATE: 07/10/2023
DRAWN BY: A. BEAR
CHECKED BY: D. JENSEN
DESIGNED BY: D. JENSEN
PROJECT NO.: 2022-05
DRAWING TITLE: 2023 RENOVATION 13001.dwg

CLIENT: RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

PROJECT: RENO-SPARKS CONVENTION CENTER  
4590 S. VIRGINIA STREET  
RENO, NEVADA 89502

BENCHMARK PROJECT NUMBER: 23RENOR013B

SHEET NUMBER: R0.01



**SUMMARY OF WORK**

**1.01 GENERAL**

- A. THIS SUMMARY OF WORK IS FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND SHALL NOT BE CONSTRUED AS A COMPLETE ACCOUNTING OF ALL WORK TO BE PERFORMED.
- B. THE EXTENT OF THE SCOPE OF WORK IS INDICATED ON THE DRAWINGS AND BY THE REQUIREMENTS OF EACH SECTION OF THE SPECIFICATIONS.
- C. THE CONTRACTOR SHALL EXAMINE THE SITE AND SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONSTRUCTION AND CONDITIONS. REFER TO DIVISION 00 REQUIREMENTS.

**1.02 QUALITY ASSURANCE BY ROOF SYSTEM MANUFACTURER**

- A. MEMBRANE MANUFACTURER'S TECHNICAL REPRESENTATIVE, WHO SHALL BE A FULL-TIME EMPLOYEE OF THE MEMBRANE MANUFACTURER, SHALL PROVIDE ON-SITE TRAINING AND QUALITY ASSURANCE IN CONJUNCTION WITH THE BEGINNING OF MEMBRANE INSTALLATION. THE MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL THEN VISIT THE SITE TO PROVIDE QUALITY ASSURANCE AND FOLLOW-UP TRAINING.
- B. THE MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL COORDINATE ALL SITE VISITS WITH THE CONTRACTOR AND OWNER'S REPRESENTATIVE A MINIMUM OF THREE BUSINESS DAYS IN ADVANCE.
- C. DURING EACH VISIT, THE MANUFACTURER'S TECHNICAL REPRESENTATIVE SHALL CHECK ALL WORK INSTALLED SINCE THE LAST VISIT, MARK ALL DEFECTS FOR REPAIR, AND PROVIDE A WRITTEN SITE VISITATION REPORT LISTING ANY DEFICIENT WORK REQUIRING CORRECTION BY THE CONTRACTOR.
- D. ALL REPORTS AND OTHER CORRESPONDENCE ASSOCIATED WITH THE SITE VISIT SHALL BE PROVIDED TO THE CONTRACTOR AND THE CONTRACTOR SHALL PROVIDE THESE REPORTS TO THE CONSULTANT WITHIN THREE BUSINESS DAYS OF THE VISIT.

**1.03 APPLICABILITY OF MANUFACTURER REQUIREMENTS DURING BIDDING AND CONSTRUCTION**

- A. THE CONTRACT DOCUMENTS MAY REQUIRE MATERIALS OR INSTALLATION PRACTICES THAT EXCEED THE MANUFACTURER'S MINIMUM REQUIREMENTS FOR THE SPECIFIED WARRANTY. THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SUPERSEDE THE MANUFACTURER'S REQUIREMENTS IN THESE INSTANCES. THESE REQUIREMENTS MAY NOT BE ALTERED DURING BIDDING OR INSTALLATION OF THE WORK, UNLESS FORMAL MODIFICATIONS ARE ISSUED DURING BIDDING OR CONSTRUCTION BY THE OWNER OR OWNER'S REPRESENTATIVE.
- B. IF THE MANUFACTURER'S MINIMUM REQUIREMENTS FOR THE SPECIFIED WARRANTY REQUIRE PRACTICES THAT EXCEED THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, OR IF THE CONTRACT DOCUMENTS DO NOT REFER TO A MANUFACTURER'S REQUIREMENT PERTINENT TO SUCCESSFUL PERFORMANCE OF THE WORK, THE ASSOCIATED MANUFACTURER'S REQUIREMENTS SHALL BE FOLLOWED IN THESE INSTANCES.
- C. THE MANUFACTURER'S REQUIREMENTS MAY CONTAIN MORE DETAIL ABOUT WORK EXECUTION-RELATED PROCEDURES THAN THE CONTRACT DOCUMENTS. WHERE THESE ADDITIONAL REQUIREMENTS DO NOT CONFLICT WITH THE CONTRACT DOCUMENTS, THEY SHALL GUIDE THE PERFORMANCE OF RELATED ASPECTS OF THE WORK.

**1.04 EXISTING ROOF SYSTEM INFORMATION**

- A. REFER TO INFORMATION BELOW FOR A DESCRIPTION OF THE EXISTING ROOF ASSEMBLY COMPONENTS AS THEY ARE BELIEVED TO EXIST, LISTED TOP TO BOTTOM.

**1. ROOF SECTION D2-1:**

ROOF MEMBRANE	MECH. FAST. TPO SINGLE-PLY
ROOF MEMBRANE	MECH. FAST. TPO SINGLE-PLY
INSULATION	2.5" POLYISOCYANURATE
INSULATION	2.5" POLYISOCYANURATE
THERMAL BARRIER	5/8" GYPSUM BOARD
AIR BARRIER	POLYETHYLENE SHEETING
ROOF DECK	STEEL

- B. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION PRIOR TO BASING BIDS ON THE PROVIDED INFORMATION.
- C. TEST CUTTING AND IMMEDIATE PATCHING BY THE CONTRACTOR WILL BE ALLOWED AT THE PRE-BID MEETING, PROVIDED THE ASSOCIATED WORK IS PERFORMED BY QUALIFIED PERSONNEL WITH SUITABLE/COMPATIBLE MATERIALS. CONTRACTOR SHALL POSSESS ALL ASSOCIATED SDS AND APPROPRIATE PPE.

**1.05 DEMOLITION AND ROOF PREPARATION**

- A. COORDINATE ALL ASPECTS OF DEMOLITION WORK WITH OWNER'S REPRESENTATIVE AND ALL OTHER TRADES.
- B. PROVIDE PROTECTIVE MEASURES AROUND THE ROOF AND BUILDING AS SPECIFIED, PRIOR TO BEGINNING WORK.
- C. WATER TEST ALL DRAINS TO ENSURE PROPER OPERATION PRIOR TO BEGINNING WORK.
- D. TEAR OFF EXISTING ROOF MEMBRANE (TWO LAYERS).
- E. REMOVE FASTENERS AT EXISTING MEMBRANE, INSULATION, CARPENTRY, FLASHING TERMINATIONS, AND SHEET METAL COMPONENTS BY BACKING OUT, WHENEVER POSSIBLE.
- F. TEAR OFF EXISTING ROOF INSULATION TO THE ROOF DECKING AT WET OR DAMAGED INSULATION AREAS. PERFORM THIS WORK ON A UNIT PRICE BASIS.
- G. TEAR OFF EXISTING ROOF INSULATION AROUND ROOF DRAINS AS SHOWN ON THE DRAWINGS.
- H. TEAR OFF ALL BASE FLASHINGS. PREPARE ALL SUBSTRATES AS REQUIRED BY THE MANUFACTURER OF THE REPLACEMENT FLASHINGS.
- I. SEAL ALL PERIMETERS, PENETRATIONS, AND DRAINS AS REQUIRED TO PREVENT CONSTRUCTION MATERIALS FROM ENTERING THE BUILDING.
- J. REMOVE AND DISPOSE OF EXISTING ROOF-RELATED SHEET METAL.
- K. REMOVE EXISTING EXTERIOR INSULATION FINISH SYSTEM (EIFS) STUCCO AT THE BASE OF THE WALL AS SHOWN ON THE DETAIL DRAWINGS.
- L. AT INSULATION REPLACEMENT AREAS, REMOVE ALL DEBRIS FROM DECKING. ALL EXPOSED AREAS OF THE DECK SHALL BE BROOMED CLEAN AT A MINIMUM PRIOR TO INSTALLING NEW INSULATION.
- M. CLEAN EXISTING DRAINS DOWN TO THE CAST IRON SURFACE AND PREPARE DRAINS FOR MEMBRANE ROOFING. REMOVE BROKEN DRAIN BOLTS FROM DRAIN CASTINGS WHERE REQUIRED.
- N. REMOVE DEBRIS FROM ROOF AREA AND PROPERLY DISPOSE OF ALL MATERIALS OFF SITE.
- O. AT THE END OF EACH DAY, ENSURE THAT ALL DRAINS ARE IN PROPER WORKING ORDER AND THAT DRAIN LINES ARE TOTALLY UNRESTRICTED. IMPLEMENT ANY REQUIRED CORRECTIVE MEASURES BEFORE LEAVING THE JOB SITE THAT DAY.

**1.06 LIQUID APPLIED COATING SURFACE PREPARATION**

- A. REMOVE ALL LOOSE AND DETERIORATED COATING TO BONDABLE BASE.
- B. POWER WASH ALL SURFACES TO RECEIVE LIQUID APPLIED COATING TO REMOVE SURFACE CONTAMINANTS.
- C. REMOVE DETERIORATED SEALANTS, BACKER ROD, AND LOOSE BACKUP MATERIALS AT CONTROL JOINTS, ELEVATION CHANGES, AND CRACKS IN SUBSTRATE.

**1.07 DECKING REPAIR/REPLACEMENT**

- A. REPLACE DETERIORATED DECKING AS SPECIFIED. PERFORM THIS WORK ON A UNIT PRICE BASIS.
- B. CLEAN WIRE BRUSH, AND PRIME PAINT SURFACE RUSTED STEEL ENCOUNTERED DURING POST TEAR-OFF INSPECTION OF THE DECKING. PERFORM THIS WORK ON A UNIT PRICE BASIS.

