

PROJECT MANUAL
INCLUDING SPECIFICATIONS
FOR ROOFING OF

RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
RENO-SPARKS LIVESTOCK EVENTS CENTER
2018 ROOF REPLACEMENT AND REPAIRS
EXHIBIT HALL (REPLACEMENT) AND MAIN ARENA AND LIVESTOCK PAVILION (REPAIRS)
1350 N WELLS AVENUE
RENO, NEVADA 89512
PROJECT NO. 18RENRENOR008B

CONSULTANT:

*BENCHMARK, INC.
RAY HEISEY, PE, RRC
6065 HUNTINGTON COURT NE
CEDAR RAPIDS, IA 52402
319.393.9100*

ADDRESS ALL COMMUNICATIONS
REGARDING THIS WORK TO THE
CONSULTANT AT THE
ADDRESS LISTED ABOVE.

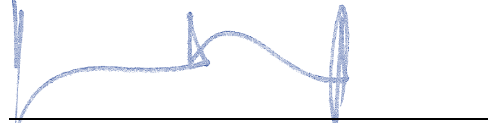
PROJECT
MANUAL
DATE 8/20/2018

OWNERSHIP OF DOCUMENTS

These Bidding Documents, and the ideas, drawings and specifications incorporated herein, as an instrument of professional service, is the property of Benchmark, Inc., and is not to be used, in whole or in part, for any other project without the written authorization of Benchmark, Inc.

These Bidding Documents were prepared for Reno-Sparks Convention and Visitors Authority by:

BENCHMARK, INC.



Ray Heisey, PE, RRC
Senior Consultant

and reviewed by:

BENCHMARK, INC.



Alvin Nunnikhoven, RRC
Senior Consultant

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The Reno-Sparks Convention & Visitors Authority is soliciting a
Bid for a
**Roof Replacement and Repairs at the Reno-Sparks Livestock Events
Center**

**Bid 2019-02
PWP WA-2018-214**

*Released by Trent LaFerriere, Senior Project Manager
(Friday, August 24, 2018)*

The Point of Contact is Trent LaFerriere, Senior Project Manager at (775) 827-7709,
Fax (775) 827-7701, or e-mail tlafferriere@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 in regards to this Bid is allowed.

SUBMISSION DATE AND TIME: Thursday, September 20, 2018 (2:00pm (PST))

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 2019-02**.

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, Reno-Sparks Livestock Events Center, and Wildcreek Golf Course. The Authority is the operating instrumentality in the Washoe County area for promoting conventions, tourism, and outdoor recreation.

This bid is for the roof replacement and repairs project consisting of metal roofing at the Reno-Sparks Livestock Events Center. This project also includes tear-off, insulation, roof accessories and purlin work at three buildings.

II. SCHEDULE

Request for Proposals Available	Friday, August 24, 2018
Mandatory Pre-bid Meeting	Thursday, September 6, 2018 10:00 AM
Written Questions Due (if any)	Tuesday, September 11, 2018 5:00 PM
Written Responses to Questions Issued	Tuesday, September 18, 2018
Responses Due	Thursday, September 20, 2018 2:00 PM
Opening Time	Thursday, September 20, 2018 2:10 PM

A Mandatory Pre-Bid meeting will occur on September 6, 2018, 10:00 AM, at the Reno-Sparks Livestock Events Center, Administrative Offices, 1350 North Wells Avenue, 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 2019-02 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
Finance Department
P.O. Box 837
Reno, NV 89504-0837

Or delivered to:

Reno-Sparks Convention and Visitors Authority
Finance Department (located at the Reno Town Mall)
4001 S. Virginia Street, Suite G
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"/>
XII	Base Bid Form	15	<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 law suits 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.

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

D. Business License Information:

City of Reno
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 City 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 2019-02 Reno-Sparks Convention Center Restroom Remodel 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 2019-02 Reno-Sparks Convention Center Restroom Remodel 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

The Authority requires the successful Contractor to furnish a Performance Bond (bond equal to 100% of the Base Bid), covering the faithful performance of the Contract and the payment of all obligations arising there under, issued by a company duly authorized to issue such bonds in the State of Nevada.

The successful Contractor shall deliver the required bonds to the Authority not later than three days following the date the Contract is entered into.

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 herein contained technical information 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 12/07, or equivalent, providing coverage on an occurrence form for Bodily Injury, Property Damage, Liquor Liability, Independent Bidders, Personal Injury, Broad Form Property Damage, Broad Form Contractual Liability and Medical Payments. The limits of liability shall not be less than One Million Dollars (\$1,000,000) per occurrence, Two Million Dollars (\$2,000,000) 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 07/04.

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.

Automobile Liability. Automobile Liability at least as broad as Insurance Services Office Business Auto Coverage Form CA00 01, 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 One Million Dollars (\$1,000,000) 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 B 07/11, 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 with a revision date of January 2004.

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

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 \$250,000 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: http://www.laborcommissioner.com/publicworks_prevailingwage.html.

Y. **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, 4001 South Virginia Street, Suite G, Reno, Nevada 89502, Attention: Jeff Jensen. 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 protester prior to its return to the protester.

Z. 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.

AA. 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.

BB. 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.

CC. 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

DD. 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: 2019-02, PWP WA-2018-214

Project Title: Reno-Sparks Convention and Visitors Authority
Reno-Sparks Livestock Events Center
2018 Roof Replacement and Repairs
Exhibit Hall (Replacement)
Event Center and Livestock Pavilion (Repairs)
1350 N Wells Avenue
Reno, Nevada 89512
Project No. 17RENRENOR007B

Owner: Reno-Sparks Convention and Visitors Authority
4590 S Virginia Street
Reno, Nevada 89502

Trent LaFerriere
Telephone No. 775.827.7709
E-mail: TLaFerriere@renotahoeusa.com

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

Ray Heisey, PE, RRC
Telephone No. 319.393.9100
Fax No. 319.393.3994
E-mail: rheisey@benchmark-inc.com

Project Description: This project is a roof replacement and repairs project consisting of metal roofing. This project also includes tear-off, insulation, roof accessories and purlin work.

See attached Scope of Work for complete project details.

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:

Reno-Sparks Convention and Visitors Authority
Reno-Sparks Livestock Events Center
2018 Roof Replacement and Repairs
Exhibit Hall (Replacement) and Event Center and Livestock Pavilion (Repairs)
Reno, Nevada 89512
Project No. 17RENRENOR007B

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:

Alternate bids (if any) described in Section 01 23 00 – Alternates shall be excluded from the Base Bid.

A. Base Bid No. 1: Tear off and replace the roof on the Exhibit Hall.

_____ Dollars (\$ _____)

Sales Tax (included in above bid) \$ _____

Approximate square footage included in bid _____ Sq. Ft.

Bid Allowances: The following unit cost allowances are included in Base Bid 1 amount.

- 1. Remove and replace existing cold-formed purlins..... 200 lineal feet
- 2. Remove existing wet or damaged fiberglass batt insulation and replace with two layers of 4" fiberglass batt insulation 2,000 square feet

B. Base Bid No. 2: Repair the roof on the Event Center.

_____ Dollars (\$_____)

Sales Tax (included in above bid) \$_____

Approximate square footage included in bid _____ Sq. Ft.

C. Base Bid No. 3: Repair the roofs on the Livestock Pavilion, Connector and Offices.

_____ Dollars (\$_____)

Sales Tax (included in above bid) \$_____

Approximate square footage included in bid _____ Sq. Ft.

D. Alternate Bid No. 1: On the Exhibit Hall, install a standing seam metal roof in lieu of the base bid through fastened metal roof.

Add to Base Bid No. 1

_____ Dollars (\$_____)

Sales Tax (included in above bid) \$_____

Approximate square footage included in bid _____ Sq. Ft.

E. 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. The proposed unit prices include all labor, overhead, profit, materials, equipment, taxes, and freight.
2. Only a single unit price shall be given, and it shall apply for either more or less than the quantity required by the Contract Documents.
3. Refer to Section 01 11 00 – Summary of Work for a description of stipulated quantity allowances to be included in the bid, where applicable.
4. In the event of more or less units than so required, change orders shall be issued for the increased or decreased amount.

<u>Description</u>	<u>Unit Price</u>
Remove and replace wood nailer	\$ _____ Per Board Foot
Remove and replace plywood	\$ _____ Per Square Foot
Remove and replace existing cold-formed purlins	\$ _____ Per Lineal Foot
Remove existing wet or damaged fiberglass batt insulation and replace with two layers of 4" fiberglass batt insulation	\$ _____ Per Square Foot
Remove and replace plywood decking	\$ _____ Per Square Foot
Remove rusted sheet metal and repair with same material	\$ _____ Per Square Foot
Replace broken drain clamping rings	\$ _____ Each
Replace roof drain and tie into existing plumbing system	\$ _____ Each
Roofing Foreman (standard time)	\$ _____ Per Hour
Roofing Technician (standard time)	\$ _____ Per Hour
Laborer (standard time)	\$ _____ Per Hour
Sheet Metal Worker (standard time)	\$ _____ Per Hour

F. 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 Bids and Alternate.

G. 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 in unit price-based Change Orders.

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 (____%).

H. Time of Commencement, Completion and Damages

1. Base Bid No. 1: Contractor shall commence work _____ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in _____ (calendar) days.

2. Base Bid No. 2: Contractor shall commence work _____ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in _____ (calendar) days.

3. Base Bid No.3: Contractor shall commence work _____ (calendar) days after award. From the day of commencement, the Contractor shall substantially complete the work in _____ (calendar) days.

4. If the Owner awards Alternate Bid No. 1, add / deduct _____ (calendar) days to / from the performance period.]

5. Final completion, including delivery of all closeout submittals and warranties, shall be achieved within _____ (calendar days) after achieving substantial completion.

6. 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.

7. 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.

8. In the event the Owner decides that delaying the project start will avoid conflicts with scheduled facility events, how long will the bid price be held? _____ (calendar days).

I. Proposed Subcontractors and Suppliers

1. The following subcontractors/suppliers have agreed to furnish labor and materials for this work for the trades/items indicated. These subcontractors/suppliers shall not be changed without Owner's permission.

Subcontractor/Supplier	Trade/Material
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Base bid is based on roofing material supplied by _____.

J. Contractor Licensing Requirements

___ Yes ___ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work required by the Contract Documents that the Bidder proposes to complete using their own forces?

If yes, provide requested information below.

___ Yes ___ No Do Authorities Having Jurisdiction at the project's location require licensing of Contractors for the types of work described by the Contract Documents that the Bidder proposes to complete using Subcontractor(s)?

If yes, provide requested information below.

Contractor and Subcontractor License Information

Contractor/Subcontractor	License Number	Expiration 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 confidentially 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 60 calendar days from the date prescribed for its opening.
- H. If the Owner provides written notice of award to the undersigned within 60 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. The Owner reserves the right to approve or reject the Bidder's proposed Subcontractor(s) or supplier(s) in accordance with Section 00 21 13 - Instructions to Bidders, Article 1.15.
- C. If notice of award is issued after 60 calendar days from the bid due date, the Bidder shall have the right to either accept the contract or withdraw their bid, without penalty, as stipulated

in Section 00 21 13 - Instructions to Bidders, Article 1.02.

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
_____	_____
_____	_____
_____	_____
_____	_____

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: _____

State of Incorporation: _____

Business Address: _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

Federal Tax ID Number: _____

1.07 Signature of Authorized Bidder Representative

Signature: _____

Typed Name: _____

Title: _____

Date: _____

- End of Section -

PART ONE – GENERAL**1.01 Description**

- A. This section 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.
- D. Refer to additional notes on the drawings.

1.02 Code Compliance

- A. The codes having jurisdiction for this project are:
 - 1. Building Code: 2012 IBC
 - 2. Energy Code: 2012 IECC
 - 3. External Fire Rating: UL Class A external fire rating.
- B. The project consists of an "in kind" roof replacement and roof repairs to existing metal and asphalt modified bitumen roofs. The building structures will remain as originally designed per the building code in effect at the time of the construction.
- C. The roof on the Exhibit Hall is designed for a 140 mph wind speed, Exposure B and Risk Category III.

PART TWO – PRODUCTS**2.01 Not used.****PART THREE – EXECUTION****3.01 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. On the Exhibit Hall, tear off the existing roof system to the secondary structural members (purlins).
- D. Remove fasteners at existing membrane, insulation, carpentry, flashing terminations, and sheet metal components by backing out.
- E. Tear off existing metal roofing and fiberglass batt insulation directly under the roof panels.
- F. Remove existing fiberglass batt insulation between the purlins at wet or damaged insulation areas. Perform this work on a unit cost basis.

- G. On Livestock Pavilion Office Roof, contractor shall furnish all labor, materials, supervision, construction tools, equipment, air monitoring and required record keeping to perform the removal of asbestos-containing roofing materials (ACRM) in compliance with all pertinent federal, state and local laws, rules and regulations. Contractor shall manage, supervise, and perform the work using competent, trained personnel. Contractor is responsible for all required licenses, permits, and notices. Contractor shall provide copies of pertinent documents to the Owner.
 - 1. Refer to analysis report included in the project manual.
 - 2. The Contractor shall be responsible to obtain any additional asbestos samples and testing that they deem necessary to submit a bid and/or perform the demolition work.
- H. Seal all perimeters, penetrations, and drains as required to prevent construction materials from entering the building.
- I. Remove and dispose of existing roof-related sheet metal, unless noted otherwise on the drawings.
- J. Trim, modify, and refasten existing metal wall panels as required for installation of flashing work.
- K. Remove all debris from decking, broom clean at a minimum, prior to beginning roof system application.
- L. Clean existing drain down to the cast iron surface and prepare drain for membrane roofing. Remove broken drain bolts from drain castings where required.
- M. Remove debris from roof area and properly dispose of all materials off site.
- N. At the end of each day, ensure that all drains, gutters and downspouts are in proper working order and that drain lines, gutters and downspouts are totally unrestricted. Implement any required corrective measures before leaving the job site that day.

3.02 Decking Repair/Replacement

- A. Replace deteriorated plywood decking as specified. Perform this work on a unit cost basis.

3.03 Rough Carpentry

- A. Install replacement wood nailers/plywood where deteriorated components were removed. Perform this work on a unit cost basis.
- B. Refasten existing nailers/plywood to building structure as required to meet the specified standards.

3.04 Base Ply

- A. Install red rosin paper over decking loosely laid, with 2" side and end laps.
- B. Install base ply fastened to decking.

3.05 Low Slope Roofing Membrane and Flashings

- A. Replace roof on Exhibit Hall
 - 1. Remove existing roof panels, flashings, gutters, ridge vents and curbs.
 - a. Properly dispose of removed materials.
 - b. Disconnect mechanical, electrical and plumbing (MEP) as required.
 - c. Coordinate roof unit shut down with on-site RSLEC personnel.
 - 2. Remove and dispose of fiberglass insulation layer installed over top of the roof secondary structural members.
 - 3. Remove and replace any wet fiberglass batt insulation.
 - 4. Wire brush, clean and paint the top flange of the roof secondary structural members.
 - a. If flaking rust is observed, replace the roof secondary structural member, as well as the adjacent fiberglass batt insulation.
 - 5. Base Bid No. 1:
 - a. Install new 24-gauge, 70% Kynar painted steel R-panel roof system.
 - 1) Roof panels shall be full length with no end lap splice joints.
 - 2) Install 4" unfaced, fiberglass batt insulation over the roof secondary structural members and under the roof panels.
 - 3) Install ridge panels, gable flashing and gutters.
 - 4) Install new roof curbs, reinstall roof units and reconnect MEP as required.
 - 5) Issue a 10-year weathertight (leak) warranty for the installed roof.
 - 6. Alternate Bid No. 1:
 - a. Install new 22-gauge, 70% Kynar painted steel, 24" wide, trapezoidal standing seam roof system.
 - 1) Roof panels shall be full length with no end lap splice joints.
 - 2) Design and install purlin bracing angles located in the trapezoidal rib of the roof panels and located every 6 feet.
 - 3) Install 4" unfaced, fiberglass batt insulation over the roof secondary structural members and under the roof panels.
 - 4) Install ridge, gable flashing and gutters.
 - 5) Install new roof curbs, reinstall roof units and reconnect MEP as required.
 - 6) Issue a 25-year weathertight (leak) warranty for the installed roof.

3.06 Roof-Related Sheet Metal

- A. Install roof-related sheet metal components as per drawings and specifications.
- B. Reuse existing sheet metal where specifically noted as such on the detail drawings.
- C. Provide all necessary sealant primers, sealants, sealant tapes and fasteners to ensure a watertight installation.
- D. On the Livestock Pavilion Office roof, install drain lead flashing.

3.07 Painting

- A. Clean, prime, and paint the following components:
 - 1. The top flange of the purlins on the Exhibit Hall
 - 2. Any surface rusted sheet metal
- B. Clean, prime, and paint metal components as noted on the drawings.

3.08 Plumbing Work

- A. Free any clogged drains or drain piping.
- B. Replace all missing, damaged, plastic, or improperly fit drain strainers, and/or clamping rings. All replacement drain strainers shall be cast iron strainers and shall fit with clamping rings. All replacement clamping rings shall be cast iron and shall properly fit with existing drain bowls.
- C. Install replacement drain bolts. Remove any broken bolts from drain castings, and prepare existing bolt sockets by retapping, where required.
- D. Clean, prime, and paint drain rings and drain strainers, as follows:
 - Surface preparation: Remove all old sealants, debris; and loose rust and loose paint using power-assisted hand tools and/or solvents.
 - Primer: Apply one coat of Sherwin Williams Pro-Cryl Universal Primer, or approved equal
 - Finish Coat: Apply one coat of Sherwin Williams Zero VOC Acrylic, Semi-Gloss, or approved equal
- E. Functional clamping ring and drain strainer shall be installed at each drain during the same workday as membrane installation.

3.09 Mechanical Work

- A. Disconnect and reconnect rooftop mechanical units as required for lifting.
- B. Disconnect ductwork as necessary for lifting units.
- C. Reconnect ductwork as required for proper operation.

3.10 Electrical Work

- A. Disconnect and reconnect rooftop mechanical units as required for lifting.
- B. Unfasten and reattach conduits for proper installation of the roofing system.

3.11 Roof Repair Work

- A. Repairs to Main Arena Roof
 - 1. DO NOT power wash the roof.
 - 2. A leaf blower may be used to help move loose debris.
 - a. Remove plant and tree debris from the roof panels and gutters.
 - 3. Roof panel end lap joints.
 - a. Remove topical caulking and coating materials with an oscillating chisel and non-abrasive scouring pads.
 - b. Remove (back out) the eight existing, self-drilling screw fasteners.
 - c. Remove contaminants from the lap joint, including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - d. Apply two 1/4" beads of approved sealant between roof panels at the end lap joint.
 - 1) Apply the sealant beads side-by-side over the existing fasteners holes.
 - 2) Ensure the sealant beads are continuous and extend into the panel corrugation.
 - e. Reinstall aluminum end lap joint top strap.
 - f. Install eight new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer. DO NOT strip the fasteners.
 - g. A small amount of sealant should squeeze out between the roof panels.
 - h. Remove discarded materials from the roof.
 - 4. Integral FRP (fiberglass reinforced plastic) skylights.
 - a. Remove topical caulking and coating materials with an oscillating chisel and non-abrasive scouring pads.
 - b. Remove (back out) the eight existing, self-drilling screw fasteners.

- c. Remove contaminants from the lap joint including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - d. Remove the side lap fasteners (drill out or nip the heads off) that secure the FRP material to the metal corrugation.
 - e. Remove the FRP material.
 - f. Infill with a faced fiberglass batt insulation the same as under the adjacent roof.
 - 1) Ensure vapor retarder insulation facing is contiguous and vapor tight.
 - g. Install a 22-gauge steel cover in matching color/material to replace the FRP material.
 - 1) Drill the side lap fastener holes to a 5/16" diameter.
 - 2) Apply the approved sealant between the 22-gauge steel cover and the existing roof panels.
 - 3) Secure the steel cover to the roof panels with aluminum Lockrivet fasteners.
 - h. Apply two 1/4" beads of approved sealant between roof panels at the end lap joint.
 - 1) Apply the sealant beads side-by-side over the existing fasteners holes.
 - 2) Ensure the sealant beads are continuous and extend into the panel corrugation.
 - i. Reinstall aluminum end lap joint top strap.
 - j. Install eight new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer. DO NOT strip the fasteners.
 - k. A small amount of sealant should squeeze out between the roof panels.
 - l. Remove discarded materials from the roof.
5. Skylights – 6' x 12' monumental skylights at the ridge.
- a. Fur out the skylight with 2" deep, 16-gauge Z-purlins (four rows).
 - b. Attach the furring to the aluminum skylight extrusions with SDS fasteners (shim as necessary to keep top of furring in the same plane).
 - c. Fill the cavity with unfaced, fiberglass batt insulation.
 - d. Install a watertight R-panel roof similar to the adjacent ridge area.
 - e. Install edge of roof flashings.

6. Narrow ridge cover
 - a. Remove (back out) the fasteners that attach the ridge cover to the steel Z-closures and the ridge cover end lap joint fasteners.
 - b. Remove and replace any wet or damaged fiberglass batt insulation.
 - c. Remove contaminants from the top of the Z-closure and the ridge cover end lap joints, including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - d. Seal the inside and outside of the Z-closures to the roof panels with the approved sealant.
 - e. Install two layers of 1/8" x 1" butyl rubber tape sealant continuously to the top flange of the Z-closure.
 - f. Reinstall the existing ridge covers to the Z-closures with new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 6" o.c. DO NOT strip the fasteners.
 - g. Install the approved sealant between the ridge cover end lap joints and secure with 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 3" o.c. DO NOT strip the fasteners.
7. Wide ridge at 6' x 12' skylight and R-panel roof.
 - a. Seal the outside of the Z-closures to the roof panels with the approved sealant.
8. Rooftop units – ridge fan ventilators and field of rooftop HVAC units.
 - a. From inside the building, locate daylight at roof units.
 - b. Seal with the approved sealant to eliminate any observed daylight.
9. Roof expansion joint cover.
 - a. Remove topical caulking and coating materials with an oscillating chisel and non-abrasive scouring pads.
 - b. Remove (back out) the fasteners that attach the expansion joint to the roof panels and the expansion joint end lap fasteners.
 - c. Remove and replace any wet or damaged fiberglass batt insulation.
 - d. Remove contaminants from the roof panels and the expansion joint end lap joints, including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.

- e. Install the expansion joint covers with the approved sealant at the roof panel to expansion joint side laps and expansion joint cover end lap joints.
 - f. Reinstall the existing expansion joint covers with new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 6" o.c. DO NOT strip the fasteners.
 - g. Install the approved sealant between the expansion joint cover end lap joints and secure with 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 3" o.c. DO NOT strip the fasteners.
- B. Repairs to Livestock Pavilion Metal Roofs
- 1. DO NOT power wash the roof.
 - 2. A leaf blower may be used to help move loose debris.
 - a. Remove plant and tree debris from the roof panels and gutters.
 - 3. Unfilled holes in the roof panels.
 - a. Seal the hole with the approved sealant.
 - b. Install an oversized sheet metal screw with a 1" EPDM gasket patch washer. DO NOT strip the fastener.
 - 4. Obsolete roof penetration (pipe) flashings.
 - a. Remove topical caulking and coating materials with an oscillating chisel and non-abrasive scouring pads.
 - b. Remove (back out) the existing, self-drilling screw fasteners.
 - c. Remove the obsolete flashing.
 - d. Remove contaminants from the roof panel, including non-adhered sealant.
 - e. Wire brush, clean and paint any surface rusted steel.
 - f. Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - g. Cover opening with an oversized 24-gauge, Galvalume coated steel patch.
 - 1) Patch should extend beyond the opening at least 4".
 - 2) Seal the patch with the approved sealant.
 - 3) Secure the patch with new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 3" o.c. DO NOT strip the fasteners.
 - 5. Roof panel end lap joints.
 - a. Remove topical caulking and coating materials with a oscillating chisel and non-abrasive scouring pads.

- b. Remove (back out) the eight existing, self-drilling screw fasteners.
 - c. Remove contaminants from the lap joint, including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - d. Apply two 1/4" beads of approved sealant between roof panels at the end lap joint.
 - 1) Apply the sealant beads side-by-side over the existing fasteners holes.
 - 2) Ensure the sealant beads are continuous and extend into the panel corrugation.
 - e. Reinstall aluminum end lap joint top strap.
 - f. Install eight new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer. DO NOT strip the fasteners.
 - g. A small amount of sealant should squeeze out between the roof panels.
 - h. Remove discarded materials from the roof.
6. Ridge cover.
- a. Remove (back out) the fasteners that attach the ridge cover to the steel Z-closures and the ridge cover end lap joint fasteners.
 - b. Remove and replace any wet or damaged fiberglass batt insulation.
 - c. Remove contaminants from the top of the Z-closure and the ridge cover end lap joints, including non-adhered sealant.
 - 1) Wire brush, clean and paint any surface rusted steel.
 - 2) Patch any severe rust with new 24-gauge, Galvalume coated steel.
 - d. Seal the inside and outside of the Z-closures to the roof panels with the approved sealant.
 - e. Install two layers of 1/8" x 1" butyl rubber tape sealant continuously to the top flange of the Z-closure.
 - f. Reinstall the existing ridge covers to the Z-closures with new 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 6" o.c. DO NOT strip the fasteners.
 - 1) Replace damaged ridge cover with 24-gauge, Galvalume coated steel as needed.
 - g. Install the approved sealant between the ridge cover end lap joints and secure with 410 stainless steel, 1/4"-14 x 3/4", self-drilling screw fasteners with an EPDM gasket washer, 3" o.c. DO NOT strip the fasteners.

- h. Fabricate from 24-gauge, Galvalume coated steel a transition cover from the ridge to the wall of the curbs located at the ridge.
- C. Repairs to Livestock Pavilion Office Roof.
 - 1. DO NOT power wash the roof.
 - 2. A leaf blower may be used to help move loose debris.
 - a. Remove plant and tree debris from the roof and drains.
 - 3. Remove the damaged roof membrane and base sheet.
 - a. At the roof drain (4' x 8') and at the downspout (2' x 4').
 - b. Inspect the plywood roof deck for water damage.
 - c. Replace water damaged plywood roof deck.
 - d. Install new roof materials – ensure 6" overlap between layers.
 - 1) Mechanically attach a modified bitumen base sheet.
 - 2) In cold adhesive, install a modified bitumen base sheet.
 - 3) In cold adhesive, install a granule-surfaced, SBS modified bitumen cap sheet.
 - 4) Hot air weld the edges of the modified cap sheet.
 - 4. Repair wall flashing at wall penetration with modified bitumen membrane.
 - 5. Repair wall flashing at inside and outside corners with modified bitumen membrane.
 - 6. Repair metal wall to parapet coping cap transition with modified bitumen membrane and 24-gauge, prefinished sheet metal.
 - 7. Seal wall penetration in metal wall panel with the approved sealant.

3.12 Quantity Allowances

- A. The bid and contract price shall include stipulated quantity allowances, to be adjusted by unit costs proposed by the Contractor at the time of bidding. The stipulated quantity allowances are listed in the Bid Form under the appropriate Base or Alternate Bid item.

- End of Section -



State Hygienic Laboratory

The University of Iowa

BENCHMARK INC
6065 HUNTINGTON CT NE
CEDAR RAPIDS, IA 52402-

Accession Number	663462
Date Sample Finalized	2018-06-12 15:39
Date Received	2018-05-30 09:40
Sample Source	Bulk
Project	
Date Collected	2018-05-15
Collection Site	1/field membrane
Collection Address	
Sample Description	
Client Reference	17renrenor017b
Collector	heisey ray
Phone	319/393-9100

Note: Reno-Sparks Conv. Ctr.

Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Purchase Order | Not provided

Results of Analyses

Bulk Asbestos, EPA 600/R93/116

Units	% [area]	Analyzed In	Coralville
Date Analyzed	2018-06-11 09:00	Date Verified	2018-06-12 15:39
Analyst	SJM	Verifier	AMC

Analyte	Result
Sample Type	Roofing
Sample Description	Layers
Color	Black, Silver

Analyte	Result	Quant Limit
No asbestos detected	<1	1
Glass	8	1
Synthetic fibers	8	1
Nonfibrous material	84	1

Note: No asbestos was detected in the silver paint.
AIHA-LAP, LLC accreditation Laboratory ID 102530.

Description of Units used within this report

% [area] = Percent by Area

The result(s) of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City/Coralville #027, Lakeside #393.

If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.



State Hygienic Laboratory

The University of Iowa

BENCHMARK INC
6065 HUNTINGTON CT NE
CEDAR RAPIDS, IA 52402-

Accession Number	663463
Date Sample Finalized	2018-06-12 15:40
Date Received	2018-05-30 09:40
Sample Source	Bulk
Project	
Date Collected	2018-05-15
Collection Site	2/wall flashing
Collection Address	
Sample Description	
Client Reference	17renreor017b
Collector	heisey ray
Phone	319/393-9100

Note: Reno-Sparks Conv. Ctr.

Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Purchase Order | Not provided

Results of Analyses

Bulk Asbestos, EPA 600/R93/116

Units	% [area]	Analyzed In	Coralville
Date Analyzed	2018-06-11 09:00	Date Verified	2018-06-12 15:40
Analyst	SJM	Verifier	AMC

Analyte	Result
Sample Type	Roofing
Sample Description	Layers
Color	Black, Silver

Analyte	Result	Quant Limit
No asbestos detected	<1	1
Synthetic fibers	15	1
Nonfibrous material	85	1

Note: No asbestos was detected in the silver paint.
AIHA-LAP, LLC accreditation Laboratory ID 102530.

Description of Units used within this report

% [area] = Percent by Area

The result(s) of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City/Coralville #027, Lakeside #393.

If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.



State Hygienic Laboratory

The University of Iowa

BENCHMARK INC
6065 HUNTINGTON CT NE
CEDAR RAPIDS, IA 52402-

Accession Number	663464
Date Sample Finalized	2018-06-12 15:41
Date Received	2018-05-30 09:40
Sample Source	Bulk
Project	
Date Collected	2018-05-15
Collection Site	3/drain field
Collection Address	
Sample Description	
Client Reference	17renreor017b
Collector	heisey ray
Phone	319/393-9100

Note: Reno-Sparks Conv. Ctr.

Upon arrival, sample met container and preservation requirements for the analysis requested. Please review carefully your sample results for additional analyte comments or method exceptions.

Purchase Order | Not provided

Results of Analyses

Bulk Asbestos, EPA 600/R93/116

Units	% [area]	Analyzed In	Coralville
Date Analyzed	2018-06-11 09:00	Date Verified	2018-06-12 15:41
Analyst	SJM	Verifier	AMC

Analyte	Result
Sample Type	Roofing
Sample Description	Layers
Color	Black, Silver

Analyte	Result	Quant Limit
No asbestos detected	<1	1
Glass	5	1
Synthetic fibers	3	1
Nonfibrous material	92	1

Note: No asbestos was detected in the silver paint.
AIHA-LAP, LLC accreditation Laboratory ID 102530.

Description of Units used within this report

% [area] = Percent by Area

The result(s) of this report relate only to the items analyzed. This report shall not be reproduced except in full without the written approval of the laboratory.

Iowa Environmental Laboratory IDs are: Ankeny #397, Iowa City/Coralville #027, Lakeside #393.

If you have any questions, please call Client Services at 800/421-IOWA (4692) or 319/335-4500. Thank you.

PART ONE – GENERAL**1.01 Description**

- A. Materials and methods to be used in the Base Bid(s) and the Alternate have been described on the drawings and in pertinent sections of the Bidding Documents.
- B. Method for stating the proposed contract sum is described in the Bid Form.

1.02 Submittals

- A. Alternates described in this section are to be reflected on the Bid Form as submitted by bidders. Do not submit Alternates other than as described in this section.

1.03 Product Handling

- A. If the Owner elects to proceed on the basis of the described Alternate, make all modifications to the work required in furnishing and installing the selected Alternate to the approval of the Owner's Representative and at no additional cost to the Owner other than as proposed on the Bid Form.

PART TWO – PRODUCTS**2.01 Alternate Bid No. 1**

- A. On the Exhibit Hall, Install a standing seam metal roof in lieu of the base bid through fastened metal roof.

PART THREE – EXECUTION**3.01 Advance Coordination**

- A. Immediately after award of the contract or as soon thereafter as the Owner has made a decision on which, if any, Alternates will be selected, thoroughly and clearly advise all necessary personnel and suppliers as to the nature and extent of Alternates selected by the Owner. Alert those personnel and suppliers involved as to all changes in the work caused by the Owner's selection or rejection of Alternates.

- End of Section -

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 Division 00 or 01 documents, the Owner-furnished requirement take precedence.

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 – Distribute data on and discuss:
 - a. Organizational arrangement of Contractor's forces and personnel and of subcontractors, material suppliers, and Owner.
 - b. Channels and procedures for communication.
 - c. Review of Contractor's preliminary construction schedule including sequence of critical work.
 - d. Scheduling of project meetings.
 - e. Status of submittals, shop drawings and other data submitted to the Owner for review.
 - f. Invoicing procedures, schedule of values, unit prices, and quantity allowances.
 - g. Contractor's daily reports and unit price work tracking/verification.
 - h. Processing of field decisions and change orders.
 - i. Rules and regulations governing performance of the work.
 - j. Logistics, staging, access, parking, protection, rain day activities, interior responsibilities, and other related matters.

- k. Procedures for safety and first aid, security, emergency procedures, housekeeping, and other related matters.
 - l. Manufacturer inspections and quality control
 - m. Final inspection and project closeout
 - n. Review of project manual and drawings
- B. Progress Meetings
- 1. Progress meetings may be called by the Owner, the Project Consultant (Owner's Representative), or the Contractor as necessary for proper coordination of the work. The meeting(s) will be called with no less than 48-hours, notice to all parties.
 - 2. To the maximum extent practicable, 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 status of submittals for review.
 - c. Identify problems that impede planned progress.
 - d. Develop corrective measures and procedures to regain planned schedule.
 - e. Complete other current business.
 - 4. The proceedings of these meetings will be recorded by the Owner's Representative. Each required representative at the meetings, in addition to the Owner, will be furnished one copy of the meeting minutes.
 - 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. Contractor shall submit **one copy** of required submittals to the Owner's Representative. Required submittals are listed in Section 01 33 24 – Schedule of Pre-Job Submittals. Contractor may provide submittals in electronic (PDF) format and electronically transmit to the Owner's Representative in lieu of a hard copy.
 - 3. Submittal requirements are found here and in the technical sections of the specifications. Make 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, carefully review and coordinate all aspects of each item being submitted and verify each item of the submittal to check that it conforms with the requirements of the Contract Documents. Certify this coordination has been performed by affixing the Contractor's signature to each submittal.
 5. Format of submittals shall be one electronic file in Portable Document Format (.pdf) format. Submittals provided in any other format may be returned to the Contractor without being reviewed.
 - a. Submittals provided in electronic format 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. **Contractor shall not secure and password protect the electronic file.**
 6. 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.
 7. 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.
 8. 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 make each submittal 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. Sheet metal fabrication, metal type and gauge, joining methods, fastener types, fastener placement, and sealant joint installation.
 - c. 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 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 or samples.
 - 3. Submit other samples as called for in the individual specifications.
 - F. Notice of Award/Guarantee Application
 - 1. Submit copy of notice of award or guarantee application to the roof system Manufacturer.
 - 2. When available, submit Manufacturer's written approval of notice of award or guarantee application.
 - G. Substitutions
 - 1. The contract is based on the standards of quality established in the Contract Documents.
 - 2. Do not substitute materials, equipment, or installation procedures unless allowed by the Contract Documents, and then only after the Owner's Representative has provided written authorization.
 - 3. 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.
 - 4. 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. Fax Numbers
 - h. Cellular/Pager Number
 - i. E-mail Addresses
 - j. Two 24-Hour Emergency Contact Phone Numbers
 - k. 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 photo copy of Contractor's and Subcontractor's state license.
 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 method the Owner deems appropriate.
- E. Costs incurred by the Owner and Owner's Representative 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. This schedule will be used at the preconstruction meeting.
 2. The schedule shall be provided in a bar chart format with one activity listed in each row (from top to bottom), and one calendar day listed in each column (from left to right).
 3. Activities shown on the 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. Roof construction (itemize by roof section)
 - f. Sheet metal
 - g. Miscellaneous work
 - h. Final cleanup
 - i. Substantial completion
 - j. Final inspection by Manufacturer
 - k. Final inspection by Owner and Owner's Representative
 - l. Punch list completion
 - m. Project closeout/warranties
 - n. Final completion
4. Following the preconstruction meeting, Contractor shall revise the schedule within seven business days, and resubmit to the Owner's Representative. Following review, Contractor shall distribute the schedule to all interested parties.

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 lack of required progress reporting.
- 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 shall be one hard copy, or an electronically transmitted Portable Document Format (.pdf) file consisting of the following:
1. Warranties, Manufacturer's punch lists, and documentation of punch list completion as required by Section 01 78 36 - Warranties.
 2. AIA G706 - Contractor's Affidavit of Payment of Debts and Claims.
 3. 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.
 4. Evidence of payment and release of liens from the Contractor, subcontractors, and suppliers.
 5. AIA G707 – Consent of Surety to Final Payment
 6. Evidence that the jurisdictional authorities that issued permits have accepted the project and closed-out the respective permits.
 7. Final adjustment of accounts including:
 - a. Original contract sum

-
- b. Additions and deductions resulting from (if applicable):
 - 1) Previous Change Orders
 - 2) Adjustment of Contract Allowances
 - 3) Unit Price Work
 - 4) Other adjustments
 - 5) Deductions for uncorrected work
 - 6) Deductions for reinspection payments
 - 7) Deductions for actual damages
 - c. Total contract sum as adjusted
 - d. Previous payments
 - e. 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 application in accordance with conditions of the contract.

- End of Section -

PRECONSTRUCTION DAMAGE REPORT

Project: Reno-Sparks Exhibit Hall, Main Arena & Livestock Pavilion
1350 N. Wells Avenue
Reno, Nevada

Contractor: _____

Project No.: 18RENRENOR008C

Date: _____

Owner: Reno-Sparks Convention & Visitors Authority
4590 S Virginia Street
Reno, Nevada 89502

Anticipated Start Date: _____

Upon inspection of the above-mentioned premises, we are in agreement that existing visible damage to the facility consists of the following: (Itemize damages, listing item descriptions, quantities, locations, and extent of damages. Provide photo or video documentation where appropriate and authorized by the Owner).

INTERIOR:

EXTERIOR:

The above-mentioned items should be excluded from any future claims for damages related to the construction project.