**1.08 ROUGH CARPENTRY**

- A. INSTALL WOOD NAILERS AS SHOWN ON THE DRAWINGS.
- B. INSTALL WOOD NAILERS WHERE REQUIRED TO MATCH HEIGHT OF NEW ROOF INSULATION SYSTEM.
- C. INSTALL WOOD NAILERS FOR CURB EXTENSIONS AS REQUIRED FOR MINIMUM CURB HEIGHT OF 8" ABOVE FINISHED ROOF SURFACE ELEVATION.
- D. INSTALL WOOD NALER AT PARAPET WALL.
- E. INSTALL REPLACEMENT WOOD SLEEPERS WHERE NOTED UNDER ROOFTOP EQUIPMENT.
- F. INSTALL PLYWOOD AS SHOWN ON THE DRAWINGS.

**1.09 MASONRY/SEALANT WORK**

- A. REMOVE EXISTING CONTROL JOINT MATERIALS AT MASONRY WALLS. CLEAN AND PRIME JOINTS, AND INSTALL BACKER ROD AND SEALANT PER PLANS AND SPECIFICATIONS. CONTRACTOR MUST SUBCONTRACT THIS WORK TO A QUALIFIED SEALANT REPLACEMENT CONTRACTOR.

**1.10 MISCELLANEOUS INSULATION**

- A. INSTALL REPLACEMENT POLYISOCYANURATE INSULATION AT CURBS AND SKYLIGHTS

**1.11 RIGID INSULATION**

- A. INSTALL TAPERED INSULATION DRAIN SUMPS PER DRAWINGS AND SPECIFICATIONS.
- B. INSTALL TAPERED SADDLES, CRICKETS, AND EDGE STRIPS AS SHOWN OR SPECIFIED.
- C. IN SPOT TEAR-OFF AREAS, INSTALL REPLACEMENT INSULATION LEVEL WITH EXISTING ROOF SURFACE. PERFORM THIS WORK ON A UNIT PRICE BASIS.
- D. WHERE EXISTING INSULATION IS SPECIFIED FOR REUSE AND IS FOUND TO BE WET, DAMAGED AND/OR DETERIORATED, INSTALL REPLACEMENT INSULATION LEVEL WITH EXISTING INSULATION. PERFORM THIS WORK ON A UNIT PRICE BASIS.
- E. INSTALL COVER BOARD AND MEANS OF ATTACHMENT PER DRAWINGS AND SPECIFICATIONS.

**1.12 LIQUID APPLIED REINFORCED ROOF COATING SYSTEM**

- A. PRIOR TO STARTING WORK, VERIFY ACCEPTABLE FIELD ADHESION TESTING RESULTS HAVE BEEN ACHIEVED, AND REQUIRED REPORTS HAVE BEEN RECEIVED BY THE OWNER'S REPRESENTATIVE. SEE SPECIFICATIONS.
- B. CLEAN AND PREPARE EXISTING ROOF MEMBRANE AND MEMBRANE FLASHINGS. CONDUCT HIGH PRESSURE WASH WITH CLEAN WATER AS REQUIRED BY MANUFACTURER.
- C. INSTALL PREPARATORY WORK AT DRAINS, PIPES, WALLS, AND CURBS
- D. APPLY REINFORCED COATING SYSTEM TO ROOF MEMBRANE AND MEMBRANE FLASHINGS

**1.13 LOW SLOPE ROOFING MEMBRANE AND FLASHINGS**

- A. INSTALL ADHERED, REINFORCED KEE SINGLE-PLY MEMBRANE SYSTEM.
- B. INSTALL KEE FLASHINGS AT ALL PERIMETERS AND PENETRATIONS.
- C. INSTALL WALKWAYS AS SHOWN ON DRAWINGS. INCLUDE THIS WORK IN THE BID. INSTALL ANY ADDITIONAL LOCATIONS OF WALKWAYS AS DIRECTED BY THE OWNER'S REPRESENTATIVE ON A UNIT PRICE BASIS.

**1.14 ROOF-RELATED SHEET METAL**

- A. INSTALL ROOF-RELATED SHEET METAL COMPONENTS AS PER DRAWINGS AND SPECIFICATIONS.
- B. PROVIDE ALL NECESSARY SEALANT PRIMERS, SEALANTS, FASTENERS AND OTHER SPECIFIED COMPONENTS TO ENSURE A WATERTIGHT INSTALLATION.
- C. INSTALL MEMBRANE CLAD METAL FLASHINGS, FASTENERS, AND HEAT-WELDED MEMBRANE STRIP FLASHINGS PER THE DRAWINGS AND SPECIFICATIONS.

**1.15 PLUMBING WORK**

- A. FREE ANY CLOGGED DRAINS OR DRAIN PIPING.
- B. INSTALL REPLACEMENT DRAIN BOLTS. REMOVE ANY BROKEN BOLTS FROM DRAIN CASTINGS, AND PREPARE EXISTING BOLT SOCKETS BY RE-TAPPING, WHERE REQUIRED.
- C. CLEAN, PRIME, AND PAINT DRAIN RINGS AND DRAIN STRAINERS, AS FOLLOWS:
  - 1. SURFACE PREPARATION: REMOVE ALL OLD SEALANTS, DEBRIS AND LOOSE RUST AND LOOSE PAINT USING POWER-ASSISTED HAND TOOLS AND/OR SOLVENTS.
  - 2. PRIMER: APPLY ONE COAT OF SHERWIN WILLIAMS PRO-CRYL UNIVERSAL PRIMER, OR APPROVED EQUAL.
  - 3. FINISH COAT: APPLY ONE COAT OF SHERWIN WILLIAMS ZERO VOC ACRYLIC SEMI-GLOSS, OR APPROVED EQUAL.
- D. FUNCTIONAL CLAMPING RING AND DRAIN STRAINER SHALL BE INSTALLED AT EACH DRAIN DURING THE SAME WORKDAY AS MEMBRANE INSTALLATION.

**1.16 MECHANICAL WORK**

- A. DISCONNECT AND RECONNECT ROOFTOP MECHANICAL UNITS AS REQUIRED FOR LIFTING.
- B. DISCONNECT DUCTWORK AS NECESSARY FOR LIFTING UNITS.
- C. EXTEND DUCTS AS REQUIRED FOR RAISING CURBS TO FINISHED ELEVATIONS.
- D. RECONNECT DUCTWORK AS REQUIRED FOR PROPER OPERATION.

**1.17 ELECTRICAL WORK**

- A. DISCONNECT AND RECONNECT ROOFTOP MECHANICAL UNITS AS REQUIRED FOR LIFTING.

**1.18 QUANTITY ALLOWANCES**


- A. THE BID AND CONTRACT PRICE SHALL INCLUDE THE FOLLOWING STIPULATED QUANTITY ALLOWANCES, TO BE ADJUSTED BY THE ESTABLISHED UNIT PRICES. REFER TO DIVISION 00 AND 01 SPECIFICATIONS FOR UNIT PRICE DESCRIPTIONS AND RELATED REQUIREMENTS.

ABBREVIATED DESCRIPTION	Q.A.	U.O.M.	ROOF SECTION
REPLACE 3/4" TO 1" SEALANT JOINT	8	LN. FT.	D2-1
REPLACE 1" TO 1-1/2" SEALANT JOINT	180	LN. FT.	D2-1
INSTALL ROOF SYSTEM WALKWAY	200	LN. FT.	D2-1

- B. MISCELLANEOUS WALKWAY APPLICATIONS SHOWN ON THE ROOF PLAN OR DETAIL DRAWINGS SHALL BE INCLUDED IN THE BID INDEPENDENT OF THE LISTED QUANTITY ALLOWANCE FOR WALKWAY INSTALLATION.
- C. THE VALUE WITHIN THE CONTRACT ASSOCIATED WITH EACH ALLOWANCE ITEM SHALL BE SEPARATELY LISTED ON THE SCHEDULE OF VALUES SUBMITTED WITH EACH APPLICATION FOR PAYMENT. REFER TO DIVISION 01 ADMINISTRATIVE INSTRUCTIONS FOR FURTHER INFORMATION.

REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/06/2023	DHAB
NA	BID SET	07/10/2023	DHAB

DATE	07/10/2023
DESIGNED BY	A. BEAR
CHECKED BY	D. HENSEL
IN CHARGE	D. HENSEL
PROJECT NO.	23RENRENOR013B001.dwg
DRAWING NO.	23RENRENOR013B001.dwg



**Benchmark**  
CEDAR RAPIDS, IA • WALKER, IA, WI  
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**CLIENT:**  
RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

**PROJECT:**  
RENO-SPARKS CONVENTION CENTER  
4980 S. VIRGINIA STREET  
RENO, NEVADA 89502

**BENCHMARK PROJECT NUMBER:**  
23RENRENOR013B

**SHEET NUMBER:**  
**R0.02**

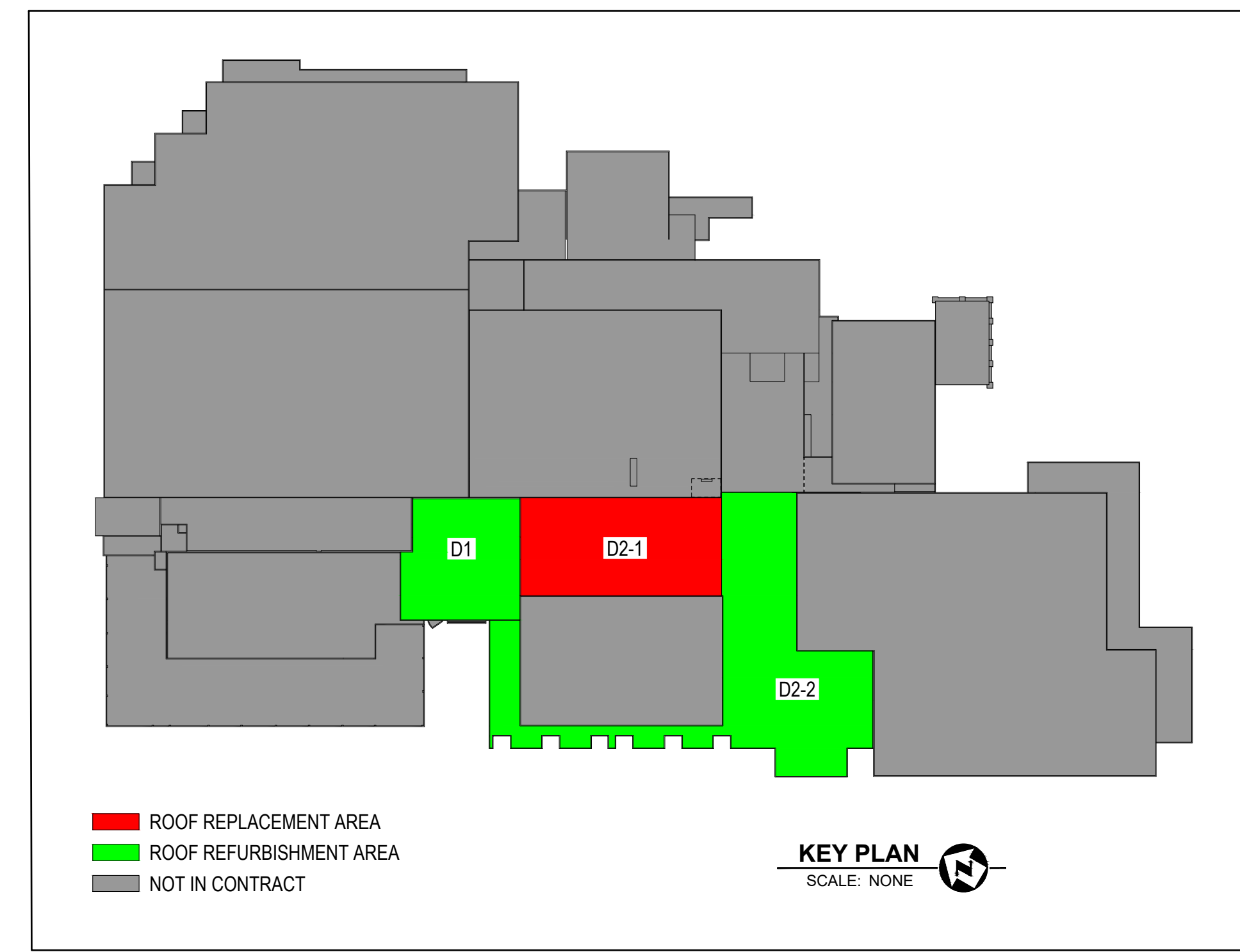
**DRAWING TITLE:**  
SUMMARY OF WORK

**GENERAL NOTES**

- GENERAL NOTES: <<CREATE MASTER LIST FOR PROJECT AND INCLUDE ON R1.01>>
- THIS DRAWING IS INTENDED FOR ORIENTATION, APPROXIMATE CONFIGURATION, AND LOCATION OF DETAILS AND NOTES. CONTRACTOR SHALL FIELD VERIFY ALL ITEMS FOR BIDDING AND INSTALLATION PURPOSES.
  - WHERE DETAIL OR KEYED NOTE CALLOUTS ARE NOTED AS "TYPICAL", THE REFERENCED INFORMATION SHALL APPLY AT ALL SIMILAR LOCATIONS THROUGHOUT THE PROJECT AREA.
  - WHERE DETAIL CALLOUTS ARE NOTED AS "SIMILAR", THE ROOF DECK, INSULATION, AND/OR SUBSTRATE COMPONENTS MAY DIFFER FROM THOSE SHOWN. HOWEVER, THE CONCEPT IN THE REFERENCED DETAIL SHALL PERTAIN.
  - IF A GIVEN CONDITION IS NOT REPRESENTED BY A DETAIL DRAWING, AND THE WORK CANNOT BE DEFINED BY REFERRING TO SIMILAR DETAIL, SUBMIT A REQUEST FOR CLARIFICATION TO THE OWNER'S REPRESENTATIVE. PROCEED BASED ON FULLY EXECUTED CHANGE DIRECTIVE OR CHANGE ORDER. REGARDLESS OF SPECIFIED WARRANTY, BID SHALL INCLUDE VALUE OF INSTALLING ALL WORK, COMPLETE, PER ROOFING MANUFACTURER'S REQUIREMENTS FOR A 20-YEAR MINIMUM WARRANTY. UNAUTHORIZED DETAIL CHANGES ARE SUBJECT TO REJECTION BY THE OWNER'S REPRESENTATIVE.
  - REFER TO SUMMARY OF WORK DRAWING SHEET FOR BASIC SCOPE OF WORK, INCLUDING PRESUMED EXISTING ROOF SYSTEM COMPONENTS, QUANTITY ALLOWANCES FOR UNIT PRICE WORK AND PROPERTY INSURANCE COMPANY REQUIREMENTS WHERE APPLICABLE.
  - FOR ROOF DESIGN DATA AND ROOF ATTACHMENT REQUIREMENTS, REFER TO THE CORRESPONDING DESIGN DATA AND ATTACHMENT PLAN DRAWING SHEET.
  - INSTALL TAPERED CRICKET TO DIVERT DRAINAGE AROUND ANY PENETRATION 18" OR WIDER MEASURED PERPENDICULAR TO SLOPE DIRECTION. CRICKET SLOPE SHALL BE DOUBLE THE FIELD SLOPE.
  - INSTALL SPECIFIED WALKWAY MATERIAL AT ROOF ACCESS POINTS, INCLUDING LADDERS, ROOF HATCHES, DOORS, ACCESS PANELS, AND/OR STAIRS. BID SHALL INCLUDE THESE AREAS, AND ANY OTHER AREAS SHOWN OR SPECIFIED.
  - TRANSITIONS BETWEEN ADJACENT MEMBRANE FLASHING DETAILS SHALL BE CONTINUOUS AND WATERTIGHT. WATERTIGHT SHEET METAL FLASHING CLOSURES SHALL BE PROVIDED TO FIT SUBSTRATE AND MEMBRANE FLASHING PROFILES. SHEET METAL TYPE, GAUGE, AND COLOR SHALL MATCH ADJACENT COMPONENTS. SHEET METAL SHALL BE SECURED WITH EPDM WASHED FASTENERS WITH SEALANT APPLIED AS SPECIFIED.
  - DETAIL EXPOSED EDGES OF BASE FLASHINGS USING VERTICAL SHEET METAL TERMINATION DETAIL. TERMINATION BAR IS NOT AN ACCEPTABLE SUBSTITUTION.
  - AT LARGE CURBS THAT CANNOT BE LIFTED, CUT CORNERS AND TEMPORARILY RAISE TO ACHIEVE AS MUCH FLASHING HEIGHT AS POSSIBLE. REPOSITION CORNERS BACK ONCE FLASHING AND TERMINATION BAR HAVE BEEN INSTALLED, AND FABRICATE NEW CORNERS SET IN SEALANT AND SECURED AT 12" O.C. WITH EPDM WASHED FASTENERS.

**KEYED NOTES**

- REMOVE EXISTING SEALANT. GRIND, CLEAN, AND PRIME EXISTING JOINT IN MASONRY WALL. INSTALL BACKER ROD AND TOOLED SEALANT. REFER TO DETAIL 1/R2.03. THIS WORK SHALL BE SUBCONTRACTED TO A PROFESSIONAL COMPANY THAT SPECIALIZES IN SEALANT REMOVAL AND REPLACEMENT.
- INSTALL GREASE PROTECTION SYSTEM. PROTECTION SYSTEM SHALL BE SET ON WALKWAY PROTECT WHICH EXTENDS 4' BEYOND ALL SIDES OF THE SYSTEM. HOT AIR WELD ALL EDGES OF THE WALKWAY TO OBTAIN A WATERTIGHT CONDITION.
- INSTALL WALK PADS UNDER ALL AIR CONDITIONING SUPPORTS, EXTENDING 3" MINIMUM BEYOND ALL SIDES OF THE SUPPORT. HOT AIR WELD WALKWAY TO FIELD MEMBRANE TO OBTAIN A WATERTIGHT CONDITION.
- REPLACE SLEEPERS WITH NEW TREATED WOOD SLEEPERS. SET SLEEPERS ON WALKWAY PROTECTION, EXTENDING 4' BEYOND ALL SIDES OF THE SLEEPER. HOT AIR WELD WALKWAY TO FIELD MEMBRANE TO OBTAIN A WATERTIGHT CONDITION.
- REPLACE SEALANT AROUND OUTSIDE OF PIPE FLASHING. REMOVE AND REPLACE PIPE INSULATION, LEAVING A GAP FOR SPRAY FOAM TO SEAL TO PIPE. APPLY SPRAY FOAM TO COMPLETELY ENCASE THE FOAM. APPLY COATING MASTIC OVER THE FOAM TO COMPLETELY ENCASE THE FOAM.
- TRIM EXPANSION JOINT COVER TO FIT TIGHTLY INTO THE CORNER. FIVE-COURSE WITH COATING MASTIC TO SEAL BASE OF WALL EXPANSION JOINT COVER TO THE NEW METAL COPING CAP.



REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/05/2023	DHAB
NA	BID SET	07/10/2023	DHAB

**SYMBOL LEGEND**

	PARAPET WALL
	WALL EXPANSION JOINT
	ROOF LEVEL TIE-IN
	PIPE PENETRATION
	FLANGED PENETRATION
	ROOF DRAIN
	OVERFLOW DRAIN
	ROOF CURB
	ELEVATED UNIT/EQUIPMENT
	ROOF HATCH
	OBSOLETE PENETRATION
	SKYLIGHT
	SAFETY RAILING
	SLEEPER
	LADDER
	SUPPORT LEGS
	CRICKET/SADDLE
	RIDGE/VALLEY LINE
	WALKWAY PROTECTION
	SLOPE DIRECTION
	ROOF SECTION
	DETAIL LOCATION
	SYSTEM ASSEMBLY DETAIL LOCATION
	KEYED NOTE LOCATION
	ADJACENT AREA - NOT IN CONTRACT

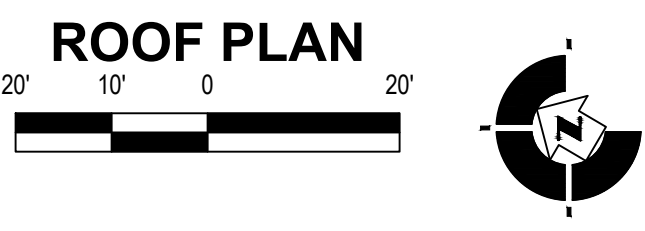
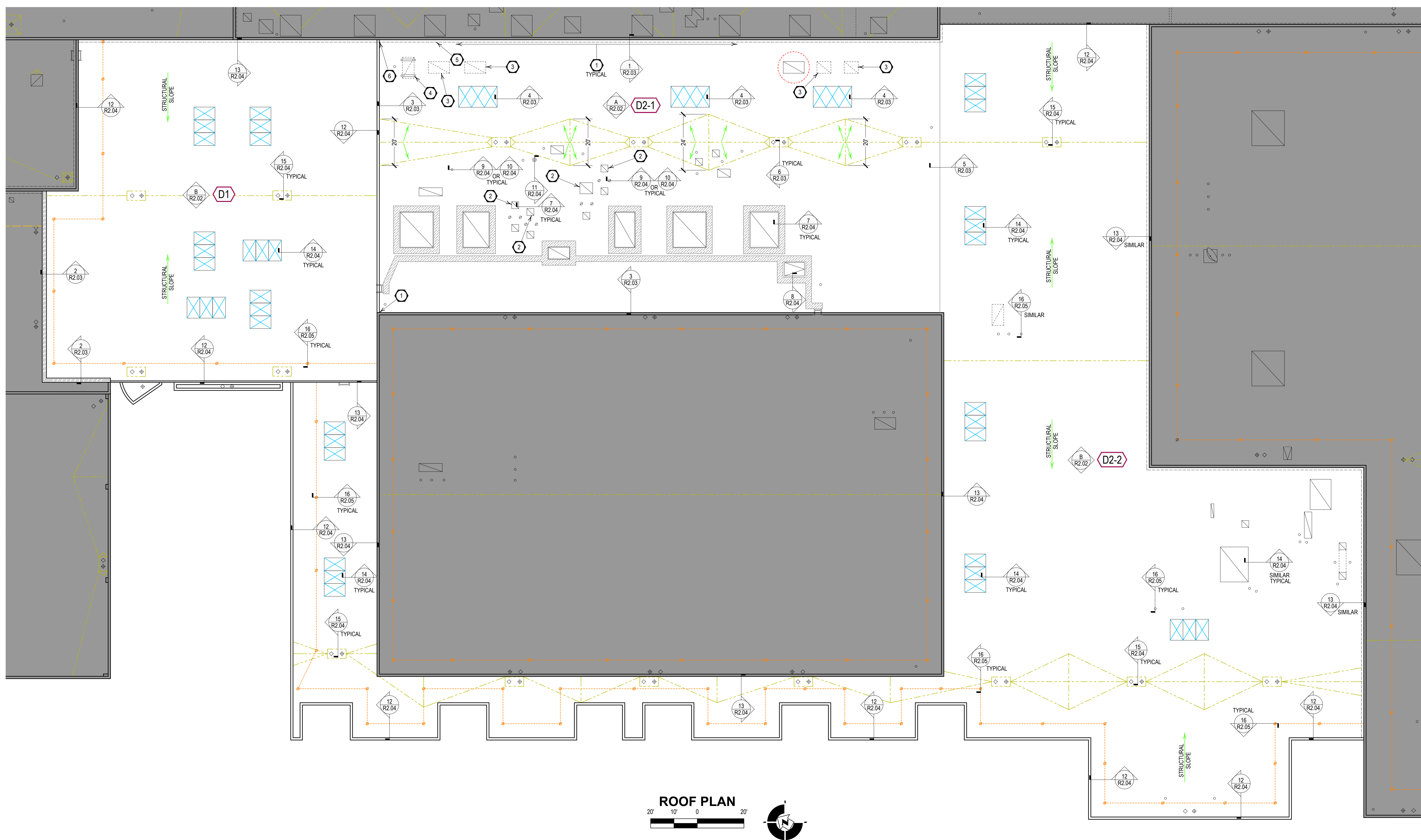
DATE	07/10/2023
DESIGNED BY	A. BEAR
CHECKED BY	D. HENDEL
PROJECT MANAGER	D. COOKSON
PROJECT NUMBER	23RENRENOR013B
DRAWING NUMBER	23RENRENOR013B02.dwg

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**CLIENT:** RENO-SPARKS CONVENTION AND VISITORS AUTHORITY  
**PROJECT:** RENO-SPARKS CONVENTION CENTER  
4880 S. VIRGINIA STREET  
RENO, NEVADA 89502  
**DRAWING TITLE:** ROOF PLAN - SECTIONS D1, D2-1 AND D2-2

BENCHMARK PROJECT NUMBER: 23RENRENOR013B  
SHEET NUMBER: **R1.01**

ORIGINAL SHEET SIZE: 42 x 30



DESIGN DATA

**1.01 GENERAL NOTES**

A. THIS SHEET IS INTENDED TO COMMUNICATE BUILDING CODE INFORMATION, DESIGN STANDARDS, DESIGN DATA, AND ROOF SYSTEM ATTACHMENT REQUIREMENTS.

B. THE INFORMATION ON THIS SHEET IS INTENDED FOR COMMUNICATION OF ATTACHMENT ZONES ONLY. REFER TO CORRESPONDING ROOF PLAN(S) ON SEPARATE SHEET(S) FOR INFORMATION NOT NOTED.

C. REFER TO DETAIL SAD (SCHEDULE OF ATTACHMENT DETAILS) ON SHEET R2.01 - ATTACHMENT DETAILS, WHICH DEFINES THE ATTACHMENT DETAILS THAT ARE REQUIRED FOR EACH ROOF SECTION.

D. REFER TO ATTACHMENT ZONE TABLE(S) ON THIS SHEET, WHICH DEFINE THE ZONES AND ZONE HATCHING STYLES APPLICABLE TO EACH ROOF SECTION.

**1.02 PROJECT REQUIREMENTS**

A. THE COMPLETED ROOF SYSTEM SHALL MEET THE FOLLOWING REQUIREMENTS AT A MINIMUM:

BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE
ENERGY CODE:	2018 INTERNATIONAL ENERGY CONSERVATION CODE
WIND DESIGN STANDARD:	ASCE 7-16
EXISTING BUILDING CODE:	2018 INTERNATIONAL EXISTING BUILDING CODE
GREEN CODE:	2018 INTERNATIONAL GREEN CONSTRUCTION CODE

**1.03 ROOF SECTION SPECIFIC REQUIREMENTS**

A. THE COMPLETED ROOF SYSTEM SHALL MEET THE FOLLOWING DESIGN WIND LOAD PRESSURES:

1. ROOF SECTION D2-1:

ZONE 1	-36.01 PSF
ZONE 2	NOT USED
ZONE 3	NOT USED

C. THE COMPLETED ROOF SYSTEM SHALL MEET THE FOLLOWING EXTERNAL FIRE RATING:

1. ROOF SECTION D2-1:

UL	CLASS A
----	---------

**1.04 PROJECT DESIGN DATA**

A. WIND DESIGN DATA:

BASIC DESIGN WIND SPEED (V):	135 MPH
ALLOWABLE STRESS DESIGN WIND SPEED (V <sub>all</sub> ):	104.49 MPH
SAFETY FACTOR:	2.0