OWNER:

CONTRACTOR:

Date: _____

Date: _____

Photo or video documentation provided Yes No

DAILY PROGRESS REPORT

Project: Reno-Sparks Exhibit Hall, Main
 Arena & Livestock Pavilion
 1350 N. Wells Avenue
 Reno, Nevada

Date:

Day: S M T W TH F S

Project No.: 18RENRENOR008C

Weather: CLEAR P/C OVERCAST RAIN FOG

Owner: Reno-Sparks Convention &
 Visitors Authority
 4590 S Virginia Street
 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:
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			
[From Bid Form]	[Unit Description] (Q/A- From 01 11 00)			

Type of Roof System: _____
 Roof Section(s) Worked on: _____
 Materials Delivered Today: _____
 Total Squares Installed Today: _____
 Comments: _____

By: _____

Title: _____

PROJECT NO.: 18RENRENOR008C

PROJECT: Reno-Sparks Convention and Visitors Authority
Exhibit Hall, Main Arena and Livestock Pavilion
1350 N Wells Avenue
Reno, Nevada 89512

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				

DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

00 21 13	Instructions To Bidders									
	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									
	Contact/Subcontractor List									
	Building Permit									
	Copy of Contractor's State License									
	Proposed Schedule of Values for Invoicing									
	Construction Schedule									
	No Asbestos Statement									
Preconstruction Damage Documentation										

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				
01 35 24	Construction Project Safety									
	Pre-Job Site Safety Plan/Assessment									
	Safety Data Sheets									
DIVISION 06 - WOOD, PLASTICS AND COMPOSITES										
06 01 10.61	Wood Roof Decking Repair/Replacement									
	List of Materials									
06 10 53	Miscellaneous Rough Carpentry									
	List of Materials									
DIVISION 07 - THERMAL AND MOISTURE PROTECTION										
07 01 50.62	Repair of Existing Roof Systems									
	Manufacturer's Literature									
	List of Materials									
	Shop Drawings									
	Manufacturer Notification(s)									
	Manufacturer Approval Letter(s)									
07 21 16	Batt Insulation									
	Manufacturer's Literature									
	List of Materials									
07 41 14	Pre-Engineered Metal Roof System									
	Manufacturer's Product Information									
	Manufacturer's Specifications									
	Manufacturer's Installation Instructions									
	Shop Drawings									
	UL Class 90 Certification									
	Samples of Roofing Materials Per Specification									
	Written Installer Certification Per Specification									
07 51 05	Base Sheet Installation									
	Manufacturer's Literature									
	List of Materials									
	Base Sheet Fastening Patterns									
	Roof Plan Showing Perimeter and Corner Fastening Areas									

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 52 01.07	Adhesive Applied Modified Bitumen Membrane Roofing									
	Manufacturer's Literature									
	List of Materials									

07 72 13	Manufactured Curbs									
	Manufacturer's Literature									
	List of Materials									
	Manufacturer's Recommended Installation Methods									

DIVISION 09 - FINISHES

09 91 00	Painting									
	Manufacturer's Literature									
	List of Materials									
	Color Chart or Samples For Paint Color Selection									

Distribution
Contractor - Project Manager
Client - Project Manager
Benchmark - Project Manager, Field Consultant, Project File

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 and inconvenience.
- B. The following aspects of the project shall be executed as described in this section, unless otherwise authorized in advance by the Owner:
 - 1. Coordination with Facility Operations
 - 2. Temporary Facilities and Utilities
 - 3. Staging Areas
 - 4. Access and Logistical Requirements
 - 5. Work Hours
 - 6. Security Requirements
 - 7. Rain Day Activities
 - 8. Labor Forces and Completion of Work
 - 9. Employee Conduct
- C. The Contractor shall advise all administrative and field personnel, Subcontractors, and material suppliers of the requirements of this section.
- D. Any delays experienced due to the Contractor's negligence in providing proper notifications and coordination shall be at the Contractor's expense.
- E. If any conflict should arise over a specific provision of this section, the Owner's decision shall be final.
- F. Coordinate the requirements of this section with related requirements specified elsewhere in the Contract Documents. Immediately inform the Owner's Representative of any conflicts.
- G. 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 persons.

PART TWO – PRODUCTS**2.01 Not Used**

PART THREE – EXECUTION**3.01 Coordination with Facility Operations**

- A. The Contractor shall note that the building may be occupied and in use 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.

3.02 Temporary Facilities and Utilities

- A. Temporary facilities provided by the contractor shall include, but are not limited to:
 - 1. Utilities such as water and electricity as required.
 - 2. Contractor's facilities.
 - 3. Temporary sanitary facilities.
- B. Project Requirements
 - 1. The on-site project supervisor shall carry a reliable cellular phone on the project site at all times.
 - 2. 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. 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.
- C. All roads and doorways shall remain open, unless approved otherwise by the Owner's Representative.
- D. Contractor shall not block access to dumpsters, and shall maintain safe clearance from all equipment, tanks, and valves.

- E. 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.
- F. Furnish and install any necessary barricade and/or fencing around all ground level staging areas, equipment, and materials.
- G. 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 Roof Protection

- A. Where required, the Owner will allow the Contractor to use the adjacent roof surfaces for movement of roofing debris and materials to/from the staging area.
- B. 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.

3.05 Roof Damage Control

- A. Contractor shall be responsible for protection of new and existing roof surfaces from construction traffic damage.
- B. Contractor shall inspect all areas on a daily basis, and repair any areas of damage before leaving the job site that day.

3.06 Access and Logistical Requirements

- A. Protect the building from staining or damage where ladders, scaffolding, and chutes are set up against the building.
- B. Ladders 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 the building exterior.
- 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. Roofing personnel shall not enter the building, except to perform their contractual duties, or where approved by the Owner to access the roof.
- G. Roof access shall be as approved by the Owner.
- H. Contractor shall protect and properly barricade all access and staging areas.
- I. Contractor shall only park in the Owner-approved areas.
- J. Contractor is responsible for all of their employee's parking.

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 Roof Openings
 - a. At any time that 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 closing the opening, the Contractor shall sweep down all floor areas, clean off all elevated areas and equipment, properly dispose of the debris, and remove all barricades. Contractor shall immediately notify the Owner's Representative when complete.
 - 2. Areas Without 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 Work Hours

- A. Work hours shall be discussed at the Pre-bid Meeting.

3.09 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.

3.10 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% without prior approval of the Owner.
- C. All work shall be completed within two weeks of the last day of the new metal roof installation, and before the required completion date.

3.11 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.

3.12 Miscellaneous Facility Requirements

- A. Personnel shall dress in professional and appropriate work clothes at all times.

- End of Section -

PART ONE – GENERAL**1.01 Description**

- A. Work Included: To assure the work site environment is safe for the employees of all Contractors, Subcontractors, Consultants, Manufacturer's Representatives, Owner's Representatives, and building occupants, this section has been written to identify and emphasize the importance of safe working conditions. If any conflict arises over a specific provision or rule, the laws and rules governing that specific location shall be followed.
- B. The Contractor shall be solely responsible 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 requirements, as applicable.

1.04 Quality Assurance

- A. Per OSHA 29 CFR 1926.20(b), the Contractor shall make frequent and regular job site safety inspections to ensure compliance with all applicable standards and site-specific safety requirements.
- B. The 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 thirty days, or as required by the standard.
- C. A qualified person designated by the Contractor, who has the authorization to take prompt corrective measures, shall perform all inspections. This 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's Representative.
- D. The Contractor's qualified 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 appoint a competent person to be present at all times on the project site, who 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 able to communicate with Contractor's employees, Subcontractor's employees, and Owner's employees.

- G. The Contractor's competent person, 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 requirements.
- I. One full copy of SDS shall be located on the roof, in addition to other copies 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 qualified 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
 - 4. Fall protection
 - 5. Skylights and roof openings
 - 6. Hot work/fire protection
 - 7. Pedestrian/vehicular safety
 - 8. Interior safety
 - 9. Any other pertinent, site-specific issue(s) not listed
- B. Contractor shall submit SDS for all construction materials and other substances to be used on the project.
 - 1. Benchmark's review of the Contractor's SDS submittal 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 updated SDS when issued by the Manufacturer(s), or if materials or substances are brought to the project site that were not anticipated prior to the job start.

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 in safe operating condition and shall be maintained in a safe condition for the project duration. Equipment found to be unsafe or in disrepair shall be repaired and made safe or shall be removed from the job site and replaced, if necessary, at no cost to the Owner.
- C. Disposal of any solvents, containers, and other regulated materials shall meet all applicable laws.

PART THREE – EXECUTION

3.01 General

- A. The specified safety requirements 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.

3.02 Contractor Employee Training

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

3.03 Accident Investigation and Reporting

- A. Investigating and reporting of accidents is necessary for all Contractors and Subcontractors. An accident investigation and report shall be immediately made by the Contractor's designated competent person on site. Contractor shall provide to the Owner's Representative a copy of the completed Accident Report, Employer's First Report of Injury or Illness, or such other similar reports required by federal, state, county and municipal or local safety laws. All reporting and record keeping requirements shall be in accordance with OSHA regulations.
- B. Perform investigation and reporting of accidents as required by the Owner's safety requirements and policies, where applicable.

3.04 First Aid

- A. Contractor and Subcontractors shall be responsible for providing first aid and medical treatment for their employees. The names, addresses and telephone numbers of Contractor's and Subcontractors' doctors, hospital and ambulance services shall be conspicuously posted, as required by law.
- B. A suitable first aid kit shall be located at all times on the roof and shall be conspicuously located and readily accessible at all times. The first aid kit shall be of an appropriate size for the roofing crew.

3.05 Individual Conduct and Safety

- A. Contractor's and Subcontractors' employees shall be made aware of and comply with the following rules that will be in effect on all job sites:
 - 1. Alcoholic beverages and illegal drugs will not be permitted.
 - 2. Prescription drugs with side affects that impair an Employees' ability to perform their work duties in a safe manner, will not be permitted.
 - 3. Employees entering job site under the influence or possession of alcohol or drugs will be subject to removal from the job site.
 - 4. The carrying of firearms and all other weapons is prohibited.
 - 5. Fighting, gambling, stealing, soliciting, and horseplay will not be tolerated.
 - 6. Abusive language or disrespectful behavior in public areas will not be tolerated.

3.06 Personal Protective Equipment (PPE) and Clothing

- A. The Contractor shall furnish and require the use and wearing of PPE and protective clothing by its employees and any Subcontractor's employees.
- B. Approved eye and face protection is required to be worn when warranted by the exposure, 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 or corrosives.
- C. Appropriate clothing shall be worn at all times.
- D. Hard hats must be worn at all times whenever there is a possibility of head injury from impact, flying or falling objects, or where mandated by facility safety requirements.
- E. Hearing protection shall be utilized where mandated by OSHA regulations or facility safety requirements.
- F. Protective footwear shall be used where mandated by OSHA regulations or facility safety requirements.

3.07 Housekeeping

- A. The Contractor or Subcontractors shall maintain good housekeeping standards at all times as an integral part of the work. Daily cleanup of work, lay-up, and personnel areas is required and must be performed.
- B. Materials shall be piled so that safe clearances are maintained and tipping or movement is prevented. Loose materials on the roof must be secured so that they cannot be blown or bumped off.
- C. Accumulation of material that may create a fire hazard is not permitted. Never store excessive amounts of material in one place, so as to potentially overload the roof.
- D. Roof areas are to be "watertight at night" at all times during the job. Contractor's or Subcontractors' failure to do so can be grounds for dismissal.

3.08 Signs and Barricades

- A. When it is necessary to barricade an area for overhead work, to protect personnel from hazardous operations, or to move equipment or cranes, barricades are to be provided by the Contractor or Subcontractors. Barricades must be erected before the work requiring them begins. If the barricades are in a roadway or walkway, blinking lights must be used after dark. When the work is completed, the barricades must be removed from the job site.
- B. Contractor or Subcontractors are forbidden to remove posted signs.
- 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. The Contractor shall select and implement one of the following methods of fall protection, in compliance with OSHA regulations.
 - 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 skylights, open mechanical curbs and similar openings or holes which could be potential fall hazards shall be guarded at all times to prevent accidental falls.

3.10 Ladders

- A. 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 must be barricaded or guarded.
- B. Ladders shall be of adequate length and must extend at least 3' or 4 rungs above the upper landing.

- C. 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.
- D. Straight ladders shall have non-skid feet and be securely tied off.
- E. Face the ladder and use both hands going up or down.
- F. Do not climb or descend ladders with tools, equipment, or material in your hands.
- G. Metal ladders shall not be used.
- H. 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.

3.11 Fire Protection

- A. Fully charged, inspected and tagged fire extinguishers must be located at all times on all 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.
- B. 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.
- C. Smoking may be prohibited on the job site for various reasons. Employees will be expected to obey all "No Smoking" signs.
- D. Store all flammable liquids in approved safe containers. Contents will be described and marked flammable.
- E. Flammable liquids in excess of 10 gallons must not be stored on the roof overnight, unless specific written authorization is provided in advance by the Owner.
- F. When using flammable liquids to clean, dispose of the rags in approved containers or remove them from the roof daily to prevent possible spontaneous combustion.
- G. 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 result in a flame or spark.

3.12 Electrical Safety

- A. All electrical circuits shall utilize ground-fault circuit interrupters (GFCI) to protect workers from injury.
- B. Regularly inspect all power cords. Any defective power cords shall be taken out of service and removed from the job site immediately.
- C. Only double insulated power tools shall be used.

- D. 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.
- E. 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.
- F. Do not set up ladders or stage construction operations adjacent to power lines. If the only available locations are near power lines, implement measures to prevent injury, and coordinate any required outages with the Owner's Representative in advance.

3.13 Crane and Hoist

- A. 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.
- B. 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.
- C. 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.
- D. 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, or air pumps. Notify Owner's Representative when dust or fumes may be drawn into the facility so that the unit may be shutdown and/or covered.
- D. At night lock trucks, deactivate hoisting equipment, and take down 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 -

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.

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 warranties shall be provided:
 - 1. Base Bid for Exhibit Hall roof replacement
 - a. Roofing Manufacturer's 10-year Weathertight Warranty covering labor and material.
 - b. Roofing Manufacturer's 25-year paint film warranty.
 - 2. Alternate Bid for Exhibit Hall roof replacement
 - a. Roofing Manufacturer's 25-year Weathertight Warranty covering labor and material.
 - b. Roofing Manufacturer's 25-year paint film warranty.

1.03 Contractor Warranty

- A. For the repairs specified for the Event Center and the Livestock Pavilion
 - 1. The Contractor shall guarantee all materials and workmanship for a period of 90 days 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 90-day period by repairing or replacing such defects without cost to the Owner.
- B. Contractor's warranty shall be prepared and submitted using the form provided in this section.

PART TWO – MATERIALS

2.01 Not Used

PART THREE – EXECUTION

3.01 Not Used

CONTRACTOR'S WARRANTY

Trade: Roofing and Sheet Metal Repair Work

Manufacturer and Roof System Installed: _____

Contractor: _____

Contractor Address: _____

Contractor Phone: _____

Contractor E-mail: _____

Contract Number and Date: _____

Project and Location Reno-Sparks Conventions Center
2018 Roof Replacement and Repairs
1350 N Wells Avenue
Reno, Nevada 89512

Area of Roof Repairs: Exhibit Hall

Date of Acceptance
(Effective Warranty Date): _____

1. Contractor guarantees to Owner that the roofing repair(s) identified above have been installed in accordance with the Contract Documents for the above referenced project, and meet 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 90 days 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 90 days 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*

CONTRACTOR'S WARRANTY

Trade:	Roofing and Sheet Metal Repair Work
Contractor:	
Contractor Address:	
Contractor Phone:	
Contractor E-mail:	
Contract Number and Date:	
Project and Location	Reno-Sparks Conventions Center
	2018 Roof Replacement and Repairs
	1350 N Wells Avenue
	Reno, Nevada 89512
Area of Roof Repairs:	Main Arena and Livestock Pavilion
Date of Acceptance (Effective Warranty Date):	

1. Contractor guarantees to Owner that the roofing repair(s) identified above have been installed in accordance with the Contract Documents for the above referenced project, and meet 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 90 days 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 90 days 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

- A. Coordinate the roof preparation work with the new work in such a manner as to keep the existing and new insulation and roofing materials, building, and building interior absolutely dry and watertight.
- B. Coordinate all work with the Owner to minimize any disruptions of the Owner's operations.

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.

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 system or the building structural system.

3.04 Mandatory Recycling

- A. As part of any Base Bid or Alternate Bid item, the Contractor shall divert all of the following materials from disposal at the landfill.
 - 1. Metals, including edge metal, copings, counterflashings, expansion / control joint covers, and all non-contaminated metal pails.
 - 2. Cardboard, including packaging materials.

- B. The Contractor shall package the debris as required by the recycler.
- C. Pallets in a condition to be reused shall not be landfilled.
- D. Metal or plastic pails and containers that are contaminated with adhesive, mastic, coatings, and similar materials are excluded.

3.05 Preparation of Surfaces

- A. The extent of preparation of surfaces is listed in each section; on the drawings; and in Section 01 11 00 – Summary of Work.

3.06 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. Furnish and install replacement wood decking to replace existing deteriorated wood decking, per the drawings and specifications.
- 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. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
 - 2. *Tongue and Groove Roof Decking (Publication WCD No. 2)*, American Wood Council
 - 3. *Roof Sheathing Fastening Schedules for Wind Uplift*, The Engineered Wood Association
- 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 the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
 - 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 the roof or ground and covered with weatherproof tarps, ventilated to avoid condensation and sufficiently anchored 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 subject to the approval of and at no additional cost to the Owner.

PART TWO – PRODUCTS**2.01 Plywood Decking**

- A. Plywood decking shall be APA Rated Sheathing, Exposure 1; thickness shall match existing.
- B. Nails shall be hot dip galvanized common or ring shank, 8d for 0.5" to 1" plywood, and 10d for over 1" plywood. Nail length shall provide for 2" minimum penetration into wood roof framing.

PART THREE – EXECUTION**3.01 Plywood Decking**

- A. Plywood decking shall be removed and replaced from framing member to framing member. Each new piece of decking shall rest on three framing members, minimum.
- B. On decks with supports greater than 24" o.c., panel clips shall be installed 24" o.c.
- C. Cut and neatly fit decking around rooftop projections. Install additional framing supports as required.
- D. Plywood shall be installed with 1/8" gaps at end and edge joints. Use nails installed 6" o.c. at edges on supporting members and 6" o.c. at intermediate supports. Nails shall be placed 1" from ends.
- E. Ring-shank nails shall be used on gable ends or other exposed, cantilevered constructions, when the roof height (measured at eave) is greater than 25 feet.
- F. Coordinate decking installation so that roofing installation follows immediately to minimize decking exposure to the weather.

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. When sawing of wood or plywood is performed on the rooftop, contain and/or clean sawdust in such a way as to prevent contamination of substrate to receive subsequent construction materials.
- B. Contractor shall follow the requirements to Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -

PART ONE – GENERAL**1.01 Description**

- A. Work includes, but is not necessarily limited to:
 - 1. Installing wood nailers and/or plywood per the drawings and specifications.
 - 2. Refastening existing wood nailers and/or plywood in accordance with the specified standards, where existing nailers and/or plywood are suitable for reuse.
 - 3. Removal and replacement of existing deteriorated nailers and/or plywood.

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 the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
 - 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.

PART TWO – PRODUCTS**2.01 Nailers**

- A. All nailers shall be #2 or better, construction grade lumber.
- B. Nailer size shall match existing.
- C. Minimum top nailer thickness shall be 1.5" (nominal).
- D. Nailers shall extend 1/2" beyond metal flanges.

2.02 Plywood

- A. All plywood is to be minimum 1/2", APA Rated Exterior, Structural 1. Only waterproof glue is acceptable.

2.03 Carbon Steel Fasteners

- A. All fasteners must be carbon steel with corrosion-resistant coating. Fasteners shall meet FM 4470.
- B. Steel/Wood Fasteners
 - 1. Corrosion-resistant, self-tapping, self-drilling screw with low profile head.
 - 2. Fastener to be FM Global approved.
 - 3. Approved Products
 - a. Roof Grip by OMG with Climaseal Coating
 - b. Dekfast by SFS intec, Inc., with Sentri Coating
 - c. Standard roofing fastener by OMG, with CR-10 coating
 - 4. Fasteners to be #12 minimum and of sufficient length to penetrate into steel 3/4" and wood 1".
- C. Washers
 - 1. Round, carbon steel, ASTM F 844-072, galvanized per ASTM F 2674; minimum diameter 5/8".

PART THREE – EXECUTION**3.01 Nailers**

- A. Nailers are to be installed as per detail drawings.
- 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 nailers to required levels and lines with members plumb and true.

- D. All perimeter nailers shall be of uniform height within a given roof section.
- E. Nailers shall be installed with 1/4" gap between ends of adjoining pieces.
- F. Where two or more nailers are stacked, butt joints shall be offset 12" minimum between adjacent layers.
- G. Nailers shall be fastened in accordance with the following schedule:
 - 1. Fasteners in 6" or wider (nominal) lumber shall be installed in two rows, staggered one-third of nailer width. Listed spacings indicate distance between fasteners in adjacent rows.
 - 2. Two fasteners shall be installed within 6" of each nailer end.
 - 3. Corner fastener spacing shall extend 8' from all outside building corners.
 - 4. Where two or more nailers are installed, each nailer shall be fastened independently.
 - 5. Over all deck types, the bottom nailer shall be fastened using the specified fasteners and 5/8" diameter washers. Countersink washers and fasteners level with top of wood using spade bit or similar method. Fasten subsequent nailers, where specified, using the specified screws without washers.
 - 6. Maximum fastener spacing shall be as specified on the drawings.

3.02 Plywood

- A. Plywood is to be installed as per detail drawings.
- B. Plywood joints must 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.

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. When sawing of wood or plywood is performed on the rooftop, contain and/or clean sawdust in such a way as to prevent contamination of substrate to receive subsequent construction materials.
- B. Contractor shall follow the requirements to Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -

PART ONE – GENERAL**1.01 Description**

- A. This section is, by design, general in scope. The specified methods herein apply to the majority of conditions present, however minor adjustments to the scope may be required based upon encountered conditions and configurations of existing components.
- B. Furnish all work as specified herein and as shown on the drawings.
- C. The contractor shall examine the project area(s) and shall be responsible for verifying all configurations of existing components. The owner will make no allowance to the contractor for not adequately examining the project area.
- D. The Roof Plan shows the project area(s) to be included and the general locations of work to be performed.
- E. Action Codes on the Roof Plan identify the general location and provide a brief description of work to be performed. Action Codes are cross-referenced with the standards specified in subsection 3.03 Required Work by Action Code.
- F. Where phrases are shown adjacent to an Action Code on the Roof Plan, the Contractor shall be responsible to identify all locations within the project area(s) requiring the applicable Action Code.
- G. Refer to additional key work notes on the Roof Plan and Details.
- H. Comply with the standards specified in this section and as listed in the Section 01 11 00 – Summary of Work.
- I. Damages to the building or grounds caused by the Contractor shall be corrected to the approval of the Owner's Representative at no additional cost to the Owner.
- J. References to bituminous membranes shall include built-up and modified bitumen membranes.

1.02 The following roof system type(s) are included in this specification section:

Roof Section	Roof System Type
Main Arena	Standing seam metal
Livestock Pavilion - Main	Standing seam metal
Livestock Pavilion - Connector	Standing seam metal
Livestock Pavilion - Office	Modified Bitumen

1.03 References

- 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 the specific 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. *Annual Book of ASTM Standards*, ASTM International.

3. Manufacturer's published specifications, product data sheets, application instructions, and technical bulletins.
 4. *International Building Code*, ICC.
 5. *Repair Manual for Low Slope Membrane Roof Systems*, National Roofing Contractors Association.
- B. References: Materials specified 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. *Roofing Materials and Systems Directory and Fire Resistance Directory*, Underwriters Laboratories, Inc.

1.04 Quality Assurance

- A. Qualification of Contractors:
1. Use an adequate number of skilled workers who are thoroughly trained and experienced in the necessary crafts, and who are completely familiar with the means and methods needed for proper completion of the work in this section.
 2. In acceptance or rejection of the work, the Owner will make no allowance for lack of skill on the part of the Contractor's employees or subcontractors.
- B. The Contractor shall not subcontract the direct roof work covered under this specification to an individual or firm which is not a full-time employee of the Contractor's company.
1. Exceptions to this standard may include:
 - a. Plumbing Work
 - b. Masonry Work
 - c. Vegetation Pruning / Removal
 - d. Glazing Work
 - e. Skylight Work
- C. Provide materials bearing Underwriters Laboratories (U.L.) classification label on bundle, package, or container indicating materials have been produced under U.L.'s classification and follow-up services.
- D. The NRCA recommended methods of installation, unless superseded by this specification or Manufacturer recommendations shall be the basis for inspecting and acceptance, or rejection of the installation procedures used for this project.
- E. For all work requiring replacement of the perimeter or penetration flashings and where a detail drawing is not referenced or specified, the standard flashing details by the NRCA will be the basis for acceptance of work by the Owner's Representative, unless superseded by other standards in this section or by the Manufacturer's requirements.

- F. For all work requiring replacement of the existing base sheet and/or roof insulation, the minimum attachment of new materials shall be as recommended by the supplying Manufacturer and will be the basis for acceptance of work by the Owner's Representative, unless superseded by other standards in this section or by the Manufacturer's requirements.
- G. For work performed when the Owner's Representative is not onsite, document all work with digital photos. Submit as directed by the Owner's Representative.

1.05 Warranties

- A. None of the roof sections receiving work are known to be under warranty:
- B. Refer to Section 01 78 36 – Warranties.

1.06 Submittals

- A. Comply with requirements of Section 01 30 01 – Project Administration.
- B. 14 calendar days prior to project start date, submit the following:
 - 1. Materials list of all items proposed to be furnished and installed under this section.
 - 2. Shop Drawings of all applicable details for required metal fabrications, base sheet attachment, insulation attachment and temporary tie-off.
 - 3. Documentation of notification to and acceptance by the Manufacturer regarding all warranty work for sections and systems identified in this specification.
 - 4. Most recent copy of supplying Manufacturer literature applicable to products specified for use.

1.07 Delivery Storage and Handling

- A. Use all means to protect the materials to be installed under this section before, during, and after installation and protect the work of all other trades.
- B. Deliver materials to the job-site in original, unopened packaging no sooner than seven calendar days prior to the start of the project.
- C. Package labels shall indicate material name, production date, lot number, and/or production code.
- D. Materials shall be stored elevated off the ground and covered completely with weatherproof tarps securely anchored to resist displacement by wind.
- E. When materials are brought onto the roof, space materials apart on the roof as to not create an overstress condition.
- F. Follow recommendations for storage of temperature sensitive materials as published by the supplying Manufacturer.
- G. Materials shall be stored only in approved areas designated by the Owner.

PART TWO – PRODUCTS**2.01 General**

- A. All products shall be manufactured or supplied by a producer who has an established record of ten years or greater of successful application without alteration to the formulation of specified products.
- 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. All products shall be 100 percent asbestos free.
- D. Products shall be of like materials currently installed unless otherwise specified or existing materials are substandard/incompatible products.
- E. Intermediate products, i.e. primers and cleaners, shall be supplied by or approved by the finished material Manufacturer.
- F. The specified materials shall be as listed in this section, unless amended by addendum. Exceptions are as follows:
 - 1. Substitute materials shall require submittal of product information for the proposed equal product and herein specified product at least five business days prior to the time set for the opening of bids. The Contractor shall state the specific use of each proposed substitute product and area of use. Approval by the specifier is required before any substitute materials are installed.

2.02 Approved Materials

- A. Sealants for Metal Roof Repairs – Reference 'Approved Sealant' on Drawings shall be moisture curing polyurethane or polyether sealants. The following are approved for use:
 - 1. Tremco Vulkem 116 sealant
 - 2. ChemLink DuraLink 35 sealant
- B. Asphalt Primer
 - 1. Shall conform to ASTM D 41
- C. Asphalt Roof Cement
 - 1. Shall conform to ASTM D 4586
- D. Bitumen Reinforcing Mesh Fabric (Asphalt and Coal-Tar Pitch)
 - 1. Shall conform to ASTM D 1668, Type I
- E. SBS Modified Bitumen Membrane/Flashing
 - 1. Shall conform to ASTM D 6163, Type I
- F. SBS Modified Bitumen Membrane Adhesive
 - 1. Shall conform to ASTM D 3019, Type III

- G. SBS Modified Bitumen Flashing Adhesive
 - 1. Shall conform to ASTM D 4586, Type I
- H. Modified Bitumen Cement
 - 1. Shall conform to ASTM D 3409, Type I
- I. EPDM Single-Ply Thermoset Membrane/Flashing
 - 1. Shall conform to ASTM D 4637
- J. Lumber
 - 1. Shall be #2 or better construction grade lumber.
 - 2. Treated wood shall be used where exposure to moisture is possible, such as pipe supports or wood blocking sleepers.
- K. Plywood
 - 1. Shall be minimum 0.5", APA Rated Exterior, Structural 1, manufactured with waterproof glue.
- L. Metal Roof Sealant
 - 1. Shall conform to ASTM C 794
- M. Paint and Primer
 - 1. Shall conform to ASTM D 1640
- N. Sheet Metal
 - 1. Metal components and gauges are referenced in the details and SMS sheet.
 - 2. Prefinished steel with 70 percent Kynar 500/Hylar 5000 finish.
 - 3. Color to match existing and be approved by the Owner's Representative.
 - 4. Galvalume coated steel with 55 percent Aluminum-Zinc finish.
 - 5. Sheet metal fasteners shall be appropriate for the attachment to substrate materials.
- O. Accessory Components
 - 1. Roof Drains and Strainers
 - a. The existing interior roof drains shall be used whenever practical.
 - b. Retrofit drains shall properly fit the existing drain leader size.
 - c. Installation of retro-fit drains shall not impede existing drainage.
 - d. Drain strainers shall be cast iron or aluminum and fit to match existing drain clamping rings.

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

- A. Perform all work in compliance with the latest existing material Manufacturer specifications and NRCA installation techniques along with the following requirements. These specific minimum requirements must be included in the bid and are not to be altered.
- B. 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. Perform all related work necessary for the installation of the specified work.
- D. 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.
- E. Ensure materials, bitumen, and debris do not enter the building interior.
- F. Ensure fasteners or other mechanical attachments do not penetrate conduits or other nonstructural items located beneath the roof deck.
- G. Strictly follow all Manufacturers' guidelines for storage, preheating, and application of temperature sensitive materials. Do not apply materials beyond the temperature range specified by the supplying Manufacturer.
- H. Minimum patch size for bituminous systems shall be 12" x 12" (field) and 8" x 8" (flashings).
- I. Fire Watch:
 - 1. Contractor shall establish a fire watch procedure when use of a hot-air welder is used.
 - 2. Fire watch procedures shall follow CERTA guidelines.
 - 3. Fire watch shall be maintained for a minimum of two hours after the last heat source is turned off, one hour after the last hot-air welder is turned off.
- J. References to a "three course" as applies to bituminous systems shall be as follows.
 - 1. Install a layer of roof cement.
 - 2. Embed one ply of reinforcing fabric.
 - 3. Install a layer of roof cement.

3.02 Surface Preparation

- A. Surfaces to receive materials shall be free of standing water, snow, ice, dew, condensate, dirt, debris, rust, deleterious materials, and contaminants.
- B. Surfaces and substrates shall be cleaned, prepared, and/or primed in accordance to this specification and the finished material Manufacturers' recommended preparation procedures prior to application of finish materials.

- C. Displace sheet metal components to facilitate work. Reinstall sheet metal components once work has been completed.
- D. Modified Bitumen Roof Systems:
 - 1. Embed or prime granule surfaced areas 6" beyond damaged area.
 - 2. Prime smooth surfaced areas 6" beyond damaged area.
 - 3. Remove all blistered, loose, damaged, wet or eroded materials to a sound substrate.
- E. Metal:
 - 1. Remove all loose, dry, or incompatible materials and caulking to a clean, bare substrate.

3.03 Required work by Action Code Reference

- A. The following numbers correspond to Action Codes located on the Roof Plan.
- B. Conform to Sections 3.01 and 3.02 prior to proceeding with the referenced work.
- C. Refer to the associated detail drawings at the end of this Bid Document regarding further specific aspects with the referenced work.

2.0 Field Membrane

For Bituminous Roofing

- 2.02** Remove existing field membrane as indicated on the roof plan. Install new modified bitumen membrane 6" beyond removed materials onto existing membrane, install granule surfaced modified bitumen membrane.

For Metal Roofing:

- 2.61** Disassemble roof panel end lap joint, seal and secure the end lap joint.
- 2.62** Remove ridge cover, seal and secure ridge cover end lap joints and the ridge cover to the metal closures.
- 2.63** Seal metal closures to the roof panels.
- 2.64** Seal and flash the ridge cover to the roof curb.
- 2.65** Remove obsolete roof penetration flashing and install roof panel repair.
- 2.66** Seal open fastener hole in the roof panel.
- 2.67** Remove expansion joint cover, seal and secure expansion joint cover end lap joints and the expansion joint cover to the roof panels.

3.0 Perimeter Flashings**For Bituminous Roofing:**

3.01 Install modified bitumen flashing membrane onto the existing field and flashing membrane. Lap the new flashing membrane 4" minimum beyond removed materials onto the primed existing field and flashing membranes. Mechanically secure top edges of all base flashings with a termination bar attached 8" o.c. maximum and three-course. Resurface to match existing, including metalwork or install granule surfaced modified bitumen flashing membrane and resecure any displaced metalwork.

4.0 Penetration Flashings**For Metal Roofing:**

4.61 Seal openings at curb flashing and rooftop unit.

5.0 Roof Related Sheet Metal

5.11 Install metal counterflashing to match the existing profile. Metal type, gauge, and jointing shall match existing. Secure counterflashing with fasteners appropriate to the substrate.

6.0 Drainage**For Bituminous Roofing:**

6.03 Displace drain ring to facilitate work. Remove existing drain flashing to a bondable surface, prime roof and substrate or embed granules and prime substrate. Install 4 lb lead flashings and water block. Install modified bitumen membrane 4" beyond removed materials onto the existing membrane.

7.0 Miscellaneous/Adjacent Conditions

7.01 Remove all debris from the roof surfaces, structures, and equipment. Dispose of debris as directed by the Owner's Representative.

7.09 Clean and prime all surfaces, as necessary to achieve a bondable surface. Seal wall penetration with materials compatible to the wall penetration and surrounding substrate.

7.61 Remove integral roof panel FRP skylight, insulate and install metal cover.

7.62 Frame over 8' by 12' monumental skylight and cover with metal panel roof.

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. Contractor shall return the surrounding area and grounds to a pre-existing or better condition.
- B. Contractor shall remove all packing material, scraps and debris from the job site.
- C. 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 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 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 the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
 - 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.

2.02 WMP-30 Vapor Retarder Facing

- A. Approved Products
 - 1. Reinforced, metallized polyethylene skim, kraft 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 WMP-30 vapor retarder. Seal all joints and edges vapor tight using seam tape.
- B. Install fiberglass batt insulation as indicated on the detail drawings. Insulation 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 of Work**

- A. Furnish and install a weather and watertight pre-engineered metal roof system supported on structural members, complete, in-place, per the drawings and specifications.
- B. Extent of metal roof system as indicated on drawings and by provisions of this section is defined to include roof purlins and supplementary structural framing required to support roof-mounted equipment; metal roof panels; roof insulation; vapor retarder, eaves and gable trim, gutters, roof-mounted equipment curbs, plumbing vent flashings, sealants, fasteners; and miscellaneous flashings, closures, and accessories directly related to the metal roof system.
 - 1. Manufacturer's standard components will be used provided components, accessories, and complete structure conform to design appearance shown and specified requirements.
- C. Roof insulation, vapor retarder and shop fabricated sheet metal is specified in this section.

1.02 Quality Assurance

- A. Design Criteria: Follow latest published edition or revision available on the date the Contractor submits its price proposal to the Owner, unless otherwise noted.
 - 1. For structural steel members, comply with AISC "Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings."
 - 2. For light gauge steel members, comply with AISI "Specification for the Design of Cold-Formed Steel Structural Members."
 - 3. For welded connections, comply with AWS "Structural Welding Code."
 - 4. Design Loads: Design each member to withstand stresses resulting from combinations of loads in accordance with applicable codes.
 - 5. Wind Uplift: Metal roof system shall be designed to withstand code required wind uplift pressure and shall be a system that has been tested and approved by Underwriters Laboratories as Class 90.
- B. Supplier: A single supplier shall furnish the system specified in this section and shall be a firm that is and has been for a period of ten years, a metal roofing system Manufacturer.
- C. Installer: Metal roof system installer shall be a firm that has been regularly engaged in the installation of metal building systems for a minimum period of five years continuously prior to bid date and shall be capable of showing successful installation similar to work required for this project.
- D. Fabrication Criteria: Clearly and legibly mark each piece and part of assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.

1.03 Submittals

- A. General: Comply with the provisions of Section 01 30 01.

- B. 14 days prior to starting work, submit:
1. Production Data: Submit Manufacturer's product information, specifications, and installation instructions for building components, accessories, and faced insulation.
 2. Shop Drawings: Submit complete erection drawings showing roof framing, transverse cross-sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components.
 3. Submit certification verifying that metal roofing system has been tested and approved by Underwriters Laboratories as Class 90.
 4. Samples: Submit two samples each of the following for Owner's review. Samples will be used as basis for evaluating quality of finished roofing system.
 - a. 12" long by actual width of roofing panels with required finishes.
 - b. Fasteners for application of roofing panels and trim.
 - c. Sealants and closures.
 5. Installer Certification: The Contractor shall submit certification that the installer complies with the requirements listed in 1.02, C.

1.04 Delivery, Storage, and Handling

- A. Deliver and store prefabricated components, sheets, panels, and other manufactured items, so they will not be damaged or deformed. Stack materials on platforms or pallets and cover with tarpaulins or other suitable weathertight, ventilated covering. Store metal sheets or panels so that water accumulation will drain freely. Do not store sheets or panels in contact with other materials that may cause staining.

1.05 Warranty

- A. Provide Manufacturer's written weathertightness warranty for a minimum of 10 years (Base Bid) or 20 years (Alternate Bid) against leaks in roof panels arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions. Warranty shall be signed by both the pre-engineering metal roofing system Manufacturer and the Contractor.
- B. Provide Manufacturer's standard written warranty for 25 years against perforation of metal roof panels due to corrosion under normal weather and atmospheric conditions. Warranty shall be signed by metal roofing system Manufacturer.
- C. Provide Manufacturer's standard paint film written warranty for 25 years against cracking, peeling, chalking, and fading of metal wall panels and soffit panels. Warranty shall be signed by metal roof system Manufacturer.
- D. Manufacturer's Certification: Submit written certification by the signed Manufacturer with bid stating that the metal roof system Manufacturer will provide warranties and inspection and report services specified herein. Warranty terms shall be submitted with bid.

PART TWO – PRODUCTS**2.01 Basis of Specification**

- A. Specification is based on Butler Manufacturing Butlerib II roof system (Base Bid) and MR-24 standing seam roof system (Alternate Bid).

2.02 Acceptable Manufacturers

- A. Provide Butlerib II (Base Bid) roof system or MR-24 roof system (Alternate Bid) by Butler Manufacturing or approved equal, subject to conformance to requirements indicated on drawings and specified herein.

2.03 Materials

- A. Hot-Rolled Structural Shapes: ASTM A 36 or A 529.
- B. Tubing or Pipe: ASTM A 500, Grade B; ASTM A 501; or ASTM A 53.
- C. Members Fabricated from Plate or Bar Stock: 50,000 psi minimum yield strength; ASTM A 529, A 570, A 572, or A 607.
- D. Members Fabricated by Cold Forming: ASTM A 607 or A 570, Grade 50.
- E. Galvanized Steel Sheet: ASTM A 446 with G90 coating; "Class" to suit building Manufacturer's standards.