B. ROOF DRAINAGE:

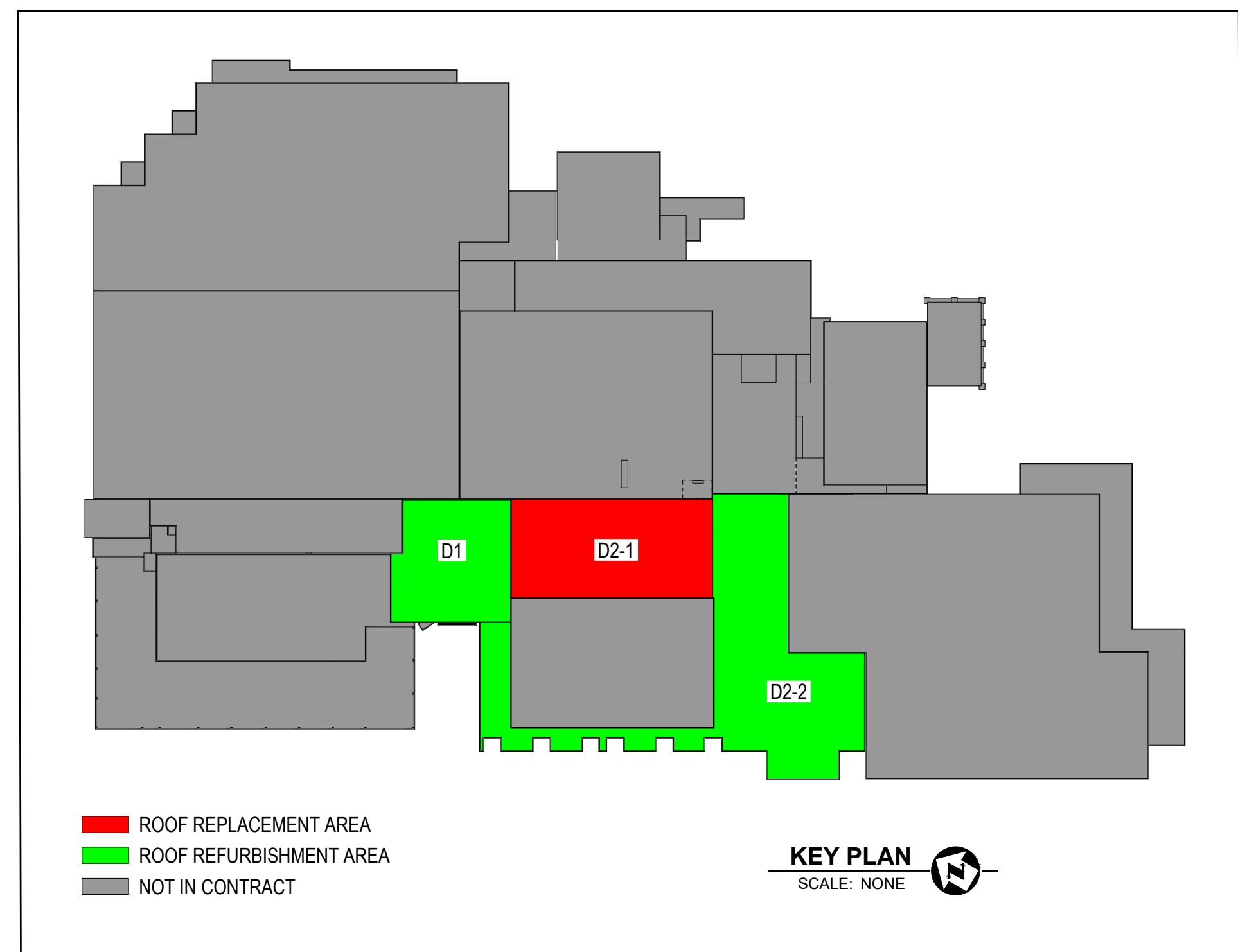
RAIN INTENSITY (i):	1.1 INCHES/HOUR
MODIFICATIONS TO DRAINAGE:	NO

**1.05 ROOF SECTION-SPECIFIC WIND / LOAD DESIGN DATA**

NOTE: ROOF HEIGHT INFORMATION FURNISHED SHALL NOT BE USED FOR THE PURPOSES OF DETERMINING AND/OR BIDDING CONSTRUCTION LOGISTICS:

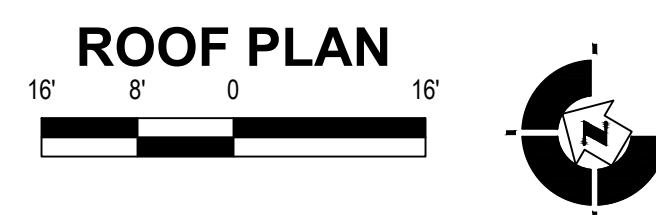
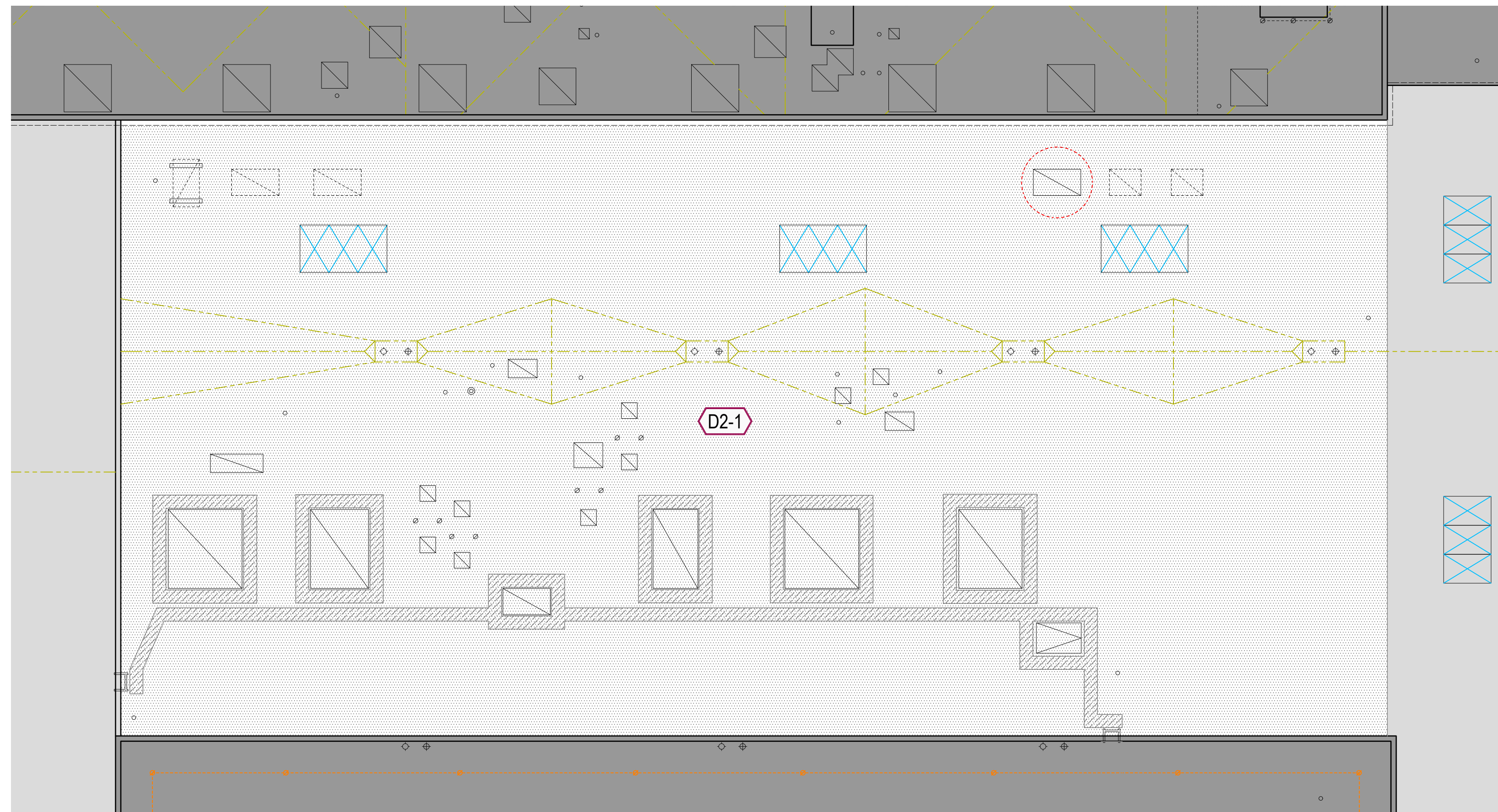
A. ROOF SECTION D2-1:

RISK CATEGORY:	II
EXPOSURE CATEGORY:	B
INTERNAL PRESSURE COEFFICIENT:	0.18
MEAN ROOF HEIGHT:	30 FEET
ROOF SLOPE:	1/4" IN 12"
APPROXIMATE EXISTING ROOF SYSTEM WEIGHT:	4.38 PSF
APPROXIMATE NEW ROOF SYSTEM WEIGHT:	5.15 PSF
APPROXIMATE CHANGE IN ROOF SYSTEM WEIGHT:	17.58% INCREASE
APPROXIMATE NET CHANGE IN ROOF SYSTEM WEIGHT:	0.77 PSF DECREASE



**ATTACHMENT ZONES (HEIGHT ≤ 60')**

SECTION	ZONE 1'	ZONE 1	ZONE 2	ZONE 3
D2-1	AS SHOWN	NOT USED	NOT USED	NOT USED



**DRAWING RECORD**

REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/06/2023	DHAB
NA	BD SET	07/10/2023	DHAB

**SYMBOL LEGEND**

- PARAPET WALL
- WALL EXPANSION JOINT
- ROOF LEVEL TIE-IN
- PIPE PENETRATION
- FLANGED PENETRATION
- ROOF DRAIN
- OVERFLOW DRAIN
- ROOF CURB
- ELEVATED UNITEQUIPMENT
- ROOF HATCH
- OBSCLETE PENETRATION
- SKYLIGHT
- SAFETY RAILING
- SLEEPER
- LADDER
- SUPPORT LEGS
- CRICKET/SADDLE
- RIDGE/VALLEY LINE
- WALKWAY PROTECTION
- ROOF SECTION
- ADJACENT PROJECT AREA
- ADJACENT AREA - NOT IN CONTRACT

DATE:	07/10/2023
DESIGNED BY:	A. BEAR
CHECKED BY:	D. BENDEL
PROJECT:	RENO-SPARKS CONVENTION CENTER
DRAWING TITLE:	DESIGN DATA AND ATTACHMENT PLAN - SECTION D2-1
PROJECT NUMBER:	23RENRENOR013B
SHEET NUMBER:	R1.02