2.04 Structural Framing Components

- A. Secondary Framing: Purlins, eaves struts, end wall beams, flange and sag bracing; minimum 16-gauge roll formed or press broke sections. Shop painted. All framing members shall be factory prepunched or field pre-drilled.
- B. Base channel, sill angle, end wall structural members (except columns and beams), purlin spacers; minimum 14-gauge cold-formed steel, galvanized. All members shall be factory prepunched or field pre-drilled.
- C. Bolts: ASTM A 307 or A 325 as necessary for design loads and connection details. Provide zinc-plated or cadmium-plated units when in direct contact with panels.
- D. Fabrication: Shop fabricate to the size and section required complete with bearing plates, and other plates as required for erection, welded in place, and with all required holes for anchoring or connections predrilled or prepunched to template dimensions.
 - 1. Shop connections welded.
 - 2. Field connections bolted.
- E. Shop Painting: Clean surfaces to be primed of loose mill scale, rust, dirt, oil, grease, and other matter precluding paint bond. Follow procedures of SSPC-SP3 for power tool cleaning, SSPC-SP7 for brush-off blast cleaning, and SSPC-SP1 for solvent cleaning.
- F. Structural Steel Primer: Prime structural steel secondary framing members with Manufacturer's standard rust-inhibitive primer having rust-inhibitive pigment, such as zinc chromate iron-oxide alkyd (FS TT-P-636 or FS TT-P-664).

- G. Galvanized Prime: After phosphoric acid pretreatment, prime galvanized members with zinc oxide primer (FS TT-P-641).

2.05 Roofing

- A. General: Provide roofing roll formed to profile indicated and specified. Provide flashings, closures, fillers, metal expansion joints, ridge covers, roof panel mounting clips (MR-24 only), gable and eaves trim, gutters, and other sheet metal accessories factory formed and finished. Material and finish shall be as specified.
1. MR-24 roof system - Allowances for Thermal Expansion: Metal roof system shall be designed, fabricated, and installed to allow relative movement between roof panels and purlins, gables and ridges, due to thermal expansion and contraction, without causing damage to the system or permanent deformation to any of the system components.
- B. Roof Panels: Butlerib II – 24-gauge x 3'0" nominal width (Base Bid) MR-24 - 22-gauge x 2'0" nominal width (Alternate Bid), roll formed, full length with no end lap joints. Apply to exterior surfaces of pretreated Galvalume steel a 70% fluoropolymer paint finish (Kynar 500/Hylar 5000) system supplied to provide a total dry film thickness of .09 mils minimum. Color shall be Cool Solar White with a minimum SRI of 87.
1. Physical characteristics of the paint finish:
 - a. The paint finish shall provide resistance to failure through cracking, checking, crazing, spotting or loss of adhesion.
 - b. The physical characteristics of the exterior paint finish shall be measured by the following laboratory tests to justify the paint film warranty.
 - 1) Humidity resistance at 100 degree F and 100% RH in accordance with ASTM D-2247
 - 2) Salt spray resistance at 5% salt fog per ASTM B-117
 - 3) Reverse impact resistance in accordance with ASTM D-2794
 - 4) Resistance to accelerated weathering in an Atlas Model XW-R Dew Cycle Weather-O-Meter in accordance with ASTM D-3361
 - 5) Resistance to dry heat
 - 6) Abrasion resistance in accordance with ASTM D-4060
 - 7) Chemical/Acid Pollution Resistance
 - a) Chemical spot test in accordance with ASTM D-1308 procedure 5a for hydrochloric acid, sulfuric acid and sodium hydroxide
 - b) Chemical spot test in accordance with ASTM D-1308 procedure 5b for muriatic acid and tincture of iodine
 - c) Resistance to sulfur dioxide in accordance with DIN 50018
 - c. Gloss finish shall be maintained evenly over the entire surface in accordance with ASTM D-523
- C. Butlerib II roof system (Base Bid): Panels shall have three major corrugations 1-1/2" high, 2-7/8" wide at the base tapering to 1-9/32" wide at the top, 12" o.c. Minor corrugations 1" wide and 1/8" high shall be spaced a nominal 3" o.c. between and parallel to major corrugations.
1. Roof Panel Side Laps: Panels shall be designed to provide overlapping corrugations with a sealant groove roll-formed into the lower corrugation. The sealant groove shall provide a precise location and space for the field-installed high quality butyl rubber

- sealant. Butyl rubber sealant shall contain hard nylon spacer beads to ensure the required amount of sealant is retained in the panel side lap joint.
2. Ridge Panel: Shall be made from same material as the roof panels. The ridge panel shall be one piece, factory curved with a profile to match the roof panels. Factory curving shall match the slope of the roof across the ridge and shall be done in a gradual manner so as not to damage the ridge panel or cause any cracking. The ridge panel shall be supported by and fastened to the roof secondary structural member on either side of the building center.
- D. MR-24 roof system (Alternate Bid): Panels shall have two major corrugations nominally 2" high not including seam, 24" o.c., and minor corrugations spaced 6" o.c. nominally between and perpendicular to major corrugations.
1. Roof Panel Side Laps: Panels shall be designed to provide full double lock (Pittsburgh) seam side laps when installed. Partial double lock seams, lapped seams, or friction fit seams will not be acceptable. Factory-applied sealant shall be provided in female portion of seam.
 2. Standing Seam Roof Panel Mounting Clip: Galvanized steel clip with stainless steel sliding clip tab. Galvanized clip shall be prepunched or predrilled for mounting to roof purlins. Sliding clip tab shall be designed to lock into and become an integral part of roof panel double lock seam. Provisions shall be incorporated into mounting clip assembly to keep sliding clip tab centered on mounting clip during installation of roof panels.
- E. Sheet Panel Fasteners: Manufacturer's standard system of self-tapping screws, bolts, and nuts; self-locking aluminum rivets; self-locking bolts; end-welded studs; and other suitable fasteners designed to withstand design loads. Self-drilling fasteners are not acceptable.
1. Provide metal-backed EPDM washers under heads of fasteners bearing on weather side of panels.
 2. Use stainless steel or aluminum fasteners for exterior application and galvanized or cadmium-plated fasteners for interior application. Rivet fasteners where required shall be aluminum or stainless steel.
 3. Locate and space fasteners for true vertical and horizontal alignment. Use proper type fastening tools to obtain controlled, uniform compression for positive seal without rupture of EPDM gasket.
- F. Flexible Closure Strips: Closed-cell, expanded cellular rubber, self-extinguishing, cut or premolded to match corrugation configuration of roofing and siding sheets. Provide where indicated and necessary to ensure weathertight construction. Foam closures shall not be used.
- G. Sealing Tape: 99% solids, pressure sensitive grey polyisobutylene compound tape with release paper backing. Not less than 1/2" wide and 1/8" thick, nonsag, nontoxic, nonstaining, and permanently elastic.
- H. Joint Sealant: One part elastomeric; polyurethane or polysulfide as recommended by building Manufacturer. Color to match roof panels.

- I. **Manufactured Pipe Boot:** Pipe flashing boot shall be one-piece construction of black EPDM with flexible metal reinforcing ring bonded to flange on base of boot. Size of boot shall be appropriate for size of penetrations where the operating temperature of the penetration is between -25°F to 250°F.
- J. **Equipment Mounting Curb:** Shall be sized to fit equipment, welded watertight construction that is internal flanged, with water diverter or cricket on up-slope side of curb. Curb shall be minimum 0.080" aluminum and designed to support load of equipment. Provide structural support for curb to transfer load to building's structural system. Curb shall be manufactured by supplier approved by panel Manufacturer.

2.06 Sheet Metal Accessories

- A. **General:** Unless otherwise indicated, provide galvalume steel accessories with galvalume steel roofing (same materials) and prefinished steel accessories with prefinished steel wall and soffit panels.
 - 1. **Gutters:** Formed in sections not less than 25' in length complete with end pieces, outlet tubes, and special pieces. Join sections with riveted or sealed joints. Unless otherwise indicated, provide expansion joint with cover plate where indicated. Furnish gutter supports spaced at 36" o.c. (Butler II Base Bid) OR 48" o.c. (MR-24 Alternate Bid) and constructed of same metal as gutters. Provide standard aluminum or stainless steel wire ball strainers at each outlet. Gutters shall be 26-gauge, roll-formed, Galvalume steel (in accordance with ASTM A-792). Prefinished color to be chosen by Owner from standard available paint finishes. Gutter size and configuration shall be as indicated on drawings.
 - 2. **Downspouts:** Formed in sections not less than 8' in length complete with any special pieces that may be required. Join sections with riveted or sealed joints. Downspouts shall be 26-gauge, roll-formed, Galvalume steel (in accordance with ASTM A-792). Prefinished color to be chosen by Owner from standard available paint finishes. Downspout straps shall be spaced 8' o.c. maximum and be same material as gutter. All strap edges shall be rolled or smooth.

2.07 Thermal Insulation

- A. **Insulation:** Not less than 0.5 lb. per cubic foot density, thickness as indicated, glass fiber blanket with U.L. flamespread classification of 25 or less.
- B. **Location**
 - 1. Provide fiberglass blankets as indicated.

PART THREE – EXECUTION

3.01 General

- A. Metal roofing system shall be installed in strict conformance with Manufacturer's instructions. System shall comply with U.L. Class 90 wind uplift.

3.02 Erection

- A. **Framed Openings:** Provide shapes of proper design and size to reinforce opening and to carry loads and vibrations imposed, including equipment furnished under mechanical or electrical work. Securely attach to building structural frame.

3.03 Roofing

- A. General: Pre-drill purlins with 5/16" diameter holes for installation of the roof. Arrange and nest panel side lap joints so that prevailing winds blow over, not into lapped joints. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line. Protect factory finishes from damage. Samples submitted will be used as basis for evaluating quality of work performed.
- B. Provide weather seal under ridge cap; flash and seal roof panels at eaves and rake with EPDM or other closures to exclude weather.
- C. Roof Sheets: Secure roof panels to structurals by means of
 - 1. Butlerib II roof system (Base Bid) manufacturer defined panel-to-structural fasteners and panel-to-panel fasteners.
 - 2. MR-24 roof system (Alternate Bid) a sliding clip fastened to the structurals and securely locked into panel seam. Sliding clip shall be centered in mounting clip.
 - a. Panel seams shall be full double lock field formed using Manufacturer's standard three-strand minimum forming machine. Cracking or splitting of metal or cracking, peeling, blistering or other damage to panel coating is not acceptable. Panels shall be securely fastened to eaves structural and sealed watertight.
- D. Sheet Metal Accessories: Install gutters, roof curbs, ventilators, louvers, and other sheet metal accessories in accordance with Manufacturer's recommendations for positive anchorage to building and weathertight mounting.
- E. Thermal Insulation: Install in accordance with Manufacturer's published directions, performed concurrently with installation of roof panels. Install blankets straight and true with no gaps or voids.
- F. Dissimilar Materials: Where aluminum surfaces come in contact with ferrous metal or other incompatible materials, keep aluminum surfaces from direct contact by application to the other materials as follows:
 - 1. One coat of zinc chromate primer, FS TT-P-645, followed by two coats of aluminum paint, SSPC-Paint 101.
 - 2. In lieu of two coats of aluminum paint, apply one coat of high build bituminous paint, SSPC-Paint 12, applied to a thickness of 1/16" over zinc chromate primer.
 - 3. Backpaint aluminum surface where impractical to paint other surface.

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. 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 a base sheet 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 Manufacturer: Products used in the work included in this section shall be produced by Manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner.
- C. 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.
- D. UL 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 material covered under this specification to an individual or firm that is not a full-time employee of the Contractor's company.

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. *Roofing Materials and Systems Directory and Fire Resistance Directory*, Underwriters Laboratories, Inc.

1.04 Submittals

- A. General: Comply with the provisions of Section 01 30 01.

- B. Product Data: 14 days prior to starting work, submit:
 - 1. Complete material list of all items proposed to be furnished and installed under this section.
 - 2. Most recent copy of Manufacturer's literature applicable to products and specifications to be used.
 - 3. 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, will become the basis for inspecting, and acceptance or rejection of the actual installation procedures used in this work.
- C. Base sheet fastening patterns for field, perimeter, and corner areas and a roof plan clearly showing the perimeter and corner areas to receive increased fastener density.

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 sides.
- 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 in an upright position, up off the roof or ground and covered completely with weatherproof tarps that are securely anchored, so as to resist wind blow-off. Do not overstress the deck, when storing materials on the roof.
- C. Replacements: In the event of damage, immediately make all repairs or replacements to the approval of the Owner and at no additional cost to the Owner.

1.06 Scheduling

- A. Work covered under this section shall be coordinated with all other sections of this specification to provide a finished product that is approved by the roofing material Manufacturer.
- B. 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.
- C. Completion of the work shall be defined as the installation of all specified roof preparation, base sheet, insulation, field membrane, flashings, counterflashings, sheet metal, fasteners, and caulking.

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. Base sheets and fasteners shall be compatible with the specified roof system components and be acceptable to the selected roofing membrane Manufacturer.

2.02 Acceptable Manufacturers

- A. Products manufactured or accepted by the selected roofing membrane Manufacturer and shall meet the requirements for the specified warranty.

2.03 Materials

A. Base Sheet

1. Wood Deck

- a. Asphalt-coated glass fiber base sheet; complying with ASTM D 4601, Type II.
- b. Approved Products
 - 1. Parabase by Siplast, Inc.
 - 2. PRS Glass Base by Derbigum
 - 3. MB Base M by Firestone Building Products
 - 4. GlasBase Plus by Johns Manville Roofing Systems Group
 - 5. Specified roof membrane Manufacturer supplied approved equal

B. Fasteners

1. General

- a. Provide industry standard types of mechanical fasteners for roofing system that have been tested by the fastener Manufacturer for the required pull-out strength and compatible with the deck type and roofing products used.
- b. Fasteners and plates shall be accepted by the roofing membrane Manufacturer.
- c. Fasteners shall incorporate 3" nominal diameter round, Galvalume coated steel plates, supplied by fastener Manufacturer unless otherwise specified.
- d. Fastener and plate shall be approved by FM Global.

2. Wood Deck

- a. Corrosion-resistant, self-tapping, self-drilling screw with #3 phillips head. 1/4" hexhead fasteners are not approved. Fastener shall be carbon steel with corrosion-resistant coating. Fastener and plate shall meet FM 4470 requirements. Plate shall have flat bottom design to provide a low profile over the base sheet.
- b. Approved Products
 - 1. RoofGrip with Flat Bottom Metal Plate by OMG

2. Standard Roofing Fastener with Flat Bottom Metal Plate by OMG
 3. Sarnafastener - #12 and Sarnaplate by Sika Sarnafil, Inc.
 4. FTR Insulation Fastener and FTR Round Steel Insulation Plate by Seaman Corporation
 5. Parafast Roofing Fastener and Standard 3" Metal Plate by Siplast, Inc.
 6. Perlok Standard Roofing Fastener and Perlok Steel Plate by Derbigum
 7. All-Purpose Fastener and Insulation Fastening Plate by Firestone Building Products
 8. InsulFast #12 Fastener and 3" Round Metal Plate by Carlisle SynTec Incorporated
 9. UltraFast Fastener and 3" UltraFast Flat Bottom Metal Plate by Johns Manville Roofing Systems Group
 10. Variations of the specified products that are FM Global approved and designed for use with Manufacturer-supplied stand-up tools.
- c. Fasteners shall be of sufficient length to provide full engagement into plywood decking.
- C. Red Rosin Paper
1. Sheathing paper consisting of 100% recycled fibers set in alum to resist bleeding, minimum thickness of 9-mils, and minimum weight of 3 lbs/100 square feet.
 2. Approved Products
 - a. Sealtight Red Rosin Paper by W.R. Meadows
 - b. Red Rosin Paper by GMC Roofing and Building Paper Products, Inc.
 - c. Approved equal

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 the bid and are not to be altered.

3.02 Inspection

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

3.03 Preparation and Surface Conditions

- A. Before base sheet application is started, remove trash, debris, grease, oil, water, moisture, and contaminants that may affect application.
- B. Prepare all surfaces according to applicable specification sections.
- C. Protect adjacent areas from damage with tarps or other durable materials.
- D. Surfaces scheduled to receive base sheet are to be free of any standing water, frost, snow, or loose debris.
- E. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- F. All metal fittings specified or shown on drawings are to be in place before roofing.
- G. All nailers shall be securely installed prior to base sheet installation

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 or other miscellaneous items located on the underside of the roof deck, or spall the underside of the deck.
- C. Do not apply roofing materials when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present.
- D. Perimeter and corner areas shall be calculated based upon the applicable version of ASCE-7.

3.05 Installation – Red Rosin Paper

- A. Install one layer of red rosin sheathing paper prior to installing the base sheet.
- B. End and side laps shall be 2" minimum.
- C. The paper shall be secured to the deck by occasional nailing.

3.06 Installation – Base Sheet

- A. Starting at the low points or drains, install base sheet with 3" side laps and 6" end laps. End laps shall be staggered 36" minimum.
- B. Roll base sheet in a straight line so that no kinks or fish mouths result and base sheet is laid completely flat. Once base sheet direction is determined, do not change that direction over the entire roof area.
- C. Maximum fastener spacings shall be as follows:
 - 1. Field
 - Side laps (through both sheets) 6" o.c., stagger spaced 6" o.c. in two intermediate rows between side laps.

- D. Fastening patterns and perimeter/corner areas shall be installed per the drawings and specifications.
- E. Any whole or partial base sheet roll width (when roll is parallel to the building edge), which falls within the perimeter or corner area shall have the increased fastener density applied over the entire base sheet roll width.
- F. Install asphalt primer (ASTM D 41) over fastener plates within corner fastening areas.

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. 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 a weather and watertight two-ply modified bitumen 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. 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. *Roofing Materials and Systems Directory and Fire Resistance Directory*, Underwriters Laboratories, Inc.

1.04 Submittals

- A. General: Comply with the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
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 for selection of granule color, where applicable.

4. 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, will become the basis for inspecting, and acceptance or rejection of the actual installation procedures used in this work.
5. Detail drawing showing the proposed temporary water cutoff detail.

1.05 Delivery, Storage, and Handling

- A. Deliver materials to job site in their original, unopened containers. Package labels shall indicate material name, production date, and/or product code. Remove Manufacturer-supplied plastic cover from top of product and cover with weatherproof tarps.
- 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. Do not exceed allowable live load of storage area. Store all roll goods on end.
- C. Follow the Manufacturer's recommendations for storage of temperature sensitive materials before and during application.
- 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.

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 Manufacturer or 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.

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. 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. Products manufactured or accepted by:
 1. Siplast, Inc.

2. Derbigum
3. Firestone Building Products

2.03 Materials**A. Modified Bitumen Roof Membrane**

1. Two-ply modified bitumen membrane with polyester and/or glass fiber reinforcement; bottom ply shall be unsurfaced, top ply shall have a granular surface and be fire rated. Granule color shall be selected by the Owner from the Manufacturer's standard color offerings.
 - a. Paradiene 20 and Paradiene 30FR by Siplast, Inc.
 - b. Deribase Ultra and Dericolor GP FR by Derbigum
 - c. SBS Premium Base and SBS Premium FR by Firestone Building Products

B. Two-Ply Base Flashings

1. Paradiene 20 and Paradiene 40 FR by Siplast, Inc.
2. Deribase and Dericolor GP (or Dericolor GP FR) by Derbigum
3. SBS Premium Base and SBS Premium (or Premium FR) by Firestone Building Products

C. Roofing Adhesives

1. Adhesive for Horizontal Applications
 - a. PA-311M by Siplast, Inc.
 - b. Permastic by Derbigum
 - c. MB Cold Adhesive by Firestone Building Products
2. Adhesive for Sloped and Vertical Applications
 - a. PA 828 Flashing Cement by Siplast, Inc.
 - b. Perflash by Derbigum
 - c. MB Flashing Cement by Firestone Building Products

D. Asphalt Roof Cement

1. Complying with ASTM D 4586, asphalt roof cement (asbestos free) or roofing membrane Manufacturer supplied modified asphalt roof cement (asbestos free) as required.

E. Reinforcing Fabric

1. Shall comply with ASTM D 1668-I.

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- F. Asphalt Primer
1. Complying with ASTM D 41. Asphalt primer shall not be thinned.
- G. Related Materials
1. Lead flashing for roof drains shall be 27" x 27" and be minimum 4 pound lead.
 2. Pipe or vent jackets shall be minimum 3 pound lead with cap designed for use on flat roof construction.
 3. Wood Nailers: See Section 06 10 53.
 4. Flashing securement devices shall be of adequate design to achieve substantial and positive anchorage.
 - a. Anchor bars for flashing securement to concrete or masonry substrates shall be 1/8" x 1" flat aluminum bar with 8" hole spacing by OMG, or approved equal.
 - b. Fasteners for securing anchor bars to concrete or masonry substrates shall be zinc alloy with stainless steel pin; Masonry Anchor by OMG, or approved equal.
 - c. Nails for flashing securement to wood substrates shall be stainless steel or zinc-coated type with 1" metal caps.

2.04 Other Materials

- A. All other materials not specifically described but required for a complete and proper installation of the work in this section 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 instructions shall be followed along with the following requirements. These specific minimum requirements must be included in the bid and shall not be altered.
1. 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.
 2. Preparation and Surface Conditions
 - a. Before ply application is started, remove trash, debris, grease, oil, water, moisture, and contaminants that may affect bond of bitumen to substrate.
 - b. Prepare all surfaces according to applicable specification sections.

- c. Protect adjacent areas from damage with tarps or other durable materials.
- d. Surfaces scheduled to receive roofing shall be free of any standing water, frost, snow, or loose debris.
- e. Substrate shall be smooth, free of sharp projections, and free of obvious depressions.
- f. All nailers shall be securely installed prior to roofing.

3. 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 or other miscellaneous items located on the underside of the roof deck.
- c. Do not apply roofing materials when water in any form (i.e., rain, dew, ice, frost, snow, etc.) is present.
- d. Specified side lap and end lap dimensions are minimums. If the membrane Manufacturer's requirements exceed those stated, then the membrane Manufacturer's requirements shall be followed.

3.02 Application/Installation

A. Adhesive Application

- 1. Temperature of adhesive, membrane and ambient conditions shall be within the Manufacturer's recommended ranges during roof membrane application.
- 2. Adhesive application methods shall conform with Manufacturer's accepted practices. Notched squeegees, adhesive spreaders, and spray equipment are acceptable, subject to Manufacturer approval.
- 3. Adhesive shall be applied at the minimum rate of 1-1/2 gallons per 100 square feet. Where porous substrates exist, the application rate for the base ply may need to be increased to ensure full adhesion. Application rates shall be determined by the Contractor and Manufacturer for bidding and installation purposes.

B. Approved Lap Adhesion Methods

- 1. The following methods of lap adhesion shall be used for each listed component:
 - a. Field Membrane Base Ply: Membrane Adhesive
 - b. Field Membrane Top Ply: Hot Air Weld
 - c. Flashing Base Ply: Flashing Adhesive
 - d. Flashing Top Ply: Hot Air Weld
 - e. Flashing Strip-In Ply: Flashing Adhesive

2. Contractor shall prevent adhesive contamination of laps requiring hot air welding.
3. Where hot air welding of flashing laps is specified, all edges, including the flashing-to-field membrane lap, shall be prepared and hot air welded.
4. If Derbigum material is used, all laps in sheets applied with Permastic and/or Perflash adhesives shall be hot air welded.

C. Roofing Membrane

1. When recommended by the Manufacturer, prior to installing modified bitumen materials, unroll membrane and allow it to relax.
2. Beginning at low point or drain, apply first layer of modified membrane maintaining minimum 3" side laps and 6" end laps. Roll membrane into full width, uniform, and solid application of adhesive. End laps shall be offset 3' minimum.
3. Starting at low point or drain, apply second layer of modified membrane maintaining minimum 3" side laps and 6" end laps. Roll membrane into full width, uniform, and solid application of adhesive. Offset end laps 3' minimum, and stagger laps between layers.
4. Roll all sheets in a straight line so that no kinks or fish mouths result and sheets are laid completely flat. Once sheet direction is determined, do not change direction over the entire roof area for either bottom or top ply.
5. Full adhesion of both plies shall be achieved and all edges shall be well sealed. Leading and trailing edges of T-laps in both plies shall be hand rolled to prevent formation of voids.
6. All side and end laps of both modified bitumen layers shall be rolled with a minimum 20 lb. roller. Granular surfacing at end laps shall be embedded into the modified bitumen membrane using a hot air gun and trowel prior to constructing the laps.
7. Prior to constructing end laps, remove a triangular piece of material (dog ear) from the overlapping selvedge edge using a 45° angle cut. This requirement applies to the bottom layer and top layer of the two-ply membrane.
8. Apply uniform pressure to all plies after installation using a stiff broom or similar tool to ensure full adhesion of the membrane to the substrate.
9. Care is to be taken not to track, spill, or apply adhesive over onto the finished exposed membrane. All exposed adhesive shall have #11 granules broadcast and pressed into the adhesive while still wet, so that the finished appearance is uniform and neat.
10. Follow Manufacturer's recommendations regarding length of time first layer of modified bitumen membrane may be exposed to the weather, prior to installation of the second layer. Maximum time allowed shall be 60 calendar days.

D. Flashings

1. Prime all masonry, concrete, wood, and metal substrates, and granular membrane surfaces with asphalt primer at the rate of 3/4 gallons per 100 square feet. Allow primer to dry prior to adhesive application. As an alternative to priming on granular surfaces, granules may be embedded into the sheet using a hot air gun and trowel.
2. Bridge all junctures of vertical and horizontal surfaces with 45° cant strips, except where an existing wood cant is specified to remain or a prefabricated metal curb cant already exists. Wood cants, where shown, shall be properly fastened; fiber/perlite cants shall be fully adhered with Manufacturer recommended adhesive.
3. Install two-ply modified bitumen base flashings in adhesive according to the Manufacturer's current published application instructions, unless superceded by the requirements of this section. Stagger laps between flashing plies.
4. All base flashings shall be installed in 39" long pieces cut from the end of the roll. Flashing lap shall be bonded to the selvedge edge of the preceding flashing.
5. Uniform coat(s) of adhesive shall be applied using a notched trowel. Flashings shall be thoroughly rubbed in. Loose or poorly bonded flashings will not be accepted. Fasten top edge of base flashing using the specified securement devices immediately after flashing installation. Masonry anchor spacing shall be 8" o.c. maximum. Nail spacing shall be 6" o.c. maximum.
6. Unless top edges of base flashings are covered by single-ply curb/wall coverings, top edges shall be thoroughly sealed with one-ply of reinforcing fabric fully embedded in asphalt roof cement immediately after layup.
7. All inside and outside corners shall be three-coursed with asphalt roof cement and reinforcing fabric, with #11 granules broadcast and pressed into the asphalt roof cement while wet.
8. Flashing height shall be minimum 8" above finished roof height.
9. Avoid applying bituminous materials over locations to receive caulking during subsequent sheet metal work. All such materials shall be thoroughly removed to the substrate prior to caulk application.

E. Roof Drain Detailing

1. Install first layer of modified membrane into drain under location to receive clamping ring.
2. Install 27" x 27" lead set in asphalt roof cement under location to receive clamping ring. Prime lead flashing and allow primer to dry.
3. Install strip-in ply of first layer membrane extending 6" past outer edge of lead flashing and under location to receive clamping ring.
4. Install second layer modified membrane over strip-in ply and under location to receive clamping ring. Laps in the top ply shall be held a minimum of 12" away from edges of clamping rings.
5. Set clamping ring and drain strainer.

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. 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 manufactured metal roof curbs complete, in-place per the drawings and specifications.

1.02 Submittals

- A. General: Comply with the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
 - 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. 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.

PART TWO – PRODUCTS**2.01 Materials**

- A. Curbs shall be internal flanged, constructed using minimum 0.080" aluminum with fully mitered and welded corners, factory insulated with 1-1/2" thick 3 lb. density fiberglass insulation. Sizes and location as noted on drawings.
 - 1. Approved Manufacturers
 - a. KCC International Inc.
 - b. LM Curbs
- B. Minimum height of curb shall be 8" above finished roof elevation.
- C. Curbs shall be constructed to match slope of roof and provide a level top surface for mounting of mechanical equipment.

PART THREE – EXECUTION**3.01 Installation**

- A. Installation shall be in accordance with the latest Manufacturer's specifications and installation techniques.
- B. Mount curbs so that top is level and slope of curb matches slope in the roof panels.

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 of Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -

PART ONE – GENERAL**1.01 Description**

- A. Furnish and install all paint and related items complete, in-place, per the drawings and specifications.

1.02 Definition

- A. The terms "paint or painting" as used in this section shall have reference to primers and paints and the application of these materials.

1.03 Work Not Included

- A. Metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze, and similar finished materials will not require painting under this section.

1.04 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. SSPC-SP3 – Power Tool Cleaning, Society for Protective Coatings
- B. Qualifications of Manufacturer: Products used in this work shall be produced by Manufacturers regularly engaged in the manufacture of similar items and with a history of successful production acceptable to the Owner's Representative.
- C. 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.
- D. 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.

1.05 Submittals

- A. General: Comply with the provisions of Section 01 30 01.
- B. Product Data: 14 days prior to starting work, submit:
 - 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. 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.
4. Provide Manufacturer's standard color chart for selection by Owner.

1.06 Delivery, Storage, and Handling

- A. Deliver only new materials to the job site in their original, unopened containers with all labels intact and legible at the time of the inspection.
- B. Store all materials in an approved manner, up off the roof deck or ground and protected from exposure to the elements. Any soiled or used rags, waste, and trash shall be removed from the building every night, and every precaution shall be taken to avoid the danger of fire.
- 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 repairs and replacements necessary to the approval of and at no additional cost to the Owner.
- E. Follow the Manufacturer's recommendations for storage of temperature sensitive materials.

1.07 Schedule

- A. Surface Temperatures: Do not apply solvent-thinned paints when the temperature of surfaces to be painted and the surrounding air temperature are below 45° F., unless otherwise permitted by the Manufacturer's printed instructions.
- B. Weather Conditions: Do not apply paint in snow, rain, fog, or mist; or when the relative humidity exceeds 85%; or to damp or wet surfaces unless otherwise permitted by the Manufacturer's printed instructions.

1.08 Warranty

- A. Warranty: Refer to Section 01 78 36.
- B. The Contractor shall guarantee all painting work for a period of 90 days from the date of completion of the project.

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 Approved Products

- A. Paint products as manufactured by Rust-O-Leum, or approved equal.
 - 1. Primer coat: Rust-O-Leum 3181 Gray Primer
 - 2. Finish coat: Rust-O-Leum 3100 Speedy Dry Water Based Enamel
- B. Color shall be selected by the Owner from the Manufacturer's standard color offerings.

2.03 Application Equipment

- A. Use only equipment recommended by the Manufacturer for application of each particular paint product.

PART THREE – EXECUTION**3.01 Surface Conditions**

- A. Before starting any work, surfaces to receive paint finishes shall be examined carefully for defects that cannot be corrected by the procedures specified herein under "Preparation of Surfaces" and that might prevent satisfactory painting results.
- B. Commencement of work in a specific area shall be construed as acceptance of the surfaces, and thereafter, Contractor shall be fully responsible for satisfactory work as required herein.

3.02 Protection

- A. The Contractor shall protect all adjacent work and surfaces by suitable covering or other method before and during this work.

3.03 Preparation of Surfaces

- A. Perform all preparation and cleaning procedures in strict accordance with Society of Protective Coatings; 1995; SSPC-SP3 - Power Tool Cleaning and the paint Manufacturer's recommendations.
- B. Remove all removable items that are not scheduled to receive paint finish, or provide surface-applied protection prior to surface preparation and painting operations.
- C. Following completion of painting in each space or area, reinstall the removed items.
- D. All surfaces shall be free of any foreign material that will adversely affect adhesion or appearance of applied coating.

3.04 Paint Application

- A. Inspect all surfaces to be painted for compliance with this specification. Do not commence painting on unsatisfactory surfaces.
- B. Equipment shall be kept clean, dry, and in proper condition to provide a job commensurate with the intent of this specification.

- 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. All materials shall be applied under adequate illumination, evenly spread, and smoothly flowed on to avoid runs, sags, holidays, brush marks, air bubbles, and excessive roller stipple.
- E. Do not paint any moving parts of operating units, mechanical or electrical parts unless specifically specified herein.
- F. Do not paint over any required labels or equipment identification, performance rating, name or nomenclature plates.
- G. Primer shall be applied to a dry film thickness of 1.5 to 2.5 mils.
- H. Primers shall be applied the same day as the preparation work, and before rust formation.
- I. Finish coat shall be applied to a dry film thickness of 1.5 to 2.5 mils.
- J. Coverage for all coats shall be complete and of uniform thickness.
- K. Special attention shall be given to lapped joints, bolt heads, nut, threads, corners, member intersections, and other deviations from smooth surfaces.
- L. All coats shall be thoroughly dry before applying succeeding coats.
- M. Adequately protect all newly primed and/or painted surfaces to prevent dust and other particles from contaminating paint.

3.05 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.

3.06 Cleaning

- A. Upon completion of the work, Contractor shall remove all paint spots, overspray, or spillage from any adjacent surfaces not scheduled to receive paint.
- B. Contractor shall follow the requirements to Section 02 41 20 – Roof Demolition and Cleanup.

- End of Section -

RENO-SPARKS CONVENTION AND VISITORS AUTHORITY RENO-SPARKS LIVESTOCK EVENTS CENTER 2018 ROOF REPLACEMENT AND REPAIRS MAIN ARENA AND LIVESTOCK PAVILION (REPAIRS) BASE BID NO.2 AND BASE BID NO. 3 1350 N. WELLS AVENUE RENO, NEVADA 89512 PROJECT NO. 17RENRENOR007B

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH



Aerial Image
Scale: NONE

LEGEND:
 BASE BID NO. 2 AND NO. 3

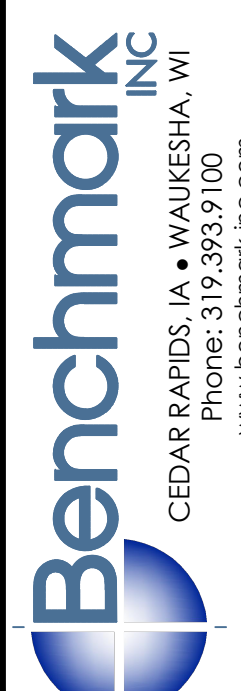
ROOF & PAVEMENT CONSULTANT



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INDEX OF SHEETS	
NO.	DESCRIPTION
T-1	TITLE SHEET - MAIN ARENA & LIVESTOCK PAVILION (REPAIRS)
R-0	SCOPE OF WORK - MAIN ARENA & LIVESTOCK PAVILION
R-1	ROOF PLAN - MAIN ARENA
R-2	ROOF PLAN - LIVESTOCK PAVILION, CONNECTOR, & OFFICES
R-3	ROOF REPAIR DETAILS
R-4	ROOF REPAIR DETAILS
R-5	ROOF REPAIR DETAILS

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. WILSON
SCALE	AS SHOWN
PROJECT NO.	17RENRENOR007B



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CLIENT: RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
PROJECT: RENO-SPARKS LIVESTOCK EVENTS CENTER
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512
DRAWING TITLE: TITLE SHEET - MAIN ARENA & LIVESTOCK PAVILION (REPAIRS)

CLIENT PROJECT NUMBER:
SHEET NUMBER: T-1

File: J:\Reno-Sparks Convention Center_REN\Ren-NV_18\RENRENOR007B\DWG\18RENRENOR007B01.dwg Time: Aug 24, 2018 - 2:17pm

REPAIRS TO MAIN ARENA ROOF

1. DO NOT POWER WASH THE ROOF.
2. A LEAF BLOWER MAY BE USED TO HELP MOVE LOOSE DEBRIS.
 - A. REMOVE PLANT AND TREE DEBRIS FROM THE ROOF PANELS AND GUTTERS.
3. ROOF PANEL END LAP JOINTS.
 - A. REMOVE TOPICAL CAULKING AND COATING MATERIALS WITH AN OSCILLATING CHISEL AND NON-ABRASIVE SCOURING PADS.
 - B. REMOVE (BACK OUT) THE EIGHT EXISTING, SELF-DRILLING SCREW (SDS) FASTENERS.
 - C. REMOVE CONTAMINANTS FROM THE LAP JOINT, INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - D. APPLY TWO 1/4" BEADS OF APPROVED SEALANT BETWEEN ROOF PANELS AT THE END LAP JOINT.
 - 1) APPLY THE SEALANT BEADS SIDE-BY-SIDE OVER THE EXISTING FASTENERS HOLES.
 - 2) ENSURE THE SEALANT BEADS ARE CONTINUOUS AND EXTEND INTO THE PANEL CORRUGATION.
 - E. REINSTALL ALUMINUM END LAP JOINT TOP STRAP.
 - F. INSTALL EIGHT NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER. DO NOT STRIP THE FASTENERS.
 - G. A SMALL AMOUNT OF SEALANT SHOULD SQUEEZE OUT BETWEEN THE ROOF PANELS.
 - H. REMOVE DISCARDED MATERIALS FROM THE ROOF.
4. INTEGRAL FRP (FIBERGLASS REINFORCED PLASTIC) SKYLIGHTS.
 - A. REMOVE TOPICAL CAULKING AND COATING MATERIALS WITH AN OSCILLATING CHISEL AND NON-ABRASIVE SCOURING PADS.
 - B. REMOVE (BACK OUT) THE EIGHT EXISTING, SELF-DRILLING SCREW (SDS) FASTENERS.
 - C. REMOVE CONTAMINANTS FROM THE LAP JOINT INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - D. REMOVE THE SIDE LAP FASTENERS (DRILL OUT OR NIP THE HEADS OFF) THAT SECURE THE FRP MATERIAL TO THE METAL CORRUGATION.
 - E. REMOVE THE FRP MATERIAL.
 - F. INFILL WITH A FACED FIBERGLASS BATT INSULATION THE SAME AS UNDER THE ADJACENT ROOF.
 - 1) ENSURE VAPOR RETARDER INSULATION FACING IS CONTIGUOUS AND VAPOR TIGHT.
 - G. INSTALL A 22-GAUGE STEEL COVER IN MATCHING COLOR/MATERIAL TO REPLACE THE FRP MATERIAL.
 - 1) DRILL THE SIDE LAP FASTENER HOLES TO A 5/16" DIAMETER.
 - 2) APPLY THE APPROVED SEALANT BETWEEN THE 22-GAUGE STEEL COVER AND THE EXISTING ROOF PANELS.
 - 3) SECURE THE STEEL COVER TO THE ROOF PANELS WITH ALUMINUM LOCKRIVET FASTENERS.
 - H. APPLY TWO 1/4" BEADS OF APPROVED SEALANT BETWEEN ROOF PANELS AT THE END LAP JOINT.
 - 1) APPLY THE SEALANT BEADS SIDE-BY-SIDE OVER THE EXISTING FASTENERS HOLES.
 - 2) ENSURE THE SEALANT BEADS ARE CONTINUOUS AND EXTEND INTO THE PANEL CORRUGATION.
 - I. REINSTALL ALUMINUM END LAP JOINT TOP STRAP.
 - J. INSTALL EIGHT NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER. DO NOT STRIP THE FASTENERS.
 - K. A SMALL AMOUNT OF SEALANT SHOULD SQUEEZE OUT BETWEEN THE ROOF PANELS.
 - L. REMOVE DISCARDED MATERIALS FROM THE ROOF.
5. SKYLIGHTS - 6' X 12' MONUMENTAL SKYLIGHTS AT THE RIDGE.
 - A. FUR OUT THE SKYLIGHT WITH 2" DEEP, 16-GAUGE Z-PURLINS (FOUR ROWS).
 - B. ATTACH THE FURRING TO THE ALUMINUM SKYLIGHT EXTRUSIONS WITH SDS FASTENERS (SHIM AS NECESSARY TO KEEP TOP OF FURRING IN THE SAME PLANE).
 - C. FILL THE CAVITY WITH UNFACED, FIBERGLASS BATT INSULATION.
 - D. INSTALL A WATERTIGHT R-PANEL ROOF SIMILAR TO THE ADJACENT RIDGE AREA.
 - E. INSTALL EDGE OF ROOF FLASHINGS.