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**PROJECT:** RENO-SPARKS CONVENTION CENTER  
480 S. VIRGINIA STREET  
RENO, NEVADA 89502

**DRAWING TITLE:** DESIGN DATA AND ATTACHMENT PLAN - SECTION D2-1

**BENCHMARK PROJECT NUMBER:** 23RENRENOR013B

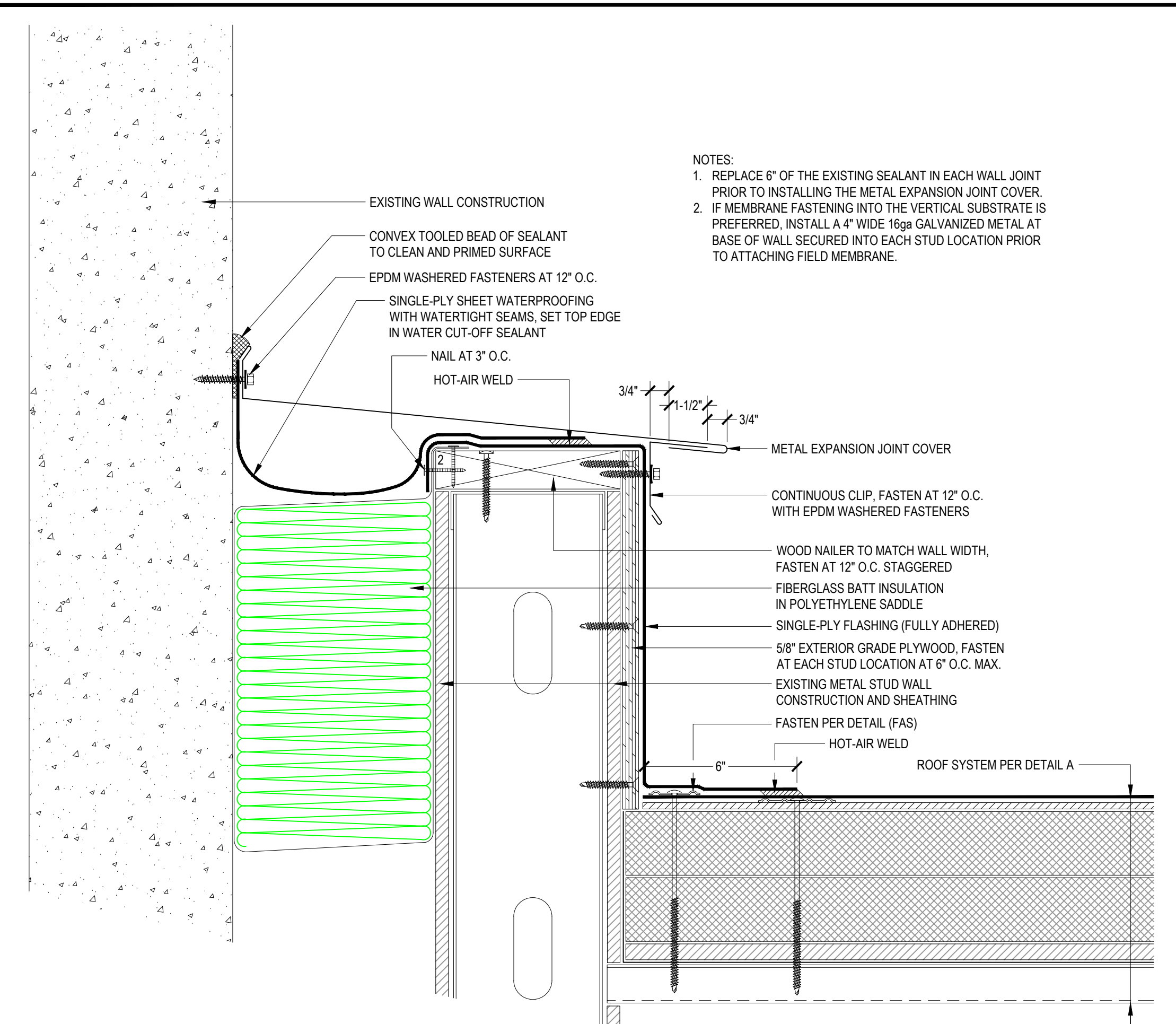
**SHEET NUMBER:** R1.02

ORIGINAL SHEET SIZE: 42 x 30

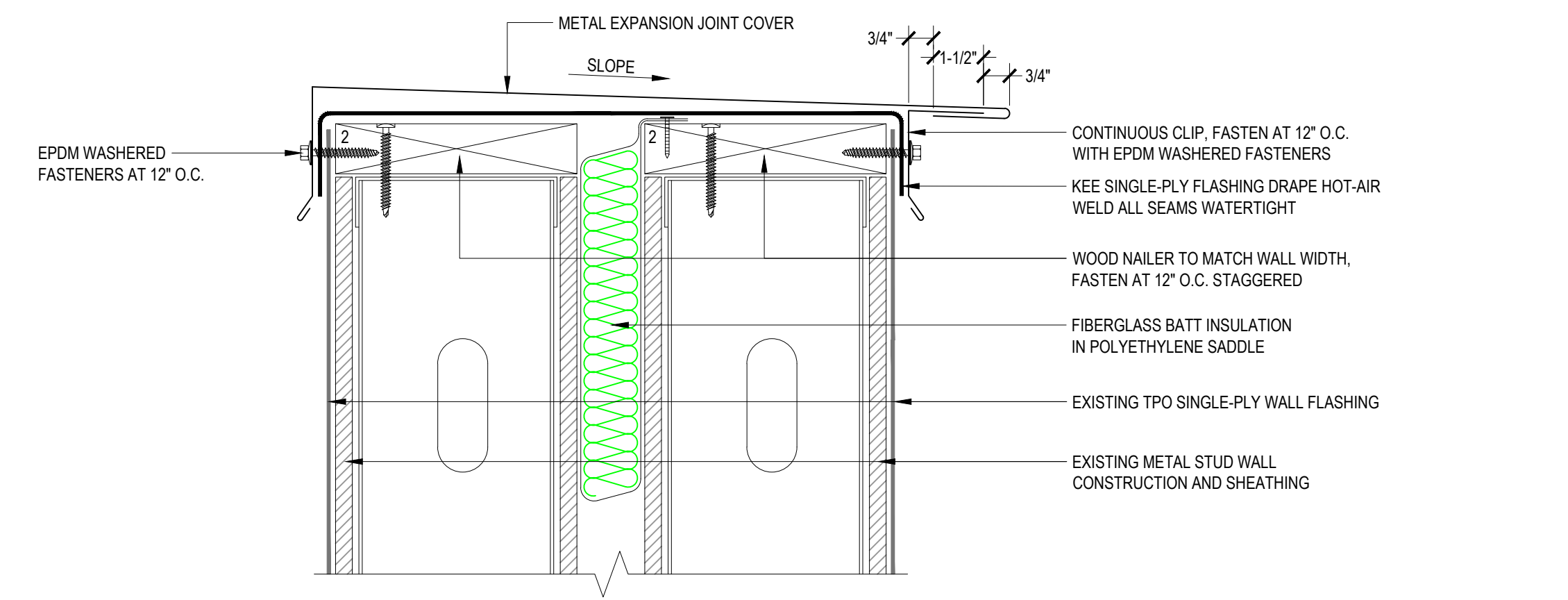




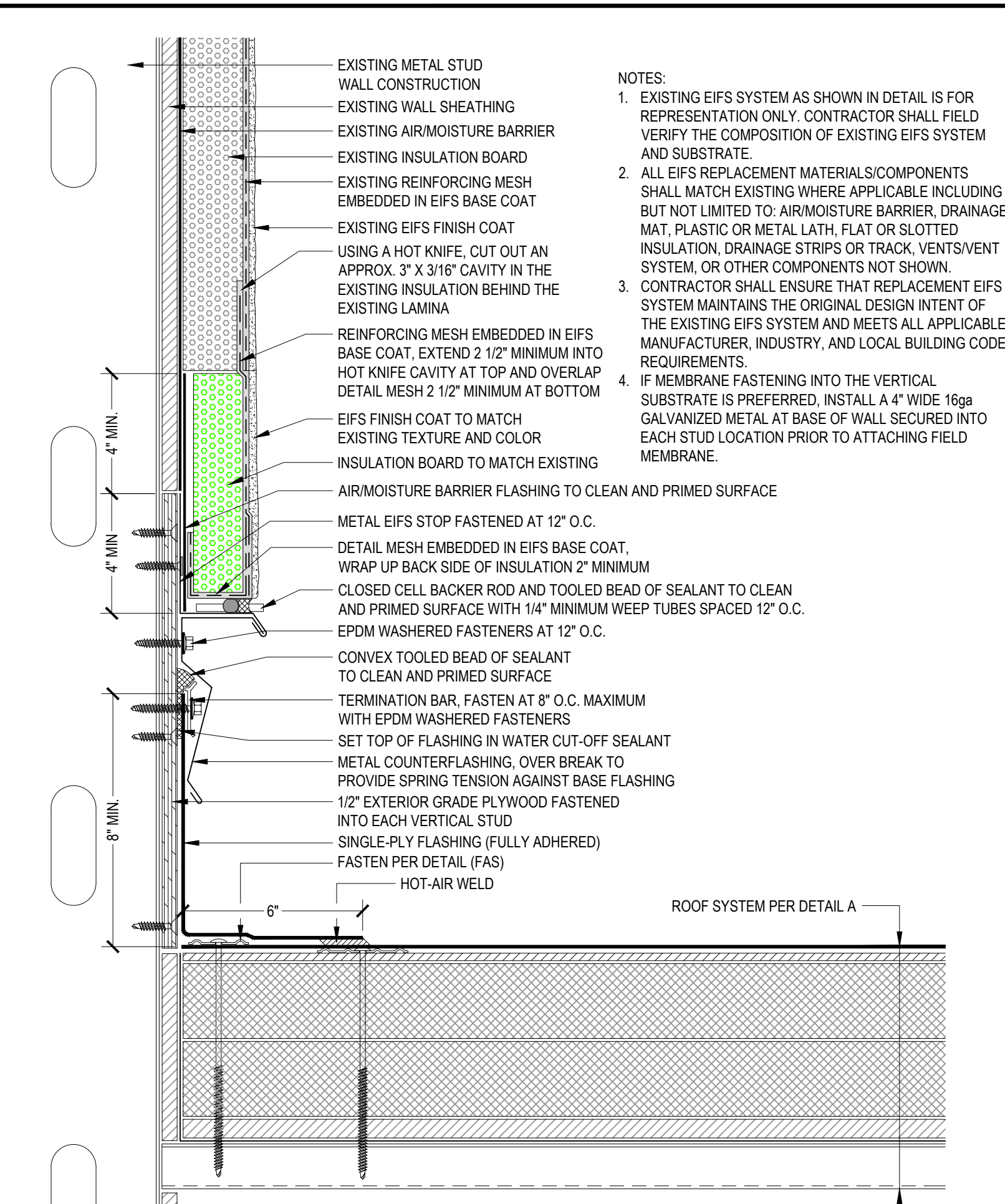
REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/06/2023	DHAB
NA	ISS SET	07/10/2023	DHAB