6. NARROW RIDGE COVER
 - A. REMOVE (BACK OUT) THE FASTENERS THAT ATTACH THE RIDGE COVER TO THE STEEL Z-CLOSURES AND THE RIDGE COVER END LAP JOINT FASTENERS.
 - B. REMOVE AND REPLACE ANY WET OR DAMAGED FIBERGLASS BATT INSULATION.
 - C. REMOVE CONTAMINANTS FROM THE TOP OF THE Z-CLOSURE AND THE RIDGE COVER END LAP JOINTS, INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - D. SEAL THE INSIDE AND OUTSIDE OF THE Z-CLOSURES TO THE ROOF PANELS WITH THE APPROVED SEALANT.
 - E. INSTALL TWO LAYERS OF 1/8" X 1" BUTYL RUBBER TAPE SEALANT CONTINUOUSLY TO THE TOP FLANGE OF THE Z-CLOSURE.
 - F. REINSTALL THE EXISTING RIDGE COVERS TO THE Z-CLOSURES WITH NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 6" O.C. DO NOT STRIP THE FASTENERS.
 - G. INSTALL THE APPROVED SEALANT BETWEEN THE RIDGE COVER END LAP JOINTS AND SECURE WITH 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 3" O.C. DO NOT STRIP THE FASTENERS.
7. WIDE RIDGE AT 6' X 12' SKYLIGHT AND R-PANEL ROOF.
 - A. SEAL THE OUTSIDE OF THE Z-CLOSURES TO THE ROOF PANELS WITH THE APPROVED SEALANT.
8. ROOFTOP UNITS - RIDGE FAN VENTILATORS AND FIELD OF ROOFTOP HVAC UNITS.
 - A. FROM INSIDE THE BUILDING, LOCATE DAYLIGHT AT ROOF UNITS.
 - B. SEAL WITH THE APPROVED SEALANT TO ELIMINATE ANY OBSERVED DAYLIGHT.
9. ROOF EXPANSION JOINT COVER.
 - A. REMOVE TOPICAL CAULKING AND COATING MATERIALS WITH AN OSCILLATING CHISEL AND NON-ABRASIVE SCOURING PADS.
 - B. REMOVE (BACK OUT) THE FASTENERS THAT ATTACH THE EXPANSION JOINT TO THE ROOF PANELS AND THE EXPANSION JOINT END LAP FASTENERS.
 - C. REMOVE AND REPLACE ANY WET OR DAMAGED FIBERGLASS BATT INSULATION.
 - D. REMOVE CONTAMINANTS FROM THE ROOF PANELS AND THE EXPANSION JOINT END LAP JOINTS, INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - E. INSTALL THE EXPANSION JOINT COVERS WITH THE APPROVED SEALANT AT THE ROOF PANEL TO EXPANSION JOINT SIDE LAPS AND EXPANSION JOINT COVER END LAP JOINTS.
 - F. REINSTALL THE EXISTING EXPANSION JOINT COVERS WITH NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 6" O.C. DO NOT STRIP THE FASTENERS.
 - G. INSTALL THE APPROVED SEALANT BETWEEN THE EXPANSION JOINT COVER END LAP JOINTS AND SECURE WITH 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 3" O.C. DO NOT STRIP THE FASTENERS.

REPAIRS TO LIVESTOCK PAVILION METAL ROOFS

1. DO NOT POWER WASH THE ROOF.
2. A LEAF BLOWER MAY BE USED TO HELP MOVE LOOSE DEBRIS.
 - A. REMOVE PLANT AND TREE DEBRIS FROM THE ROOF PANELS AND GUTTERS.
3. UNFILLED HOLES IN THE ROOF PANELS.
 - A. SEAL THE HOLE WITH THE APPROVED SEALANT.
 - B. INSTALL AN OVERSIZED SHEET METAL SCREW WITH A 1" EPDM GASKET PATCH WASHER. DO NOT STRIP THE FASTENER.
4. OBSOLETE ROOF PENETRATION (PIPE) FLASHINGS.
 - A. REMOVE TOPICAL CAULKING AND COATING MATERIALS WITH AN OSCILLATING CHISEL AND NON-ABRASIVE SCOURING PADS.
 - B. REMOVE (BACK OUT) THE EXISTING, SELF-DRILLING SCREW (SDS) FASTENERS.
 - C. REMOVE THE OBSOLETE FLASHING.
 - D. REMOVE CONTAMINANTS FROM THE ROOF PANEL, INCLUDING NON-ADHERED SEALANT.
 - E. WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - F. PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - G. COVER OPENING WITH AN OVERSIZED 24-GAUGE, GALVALUME COATED STEEL PATCH.
 - 1) PATCH SHOULD EXTEND BEYOND THE OPENING AT LEAST 4".
 - 2) SEAL THE PATCH WITH THE APPROVED SEALANT.
 - 3) SECURE THE PATCH WITH NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 3" O.C. DO NOT STRIP THE FASTENERS.
5. ROOF PANEL END LAP JOINTS.
 - A. REMOVE TOPICAL CAULKING AND COATING MATERIALS WITH A OSCILLATING CHISEL AND NON-ABRASIVE SCOURING PADS.
 - B. REMOVE (BACK OUT) THE EIGHT EXISTING, SELF-DRILLING SCREW (SDS) FASTENERS.
 - C. REMOVE CONTAMINANTS FROM THE LAP JOINT, INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - D. APPLY TWO 1/4" BEADS OF APPROVED SEALANT BETWEEN ROOF PANELS AT THE END LAP JOINT.
 - 1) APPLY THE SEALANT BEADS SIDE-BY-SIDE OVER THE EXISTING FASTENERS HOLES.
 - 2) ENSURE THE SEALANT BEADS ARE CONTINUOUS AND EXTEND INTO THE PANEL CORRUGATION.
 - E. REINSTALL ALUMINUM END LAP JOINT TOP STRAP.
 - F. INSTALL EIGHT NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER. DO NOT STRIP THE FASTENERS.
 - G. A SMALL AMOUNT OF SEALANT SHOULD SQUEEZE OUT BETWEEN THE ROOF PANELS.
 - H. REMOVE DISCARDED MATERIALS FROM THE ROOF.
6. RIDGE COVER.
 - A. REMOVE (BACK OUT) THE FASTENERS THAT ATTACH THE RIDGE COVER TO THE STEEL Z-CLOSURES AND THE RIDGE COVER END LAP JOINT FASTENERS.
 - B. REMOVE AND REPLACE ANY WET OR DAMAGED FIBERGLASS BATT INSULATION.
 - C. REMOVE CONTAMINANTS FROM THE TOP OF THE Z-CLOSURE AND THE RIDGE COVER END LAP JOINTS, INCLUDING NON-ADHERED SEALANT.
 - 1) WIRE BRUSH, CLEAN AND PAINT ANY SURFACE RUSTED STEEL.
 - 2) PATCH ANY SEVERE RUST WITH NEW 24-GAUGE, GALVALUME COATED STEEL.
 - D. SEAL THE INSIDE AND OUTSIDE OF THE Z-CLOSURES TO THE ROOF PANELS WITH THE APPROVED SEALANT.
 - E. INSTALL TWO LAYERS OF 1/8" X 1" BUTYL RUBBER TAPE SEALANT CONTINUOUSLY TO THE TOP FLANGE OF THE Z-CLOSURE.
 - F. REINSTALL THE EXISTING RIDGE COVERS TO THE Z-CLOSURES WITH NEW 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 6" O.C. DO NOT STRIP THE FASTENERS.
 - 1) REPLACE DAMAGED RIDGE COVER WITH 24-GAUGE, GALVALUME COATED STEEL AS NEEDED.
 - G. INSTALL THE APPROVED SEALANT BETWEEN THE RIDGE COVER END LAP JOINTS AND SECURE WITH 410 STAINLESS STEEL, 1/4"-14 X 3/4", SELF-DRILLING SCREW FASTENERS WITH AN EPDM GASKET WASHER, 3" O.C. DO NOT STRIP THE FASTENERS.
 - H. FABRICATE FROM 24-GAUGE, GALVALUME COATED STEEL A TRANSITION COVER FROM THE RIDGE TO THE WALL OF THE CURBS LOCATED AT THE RIDGE.

REPAIRS TO LIVESTOCK PAVILION OFFICE ROOF

1. DO NOT POWER WASH THE ROOF.
2. A LEAF BLOWER MAY BE USED TO HELP MOVE LOOSE DEBRIS.
 - A. REMOVE PLANT AND TREE DEBRIS FROM THE ROOF AND DRAINS.
3. REMOVE THE DAMAGED ROOF MEMBRANE AND BASE SHEET.
 - A. AT THE ROOF DRAIN (4' X 8') AND AT THE DOWNSPOUT (2' X 4').
 - B. INSPECT THE PLYWOOD ROOF DECK FOR WATER DAMAGE.
 - C. REPLACE WATER DAMAGED PLYWOOD ROOF DECK.
 - D. INSTALL NEW ROOF MATERIALS - ENSURE 6" OVERLAP BETWEEN LAYERS.
 - 1) MECHANICALLY ATTACH A MODIFIED BITUMEN BASE SHEET.
 - 2) IN COLD ADHESIVE, INSTALL A MODIFIED BITUMEN BASE SHEET.
 - 3) IN COLD ADHESIVE, INSTALL A GRANULE-SURFACED, SBS MODIFIED BITUMEN CAP SHEET.
 - 4) HOT AIR WELD THE EDGES OF THE MODIFIED CAP SHEET.
4. REPAIR WALL FLASHING AT WALL PENETRATION WITH MODIFIED BITUMEN MEMBRANE.
5. REPAIR WALL FLASHING AT INSIDE AND OUTSIDE CORNERS WITH MODIFIED BITUMEN MEMBRANE.
6. REPAIR METAL WALL TO PARAPET COPING CAP TRANSITION WITH MODIFIED BITUMEN MEMBRANE AND 24-GAUGE, PREFINISHED SHEET METAL.
7. SEAL WALL PENETRATION IN METAL WALL PANEL WITH THE APPROVED SEALANT.

REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

DATE	08/24/18
DRAWN BY	D. VAN DYKE
PROJECT	R. HESBY
MANAGER	M. WILSON
CHECKED BY	A. NUNNKHOFER
FILE NO.	18RENO000002.dwg

CLIENT: RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

PROJECT: RENO-SPARKS LIVESTOCK EVENTS CENTER

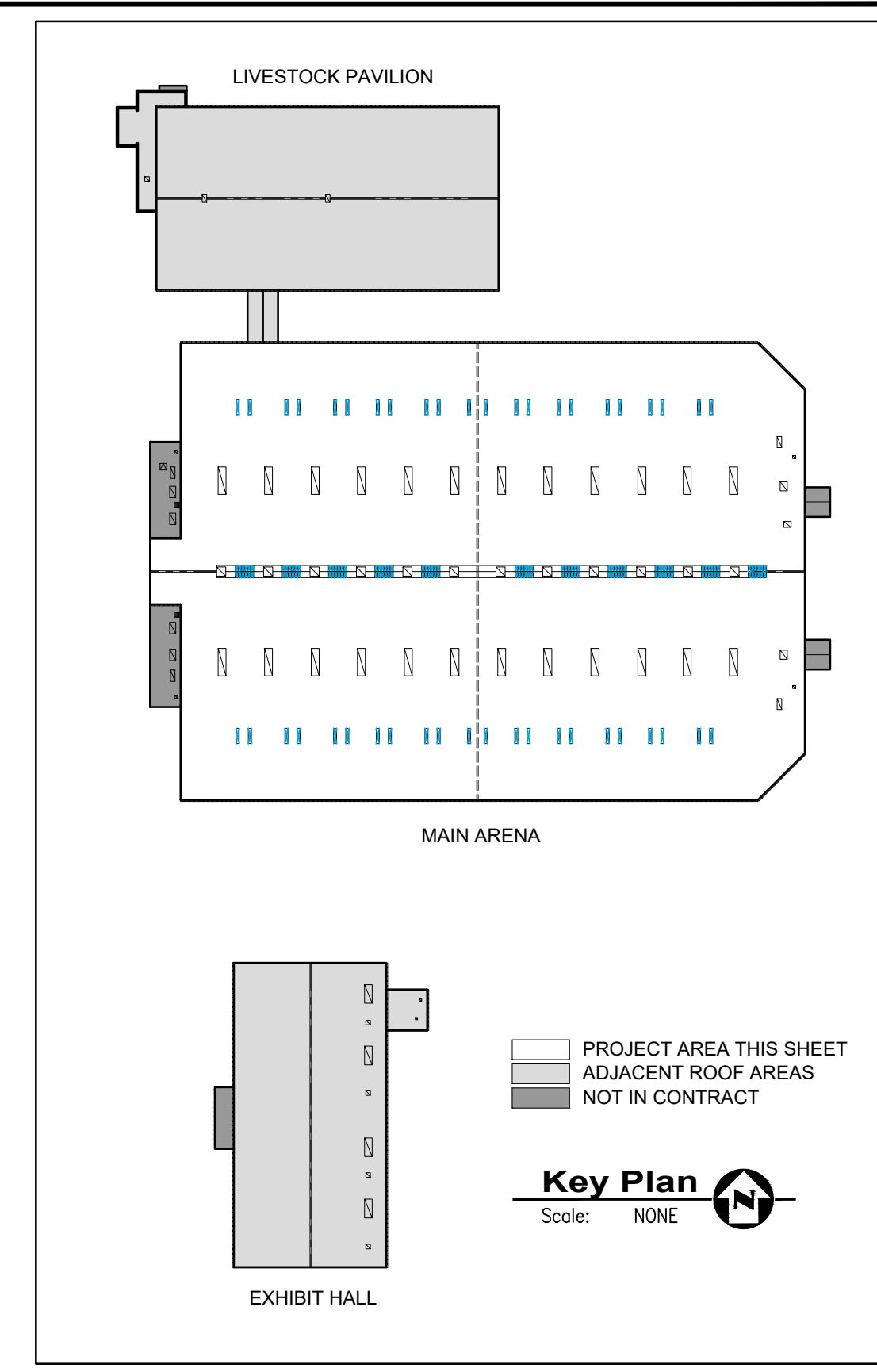
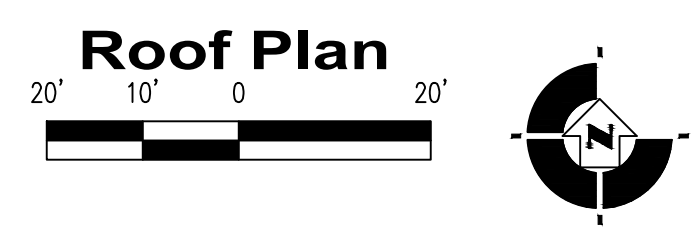
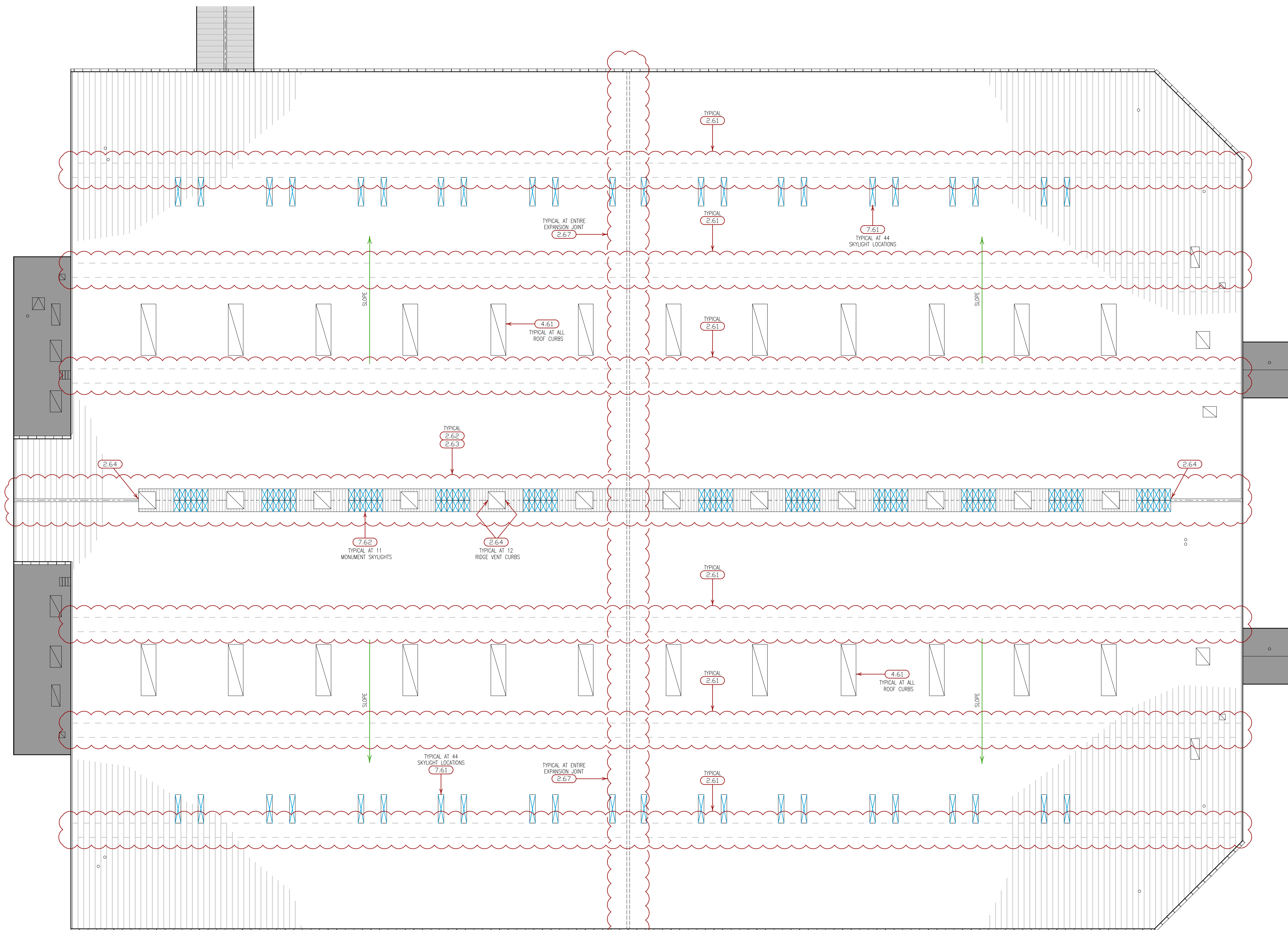
DRAWING TITLE: SCOPE OF WORK - MAIN ARENA & LIVESTOCK PAVILION

CLIENT PROJECT NUMBER: **R-0**

SHEET NUMBER: **R-0**

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DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

SYMBOL LEGEND	
	METAL EDGE
	EXPANSION JOINT
	CUTTER
	PIPE PENETRATION
	ROOF CURB
	ROOF HATCH
	STAIRS/PLATFORM
	METAL ROOF
	ROOF PANEL END LAPS
	SKYLIGHT
	RIDGE LINE
	SLOPE DIRECTION
	ACTION CODE
	KEYED WORK NOTE LOCATION
	ADJACENT ROOF AREAS
	NOT IN CONTRACT

- ACTION CODE LEGEND**
- 2.0 FIELD MEMBRANE
 - 2.61 DISASSEMBLE ROOF PANEL END LAP JOINT, SEAL AND SECURE THE END LAP JOINT
 - 2.62 REMOVE RIDGE COVER, SEAL AND SECURE RIDGE COVER END LAP JOINTS AND TO THE METAL CLOSURES
 - 2.63 SEAL METAL CLOSURES TO THE ROOF PANELS
 - 2.64 SEAL AND FLASH RIDGE COVER TO ROOF CURB
 - 2.67 REMOVE EXPANSION JOINT, SEAL AND SECURE EXPANSION JOINT COVER END LAP JOINTS AND TO THE ROOF PANELS
 - 4.0 PENETRATION FLASHINGS
 - 4.61 SEAL OPENINGS AT CURB FLASHING AND ROOF TOP UNIT
 - 7.0 MISCELLANEOUS AND ADJACENT CONDITIONS
 - 7.61 REMOVE INTEGRAL ROOF PANEL FRP SKYLIGHT, INSULATE AND INSTALL METAL COVER
 - 7.62 FRAME OVER 8'X12' MONUMENTAL SKYLIGHT AND COVER WITH METAL PANEL ROOF
- * TYPICAL = TYPICAL TO ALL RELATED COMPONENTS/PERIMETERS ON ROOF SECTION

GENERAL DRAWING NOTE:
 THIS DRAWING IS INTENDED FOR ORIENTATION, APPROXIMATE CONFIGURATION AND LOCATION OF DETAILS. CONTRACTOR SHALL FIELD VERIFY ALL ITEMS FOR BIDDING AND INSTALLATION PURPOSES.

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. WILSON
PROJECT	RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
PROJECT NO.	18RENOR008
DRAWING NO.	18RENOR008B02

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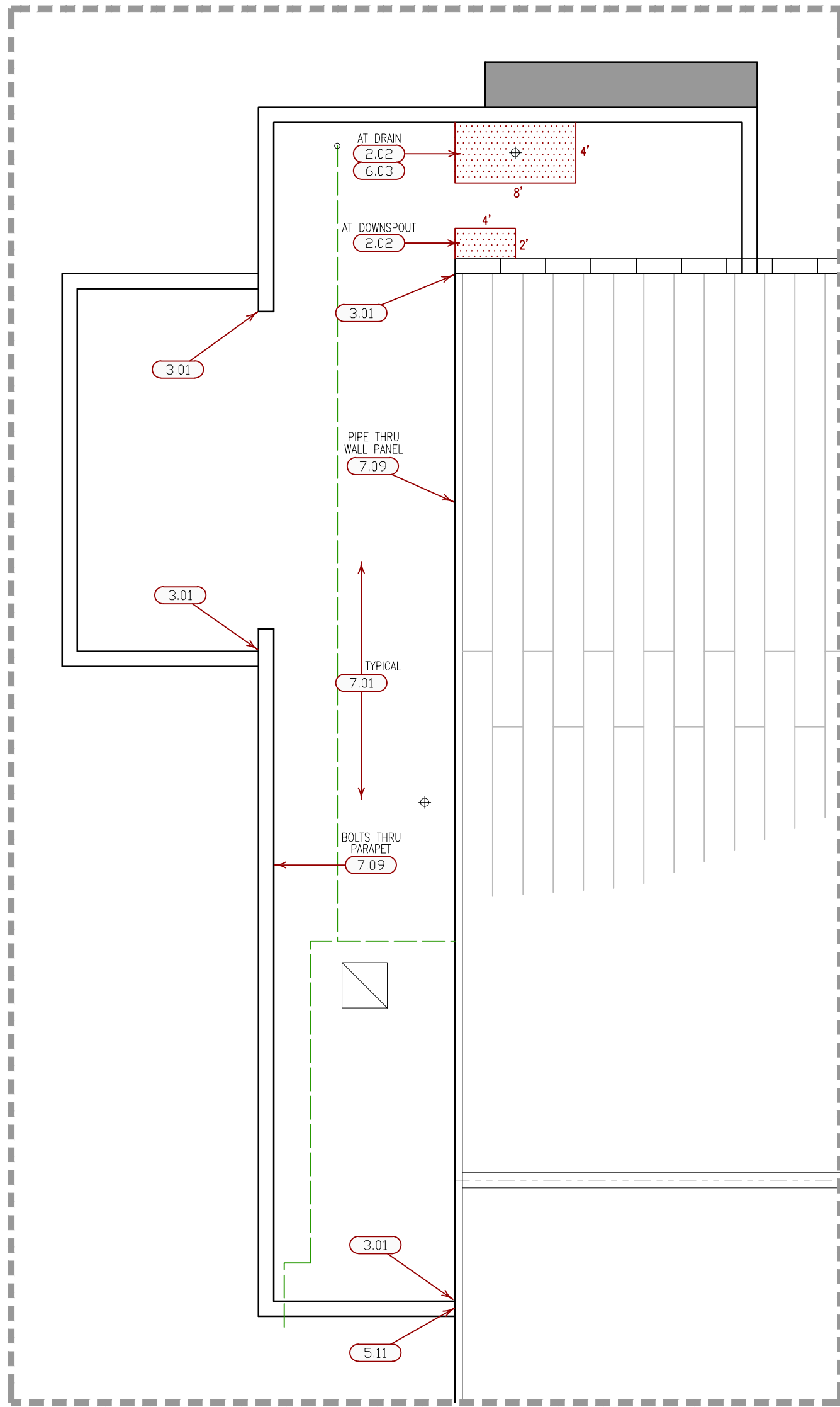
PROJECT:
 RENO-SPARKS LIVESTOCK EVENTS CENTER

PROJECT ADDRESS:
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512

DRAWING TITLE:
 ROOF PLAN - MAIN ARENA

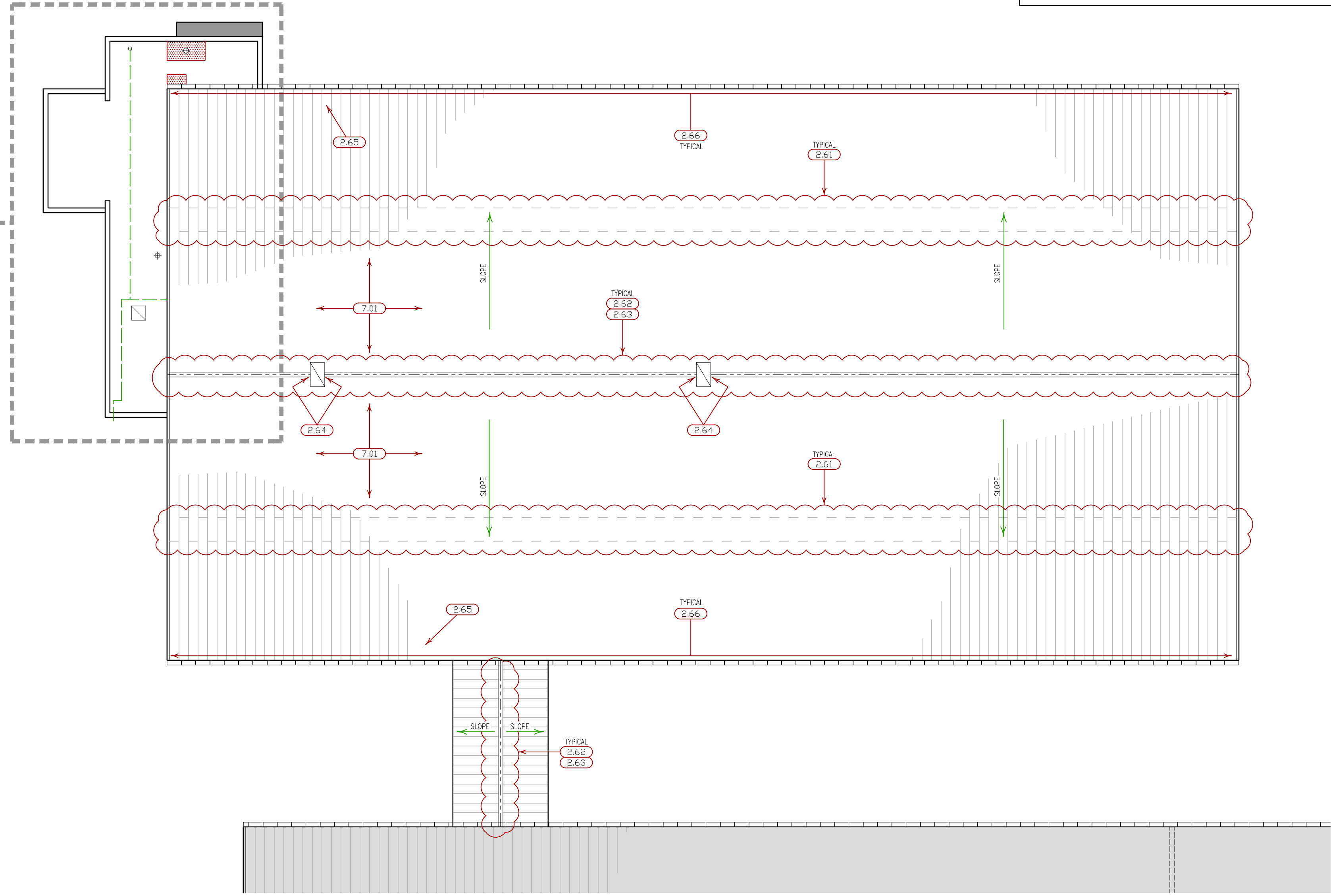
CLIENT PROJECT NUMBER:

SHEET NUMBER:
R-1

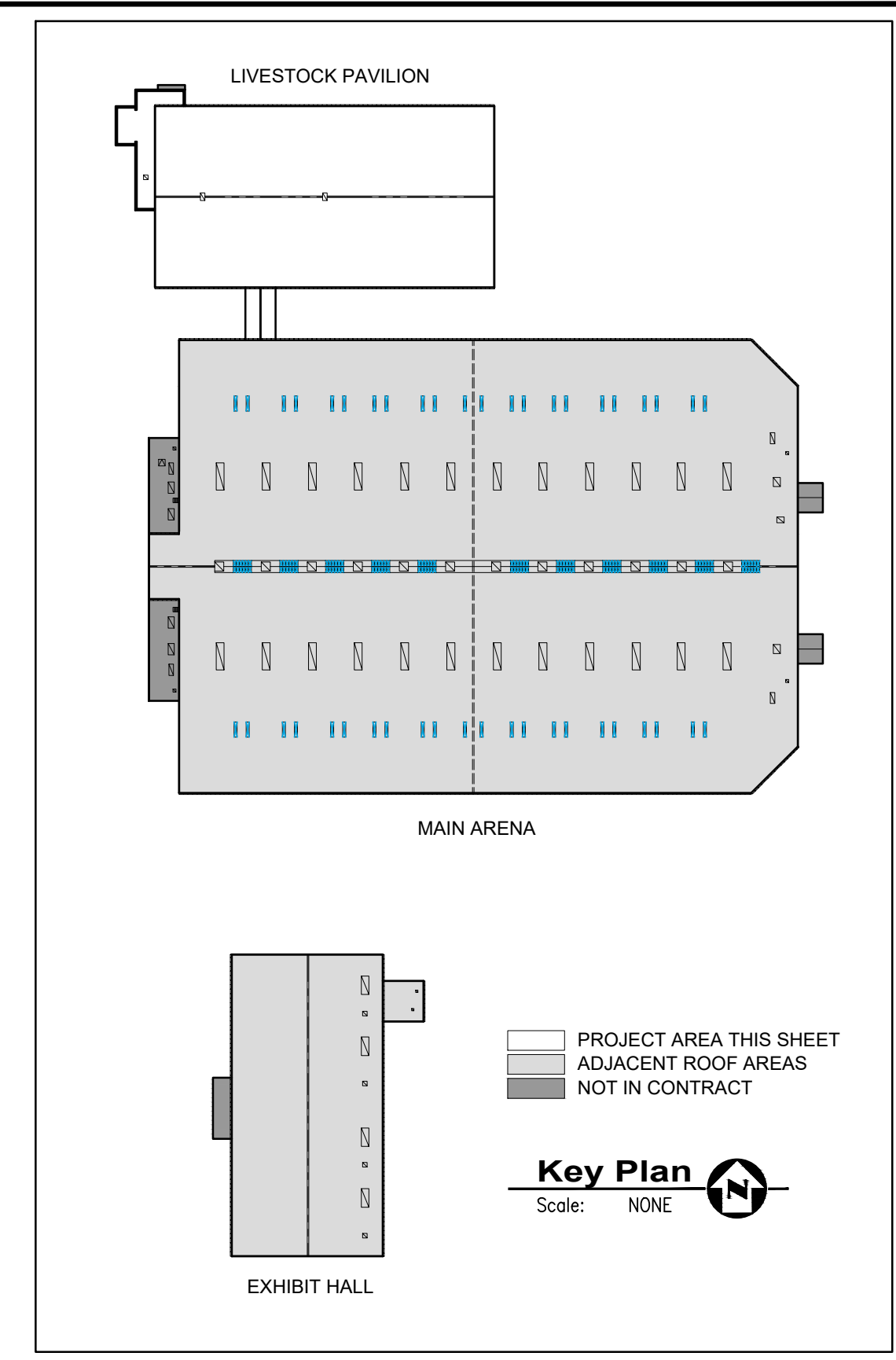


Enlarged Roof Plan
 8' 4' 0' 8'

- ACTION CODE LEGEND**
- 2.0 FIELD MEMBRANE
 - 2.02 REPLACE FIELD MEMBRANE/ROOF COVER
 - 2.61 DISASSEMBLE ROOF PANEL END LAP JOINT, SEAL AND SECURE THE END LAP JOINT
 - 2.62 REMOVE RIDGE COVER, SEAL AND SECURE RIDGE COVER END LAP JOINTS AND TO THE METAL CLOSURES
 - 2.63 SEAL METAL CLOSURES TO THE ROOF PANELS
 - 2.64 SEAL AND FLASH RIDGE COVER TO ROOF CURB
 - 2.65 REMOVE OBSOLETE ROOF PENETRATION FLASHING AND INSTALL ROOF PANEL REPAIR
 - 2.66 SEAL OPEN FASTENER HOLES IN THE ROOF PANELS
 - 3.0 PERIMETER FLASHINGS
 - 3.01 REPAIR DAMAGED WALL FLASHING
 - 5.0 ROOF RELATED SHEET METAL
 - 5.11 REPLACE/INSTALL METAL COUNTERFLASHING
 - 6.0 DRAINAGE
 - 6.03 REPLACE/INSTALL DRAIN FLASHING
 - 7.0 MISCELLANEOUS AND ADJACENT CONDITIONS
 - 7.01 REMOVE DEBRIS FROM ROOF
 - 7.09 SEAL WALL PENETRATION
- * TYPICAL = TYPICAL TO ALL RELATED COMPONENTS/PERIMETERS ON ROOF SECTION



Roof Plan
 16' 8' 0' 16'



DRAWING RECORD

REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

SYMBOL LEGEND

	PARAPET WALL
	METAL EDGE
	CUTTER
	PIPE PENETRATION
	ROOF DRAIN
	ROOF CURB
	METAL ROOF
	ROOF PANEL END LAPS
	RIDGE LINE
	PIPING ON SUPPORTS
	SLOPE DIRECTION
	ACTION CODE
	KEYED WORK NOTE LOCATION
	REPAIR AREA
	ADJACENT ROOF AREAS
	NOT IN CONTRACT

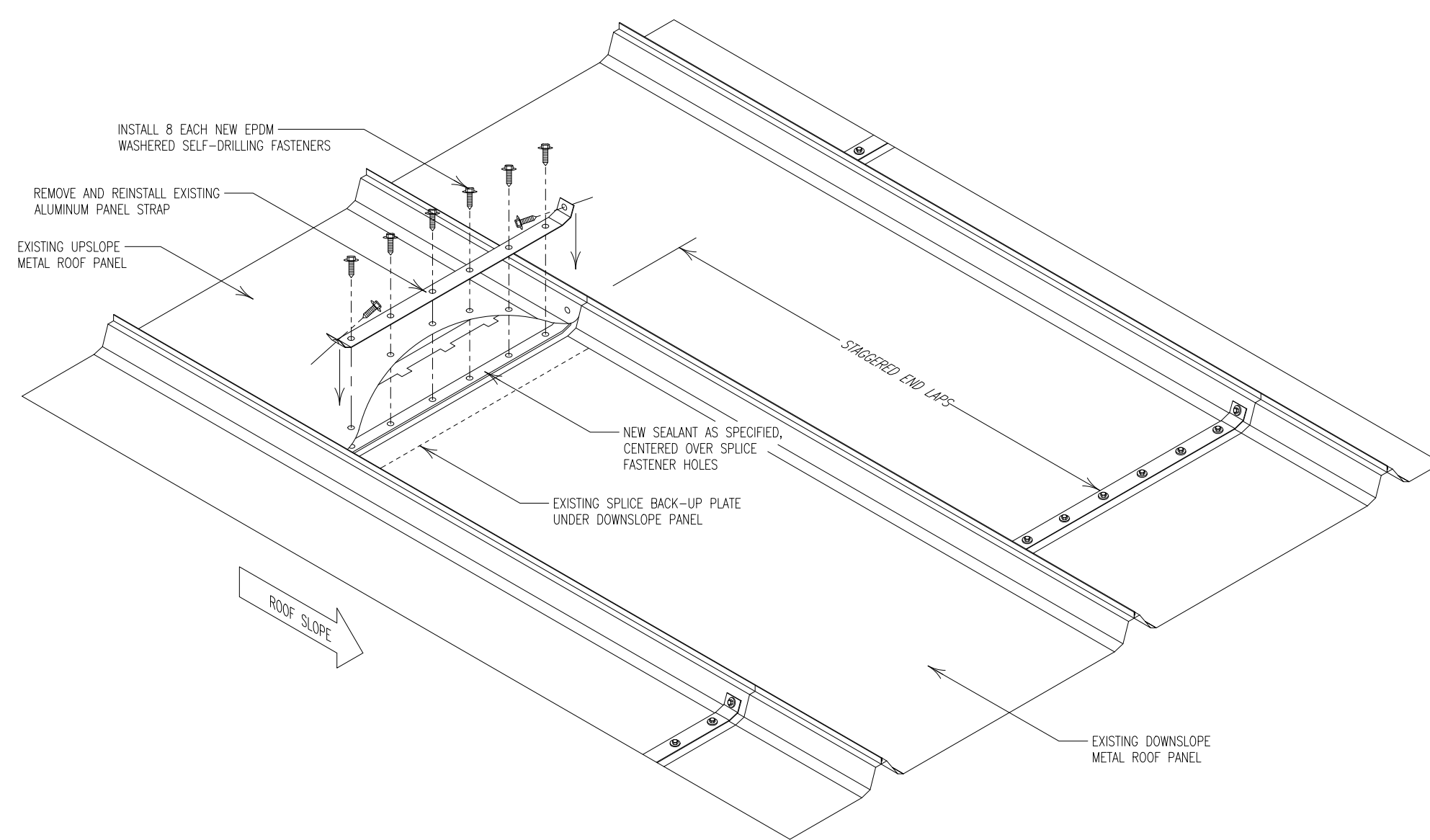
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DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. WILSON
PROJECT	RENO-SPARKS CONVENTION CENTER
CLIENT	RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
PROJECT NO.	18RENOR038
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CLIENT: RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
PROJECT: RENO-SPARKS LIVESTOCK EVENTS CENTER
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512
DRAWING TITLE: ROOF PLAN - LIVESTOCK PAVILION, CONNECTOR, & OFFICES
CLIENT PROJECT NUMBER:
SHEET NUMBER: R-2

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RS



2.61 DISASSEMBLE ROOF PANEL END LAP JOINT, SEAL AND SECURE THE END LAP JOINT.

(MAIN ARENA AND LIVESTOCK PAVILION)
2.61 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



2.62 REMOVE RIDGE COVER, SEAL AND SECURE RIDGE COVER END LAP JOINTS AND TO THE METAL CLOSURES.

(MAIN ARENA)
2.62 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



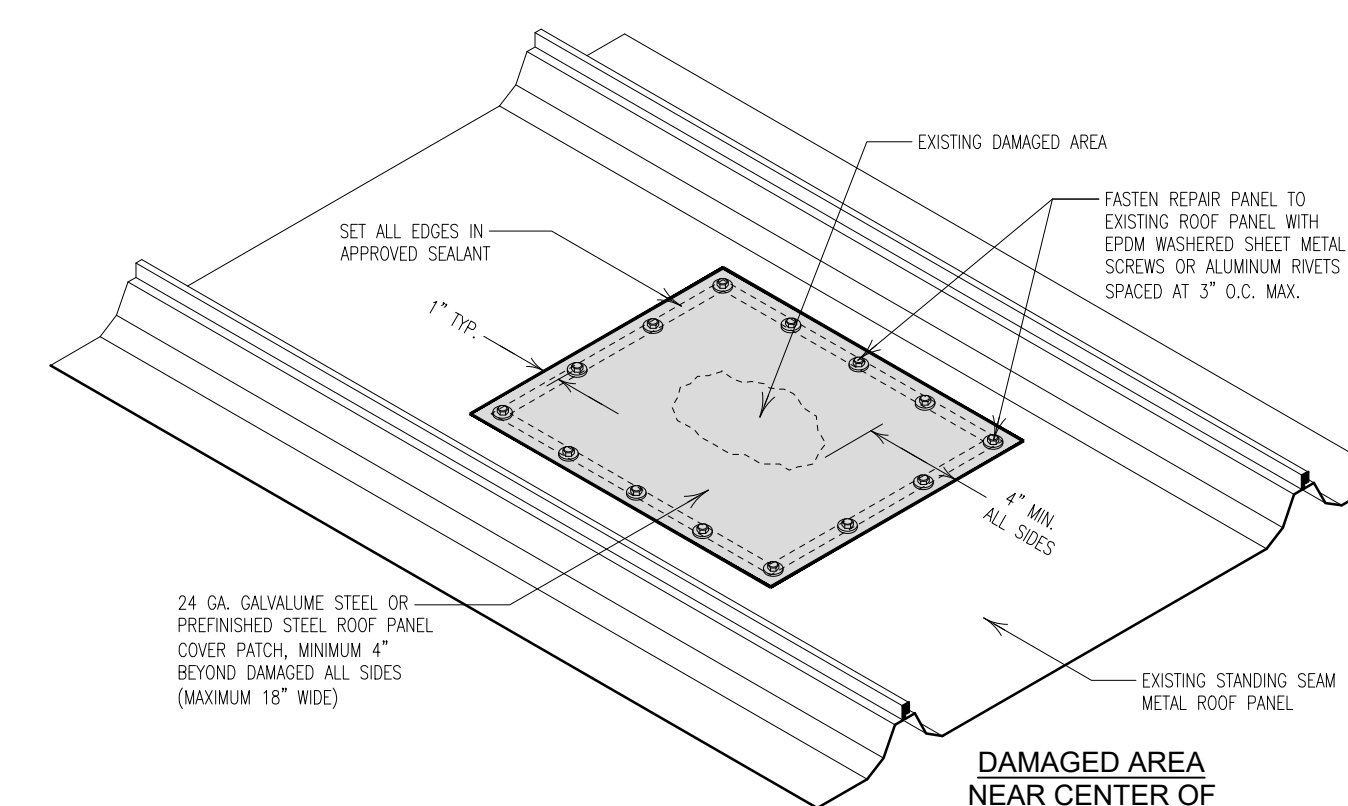
2.62 REMOVE RIDGE COVER, SEAL AND SECURE RIDGE COVER END LAP JOINTS AND TO THE METAL CLOSURES.

(LIVESTOCK PAVILION)
2.62 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



2.63 SEAL METAL CLOSURES TO THE ROOF PANELS.

(MAIN ARENA)
2.63 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



2.63 SEAL METAL CLOSURES TO THE ROOF PANELS.



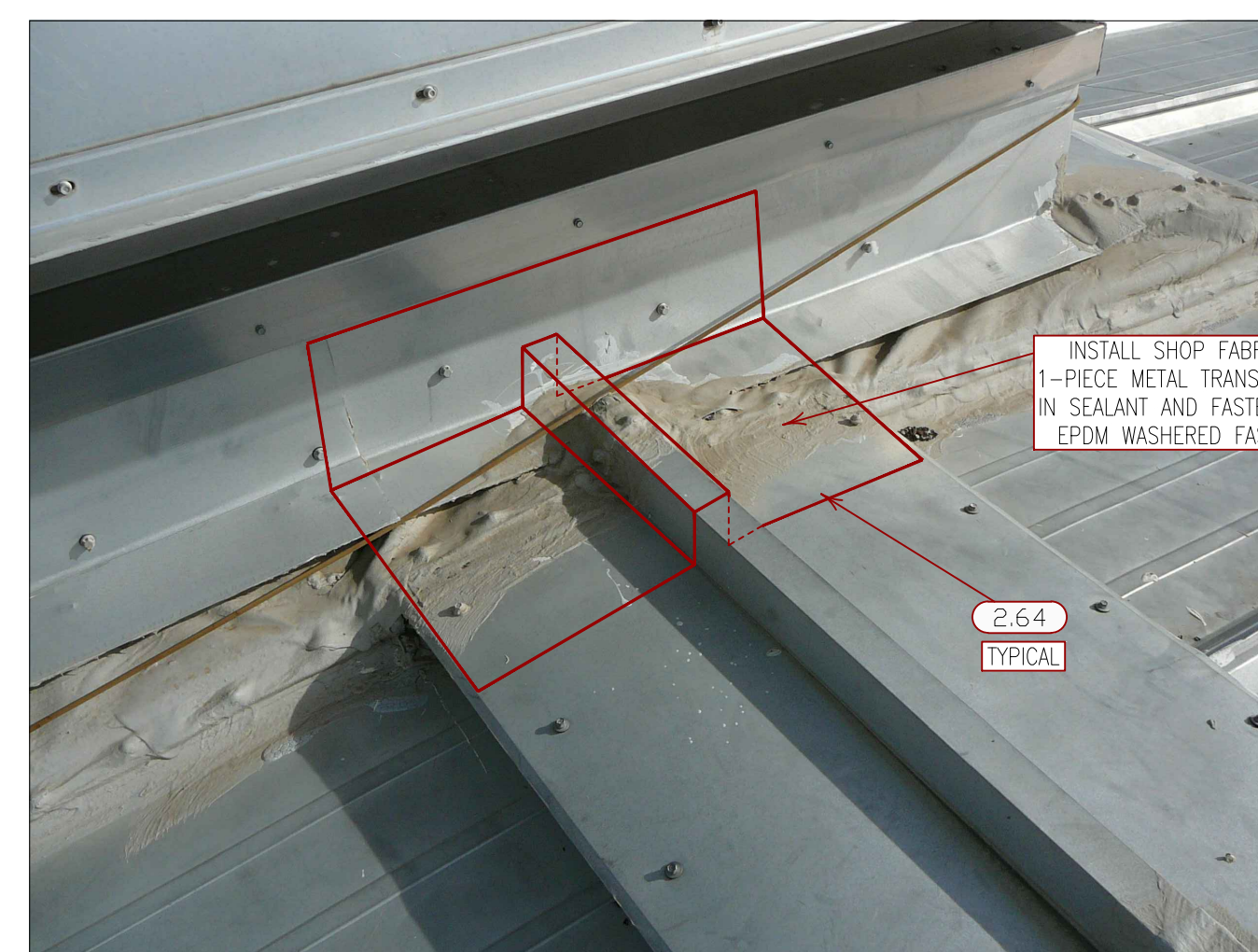
2.63 SEAL METAL CLOSURES TO THE ROOF PANELS.

(LIVESTOCK PAVILION)
2.63 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



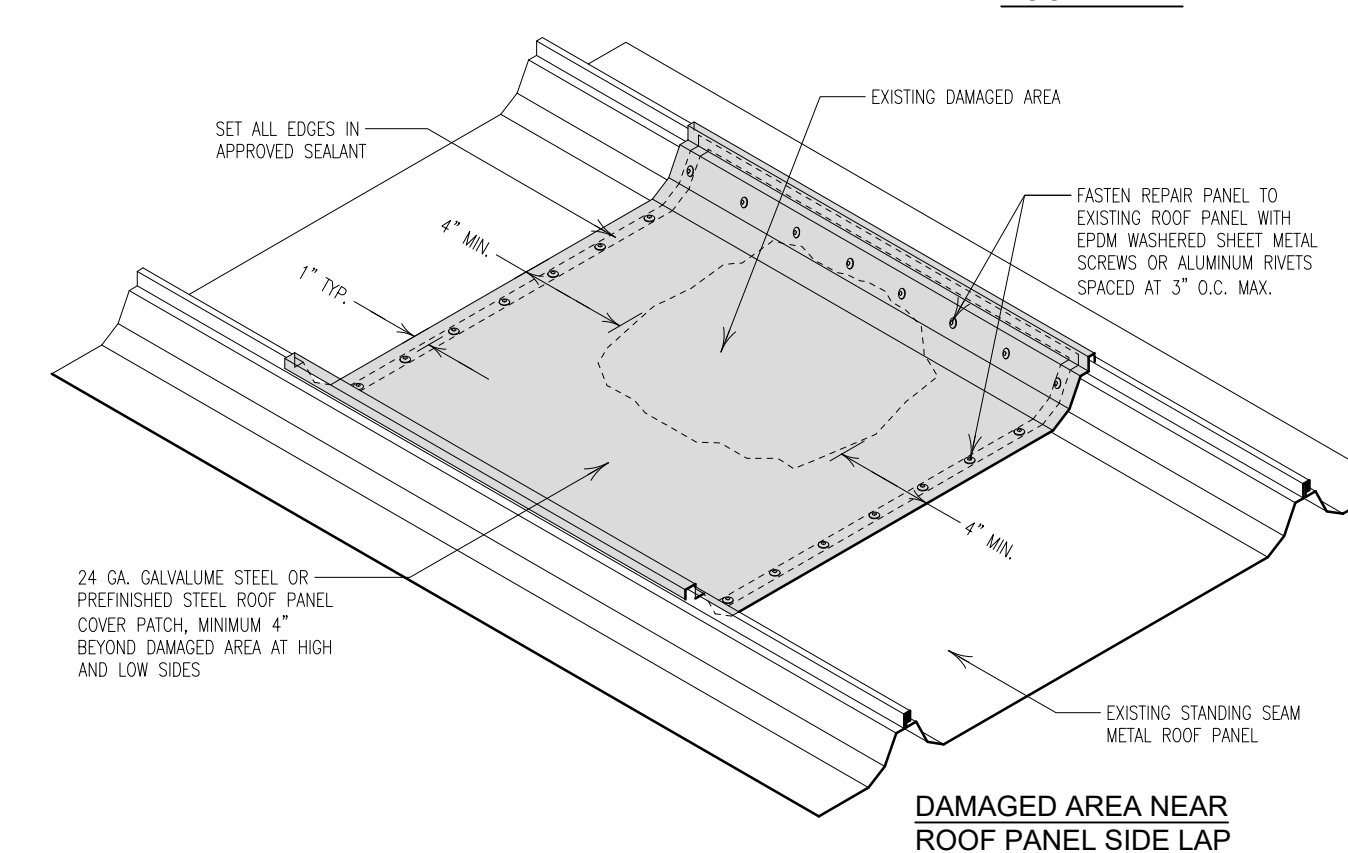
2.64 SEAL AND FLASH RIDGE COVER TO THE ROOF CURB.

(LIVESTOCK PAVILION)
2.64 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



2.64 SEAL AND FLASH RIDGE COVER TO THE ROOF CURB.

(MAIN ARENA)
2.64 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE



2.65 REMOVE OBSOLETE ROOF PENETRATION FLASHING AND INSTALL ROOF REPAIR PANEL.

(LIVESTOCK PAVILION)
2.65 2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. WILSON
PROJECT	RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
LOCATION	RENO, NEVADA
DRAWING NO.	18RENENCR0088003.dwg

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

PROJECT: **RENO-SPARKS LIVESTOCK EVENTS CENTER**
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512

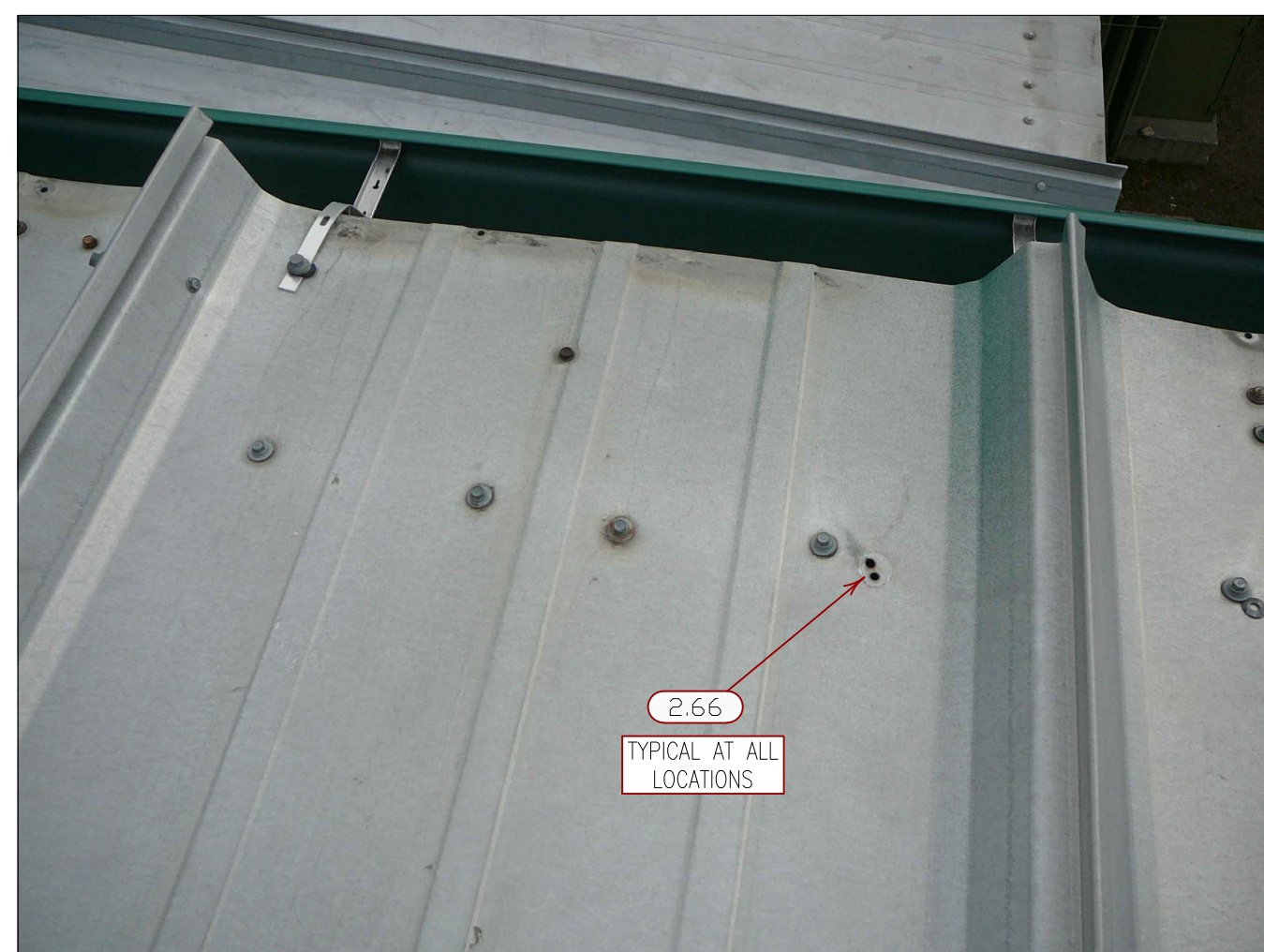
DRAWING TITLE: **ROOF REPAIR DETAILS**

CLIENT PROJECT NUMBER: _____

SHEET NUMBER: **R-3**

File: J:\Reno-Sparks Convention Center_REN-Reno-WI_18RENENCR0088003.dwg Time: Aug 24, 2018 - 2:59pm

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RS



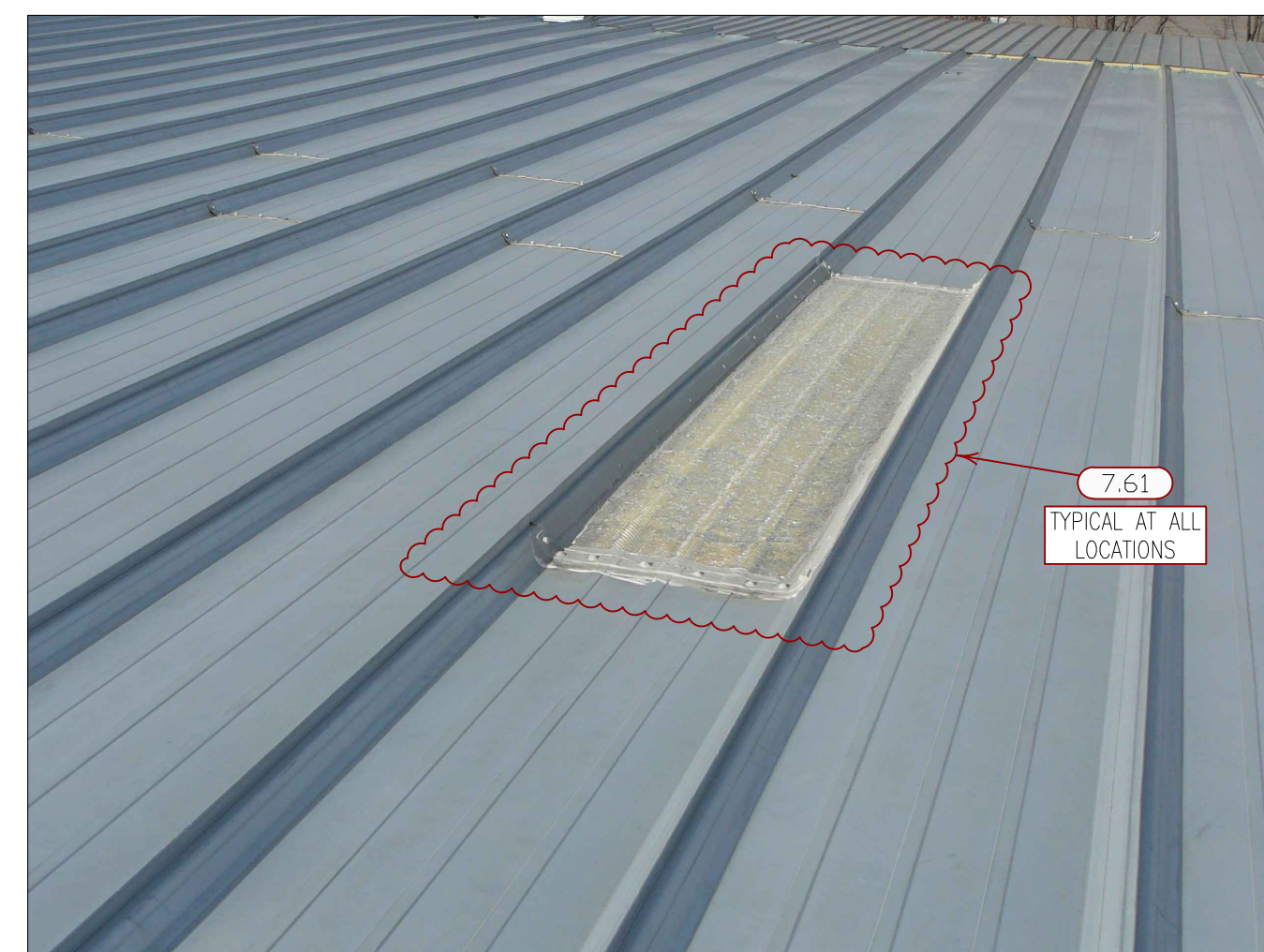
2.66 SEAL OPEN FASTENER HOLES IN THE ROOF PANEL.



2.67 REMOVE EXPANSION JOINT COVER, SEAL AND SECURE EXPANSION JOINT COVER END LAP JOINTS AND TO THE ROOF PANELS.



4.61 SEAL OPENINGS AT CURB FLASHING AND ROOF TOP UNIT.



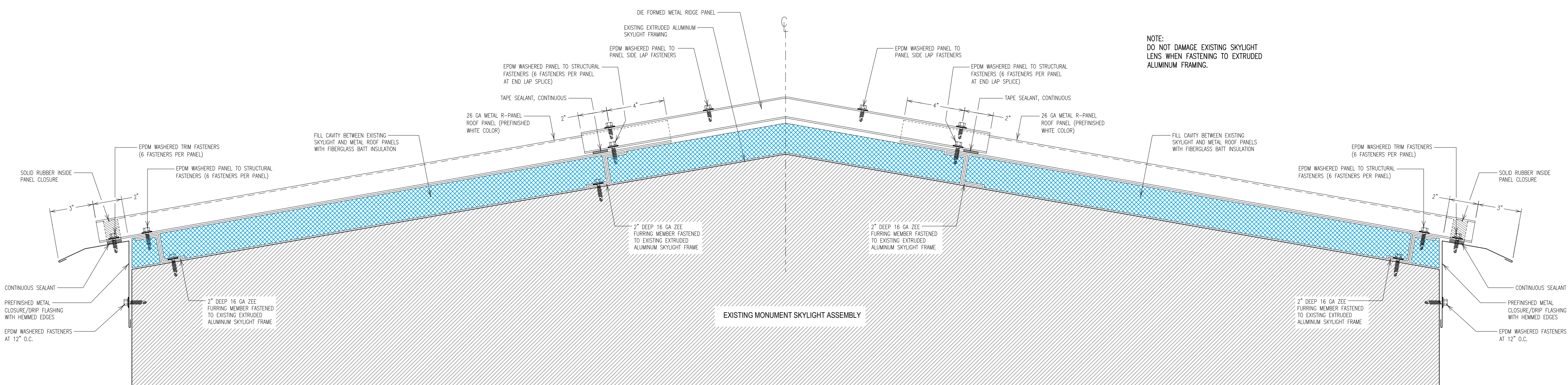
7.61 REMOVE INTEGRAL ROOF PANEL FRP SKYLIGHT, INSULATE AND INSTALL METAL COVER.

(LIVESTOCK PAVILION)
2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE 18RENOENR0008003.dwg

(MAIN ARENA)
2.0 FIELD MEMBRANE (METAL ROOFING)
 NO SCALE 18RENOENR0008003.dwg

(MAIN ARENA)
4.0 PENETRATION FLASHINGS (METAL ROOFING)
 NO SCALE 18RENOENR0008003.dwg

(MAIN ARENA)
7.0 MISC. / ADJACENT CONDITIONS (METAL ROOFING)
 NO SCALE 18RENOENR0008003.dwg



7.62 FRAME OVER 8'X12' MONUMENT SKYLIGHTS AND COVER WITH METAL PANEL ROOF.

(MAIN ARENA)
7.0 MISC. / ADJACENT CONDITIONS (METAL ROOFING)
 NO SCALE 18RENOENR0008003.dwg

File: J:\RenoSparks Convention Center_REN\Ren-NV_18\RENOENR0008003.dwg Time: Aug 24, 2018 - 2:59pm

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
PROJECT	RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
MANAGER	M. WILSON
DESIGNER	A. NUNUKHOV
PROJECT NO.	18RENOENR0008003.dwg

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CLIENT: **RENO-SPARKS CONVENTION AND VISITORS AUTHORITY**

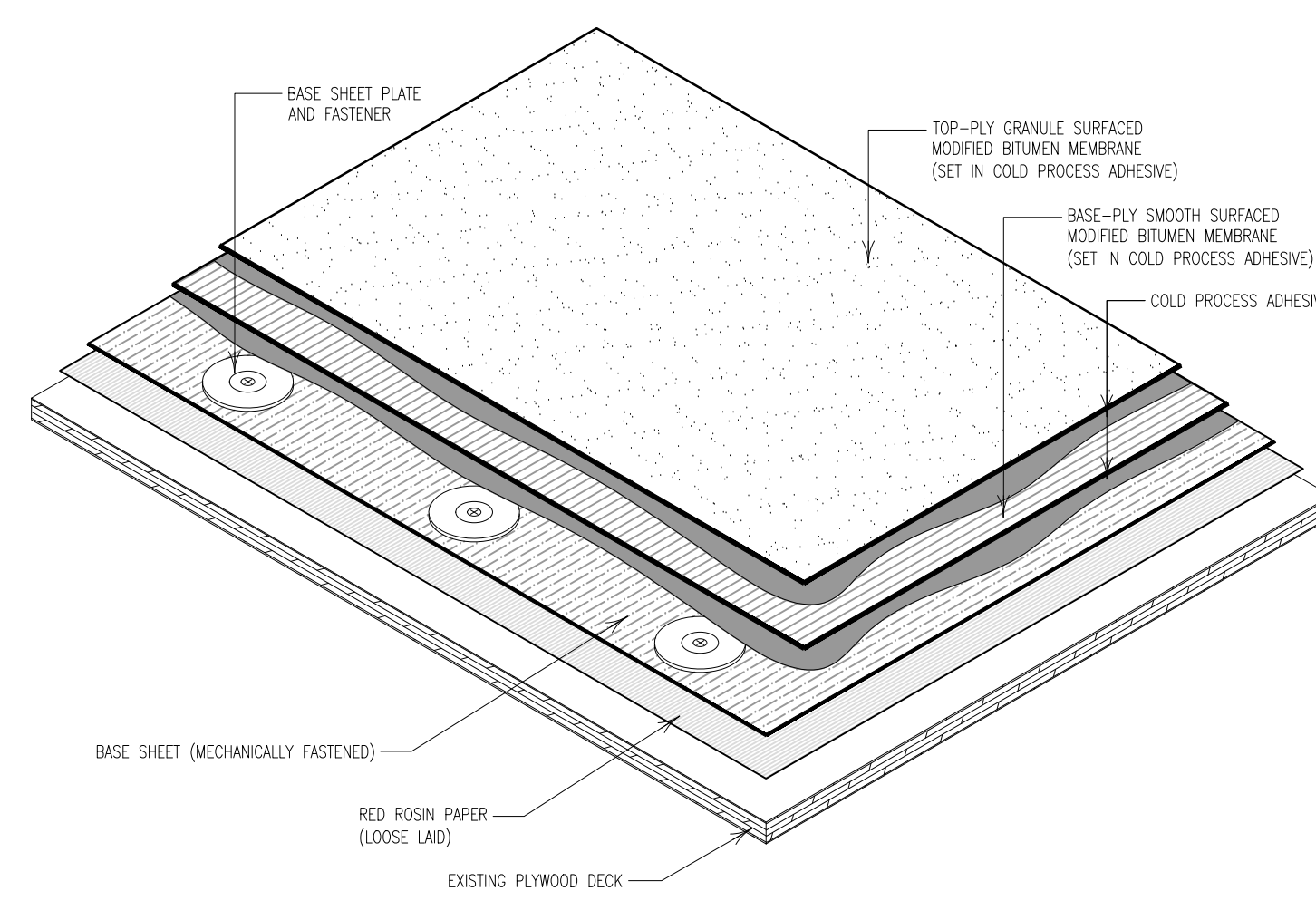
PROJECT: **RENO-SPARKS LIVESTOCK EVENTS CENTER**

DRAWING TITLE: **ROOF REPAIR DETAILS**

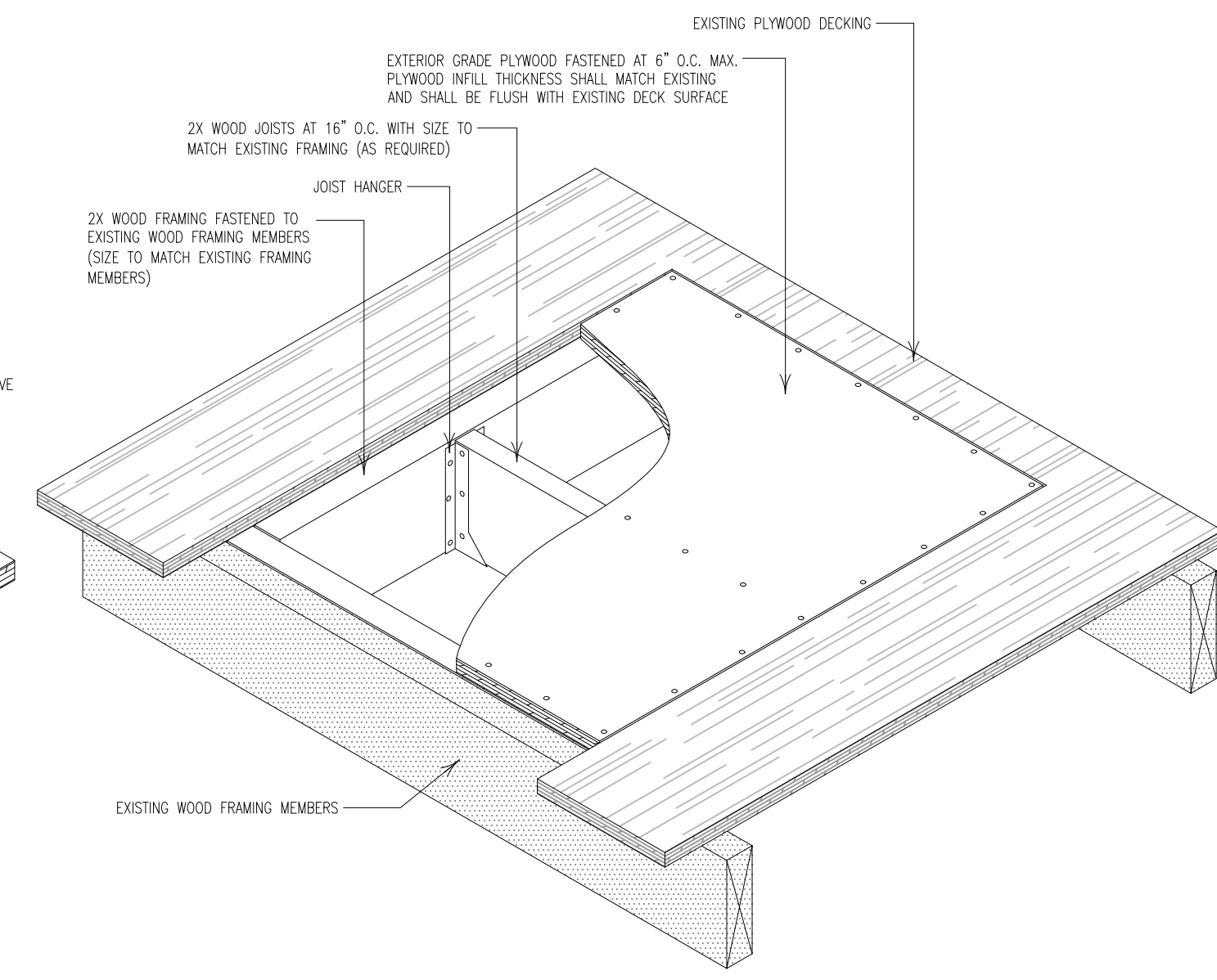
CLIENT PROJECT NUMBER:

SHEET NUMBER: **R-4**

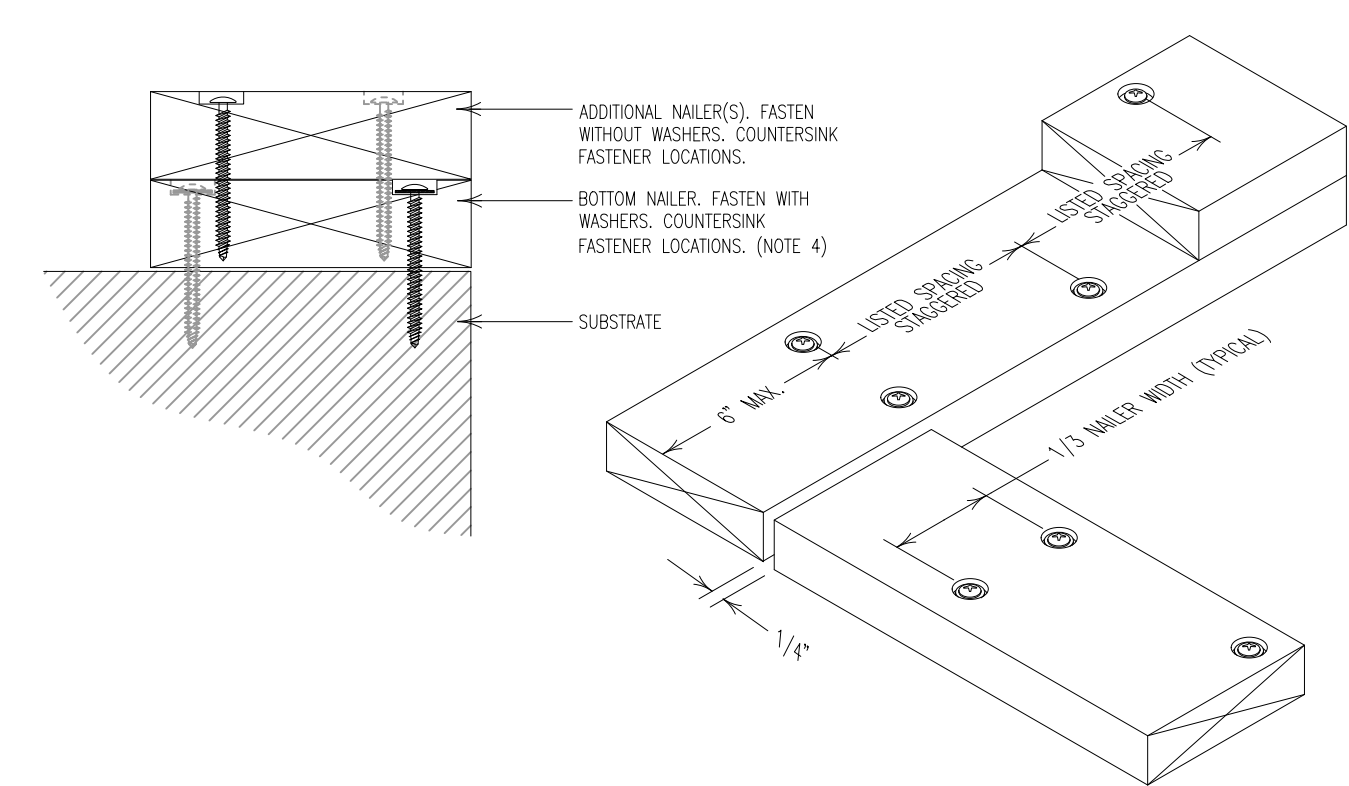
DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH



(LIVESTOCK PAVILION OFFICE - FOR REFERENCE ONLY)
A **EXISTING ROOF SYSTEM CROSS SECTION**
 NO SCALE 18RENENCR0088003.dwg



(LIVESTOCK PAVILION OFFICE)
B **PLYWOOD DECK REPAIR AT OPENING**
 NO SCALE 18RENENCR0088003.dwg

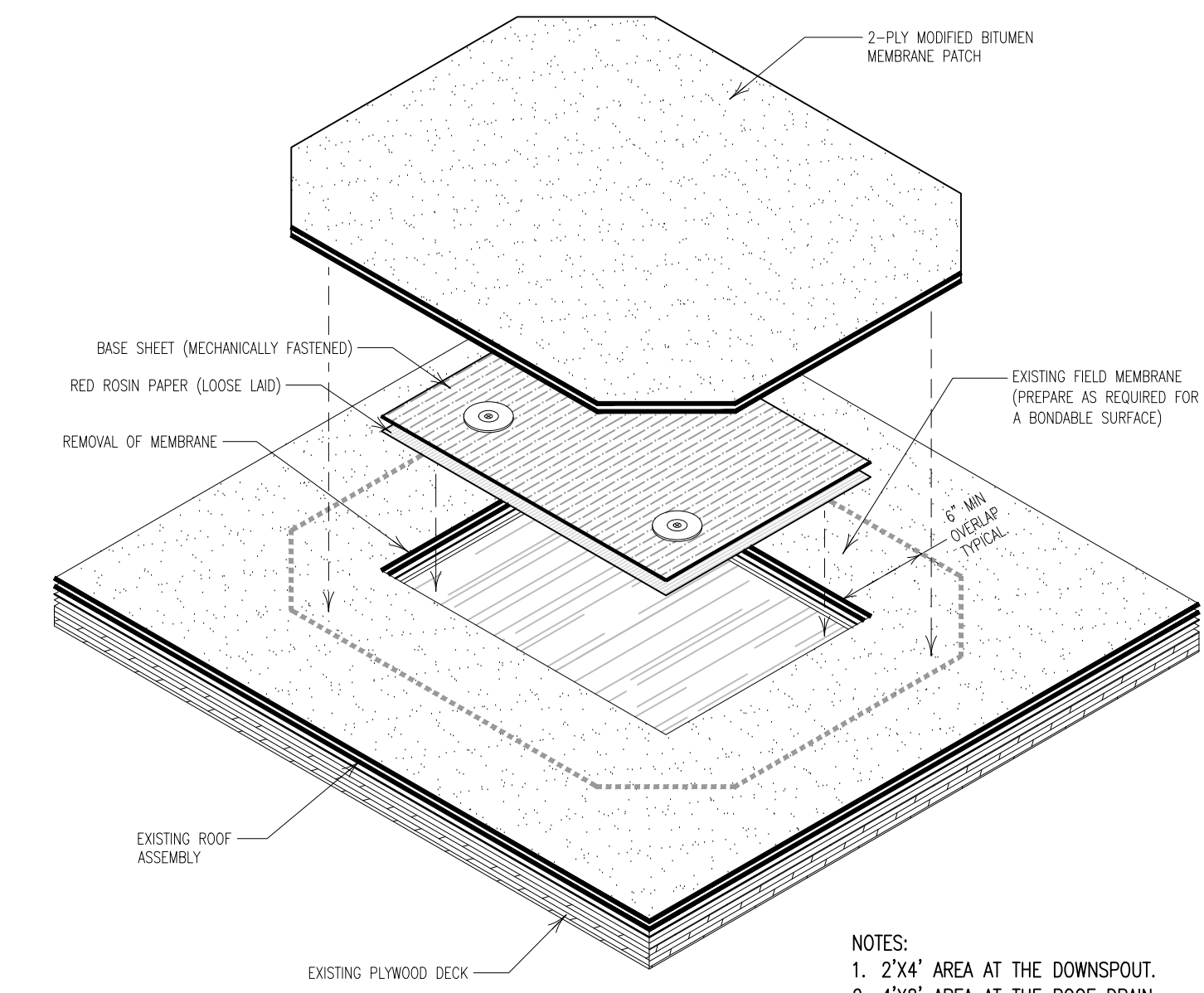


ALL PERIMETER NAILERS, NEW OR EXISTING SHALL BE FASTENED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE (UNLESS NOTED OTHERWISE ON DETAIL DRAWINGS)

ATTACHMENT SUBSTRATE	PERIMETER FASTENER SPACING (MAXIMUM)	CORNER FASTENER SPACING (MAXIMUM)
STRUCTURAL CONCRETE	12" O.C.	6" O.C.
CMU/BRICK (FASTENER INTO SOLID MATERIAL)	12" O.C.	6" O.C.
STEEL DECK	12" O.C.	6" O.C.
WOOD	12" O.C.	6" O.C.