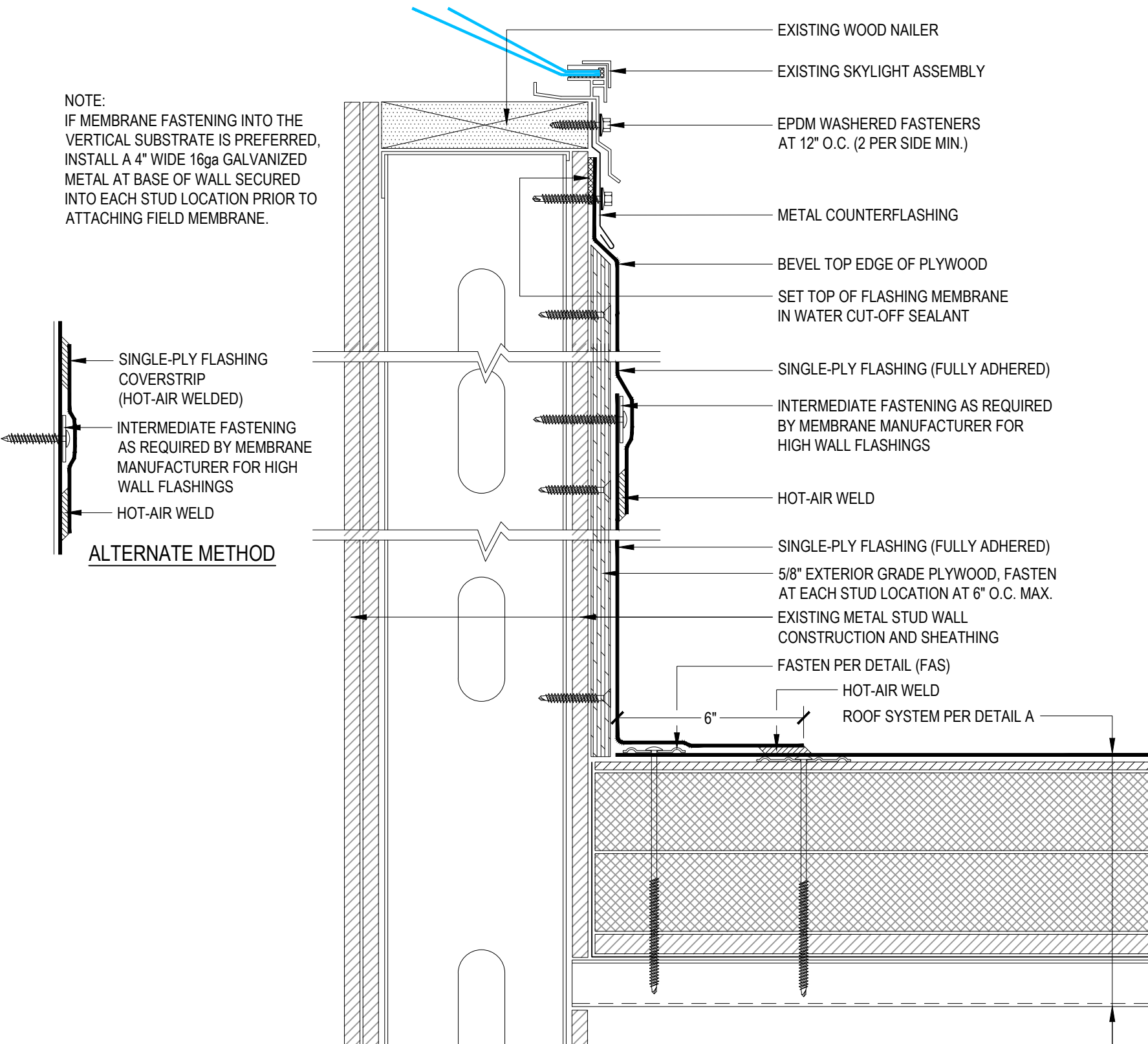
**1 WALL EXPANSION JOINT DETAIL**  
NO SCALE



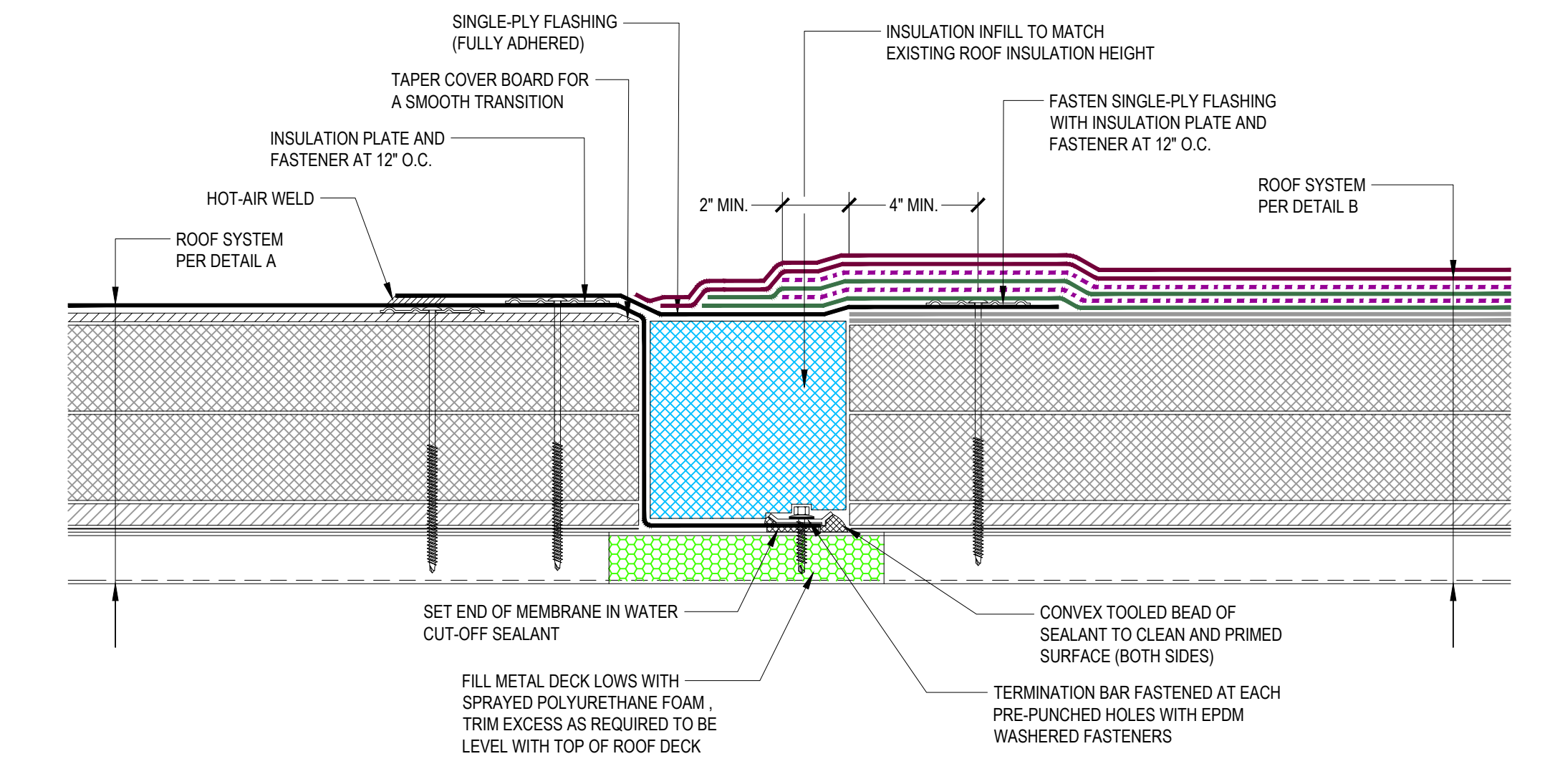
**2 WALL EXPANSION JOINT COVER DETAIL**  
NO SCALE



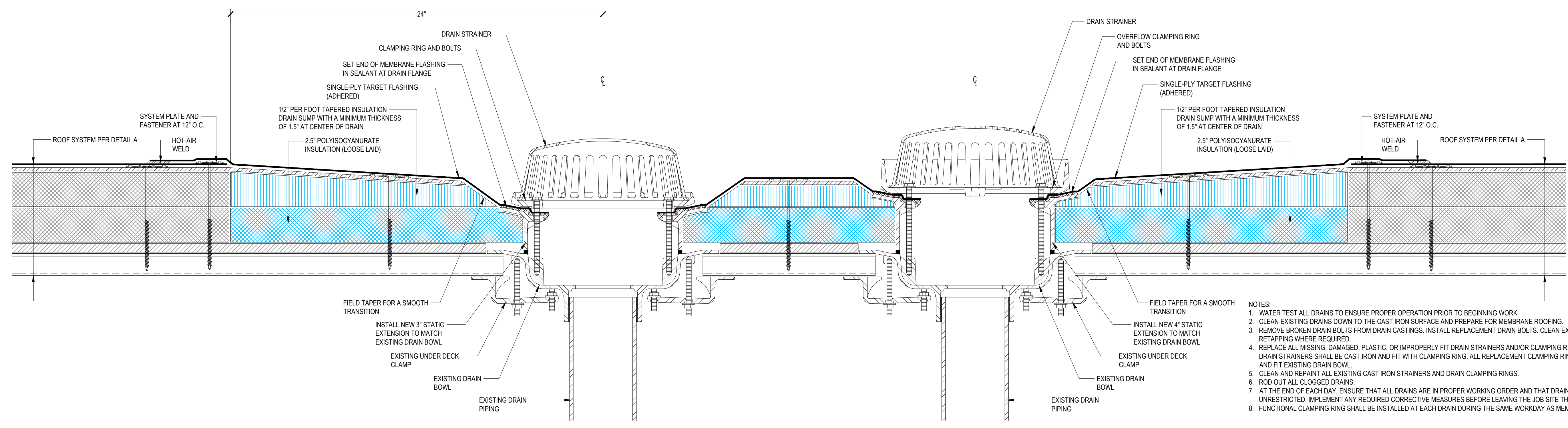
**3 BASE DETAIL AT EIFS WALL**  
NO SCALE



**4 SKYLIGHT DETAIL**  
NO SCALE



**5 ROOF TIE-IN DETAIL**  
NO SCALE



**6 ROOF DRAIN AND SUMP DETAIL**  
NO SCALE

- NOTES:
1. WATER TEST ALL DRAINS TO ENSURE PROPER OPERATION PRIOR TO BEGINNING WORK.
  2. CLEAN EXISTING DRAINS DOWN TO THE CAST IRON SURFACE AND PREPARE FOR MEMBRANE ROOFING.
  3. REMOVE BROKEN DRAIN BOLTS FROM DRAIN CASTINGS. INSTALL REPLACEMENT DRAIN BOLTS. CLEAN EXISTING BOLT HOLES BY RETAPPING WHERE REQUIRED.
  4. REPLACE ALL MISSING, DAMAGED, PLASTIC, OR IMPROPERLY FIT DRAIN STRAINERS AND/OR CLAMPING RINGS. ALL REPLACEMENT DRAIN STRAINERS SHALL BE CAST IRON AND FIT WITH CLAMPING RING. ALL REPLACEMENT CLAMPING RINGS SHALL BE CAST IRON AND FIT EXISTING DRAIN BOWL.
  5. CLEAN AND REPAIR ALL EXISTING CAST IRON STRAINERS AND DRAIN CLAMPING RINGS.
  6. ROD OUT ALL CLOGGED DRAINS.
  7. AT THE END OF EACH DAY, ENSURE THAT ALL DRAINS ARE IN PROPER WORKING ORDER AND THAT DRAIN LINES ARE TOTALLY UNRESTRICTED. IMPLEMENT ANY REQUIRED CORRECTIVE MEASURES BEFORE LEAVING THE JOB SITE THAT DAY.
  8. FUNCTIONAL CLAMPING RING SHALL BE INSTALLED AT EACH DRAIN DURING THE SAME WORKDAY AS MEMBRANE INSTALLATION.

DATE	07/10/2023
DESIGNED BY	A. BERG
CHECKED BY	D. JENSEN
IN CHARGE	D. BERKOWITZ
PROJECT NO.	20230600010003.000

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PROJECT: **RENO-SPARKS CONVENTION CENTER**  
4500 S. VIRGINIA STREET  
RENO, NEVADA 89502

DRAWING TITLE: **DETAILS**

BENCHMARK PROJECT NO.:

SHEET NUMBER: **R2.03**

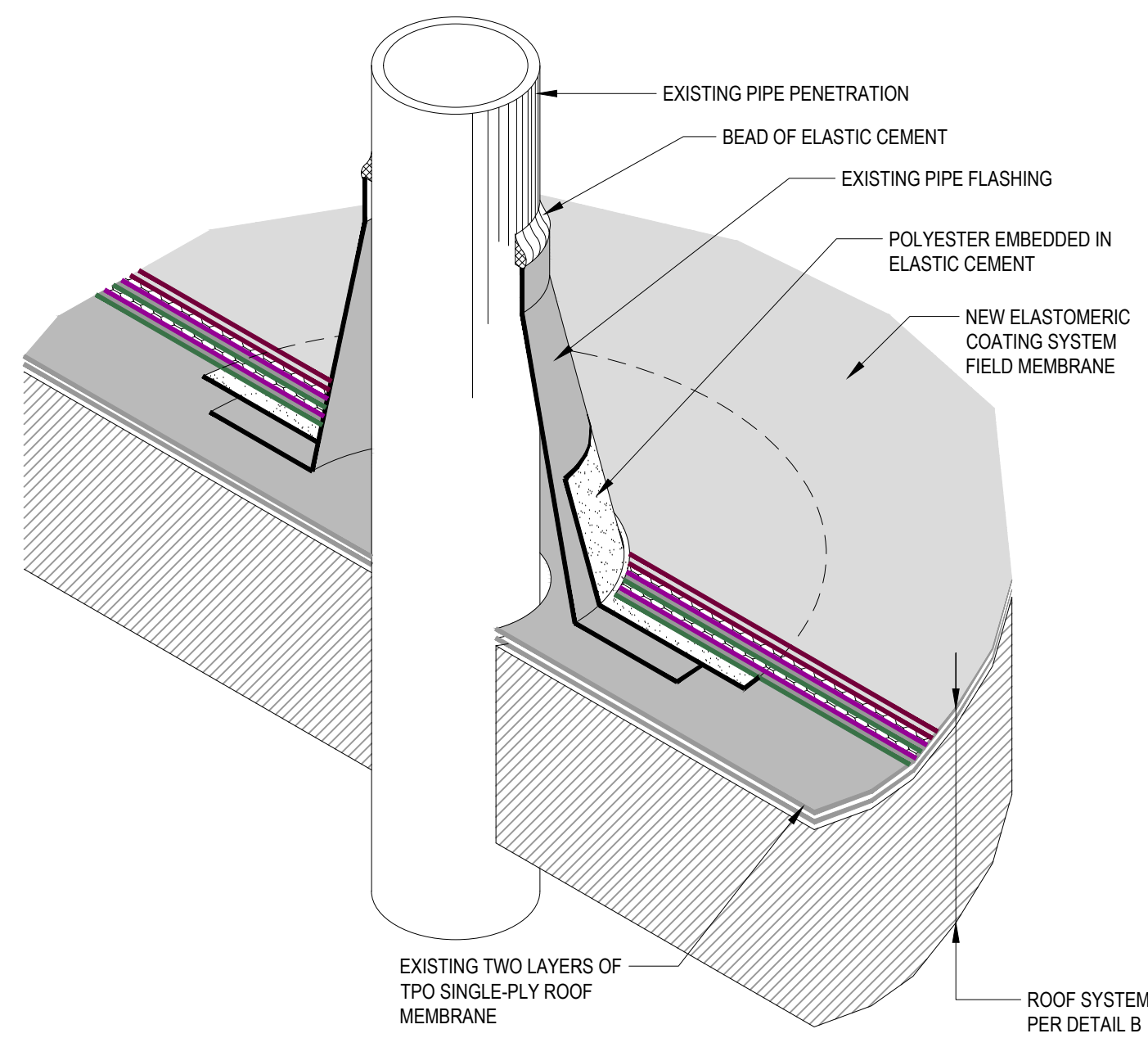
ORIGINAL SHEET SIZE: 42 x 30

File: J:\Reno-Sparks Convention Center\_R2\BENCHMARK\230600010003\230600010003.dwg Time: Jul 07, 2023, 8:21am



REV. NO.	DESCRIPTION	DATE	BY
NA	REVIEW SET	07/06/2023	DHAB
NA	BID SET	07/10/2023	DHAB

NOTE:  
ONCE THE AREA HAS BEEN PROPERLY PREPARED  
AND PRIMED, APPLY MASTIC REINFORCEMENT  
AND MASTIC. BE SURE THE POLYESTER EXTENDS  
PAST THE BASE OF THE EXISTING PIPE FLASHING  
AND 3" MINIMUM UP THE EXISTING PIPE FLASHING.



**16 ELASTOMERIC PIPE FLASHING**  
NO SCALE

DATE	07/10/2023
DESIGNED BY	A. BEAR
CHECKED BY	D. HEMEL
IN CHARGE	D. HEMEL
PROJECT NO.	28528ENR00118003.dwg

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BENCHMARK PROJECT NO.:

SHEET NUMBER:  
**R2.05**

DRAWING TITLE:  
**DETAILS**