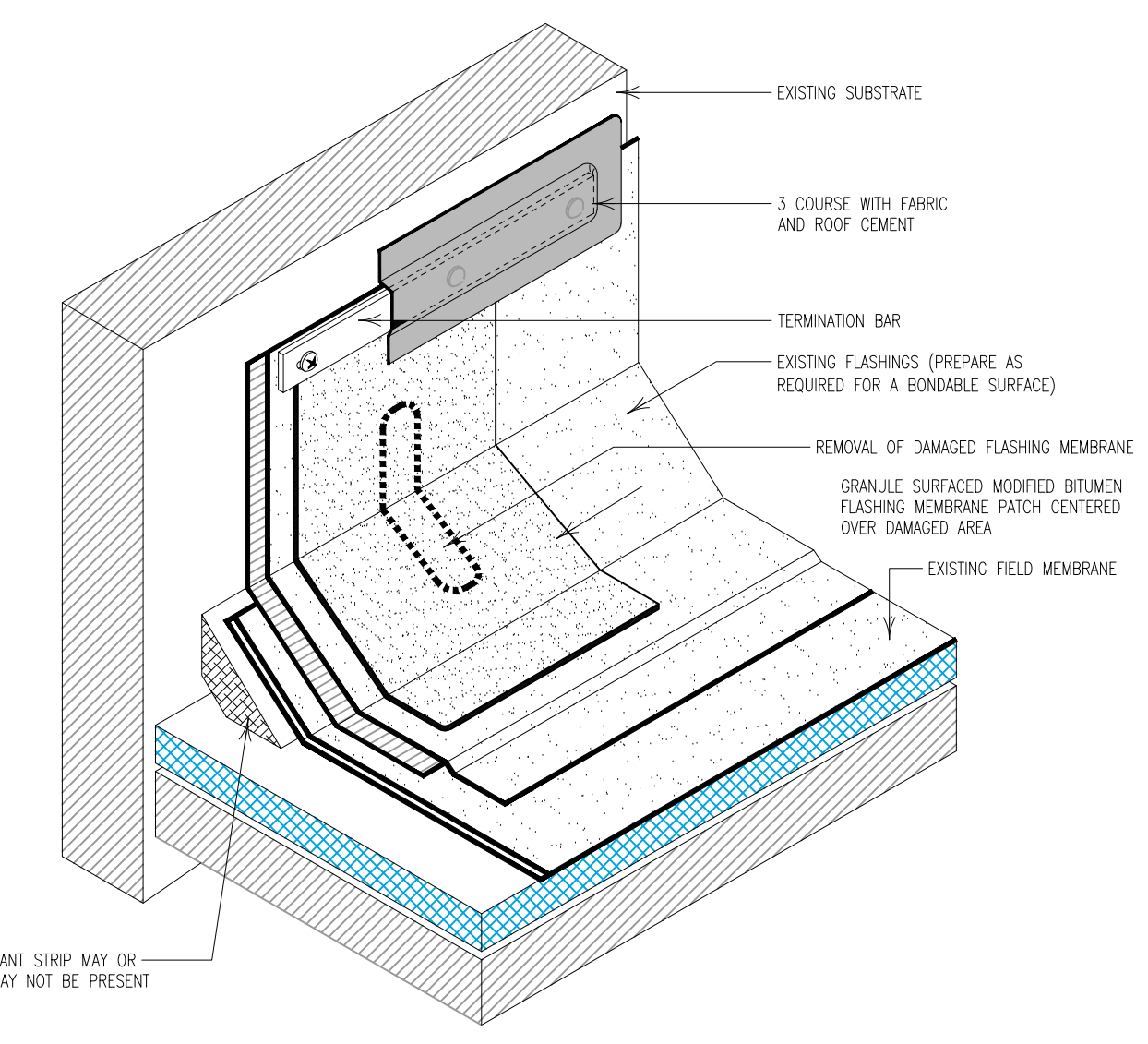
- NOTES:
- FASTENERS IN 6" OR WIDER (NOMINAL) LUMBER SHALL BE INSTALLED IN TWO (2) ROWS, STAGGERED 1/3 OF NAILER WIDTH.
 - TWO (2) FASTENERS SHALL BE INSTALLED WITHIN 6" OF EACH NAILER END.
 - CORNER FASTENER SPACING SHALL EXTEND 8" FROM ALL OUTSIDE BUILDING CORNERS.
 - WHERE TWO OR MORE NAILERS ARE INSTALLED, EACH NAILER SHALL BE FASTENED INDEPENDENTLY.
 - OVER ALL DECK TYPES, THE BOTTOM NAILER SHALL BE FASTENED USING THE SPECIFIED FASTENERS AND 5/8" DIAMETER WASHERS, COUNTERSINK WASHERS AND FASTENERS LEVEL WITH TOP OF WOOD USING SPADE BIT OR SIMILAR METHOD. FASTEN SUBSEQUENT NAILERS, WHERE SPECIFIED, USING THE SPECIFIED SCREWS WITHOUT WASHERS.
 - FASTENER TYPES ARE DETERMINED BY SUBSTRATE MATERIALS AND SECTION 06 10 53 MISCELLANEOUS ROUGH CARPENTRY.
 - NAILERS SHALL BE INSTALLED WITH 1/4" GAP BETWEEN ENDS OF ADJOINING PIECES.
 - REFER TO SECTION 06 10 53 FOR ADDITIONAL REQUIREMENTS.

(LIVESTOCK PAVILION OFFICE)
NAS **NAILER ATTACHMENT SCHEDULE**
 NO SCALE 18RENENCR0088003.dwg



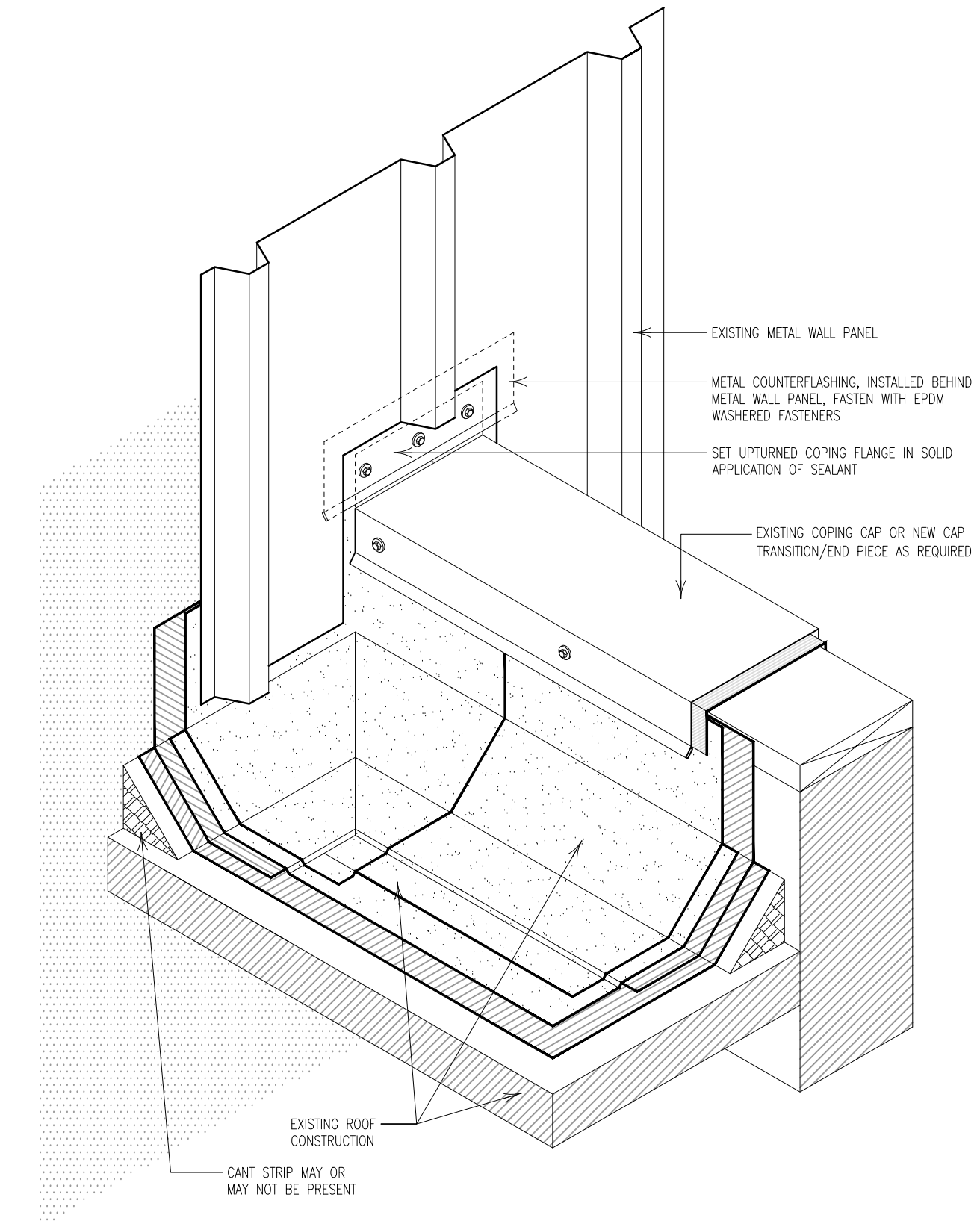
- 2.02 REMOVE EXISTING FIELD MEMBRANE AS INDICATED ON THE ROOF PLAN. REPLACE DAMAGED PLYWOOD DECK. INSTALL RED ROSIN PAPER AND ATTACH MODIFIED BITUMEN BASE SHEET. INSTALL NEW MODIFIED BITUMEN MEMBRANE 6" BEYOND REMOVED MATERIALS ONTO EXISTING MEMBRANE, RESURFACE TO MATCH EXISTING OR INSTALL GRANULE SURFACED MODIFIED BITUMEN MEMBRANE.

(LIVESTOCK PAVILION OFFICE)
2.02 **2.0 FIELD MEMBRANE**
 NO SCALE 18RENENCR0088003.dwg



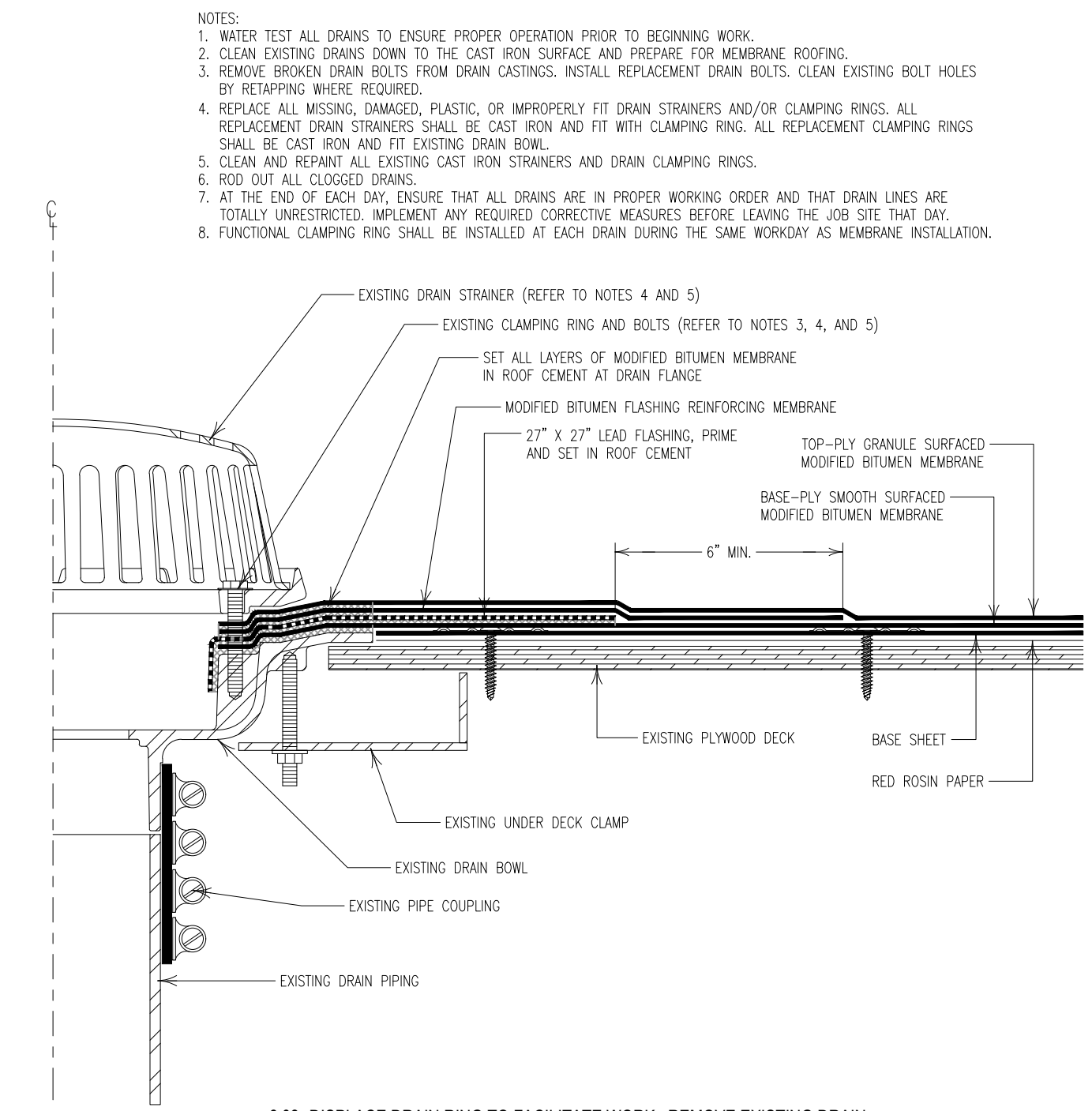
- 3.01 INSTALL MODIFIED BITUMEN FLASHING MEMBRANE ONTO THE EXISTING FIELD AND FLASHING MEMBRANE. LAP THE NEW FLASHING MEMBRANE 4" MINIMUM BEYOND REMOVED MATERIALS ONTO THE PRIMED EXISTING FIELD AND FLASHING MEMBRANES. MECHANICALLY SECURE TOP EDGES OF ALL BASE FLASHINGS WITH A TERMINATION BAR ATTACHED 6" O.C. MAXIMUM AND THREE COURSE. RESURFACE TO MATCH EXISTING, INCLUDING METALWORK OR INSTALL GRANULE SURFACED MODIFIED BITUMEN FLASHING MEMBRANE AND RESECURE ANY DISPLACED METALWORK.

(LIVESTOCK PAVILION OFFICE)
3.01 **3.0 PERIMETER FLASHINGS**
 NO SCALE 18RENENCR0088003.dwg



- 5.11 INSTALL METAL COUNTERFLASHING TO MATCH THE EXISTING PROFILE. METAL TYPE, GAUGE, AND JOINTING SHALL MATCH EXISTING. SECURE COUNTERFLASHING WITH FASTENERS APPROPRIATE TO THE SUBSTRATE.

(LIVESTOCK PAVILION OFFICE)
5.11 **5.0 ROOF-RELATED SHEET METAL**
 NO SCALE 18RENENCR0088003.dwg



- 6.03 DISPLACE DRAIN RING TO FACILITATE WORK. REMOVE EXISTING DRAIN FLASHING TO A BONDABLE SURFACE. PRIME ROOF AND SUBSTRATE OR EMBED GRANULES AND PRIME SUBSTRATE. INSTALL 4 LB LEAD FLASHINGS AND WATER BLOCK. INSTALL MODIFIED BITUMEN MEMBRANE 4" BEYOND REMOVED MATERIALS ONTO THE EXISTING MEMBRANE.

(LIVESTOCK PAVILION OFFICE)
6.03 **6.0 DRAINAGE**
 NO SCALE 18RENENCR0088003.dwg

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. NELSON
IN CHARGE	A. NUNNHOVEN
PROJECT NO.	18RENENCR0088003.dwg

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 WWW.BENCHMARK-IA.COM

CLIENT: **RENO-SPARKS CONVENTION AND VISITORS AUTHORITY**

PROJECT: **RENO-SPARKS LIVESTOCK EVENTS CENTER**

DRAWING TITLE: **ROOF REPAIR DETAILS**

CLIENT PROJECT NUMBER: **R-5**

SHEET NUMBER: **R-5**

RENO-SPARKS CONVENTION AND VISITORS AUTHORITY RENO-SPARKS LIVESTOCK EVENTS CENTER 2018 ROOF REPLACEMENT AND REPAIRS EXHIBIT HALL (REPLACEMENT) BASE BID NO.1 AND ALTERNATE NO. 1 1350 N. WELLS AVENUE RENO, NEVADA 89512 PROJECT NO. 17RENRENOR007B



Aerial Image
 Scale: NONE

LEGEND:

BASE BID NO. 1 AND ALTERNATE NO. 1

ROOF & PAVEMENT CONSULTANT



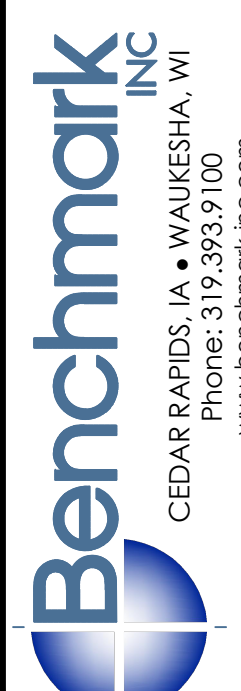
CEDAR RAPIDS, IA • WAUKESHA, WI
 Phone: 319.393.9100
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INDEX OF SHEETS

NO.	DESCRIPTION
T-1	TITLE SHEET - EXHIBIT HALL (REPLACEMENT)
R-1	ROOF PLAN - EXHIBIT HALL
R-2	ROOF REPLACEMENT DETAILS
R-3	ROOF REPLACEMENT DETAILS
R-4	ROOF REPLACEMENT DETAILS

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HESBY
DESIGNED BY	M. WILSON
PROJECT NO.	17RENRENOR007B



CLIENT:
 RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

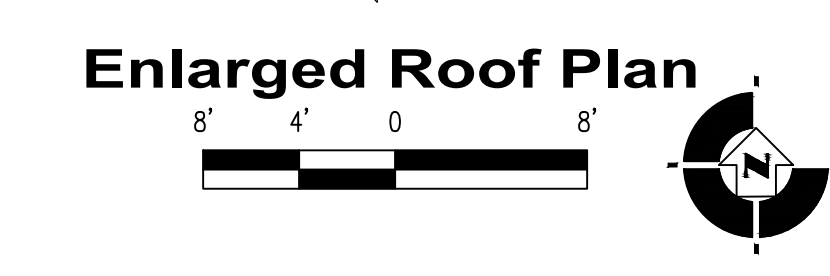
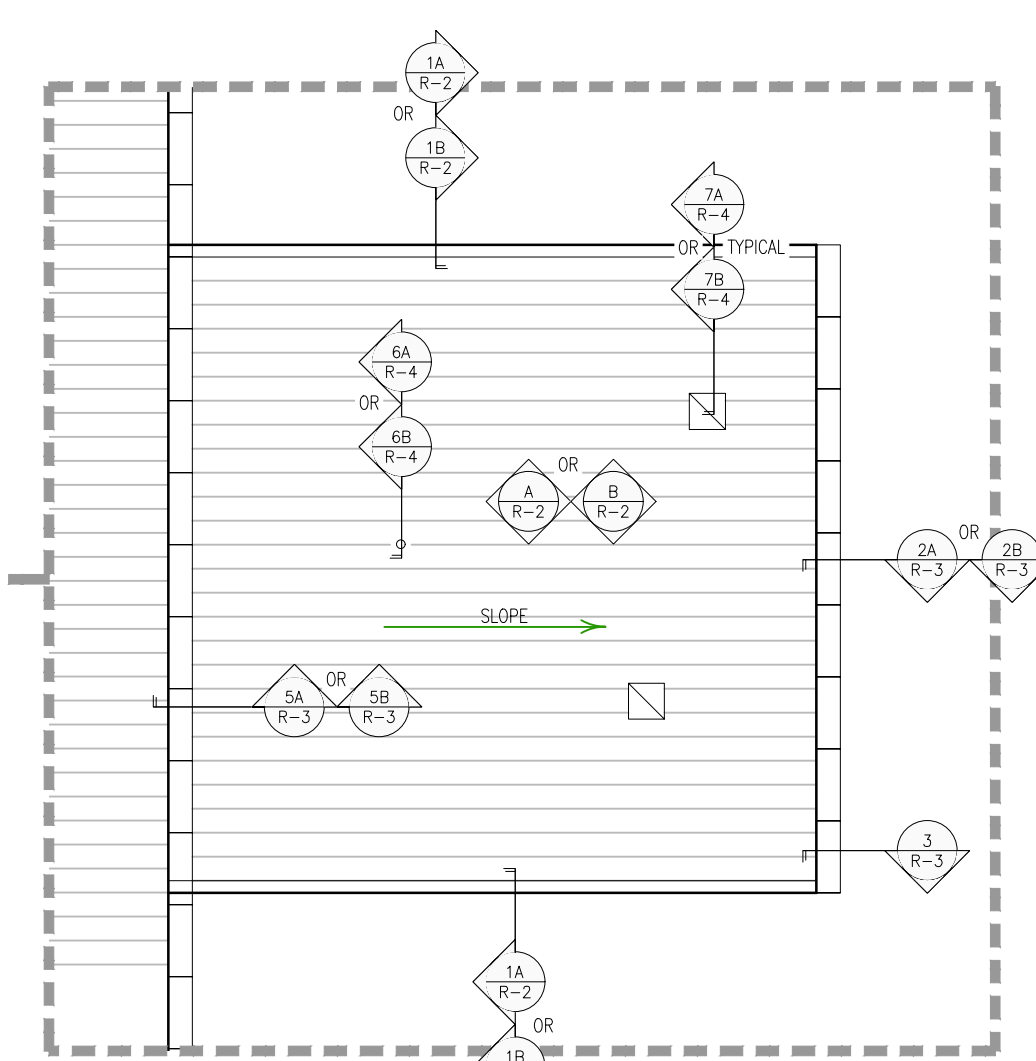
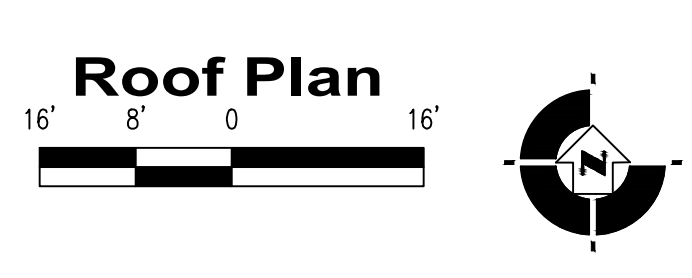
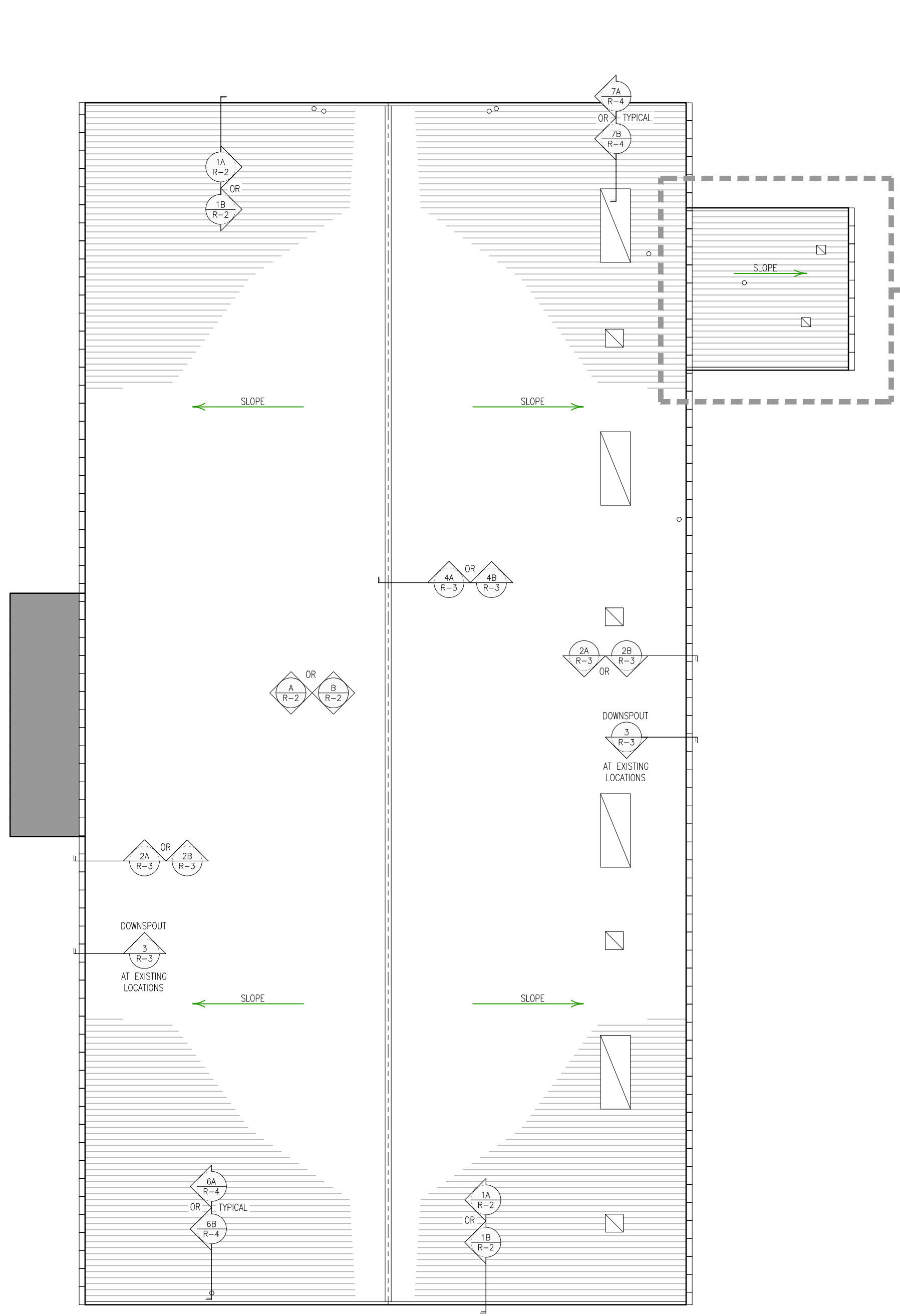
PROJECT:
 RENO-SPARKS LIVESTOCK EVENTS CENTER
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512

DRAWING TITLE:
 TITLE SHEET - EXHIBIT HALL (REPLACEMENT)

CLIENT PROJECT NUMBER:

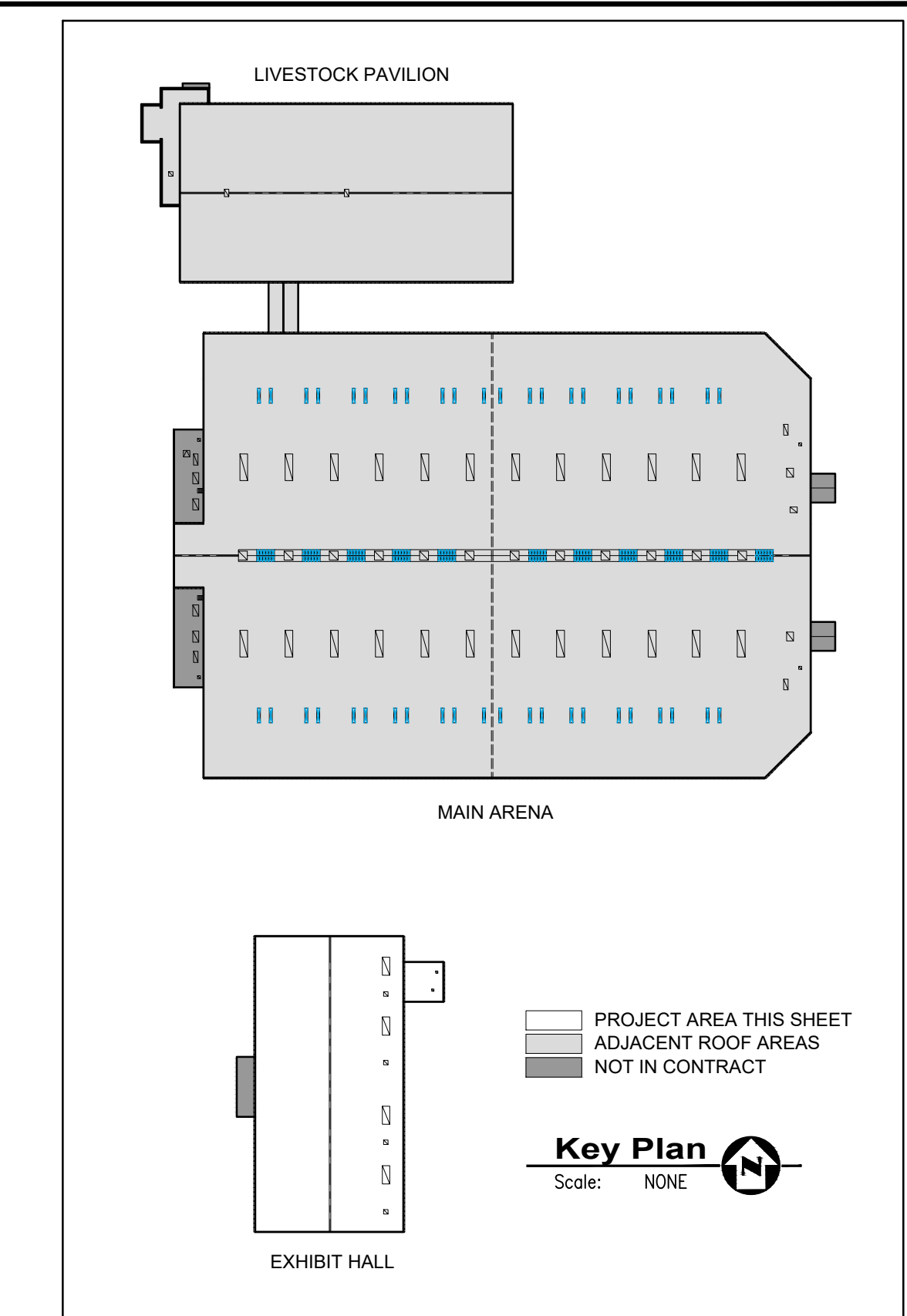
SHEET NUMBER:
T-1

File: J:\RenoSparks Convention Center_RenReno-NV_18RENRENOR008BID\18RENRENOR008BID.dwg Time: Aug 24, 2018 - 2:58pm



SCOPE OF WORK

- REPLACE ROOF ON EXHIBIT HALL**
- REMOVE EXISTING ROOF PANELS, FLASHINGS, GUTTERS, RIDGE VENTS AND CURBS.
 - PROPERLY DISPOSE OF REMOVED MATERIALS.
 - DISCONNECT MECHANICAL, ELECTRICAL AND PLUMBING (MEP) AS REQUIRED.
 - COORDINATE ROOF UNIT SHUT DOWN WITH ON-SITE RSLEC PERSONNEL.
 - REMOVE AND DISPOSE OF FIBERGLASS INSULATION LAYER INSTALLED OVER TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS.
 - REMOVE AND REPLACE ANY WET FIBERGLASS BATT INSULATION.
 - WIRE BRUSH, CLEAN AND PAINT THE TOP FLANGE OF THE ROOF SECONDARY STRUCTURAL MEMBERS.
 - IF FLAKING RUST IS OBSERVED, REPLACE THE ROOF SECONDARY STRUCTURAL MEMBER, AS WELL AS THE ADJACENT FIBERGLASS BATT INSULATION.
 - BASE BID NO. 1:
 - INSTALL NEW 24-GAUGE, GALVALUME COATED, STEEL R-PANEL ROOF SYSTEM.
 - ROOF PANELS SHALL BE FULL LENGTH WITH NO END LAP SPLICE JOINTS.
 - INSTALL 4" UNFACED, FIBERGLASS BATT INSULATION OVER THE ROOF SECONDARY STRUCTURAL MEMBERS AND UNDER THE ROOF PANELS.
 - INSTALL RIDGE PANELS, GABLE FLASHING AND GUTTERS.
 - INSTALL NEW ROOF CURBS, REINSTALL ROOF UNITS AND RECONNECT MEP AS REQUIRED.
 - ISSUE A 10-YEAR WEATHERTIGHT (LEAK) WARRANTY FOR THE INSTALLED ROOF.
 - ALTERNATE BID NO. 1:
 - INSTALL NEW 22-GAUGE, GALVALUME COATED, STEEL, 24" WIDE, TRAPEZOIDAL STANDING SEAM ROOF SYSTEM.
 - ROOF PANELS SHALL BE FULL LENGTH WITH NO END LAP SPLICE JOINTS.
 - DESIGN AND INSTALL PURLIN BRACING ANGLES LOCATED IN THE TRAPEZOIDAL RIB OF THE ROOF PANELS AND LOCATED EVERY 6 FEET.
 - INSTALL 4" UNFACED, FIBERGLASS BATT INSULATION OVER THE ROOF SECONDARY STRUCTURAL MEMBERS AND UNDER THE ROOF PANELS.
 - INSTALL RIDGE, GABLE FLASHING AND GUTTERS.
 - INSTALL NEW ROOF CURBS, REINSTALL ROOF UNITS AND RECONNECT MEP AS REQUIRED.
 - ISSUE A 25-YEAR WEATHERTIGHT (LEAK) WARRANTY FOR THE INSTALLED ROOF.



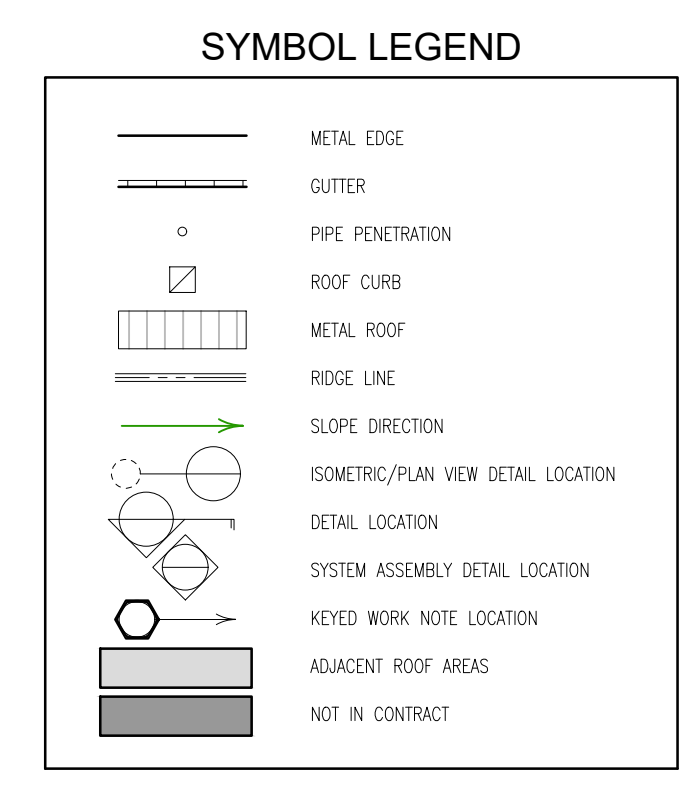
DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

GENERAL NOTES:

- FOR DETAILS NOT INDICATED ON THE DRAWING DEFAULT TO ROOFING MANUFACTURER'S MOST STRINGENT DESIGN FOR WARRANTABLE DETAILS. THE INTENT OF THE DETAILS ARE INDICATED BY THE SPECIFICATION AND DRAWINGS. DETAILS NOT MEETING SPECIFIED STANDARDS AND/OR INTENT OF SIMILAR FURNISHED DETAILS WILL NOT BE ACCEPTED.
- WHERE DETAILS ARE INDICATED AS "SIMILAR", THE ROOF DECK/INSULATION/SUBSTRATE COMPONENTS MAY DIFFER FROM THOSE SHOWN, HOWEVER THE DETAIL CONCEPT IS UNCHANGED.
- WHERE DETAILS ARE INDICATED AS "TYPICAL", THE DETAIL APPLIES TO ALL LIKE CONDITIONS ON THAT ROOF SECTION.

GENERAL DRAWING NOTE:

THIS DRAWING IS INTENDED FOR ORIENTATION, APPROXIMATE CONFIGURATION AND LOCATION OF DETAILS. CONTRACTOR SHALL VERIFY ALL ITEMS FOR BIDDING AND INSTALLATION PURPOSES.



DATE	08/24/18
DRAWN BY	D. VAN DYKE
PROJECT	R. HESBY
MANAGER	M. WILSON
COORDINATOR	A. NUNNHOVEN
PROJECT NO.	18RENRENOR008BID.dwg

CLIENT:
RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

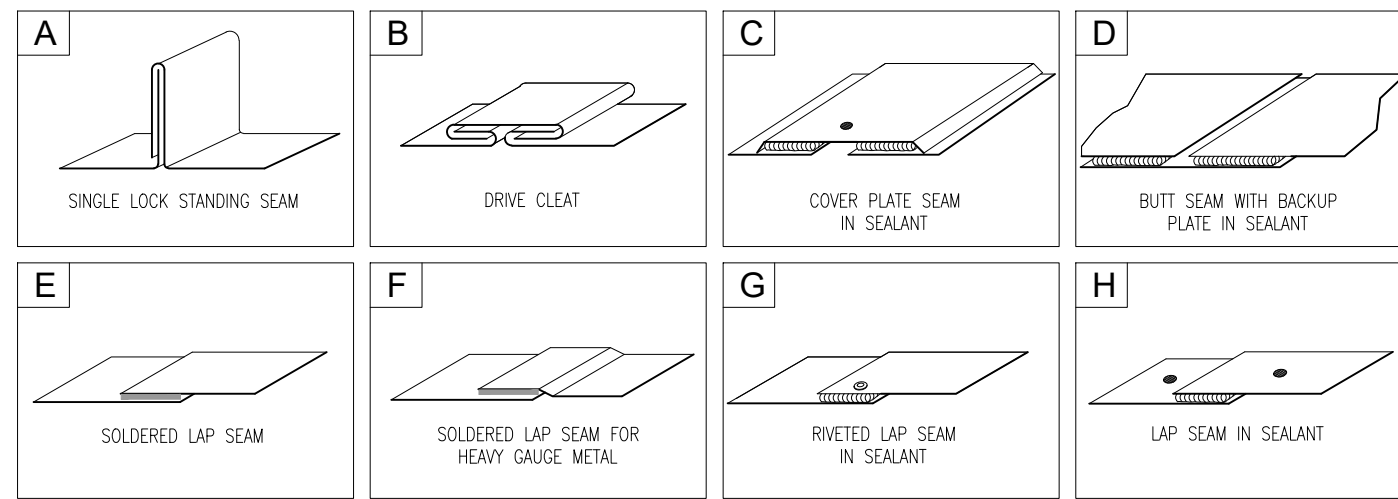
PROJECT:
RENO-SPARKS LIVESTOCK EVENTS CENTER

DRAWING TITLE:
ROOF PLAN - EXHIBIT HALL

CLIENT PROJECT NUMBER:

SHEET NUMBER:
R-1

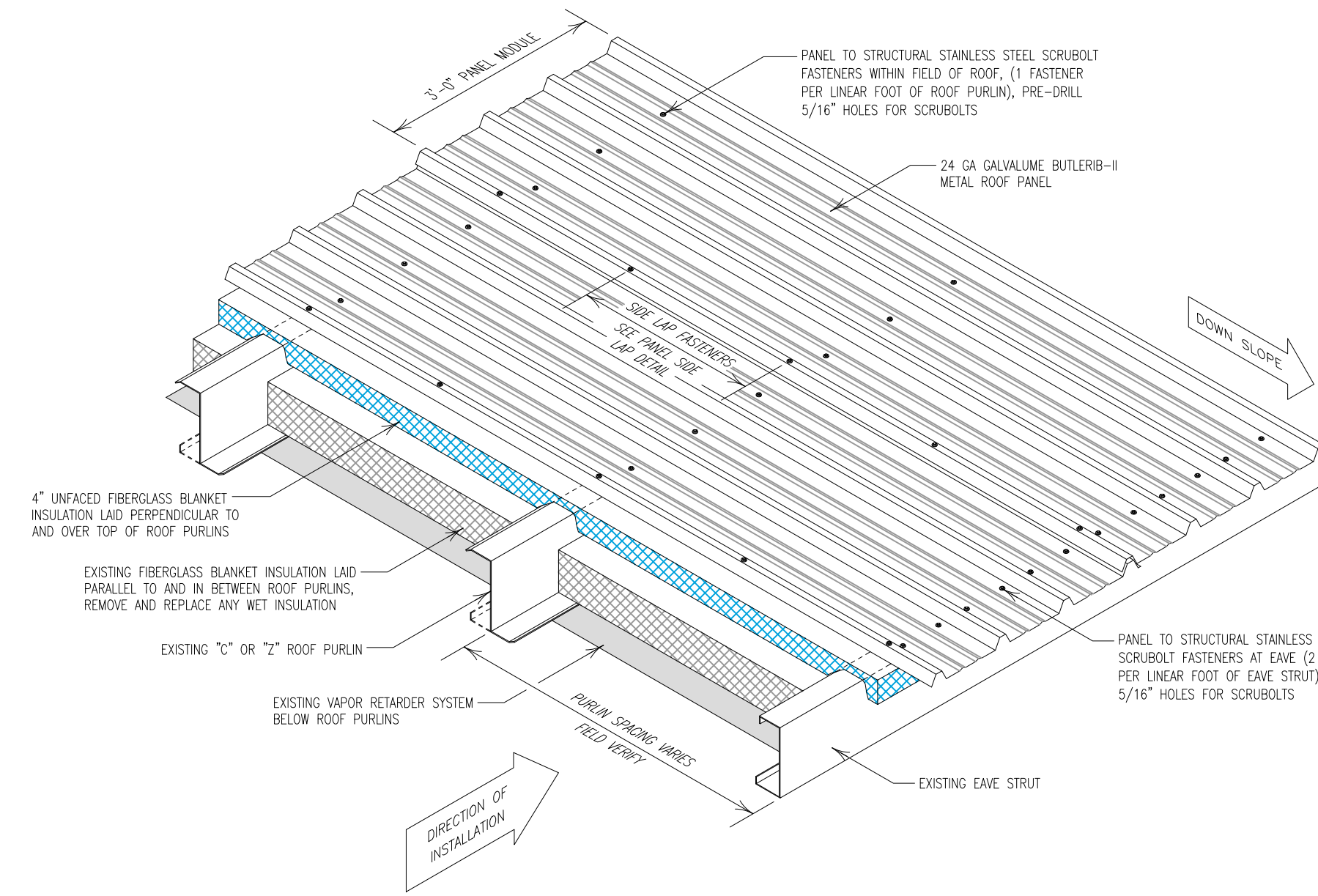
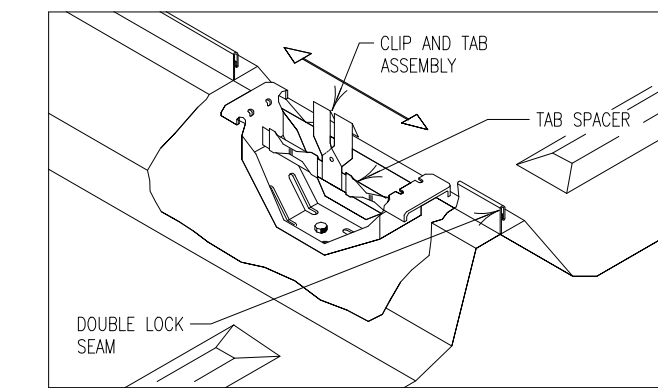
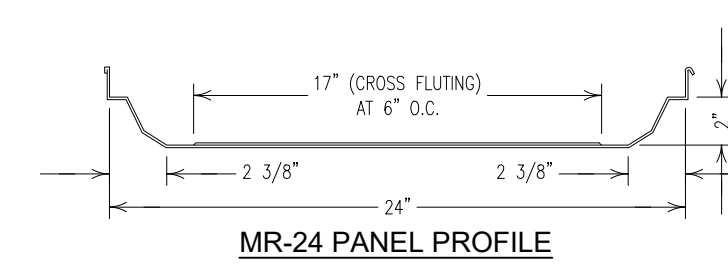
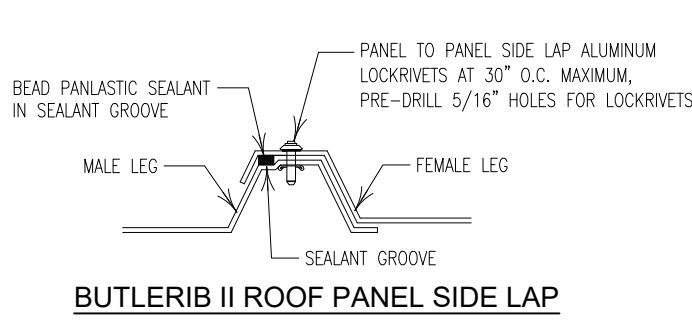
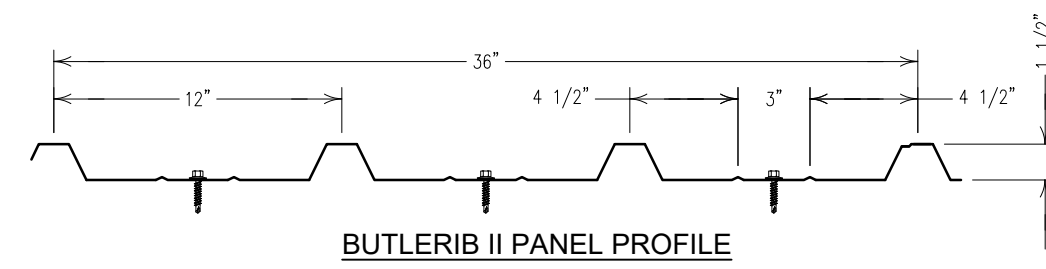
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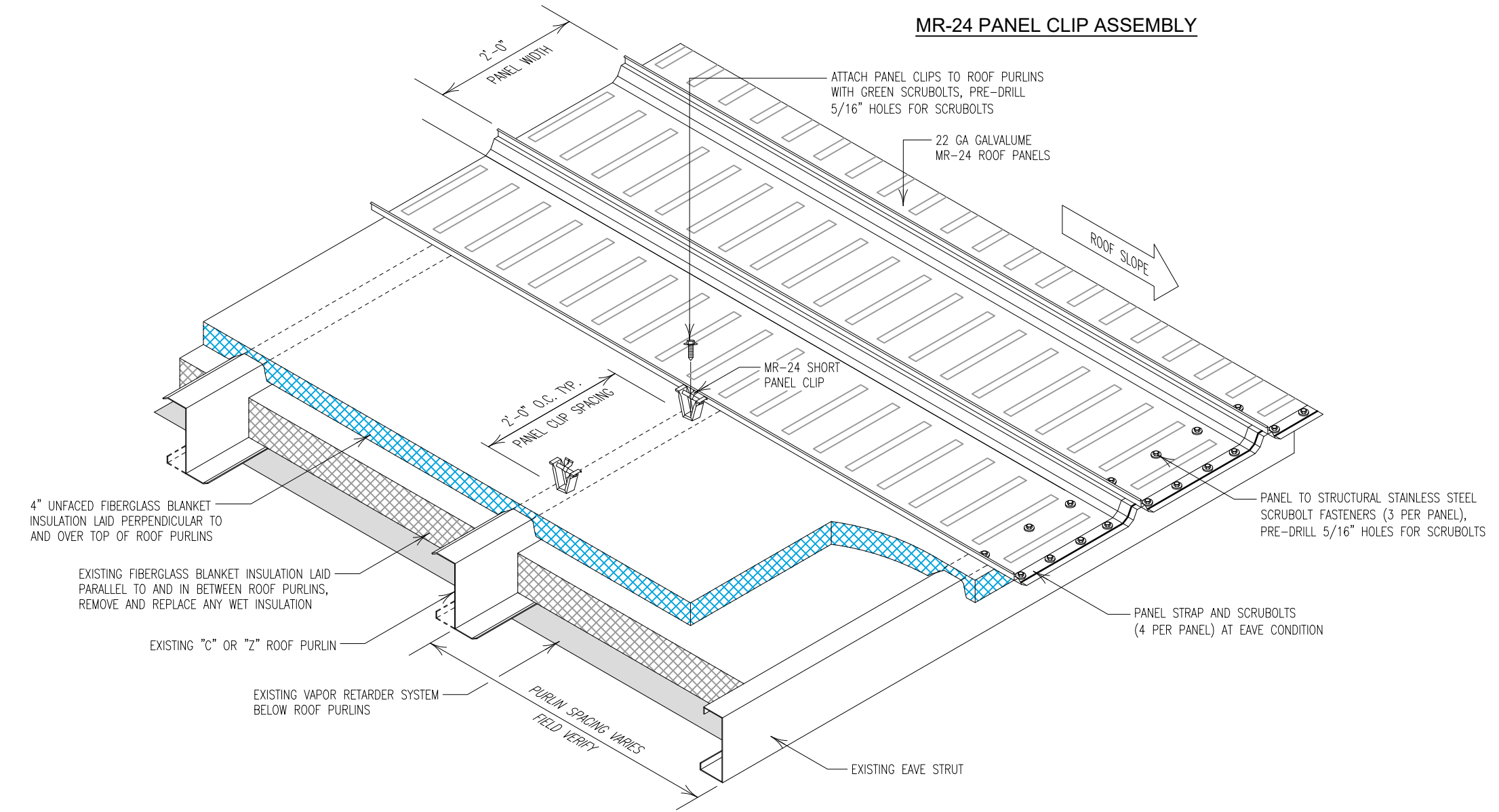
- NOTES:
- THE FOLLOWING SHEET METAL MATERIALS SHALL BE UTILIZED, UNLESS SPECIFICALLY NOTED OTHERWISE ON A PARTICULAR DETAIL DRAWING.
 - THE JOINT TYPES LISTED IN THE SCHEDULE ARE ACCEPTABLE. REFER TO JOINT ILLUSTRATIONS ABOVE FOR DEFINITIONS OF JOINT TYPE, UNLESS SPECIFICALLY NOTED OTHERWISE ON A PARTICULAR DETAIL DRAWING.
 - CONTINUOUS CLIPS SHALL BE CONSTRUCTED OF MATERIAL COMPATIBLE WITH AND ONE GAUGE HEAVIER (.010" THICKER IF ALUMINUM) THAN THE PRIMARY COMPONENT. REFER TO DETAIL DRAWINGS WHERE CONTINUOUS CLIPS ARE REQUIRED.

COMPONENT	METAL TYPE	FINISH	GAUGE / THICKNESS	JOINT TYPE
ANGLE PURLIN BRACE	GALVANIZED STEEL	CS90	18 ga.	NA
CONTOUR GABLE TRIM	PREFINISHED STEEL	KYNAR	26 ga.	MFR. REQ.
WALL ADAPTOR	PREFINISHED STEEL	KYNAR	26 ga.	MFR. REQ.
CONTOUR GUTTER	PREFINISHED STEEL	KYNAR	26 ga.	MFR. REQ.
DOWNSPOUT	PREFINISHED STEEL	KYNAR	26 ga.	MFR. REQ.
EAVE CLOSURE	PREFINISHED STEEL	KYNAR	26 ga.	MFR. REQ.
MR-24 RIDGE COVER	GALVALUME STEEL	ALZN	26 ga.	MFR. REQ.
PERPENDICULAR TRANSITION	GALVALUME STEEL	ALZN	26 ga.	MFR. REQ.
WALL PANEL BASE TRIM	PREFINISHED STEEL	KYNAR	26 ga.	G

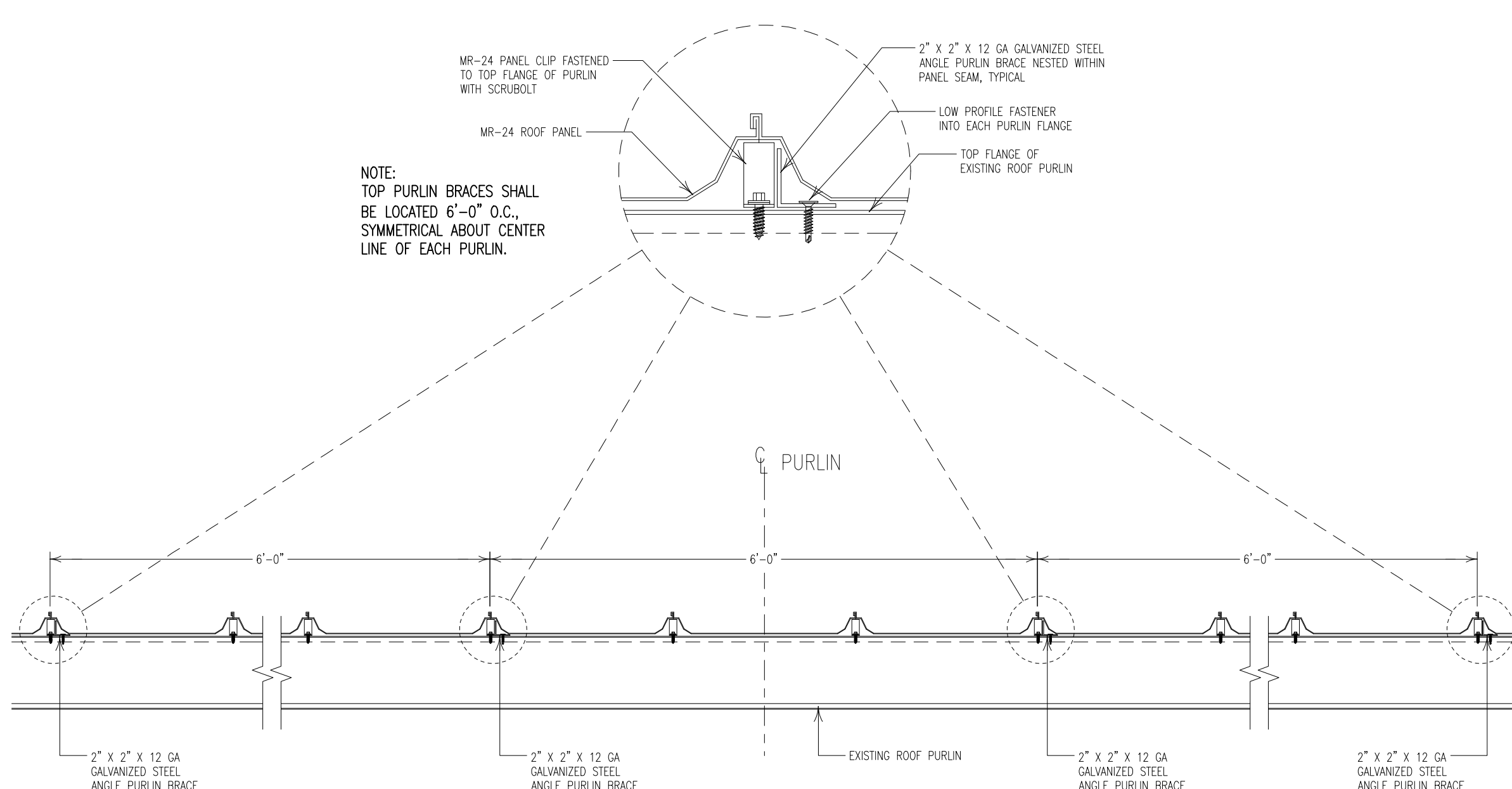
SMS SCHEDULE OF ROOF RELATED SHEET METAL
NO SCALE 18RENRENCR008003.dwg



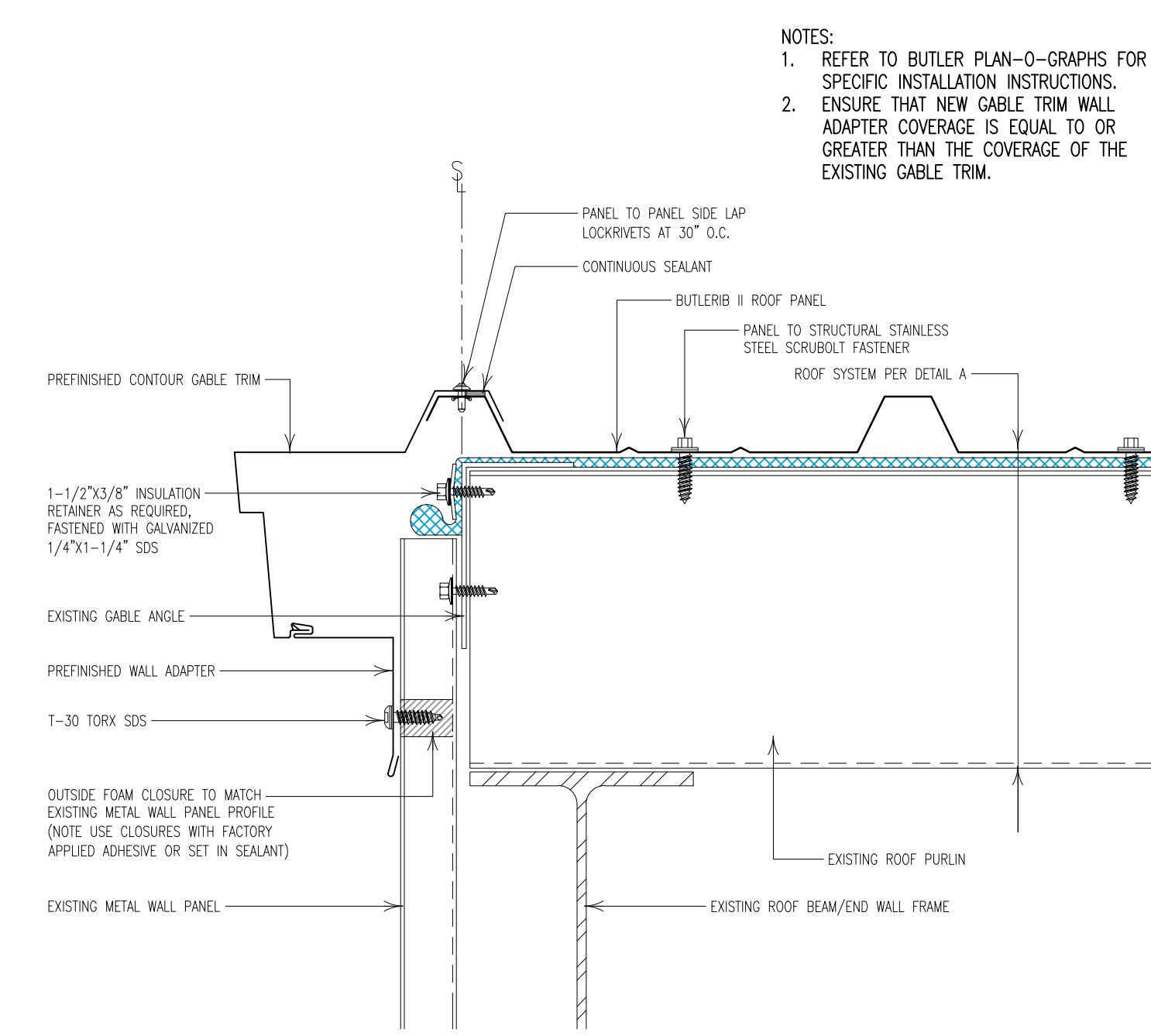
A BUTLERIB II ROOF SYSTEM CROSS SECTION
NO SCALE 18RENRENCR008003.dwg



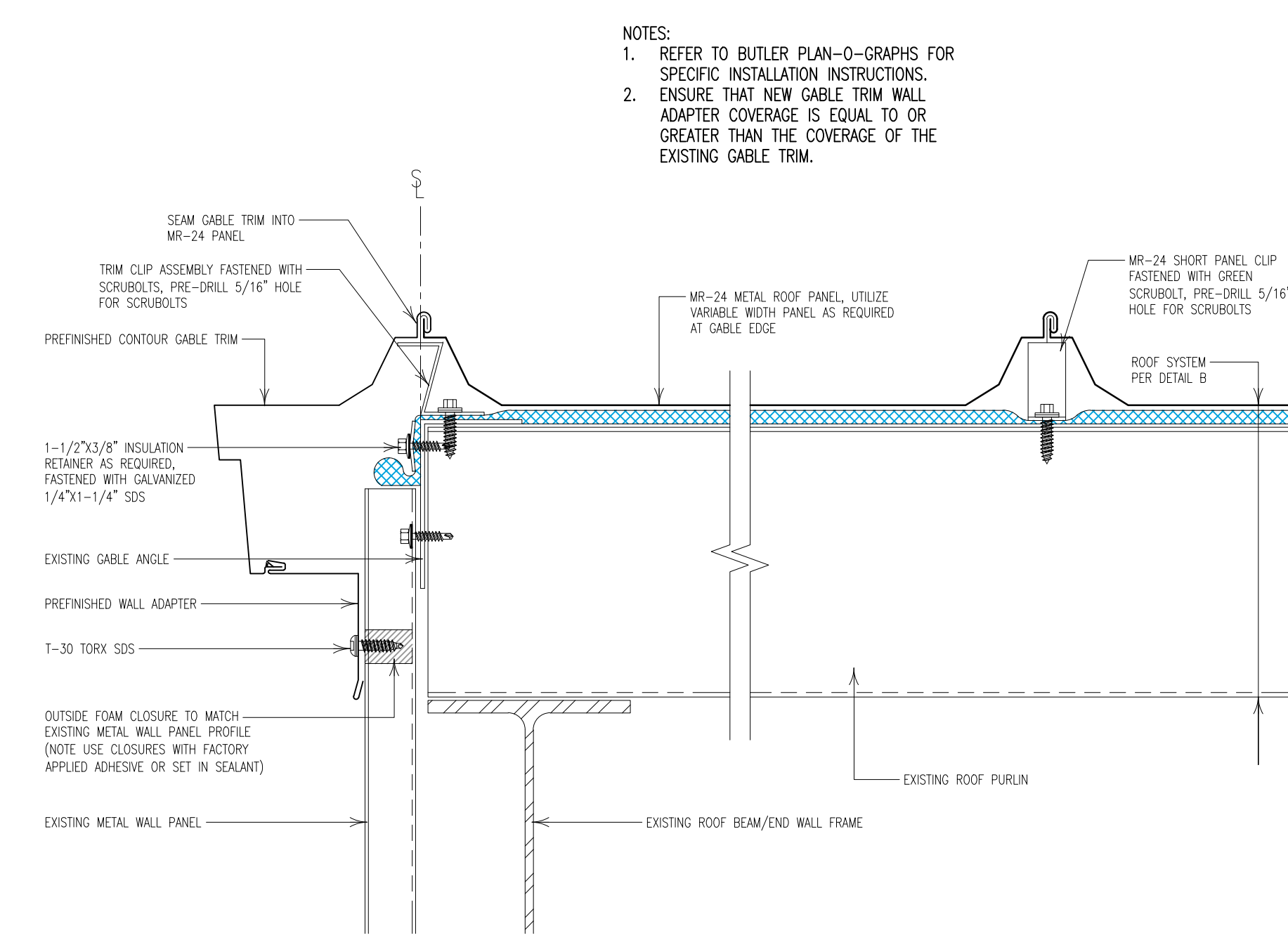
(ALTERNATE BID NO. 1) B MR-24 ROOF SYSTEM CROSS SECTION
NO SCALE 18RENRENCR008003.dwg



(ALTERNATE BID NO. 1) C MR-24 INTERIOR PURLIN BRACING
NO SCALE 18RENRENCR008003.dwg



1A BUTLERIB II GABLE EDGE DETAIL
NO SCALE 18RENRENCR008003.dwg



(ALTERNATE BID NO. 1) 1B MR-24 GABLE EDGE DETAIL
NO SCALE 18RENRENCR008003.dwg

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DVRSR

DATE:	08/24/18
DRAWN BY:	D. VAN DYKE
PROJECT:	R. HESSEY
MANAGER:	M. WILSON
CHECKED BY:	A. NUNNKHOFER
SCALE:	AS SHOWN

CLIENT: **RENO-SPARKS CONVENTION AND VISITORS AUTHORITY**

PROJECT: **RENO-SPARKS LIVESTOCK EVENTS CENTER**

1350 N. WELLS AVENUE
RENO, NEVADA 89512

DRAWING TITLE: **ROOF REPLACEMENT DETAILS**

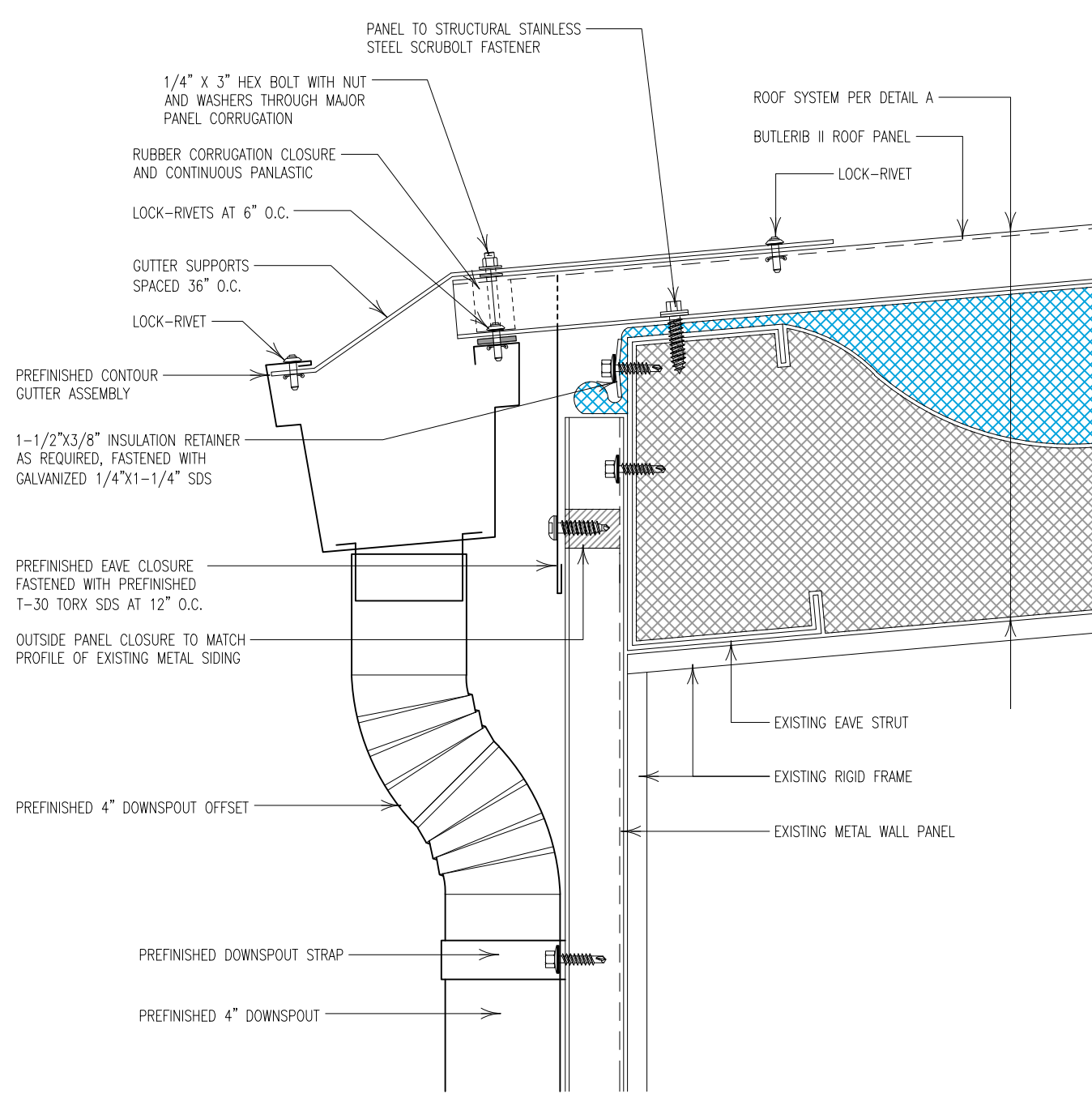
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SHEET NUMBER: **R-2**

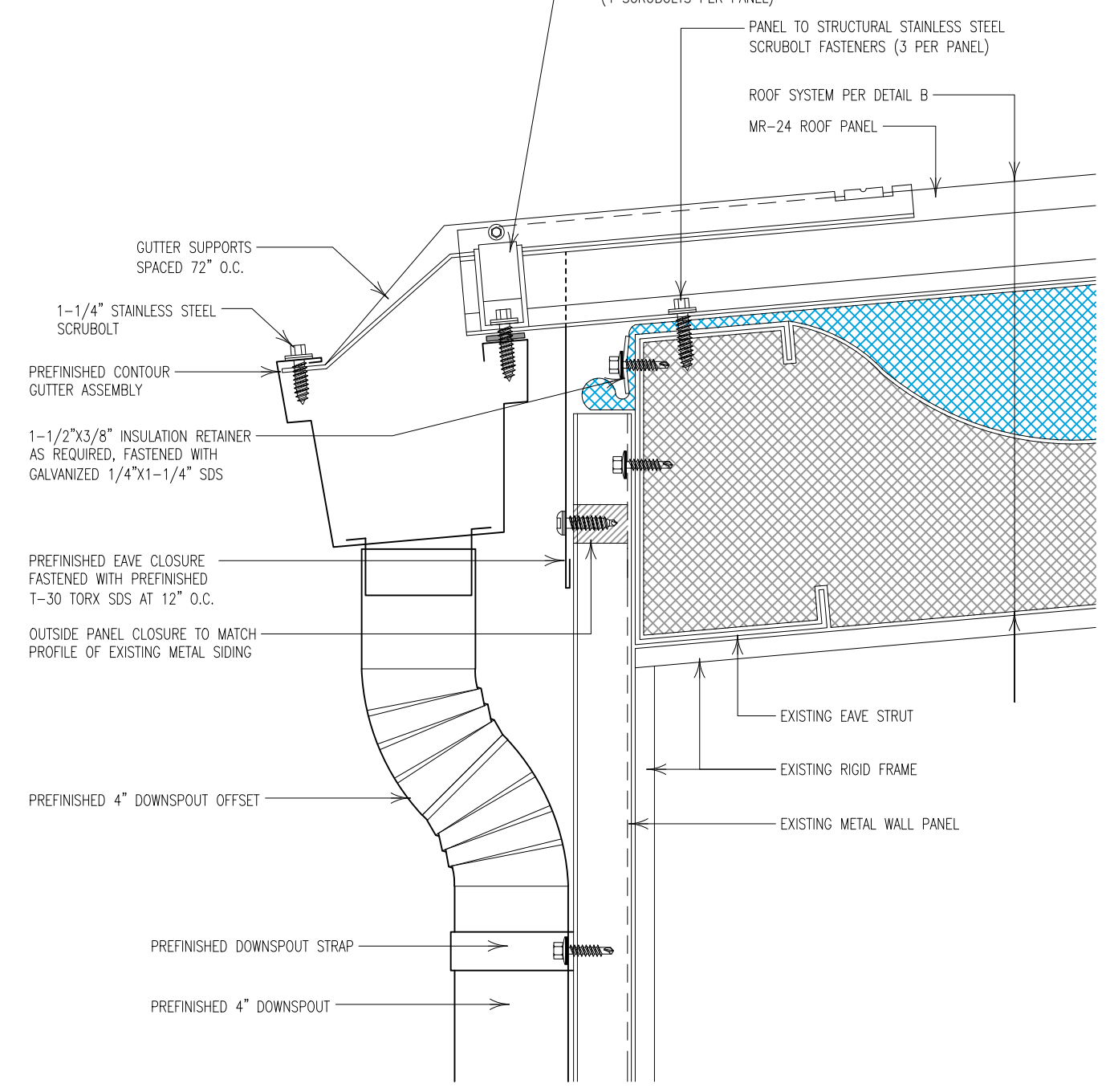
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File: J:\Reno-Sparks Convention Center_REN\Revo-NV_18RENRENCR008003.dwg Time: Aug 24, 2018 - 2:58pm

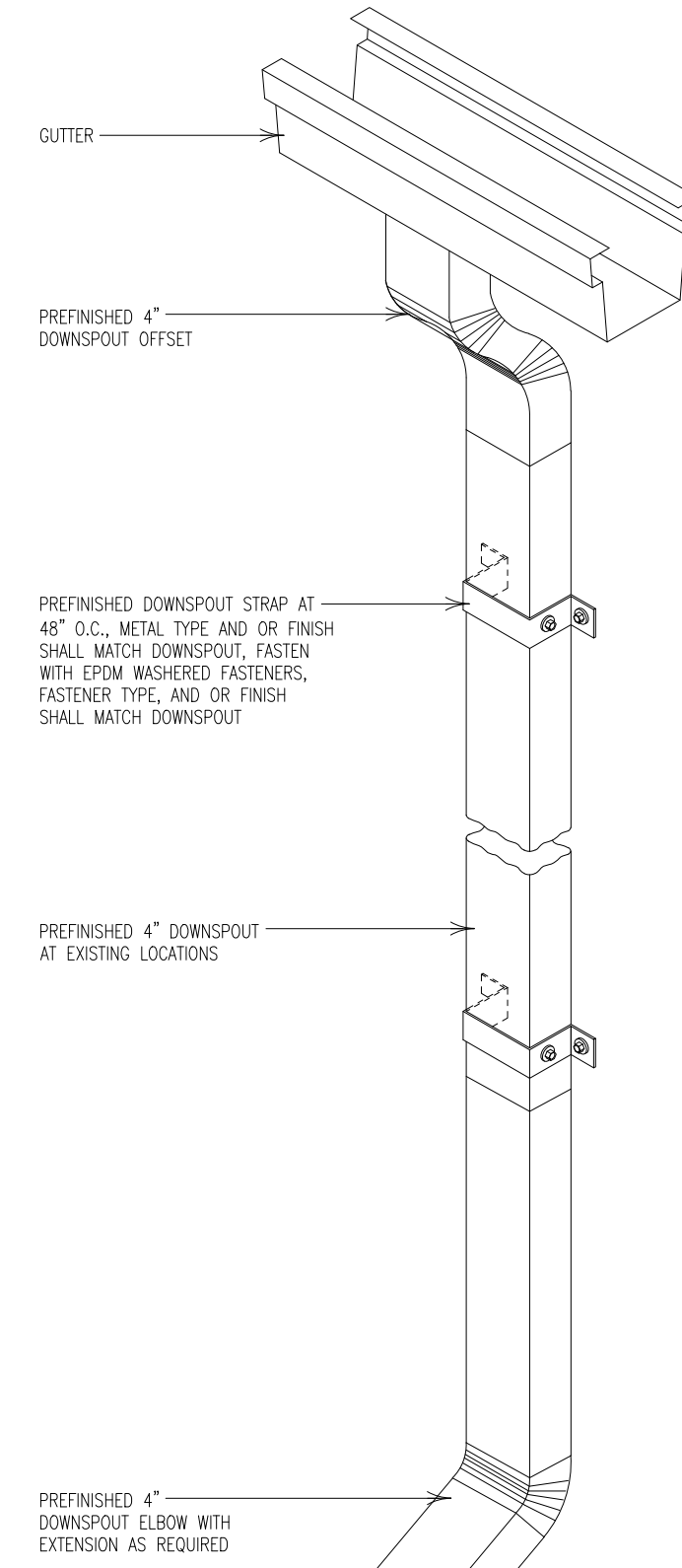
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REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RS



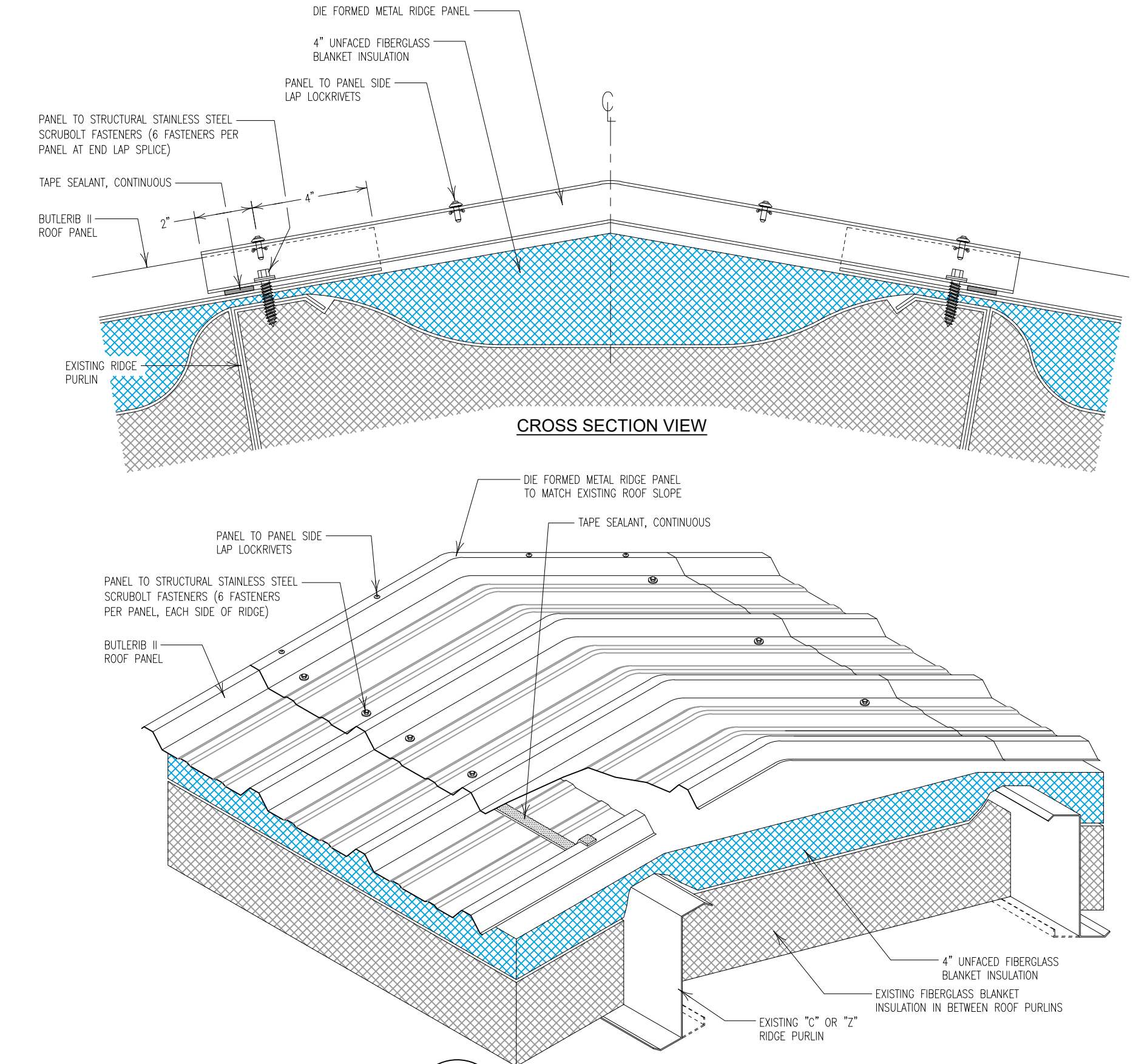
2A BUTLERIB II GUTTER EDGE DETAIL
NO SCALE



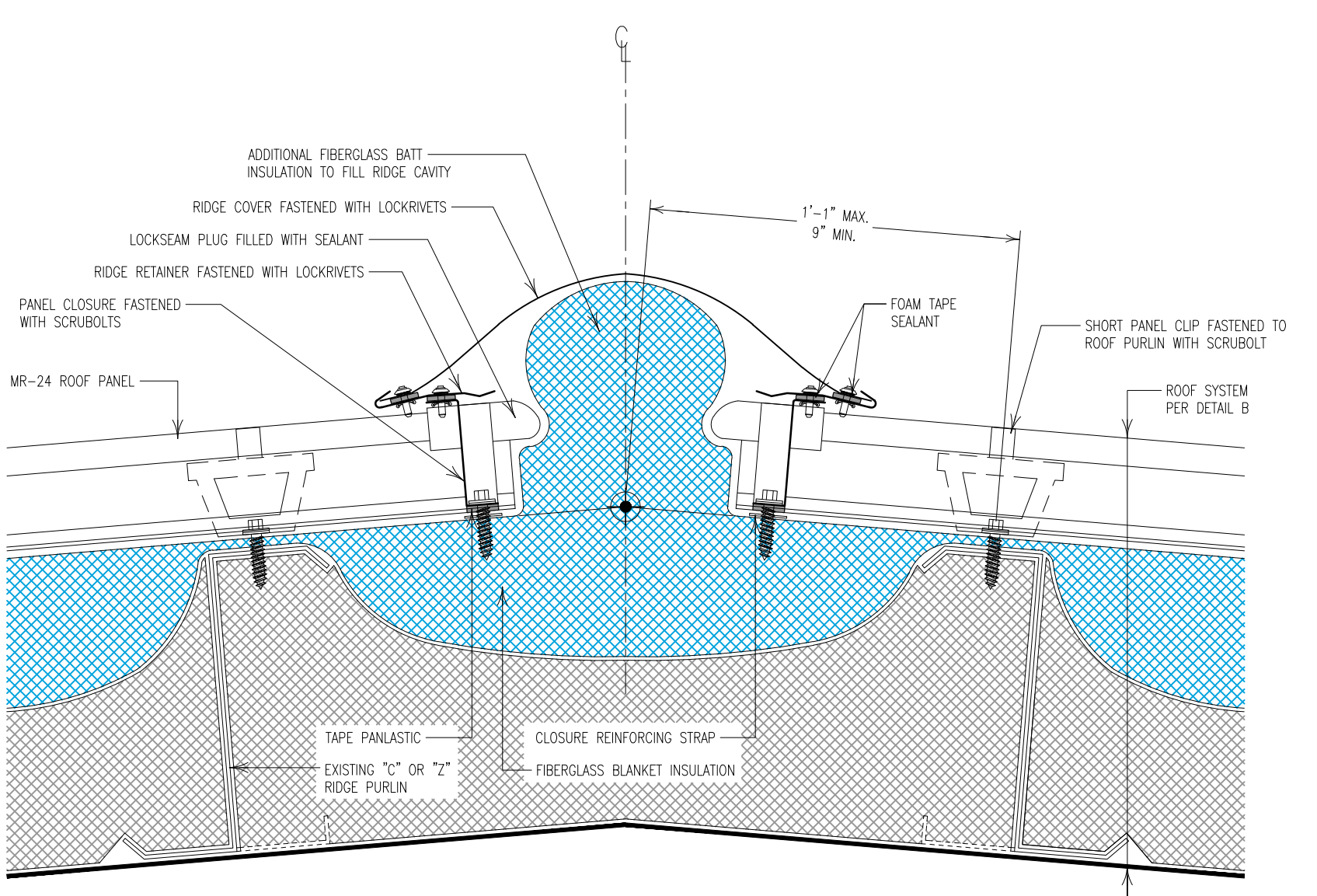
2B (ALTERNATE BID NO. 1) MR-24 GUTTER EDGE DETAIL
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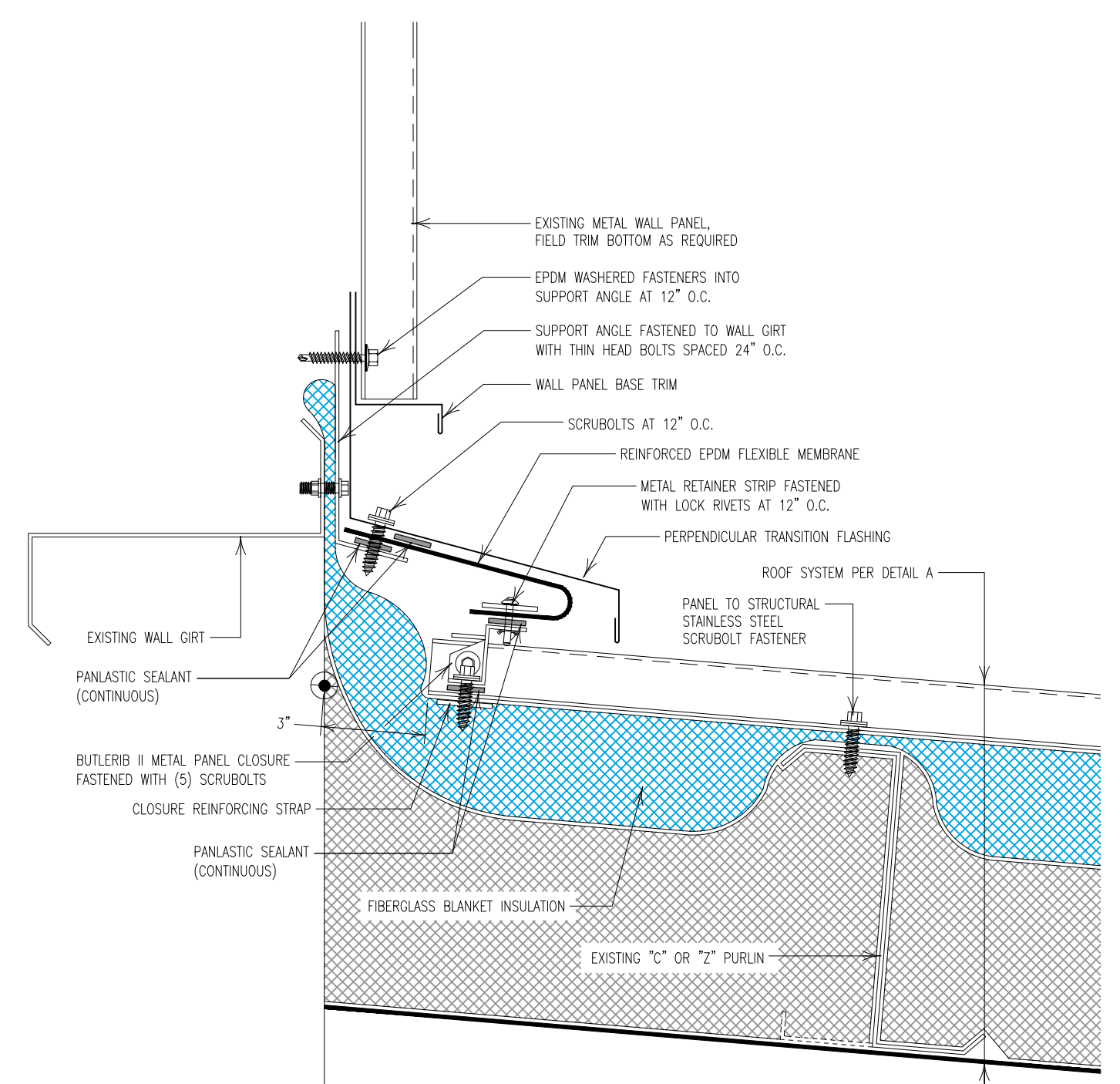
3 CORRUGATED DOWNSPOUT
NO SCALE



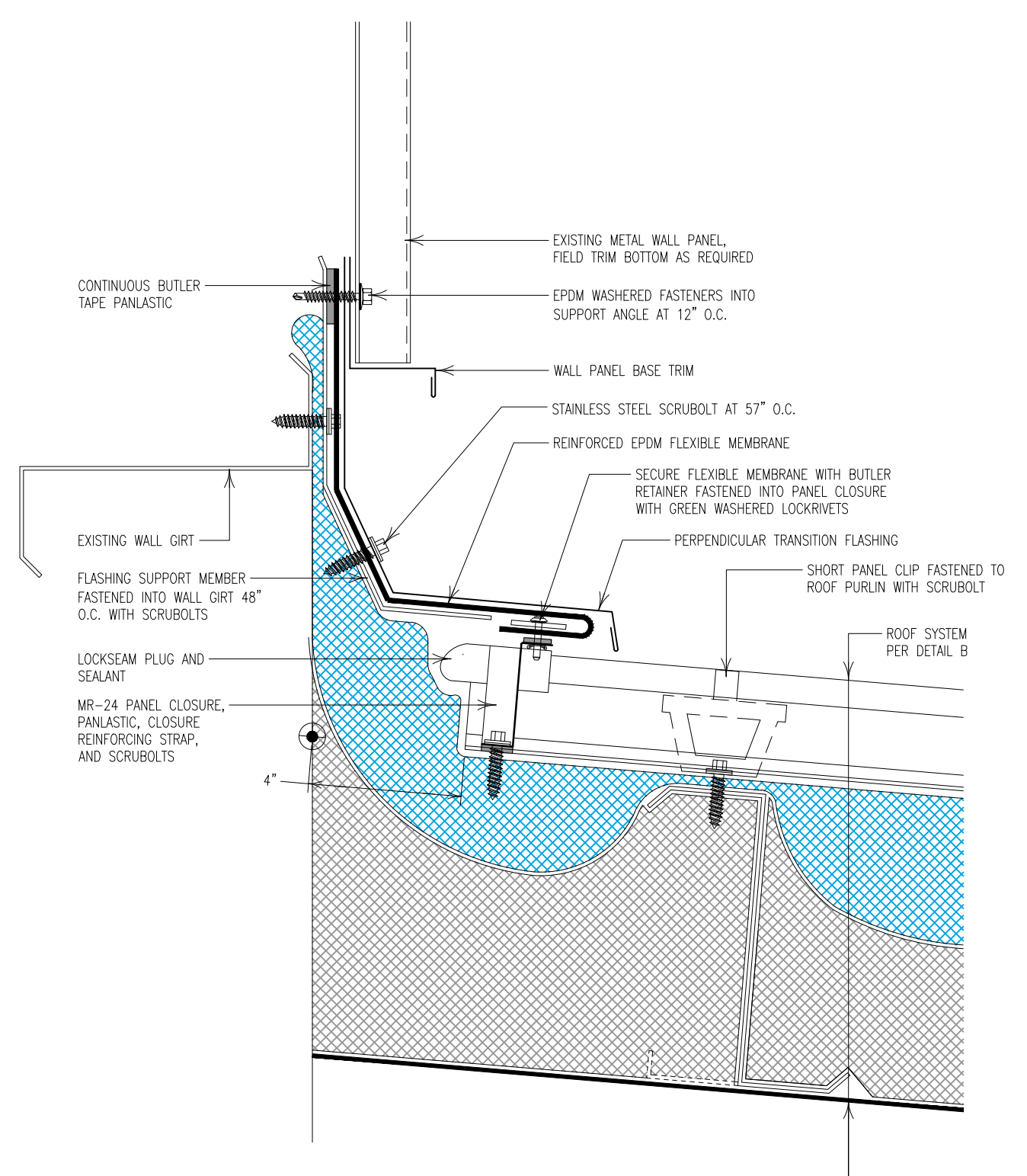
4A BUTLERIB II RIDGE PANEL DETAIL
NO SCALE



4B (ALTERNATE BID NO. 1) MR-24 RIDGE DETAIL
NO SCALE



5A BUTLERIB II PERPENDICULAR TRANSITION DETAIL
NO SCALE



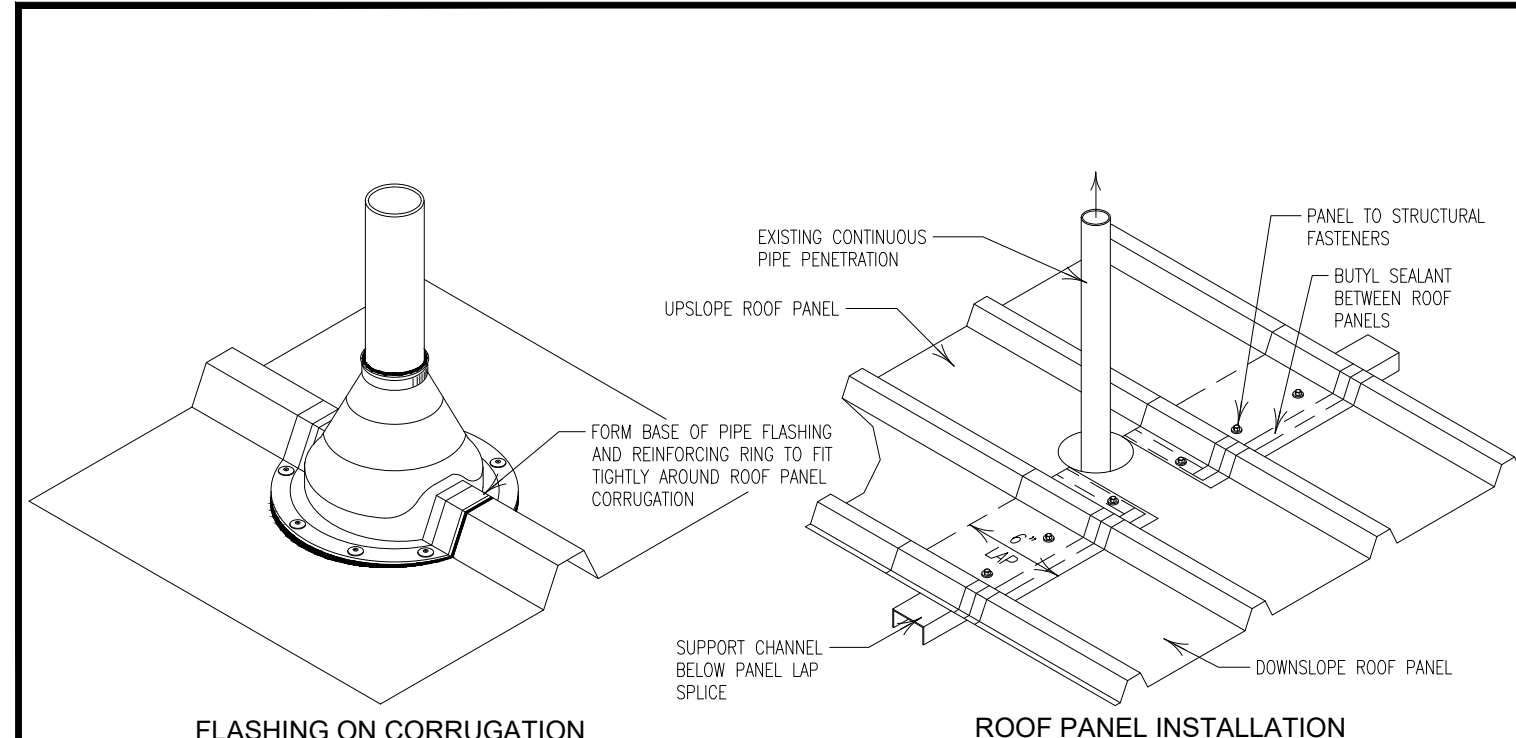
5B (ALTERNATE BID NO. 1) MR-24 PERPENDICULAR TRANSITION DETAIL
NO SCALE

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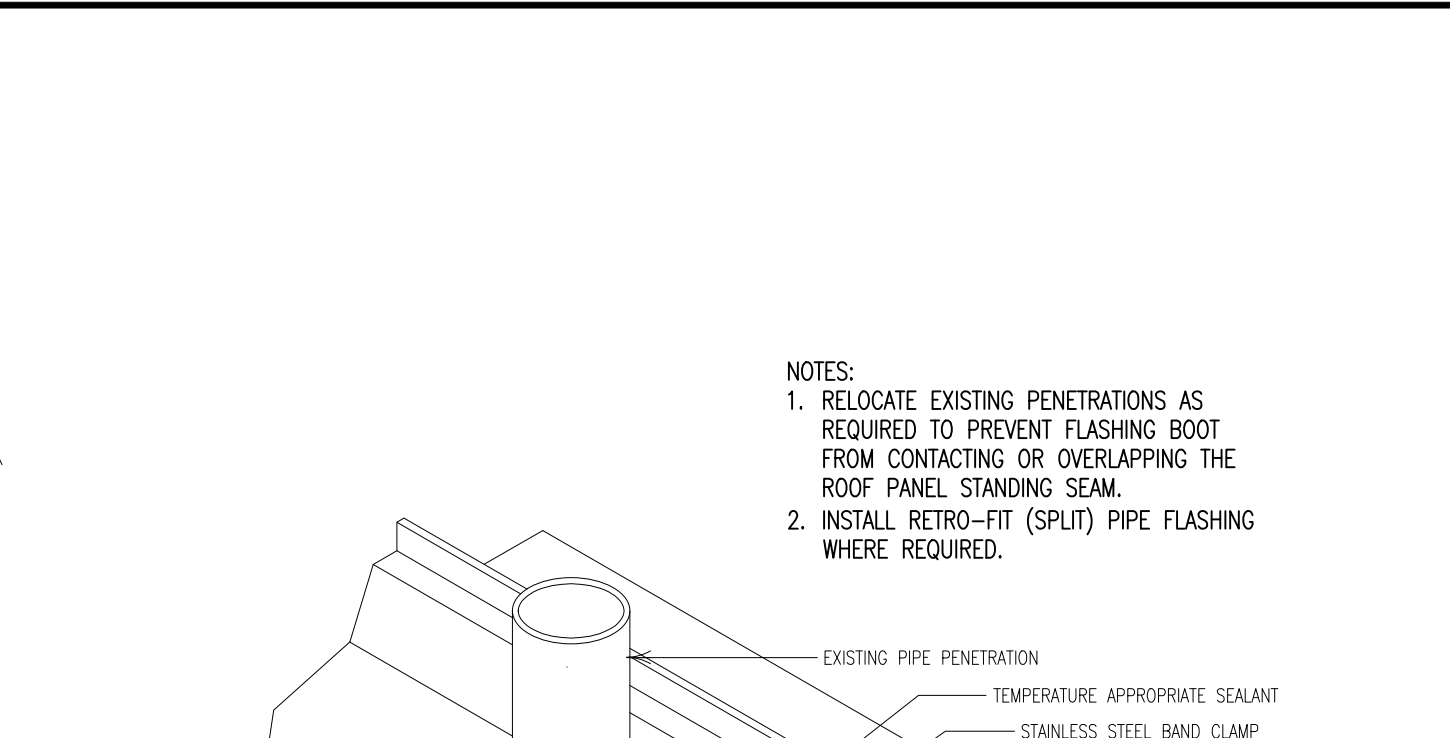


CLIENT: RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
PROJECT: RENO-SPARKS LIVESTOCK EVENTS CENTER
 1350 N. WELLS AVENUE
 RENO, NEVADA 89512
DRAWING TITLE: ROOF REPLACEMENT DETAILS

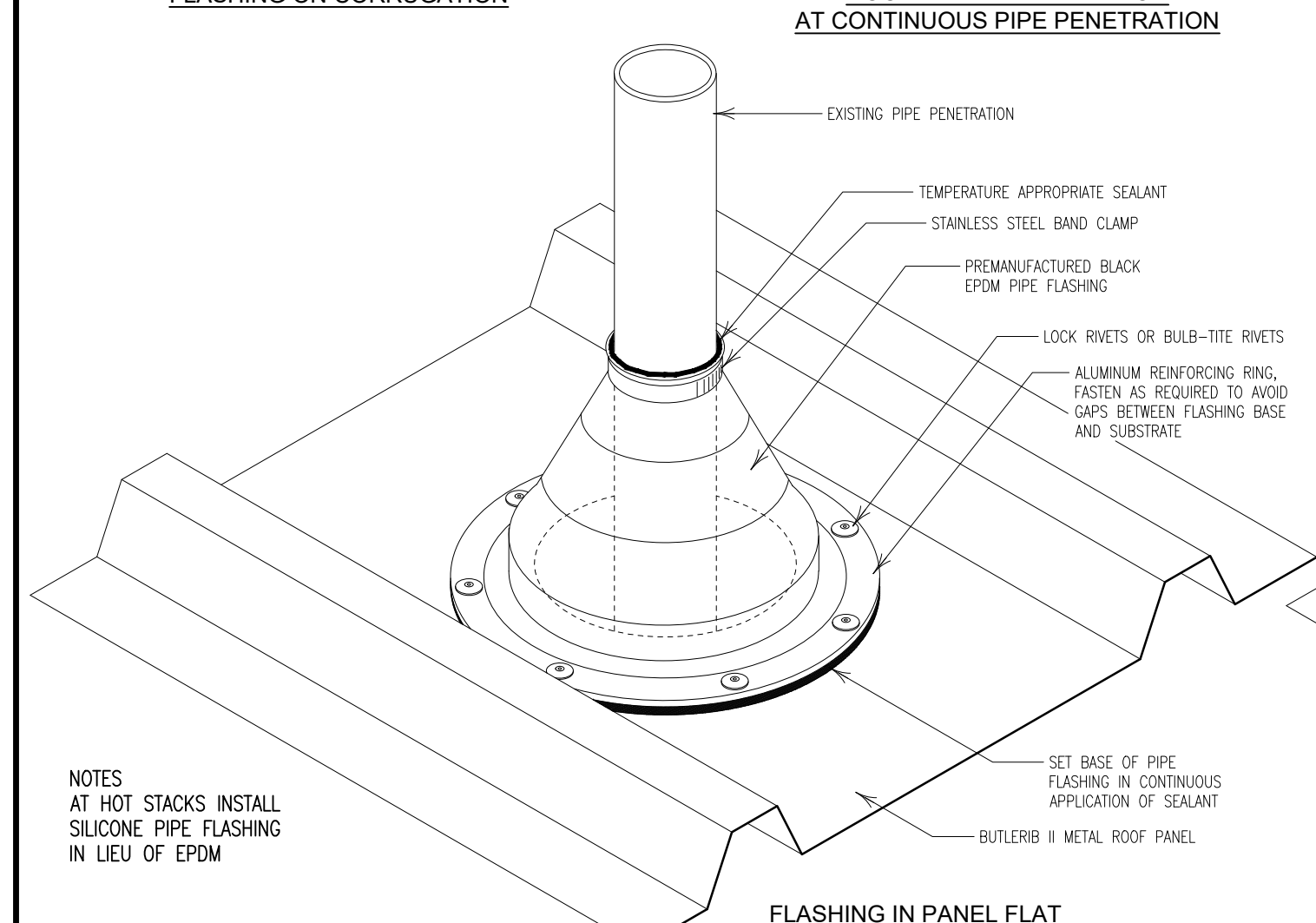
CLIENT PROJECT NUMBER:
R-3
 SHEET NUMBER:
 ORIGINAL SHEET SIZE: 36 x 24



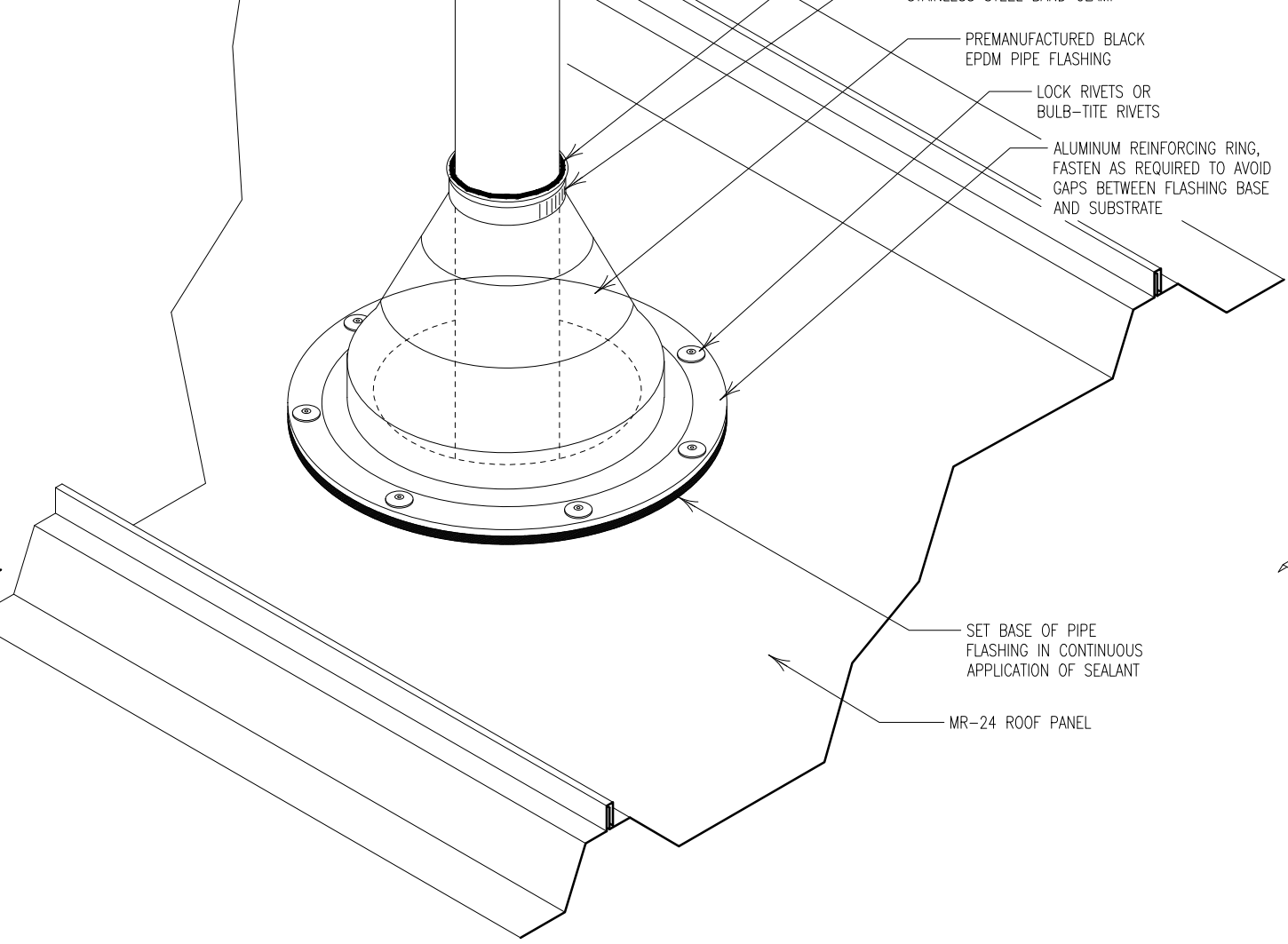
6A BUTLERIB II PIPE FLASHING DETAIL
NO SCALE



6B MR-24 PIPE FLASHING DETAIL
NO SCALE

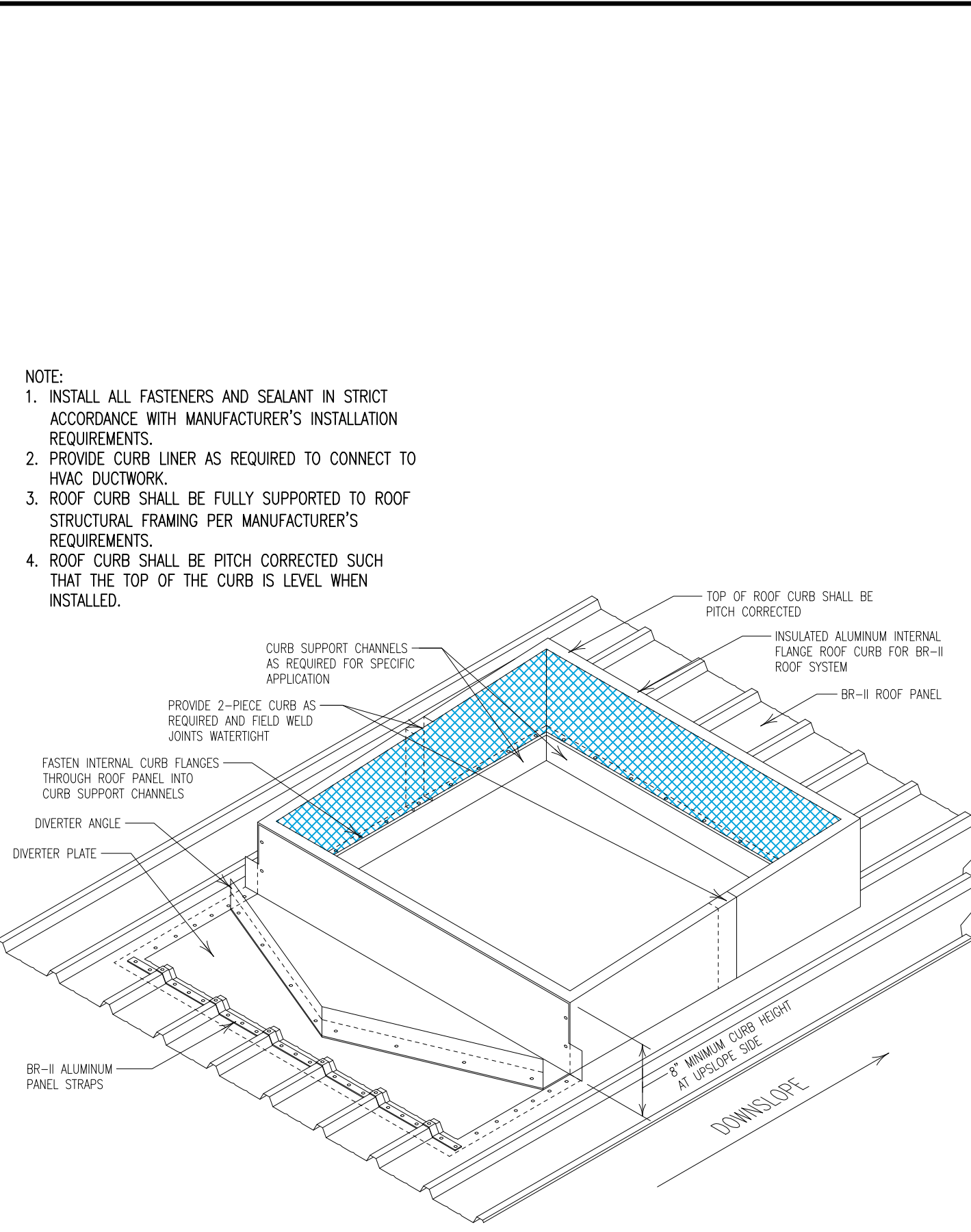


6A BUTLERIB II PIPE FLASHING DETAIL
NO SCALE

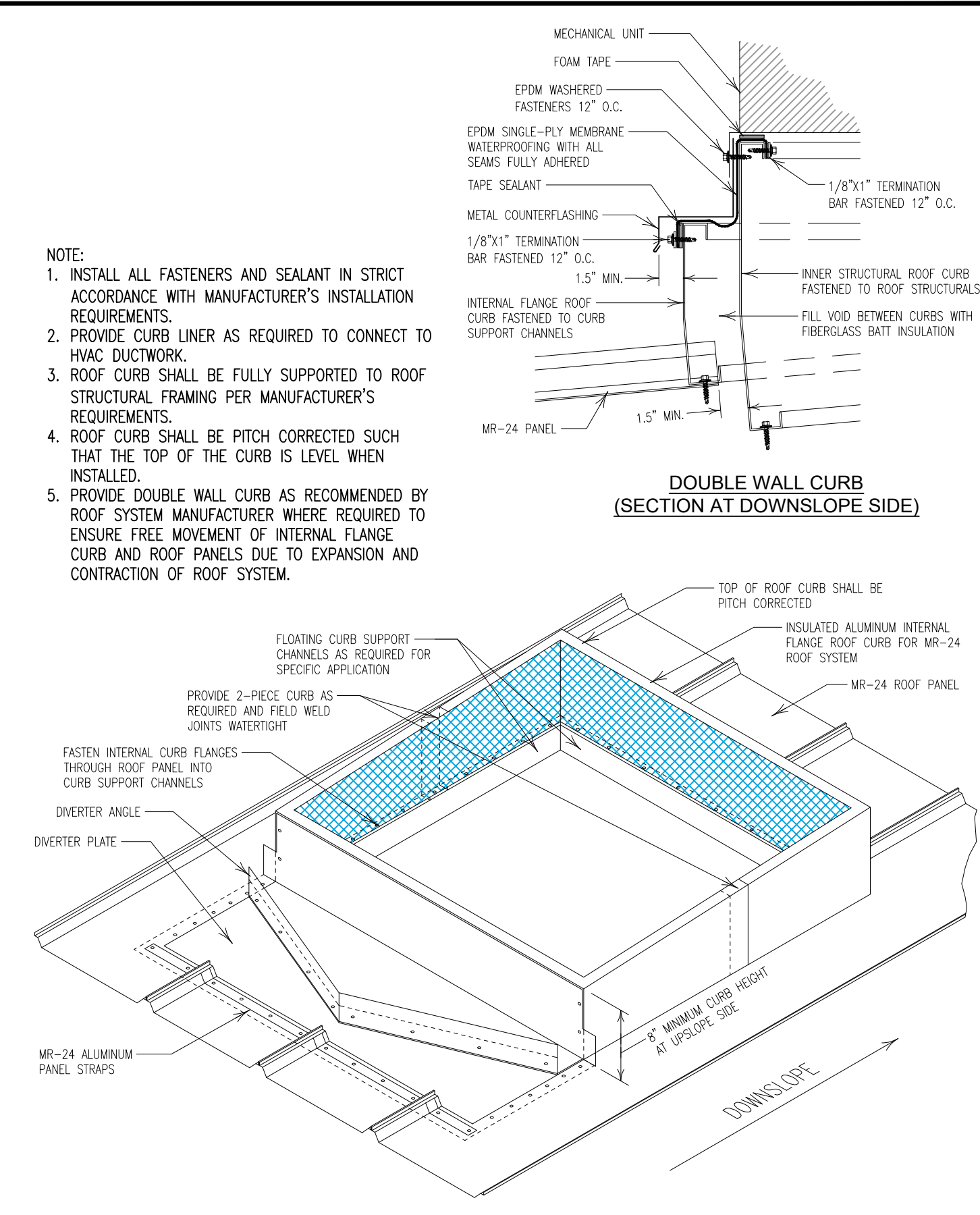


6B MR-24 PIPE FLASHING DETAIL
NO SCALE

NOTES:
1. RELOCATE EXISTING PENETRATIONS AS REQUIRED TO PREVENT FLASHING BOOT FROM CONTACTING OR OVERLAPPING THE ROOF PANEL STANDING SEAM.
2. INSTALL RETRO-FIT (SPLIT) PIPE FLASHING WHERE REQUIRED.



7A BUTLERIB II ROOF CURB DETAIL
NO SCALE



7B MR-24 ROOF CURB DETAIL
NO SCALE


NOTE:
1. INSTALL ALL FASTENERS AND SEALANT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.
2. PROVIDE CURB LINER AS REQUIRED TO CONNECT TO HVAC DUCTWORK.
3. ROOF CURB SHALL BE FULLY SUPPORTED TO ROOF STRUCTURAL FRAMING PER MANUFACTURER'S REQUIREMENTS.
4. ROOF CURB SHALL BE PITCH CORRECTED SUCH THAT THE TOP OF THE CURB IS LEVEL WHEN INSTALLED.
5. PROVIDE DOUBLE WALL CURB AS RECOMMENDED BY ROOF SYSTEM MANUFACTURER WHERE REQUIRED TO ENSURE FREE MOVEMENT OF INTERNAL FLANGE CURB AND ROOF PANELS DUE TO EXPANSION AND CONTRACTION OF ROOF SYSTEM.

DOUBLE WALL CURB
(SECTION AT DOWNSLOPE SIDE)

DRAWING RECORD			
REV. NO.	DESCRIPTION	DATE	BY
NA	BID SET	08/24/18	DV/RH

File: J:\Reno-Sparks Convention Center_REN\Ren-NV_18\REN\OR0308\DWG\18REN\OR030803.dwg Time: Aug 24, 2018 - 2:59pm

DATE	08/24/18
DRAWN BY	D. VAN DYKE
CHECKED BY	R. HEISY
PROJECT	RENO-SPARKS CONVENTION AND VISITORS AUTHORITY
MANAGER	A. NUNNKHOFEN
DATE PLOTTED	08/24/18
PLotted by	A. NUNNKHOFEN
FILE	18REN\OR030803.dwg



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CLIENT:
RENO-SPARKS CONVENTION AND VISITORS AUTHORITY

PROJECT:
RENO-SPARKS LIVESTOCK EVENTS CENTER
1350 N. WELLS AVENUE
RENO, NEVADA 89512

DRAWING TITLE:
ROOF REPLACEMENT DETAILS

CLIENT PROJECT NUMBER:

R-4

SHEET NUMBER: