



**Boulder County Purchasing**  
**1325 Pearl Street**  
**Boulder, CO 80302**  
[purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

**INVITATION TO BID**  
**COVER PAGE**

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**BID Number:** **7257-21**

**BID Title:** St Vrain North Roof Replacement

**Optional Pre-Bid Meeting:** August 23, 2021 - 9:00 a.m. MDT  
515 Coffman Street, Longmont, CO 80501

**BID Questions Due:** August 27, 2021 - 2:00 p.m. MDT

**Submittal Due Date:** September 8, 2021 - 2:00 p.m. MDT

**Email Address:** [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org)

**Documents included in this package:**

- Bid Instructions
- Terms and Conditions
- Insurance and W-9 Requirements
- Submittal Checklist
- Bid Tab Section
- Signature Page
- Sample Contract
- Construction Schedule
- Specifications
- AHU Roof Curb Design
- Construction Plan Set



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## **INSTRUCTIONS**

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### **1. Purpose/Background**

Boulder County Building Services (BCBS), a Division of Public Works, acting as GC, is requesting Bids from qualified contractors for Roof Replacement of the North portion of the St. Vrain Community HUB building located at 515 Coffman St, Longmont, CO 80501.

The scope involves removal and disposal of existing roof system and installation of new built up foam insulation and TPO roof, approximately 9,800 square feet.

Boulder County will be replacing the air handling unit under separate contract. A tentative schedule has been provided along with the roof curb detailing by the mechanical contractor in attached information. Temp roofing/patch back work will be required under this roofing contract to assist in keeping the area dry until the mechanical work is complete. Full roof replacement should follow completion of the mechanical scope.

### **2. Optional Pre-Bid Meeting**

The pre-proposal meeting will be held on August 23, 2021 at the St Vrain Community HUB, 515 Coffman Street, Longmont, CO 80501 at 9:00 a.m. Please contact Joe May at 303-579-7020 or via email: [jmay@bouldercounty.org](mailto:jmay@bouldercounty.org). Please adhere to the State guidelines regarding face coverings and maintaining proper social distancing.

### **3. Written Inquiries**

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org) on or before 2:00 p.m. **August 27, 2021**. A response from the county to all inquiries will be posted and sent via email no later than **September 1, 2021**.

**Please do not contact any other county department or personnel with questions or for information regarding this solicitation.**

#### 4. Submittal Instructions

BIDs are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. Mountain Time on September 8, 2021**. A bid opening will be conducted at 3:00 p.m. via email by sending a copy of the bid tab to all who have submitted a bid.

**Please note that email responses to this solicitation are limited to a maximum of 50MB capacity.**

**NO ZIP FILES OR LINKS TO EXTERNAL SITES WILL BE ACCEPTED. THIS INCLUDES GOOGLE DOCS AND SIMILAR SITES. ALL SUBMITTALS MUST BE RECEIVED AS AN ATTACHMENT (E.G. PDF, WORD, EXCEL).**

**Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.**

Email: [purchasing@bouldercounty.org](mailto:purchasing@bouldercounty.org) identified as **BID # 7257-21** in the subject line.

All BIDs must be received and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the bidder to see that their BID response is received on time at the stated location(s). Any BIDs received after due date and time will be returned to the bidder.

The Board of County Commissioners reserves the right to reject any and all BIDs, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

**Americans with Disabilities Act (ADA):** If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.



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## **TERMS AND CONDITIONS**

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1. Bidders are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
2. Each bidder will furnish the information required in the Invitation to Bid.
3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Invitation to Bid, will be most advantageous to the County of Boulder, based on best value not only price.
4. The County of Boulder reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
5. No submittal will be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
7. Late or unsigned bids will not be accepted or considered. It is the responsibility of bidders to ensure that the bid arrives at the Purchasing email address prior to the time indicated in the "Invitation to Bid."
8. The proposed price will be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
9. Any interpretation, correction or change of the bid documents will be made by Addendum. Interpretations, corrections and changes of the bid documents made in any other manner will not be binding, and bidder will not rely upon such interpretations, corrections and changes. The County's Representative will not be responsible for oral clarification.
10. Confidential/Proprietary Information: Bids submitted in response to this "Invitation to Bid" and any resulting contract are subject to the provisions of the Colorado Open Records Act, 24-72-201 et seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the bid or resulting contract will be clearly stated in the bid and contract

itself. Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the bid. Co-mingling of confidential/proprietary and other information is NOT acceptable. Bids that do not properly identify confidential/proprietary information may be released in their entirety. Pricing totals contained in a bid are not considered confidential.

**The Boulder County Attorney's Office retains sole authority for determining whether the Colorado Open Records Act requires or permits Boulder County to disclose proposal or bid documents, or any information contained therein, pursuant to an open records request.**

11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient and reduced toxic level products where availability, quality and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product but is not excessive.
12. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage will be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel's website: <http://www.colorado.gov/dpa/>.
13. Bid Security: Boulder County may require, at its discretion, bid security for construction contracts when the price is expected to exceed \$50,000 and for any other contracts as determined by Boulder County to be in its best interest. Bid security provides assurance to Boulder County that the bidder will, upon award, fulfill its bonding and contracting obligations as required by the instructions to bidders. When bid security is required, as indicated in the instructions to bidders, the following terms apply:
  - Bid security must be for an amount equal to 5 percent of the amount bid, unless otherwise stipulated in the instructions to bidders.
  - Bid security must be in the form of a bond, issued by a surety company authorized to do business in Colorado, or a bank cashier's check made payable to Boulder County.
  - Bidders should scan and submit a copy of the bid security instrument with their bid submittal AND mail to Boulder County the actual bid security instrument, postmarked no later than the date of the bid deadline.
  - Bidder noncompliance with bid security requirements requires that the bid be rejected as nonresponsive.
  - The bid security is submitted as a guarantee that the bid will be maintained in full force and effect for a period of thirty (30) days after the opening of the bids.

Accordingly, after bids are opened, they shall be irrevocable for a period of thirty (30) days.

- If a bidder is permitted to withdraw his bid before award, at Boulder County's sole discretion, no action shall be had against the bidder or the bid security.
- Following award, if a contractor fails to deliver the required performance and payment bonds or refuses to enter into a contract with Boulder County under the terms of its winning bid, the contractor's bid shall be rejected and its bid security will be enforced by Boulder County to the extent of actual damages.



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## **INSURANCE AND W-9 REQUIREMENTS**

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### **INSURANCE REQUIREMENTS**

#### **PAYMENT & PERFORMANCE BONDS**

**Both a payment and a performance bond are required for this project and must each equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.**

#### **i. Commercial General Liability**

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

#### **ii. Automobile Liability**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

#### **iii. Workers' Compensation and Employer's Liability**

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

#### **iv. Umbrella / Excess Insurance**

Umbrella/Excess Liability insurance in the amount \$1,000,000.00, following form.  
Worker's Compensation and Employer's Liability

#### **Regarding General Liability, Umbrella/Excess Liability, and Pollution Liability:**

**If any or all these coverages are required above, additional insured status will be required at the time a contract is executed.**

**Boulder County as Additional Insured: Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.**

**THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insureds.**

**Note that the above insurance amounts are the minimum required for this project. Proof of current insurance must be provided with your proposal in the form of a sample certificate. You are NOT required to include additional insured status until the time a contract is executed. If you require a waiver of insurance requirements you may request one in your response with an explanation.**

**W-9 REQUIREMENT**

Provide a copy of your business's W-9 with your proposal.





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## **SUBMITTAL CHECKLIST**

The bidder's attention is especially called to the items listed below, which must be submitted in full as part of the BID. Failure to submit any of the documents listed below as a part of your BID, or failure to acknowledge any addendum in writing with your BID, or submitting a bid on any condition, limitation or provision not officially invited in this Invitation to Bid (BID) may be cause for rejection of the BID.

**THIS CHECKLIST MUST BE SUBMITTED AS PART OF YOUR BID PACKAGE:** Bidder will check each box indicating compliance:

| <b>INCLUDED</b> | <b>ITEM</b>  |
|-----------------|--|
|                 | Name and Address of the Partners and Subcontractors if applicable  |
|                 | Bid Submission with an all-inclusive total cost  |
|                 | State your compliance with the Terms and Conditions in the Sample Contract contained in this BID. Specifically list any deviations and provide justification for each deviation.                                       |
|                 | Submit three references for similar projects your company has completed within the last three years and contact information. Boulder County will review all contractor evaluation forms from previous County projects. |
|                 | Insurance Certificate  |
|                 | W-9  |
|                 | Signature Page   |
|                 | Addendum Acknowledgement(s) (If Applicable)  |



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**BID SUBMISSION**

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Provide a price for each item listed below. Work shall be awarded based on the most responsible Bid that best satisfies the requirements of the project, not necessarily on the lowest price. Boulder County reserves the right to make the award based on the Bid deemed most favorable to the County, to waive any informalities, or to reject any or all Bids.

**1. St Vrain North Roof Replacement and AHU Temp Roofing:**

\_\_\_\_\_ dollars (\$\_\_\_\_\_)

**Duration of roof replacement scope:**\_\_\_\_\_ **working days**



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**SIGNATURE PAGE**

| Contact Information   | Response |
|---|----------|
| Company Name including DBA  |          |
| List Type of Organization (Corporation, Partnership, etc.)                          |          |
| Name, Title, and Email Address of Person Authorized to Contract with Boulder County |          |
| Company Address   |          |
| Company Phone Number  |          |
| Company Website   |          |

**By signing below I certify that:**

- I am authorized to bid on my company's behalf.
- I am not currently an employee of Boulder County.
- None of my employees or agents is currently an employee of Boulder County.
- I am not related to any Boulder County employee or Elected Official.
- (Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

\_\_\_\_\_

**Signature of Person Authorized to Bid on  
Company's Behalf**

\_\_\_\_\_

**Date**

Note: If you cannot certify the above statements, please explain in a statement of explanation.

# BOULDER COUNTY SAMPLE CONTRACT

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THIS CONTRACT ("Contract") is entered into by and between the County of Boulder, State of Colorado, a body corporate and politic, acting by and through its Board of County Commissioners for the benefit of the [Department] ("County") and [Supplier] ("Contractor"). County and Contractor are each a "Party," and collectively the "Parties."

In consideration of the mutual covenants contained in this Contract, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

- 1. Incorporation into Contract:** The **Details Summary** is incorporated into this Contract. The **Contract Documents** are incorporated into this Contract by reference, except to the extent that the Proposal, if any is incorporated, contains any obligations placed upon County and not otherwise contained in this Contract.
- 2. Work to be Performed:** Contractor will provide all labor and equipment and do all tasks necessary and incidental to performing the work as described in the **Details Summary** and **Contract Documents** (the "Work"). Contractor will perform the Work (a) in a good and workmanlike manner, (b) at its own cost and expense, (c) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (d) in strict accordance with the Contract.
- 3. Term of Contract:** The **Contract Term** begins on the **Start Date** and expires on the **Expiration Date**, unless terminated sooner. All the Work must be performed during the **Contract Term**.
- 4. Payment for Work Performed:** In consideration of the Work performed by Contractor, and subject to conditions contained in this Contract, County will pay an amount not to exceed the **Contract Amount** to Contractor in accordance with the **Contract Documents**.
- 5. Invoicing:** Contractor will promptly provide a copy of its Form W-9 and invoice template to County upon request. Contractor must submit an invoice to the County by the fifteenth (15th) day of the month following completion of the Work. All invoices submitted require the following components: Contractor's name and address (submitted W-9 address must match remit address), detailed description of services, dates of services, itemization of labor and materials costs, "Bill to: Boulder County" language, payment remittance address, payer, name and address, date of invoice, unique invoice number, and total amount due. Contractor must send all completed invoices to the **Invoice Contact** in the **Details Summary**. Email delivery is preferred by the County; County may require delivery of invoices by email. Failure to submit invoices in a timely manner and in accordance with the terms of this Contract may cause a delay in payment. County may recoup any damages incurred because of Contractor's failure to submit invoices pursuant to the terms of this paragraph. County's acceptance or payment of an invoice will not constitute acceptance of any Work performed under this Contract.
- 6. Extra Time to Complete the Work:** If Contractor cannot complete the Work by the **Expiration Date**, Contractor may request extra time to complete the Work. County, in its sole discretion, may grant Contractor additional time to complete the Work and, if so, will provide Contractor with written notice of the amount of extra time granted. County granting extra time to complete the Work will not entitle Contractor to additional compensation from County. This Contract will remain in full force and effect during any time period that Contractor is permitted to finish completing the Work.
- 7. Extension of Contract Term (Additional Work):** Upon mutual agreement of the Parties, this Contract may be extended until the **Final End Date**. During any extended **Contract Term**, the terms of this Contract will remain in full force and effect, unless otherwise amended in writing by the Parties. Where the Contractor will provide additional services for additional compensation beyond the initial **Contract Amount**, the Parties must execute a written amendment before the then-current **Expiration Date**. If necessary, the written amendment will incorporate an updated Scope of Work and updated Fee Schedule as exhibits. Contractor must provide a current Certificate of Insurance to the County that complies with the **Insurance Requirements** of this Contract, if any, prior to any extended **Contract Term**.

8. Schedule of Work: County may designate the hours (on a daily or weekly basis) during which Contractor can perform the Work, strictly for the purposes of minimizing inconvenience to the County and interference with County operations. Contractor will otherwise set its own work schedule.

9. Indemnity: Contractor will be liable for any damages to persons or property caused by or arising out of the actions, obligations, or omissions of Contractor, its employees, agents, representatives or other persons acting under Contractor's direction or control in performing or failing to perform the Work under this Contract. Contractor will indemnify and hold harmless County, its elected and appointed officials, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of Contractor, its employees, agents or representatives, or other persons acting under Contractor's direction or control. This indemnification obligation will extend to claims based on Contractor's unauthorized use or disclosure of confidential information and intellectual property infringement. County will not be obligated to indemnify or defend Contractor under any circumstances. Contractor's obligations under this provision shall survive expiration or termination of this Contract.

10. Nondiscrimination: Contractor will comply with the letter and spirit of the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, State and Federal laws concerning discrimination and unfair employment practices. County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin, age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable Federal, State or local law. Contractor must require that its subcontractors, if any, similarly comply with all applicable laws concerning discrimination and unfair employment practices.

11. Information and Reports: Contractor will provide to authorized County, State, and Federal government representatives all information and reports that may be required for any purpose authorized by law. Contractor will permit access to such representatives to Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where information required by a representative is in the exclusive possession of a person or entity other than Contractor, Contractor must so certify to the County and explain what efforts it has made to obtain the information.

12. Independent Contractor: Contractor is an independent contractor for all purposes in performing the Work. Contractor is not an employee of the County for any purpose, including the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the Colorado Workers' Compensation Act, the Colorado Unemployment Insurance Act, and the Public Employees Retirement Association. Accordingly, County will not withhold or pay any income tax, payroll tax, or retirement contribution of any kind on behalf of Contractor or Contractor's employees. As an independent contractor, Contractor is responsible for employing and directing such personnel and agents as it requires to perform the Work. Contractor will exercise complete authority over its personnel and agents and will be fully responsible for their actions.

13. Termination for Non-Appropriation: The other provisions of this Contract notwithstanding, the County is prohibited by law from making commitments beyond the current fiscal year. Payment to Contractor beyond the current fiscal year is contingent on the appropriation and continuing availability of funding in any subsequent year. County has reason to believe that sufficient funds will be available for the full **Contract Term**. Where, however, funds are not allocated for any fiscal period beyond the current fiscal year, County may terminate this Contract without penalty by providing seven (7) days' written notice to Contractor.

14. Termination for Breach: Either Party's failure to perform any of its material obligations under this Contract, in whole or in part or in a timely or satisfactory manner, will be a breach. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) days after the institution of such proceeding, will also constitute a breach. In the event of a breach, the non-breaching Party may provide written notice of the breach to the other Party. If the notified Party does not cure the breach, at its sole expense, within thirty (30) days after delivery of notice, the non-breaching Party may exercise any of its remedies provided under this Contract or at law, including immediate termination of this Contract.

15. Termination for Convenience: County may terminate this Contract, in whole or in part, for any reason, upon seven (7) days' advance written notice to Contractor.

16. Remedies for Non-Performance: If Contractor fails to perform any of its obligations under this Contract, County may, at its sole discretion, exercise one or more of the following remedies, which shall survive expiration or termination of this Contract:

a. Suspend Performance: County may require that Contractor suspend performance of all or any portion of the Work pending necessary corrective action specified by the County and without entitling Contractor to an increase in compensation or extension of the performance schedule. Contractor must promptly stop performance and incurring costs upon delivery of a notice of suspension by the County.

b. Withhold Payment Pending Corrections: County may permit Contractor to correct any rejected Work at the County's discretion. Upon County's request, Contractor must correct rejected work at Contractor's sole expense within the time frame established by the County. Upon completion of the corrections satisfactory to the County, County will remit payment to Contractor.

c. Deny Payment: County may deny payment for any Work that does not comply with the requirements of the Contract or that Contractor otherwise fails to provide or complete, as determined by the County in its sole discretion. Upon County request, Contractor will promptly refund any amounts prepaid by the County with respect to such non-compliant Work.

d. Removal: Upon County's request, Contractor will remove any of its employees or agents from performance of the Work, if County, in its sole discretion, deems any such person to be incompetent, careless, unsuitable, or otherwise unacceptable.

17. Binding Arbitration Prohibited: County does not agree to binding arbitration by any extra-judicial body or person.

18. Conflicts of Interest: Contractor must not engage in any business or personal activities or practices or maintain any relationships that conflict in any way with the full performance of Contractor's obligations.

19. Notices: All notices provided under this Contract must be in writing and sent by Certified U.S. Mail (Return Receipt Requested), electronic mail, or hand-delivery to the other Party's **Contact** at the address specified in the **Details Summary**. For certified mailings, notice periods will begin to run on the day after the postmarked date of mailing. For electronic mail or hand-delivery, notice periods will begin to run on the date of delivery.

20. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally, including but not limited to: C.R.S. § 38-26-107, which requires withholding funds where the County receives a claim for payment from a supplier or subcontractor of Contractor upon notice of final settlement (required for public works contracts that exceed \$150,000); C.R.S. § 8-17-101 et seq.; C.R.S. § 18-8-301, et seq.; and C.R.S. § 18-8-401, et seq.

21. Public Contracts for Services (C.R.S. §§ 8-17.5-101, et seq.): Contractor hereby certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this Contract and further certifies that it will confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Contract by participating in the E-Verify Program established under Pub. L. 104-28 or the department verification program established under C.R.S. § 8-17.5-102(5)(c). Contractor (i) shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (ii) shall not enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (iii) has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Contract through participation in the E-Verify program or department program; (iv) is prohibited from using either the E-Verify program or department program procedures to undertake preemployment screening of job applicants while this Contract is being performed; and (v) shall comply with any reasonable request by the department made in the course of an investigation that the Colorado Department of Labor and Employment is undertaking pursuant to the authority established in C.R.S. § 8-17.5-102(5). If Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an

illegal alien, Contractor shall (a) notify the subcontractor and County within three (3) days that Contractor has actual knowledge that subcontractor is employing or contracting with an illegal alien; and (b) terminate the subcontract if, within three (3) days of receiving notice hereunder, subcontractor does not stop employing or contracting with the illegal alien; except that Contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien. Contractor's violation of this provision will constitute a material breach of this Contract, entitling the County to terminate the contract for breach. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages to the County.

22. Entire Agreement/Binding Effect/Amendments: This Contract represents the complete agreement between the Parties and is fully binding upon them and their successors, heirs, and assigns, if any. This Contract terminates any prior agreements, whether written or oral in whole or in part, between the Parties relating to the Work. This Contract may be amended only by a written agreement signed by both Parties.

23. Assignment/Subcontractors: This Contract may not be assigned or subcontracted by Contractor without the prior written consent of the County. If Contractor subcontracts any of its obligations under this Contract, Contractor will remain liable to the County for those obligations and will also be responsible for subcontractor's performance under, and compliance with, this Contract.

24. Governing Law/Venue: The laws of the State of Colorado govern the construction, interpretation, performance, and enforcement of this Contract. Any claim relating to this Contract or breach thereof may only be brought exclusively in the Courts of the 20<sup>th</sup> Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

25. Breach: The failure of either Party to exercise any of its rights under this Contract will not be deemed to be a waiver of such rights or a waiver of any breach of the Contract. All remedies available to a Party in this Contract are cumulative and in addition to every other remedy provided by law.

26. Severability: If any provision of this Contract becomes inoperable for any reason but the fundamental terms and conditions continue to be legal and enforceable, then the remainder of the Contract will continue to be operative and binding on the Parties.

27. Third-Party Beneficiary: Enforcement of the terms and conditions and all rights and obligations of this Contract are reserved to the Parties. Any other person receiving services or benefits under this Contract is an incidental beneficiary only and has no rights under this Contract. Notwithstanding, where the beneficiary **Department** is led by an Elected Official, such Elected Official shall be considered a third-party beneficiary.

28. Colorado Open Records Act: County may disclose any records that are subject to public release under the Colorado Open Records Act, C.R.S. § 24-72-101, et seq.

29. Conflict of Provisions: If there is any conflict between the terms of the main body of this Contract and the terms of any of the **Contract Documents**, the terms of the main body of the Contract will control.

30. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.

31. Representations and Warranties: Contractor represents and warrants the following:

- a. Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
- b. The individual executing this Contract is authorized to do so by Contractor;
- c. Contractor is authorized to do business in the State of Colorado and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Work and the Contractor; and
- d. Contractor and its subcontractors, if any, are financially solvent, able to pay all debts as they mature, and have sufficient working capital to complete the Work and perform all obligations under the Contract.

32. Legal Compliance: Contractor assumes full responsibility for obtaining and maintaining any permits and licenses required to perform the Work. Contractor's performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes.

33. Litigation Reporting: Contractor is not currently involved in any action before a court or other administrative decision-making body that could affect Contractor's ability to perform the Work. Contractor will promptly notify the County if Contractor is served with a pleading or other document in connection with any such action.

34. Tax Exemption: County is exempt from payment of Federal, State, and local government taxes. Contractor shall collect no tax from the County, and the County shall not be liable to pay any taxes imposed on Contractor. County shall provide its tax exemption status information to Contractor upon request.

35. Delegation of Authority: The Parties acknowledge that the Board of County Commissioners has delegated authority to the Department Head or Elected Official that leads the beneficiary **Department** and their designees to act on behalf of the County under the terms of this Contract, including but not limited to the authority to terminate this Contract.

36. Ownership of Work Product: All work product, property, data, documentation, information or materials conceived, discovered, developed or created by Contractor pursuant to this Contract ("Work Product") will be owned exclusively by the County. To the extent possible, any Work Product will be deemed to be a work made for hire. Contractor unconditionally and irrevocably transfers and assigns to the County all right, title and interest in and to any Work Product.

37. Publicity Releases: Contractor will not refer to this Contract or the County in commercial advertising without prior written consent of the County. This provision shall survive expiration or termination of this Contract.

38. Execution by Counterparts; Electronic Signatures: This Contract may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The Parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121. The Parties will not deny the legal effect or enforceability of this Contract solely because it is in electronic form or because an electronic record was used in its creation. The Parties will not object to the admissibility of this Contract in the form of electronic record, or paper copy of an electronic document, or paper copy of a document bearing an electronic signature, because it is not in its original form or is not an original.

39. Limitation on Public Statements and Lobbying Activity. During the term of this Contract, Contractor may receive from the County its confidential data, work product, or other privileged or confidential information that is protected by law. To maintain the fact and appearance of absolute objectivity, Contractor shall not, without the prior written consent of the County, which shall not be unreasonably withheld, do any of the following: (a) disclose information obtained because of this contractual relationship to any third party; (b) lobby any State or Federal agency on any pending matter while this Contract is effective; or (c) make any public statements or appear at any time to give testimony at any public meeting on the subject matters regarding which Contractor is or was retained by the County. County may set reasonable conditions on any disclosure authorized by the County under this provision. Notwithstanding, Contractor may make disclosures as required by law, and to law enforcement officials in connection with any criminal justice investigation.

40. Sustainability: County encourages Contractor to consider the procurement and use of environmentally preferable products and services while performing services under this Contract. "Environmentally preferable purchasing" means making purchasing choices for products and services that have a lesser or reduced adverse effect on human health and the environment when compared with competing products and services that serve the same purpose. Environmentally preferable purchasing is consistent with the County's commitment to protecting our air, water, soil, and climate for current and future generations. County encourages Contractor to incorporate the following actions into Contractor's performance of the Work: environmentally preferable supplies and services; conservation of water; efficient energy use; waste prevention; reuse and recycle construction and de-construction materials in a manner that maximizes reuse of materials; sustainable transportation choices, including consideration to business communication software such as Skype alternative to air travel and public transit or carpooling for in-person meetings; pollution prevention; low toxicity for public health & safety; and reduced emissions to address climate change.



41. Insurance Requirements: Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this paragraph. All policies evidencing coverage required by the Contract will be issued by insurance companies satisfactory to the County. Contractor will forward Certificates of Insurance directly to the **County Department** and **Contact** listed in the **Details Summary**.

a. For the entire duration of this Contract including any extended or renewed terms, and longer as may be required by this Contract, Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance to insure the liability risks that Contractor has assumed under this Contract:

i. **Commercial General Liability**

***Non-Construction contracts use the following language:***

This coverage should be provided on an Occurrence Form, ISO CG001 or equivalent, with Minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate.

***Construction Contracts only – include the following paragraph:***

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

ii. **Automobile Liability**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

***This coverage may not be required if Contractor is not using a vehicle as part of its performance under the contract. Contact Risk Management with any questions.***

iii. **Workers' Compensation and Employer's Liability**

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

***This coverage may not be required if contractor is not mandated under State law to maintain this coverage. A waiver is available on the contracts routing website.***

iv. **Umbrella / Excess Insurance**

Umbrella/Excess Liability insurance in the amount \$[X],000,000.00, following form.

***This insurance is a broad, high-limit policy, which acts more than the underlying primary insurance policy. This coverage is designed to provide additional liability limits beyond the primary insurance limits and is triggered upon the underlying limits becoming exhausted. Umbrella / Excess insurance is most commonly required when an exposure to the County could potentially create liabilities in excess of the basic insurance limits. The most common limits for these policies range from \$2,000,000 to \$5,000,000.***

***Please consult with Risk Management if you feel this coverage should be required.***

**IN ADDITION TO THE ABOVE, ONE OR MORE OF THE FOLLOWING FOUR (4) INSURANCE COVERAGES MAY BE REQUIRED. CONTACT RISK MANAGEMENT IF YOU HAVE QUESTIONS ABOUT WHICH INSURANCE COVERAGE TO INCLUDE. DELETE THIS INSTRUCTION (AND ANY INAPPLICABLE INSURANCE PARAGRAPHS) WHEN FINALIZING THE CONTRACT:**

v. **Professional Liability (Errors and Omissions)**

***All contractors required to be professionally certified by the State of Colorado (i.e., architects, engineers, doctors, nurses, etc.) and/or any consultants whose errors in judgment, planning, design, etc. could result in economic loss to the County must provide proof of professional liability coverage. This also applies to anyone managing or overseeing construction.***

Professional liability coverage with minimum limits of \$1,000,000 Per Loss and \$1,000,000 Aggregate. Professional Liability provisions indemnifying for loss and expense resulting from errors, omission, mistakes or malpractice is acceptable and may be written on a claims-made basis. The contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract; and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years beginning at the time work under this Contract is completed.

vi. **Pollution Liability**

***This coverage is required whenever work under the contract involves pollution risk to the environment or losses caused by pollution conditions (including asbestos) that may arise from the operations of the Contractor described in the Contractor's scope of services.***

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

vii. **Third Party Commercial Crime Insurance / Third Party Fidelity Bond**

***Crime / Third Party Fidelity covers the contractor and the contractor's employees when engaged in work for a client on behalf of the County. This coverage is for employee dishonesty, theft, embezzlement, forgery and alteration. Coverage is required when the contractor will be handling money or collecting fees on behalf of the County or when the contractor has access to client's personal property and/or documentation***

The Crime limit shall be \$1,000,000 Per Loss and include an endorsement for "Employee Theft of Client Property". In order to provide coverage to County during the course of this contract, Commercial Crime policies must be endorsed to cover Third Party Fidelity. Third party fidelity covers the vendor's employees when engaged in work for a client. In addition, the County will be listed as loss payee on the commercial crime coverage. This third-party coverage can also be provided by obtaining a third-party fidelity bond.

viii. **Privacy / Cyber Liability Insurance**

As a provider of a service which *may* require the knowledge and retention of personal identifiable information including but not limited to, names, dates of birth, social security numbers, usernames, and passwords, and/or HIPAA sensitive personal information of clients served, the following minimum insurance limits are required:

|   |             |
|---|-------------|
| Contractors with 10 or fewer County clients:  | \$50,000    |
| Contractors with 11 – 15 County clients:      | \$500,000   |
| Contractors with more than 25 County clients: | \$1,000,000 |

***If the scope does not pertain to clients directly, contact Risk Management for appropriate language.***

ix. **Sexual Abuse and Molestation Coverage**

As a provider of a service which has contact with individuals that are part of a sensitive population and are in a position of trust the following minimum insurance limits are required:

|   |             |
|---|-------------|
| Contractors with 5 or fewer County clients: | \$100,000   |
| Contractors with 6-10 County clients:       | \$250,000   |
| Contractors with 11-15 County clients:      | \$500,000   |
| Contractors with 16 or more County clients: | \$1,000,000 |

If the number of clients increases during the contract period, the required coverage limit will increase to correspond accordingly.

***If the scope does not pertain to clients directly, contact Risk Management for appropriate language.***

***THE STATED INSURANCE LIMITS FOR ALL COVERAGES ARE MINIMUM AMOUNTS; DEPENDING ON THE CONTRACT, HIGHER LIMITS MAY BE REQUIRED OR ADVISABLE. CONTACT RISK MANAGEMENT IF YOU HAVE ANY QUESTIONS ABOUT MINIMUM LIMITS. DELETE THIS PARAGRAPH WHEN FINALIZING THE CONTRACT.***

b. Boulder County as Additional Insured: Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

**THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS**: *County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

c. Notice of Cancellation: Each insurance policy required by this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days' prior written notice has been given to the County except when cancellation is for non-payment of premium, then ten (10) days' prior notice may be given. If any insurance company refuses to provide the required notice, Contractor or its insurance broker shall notify the County any cancellation, suspension, or nonrenewal of any insurance policy within seven (7) days of receipt of insurers' notification to that effect.

d. Insurance Obligations of County: County is not required to maintain or procure any insurance coverage beyond the coverage maintained by the County in its standard course of business. Any insurance obligations placed on the County in any of the **Contract Documents** shall be null and void.

e. Deductible: Any and all deductibles contained in any insurance policy shall be assumed by and at the sole risk of Contractor.

f. Primacy of Coverage: Coverage required of Contractor and its subcontractors, if any, shall be primary over any insurance or self-insurance program carried by the County.

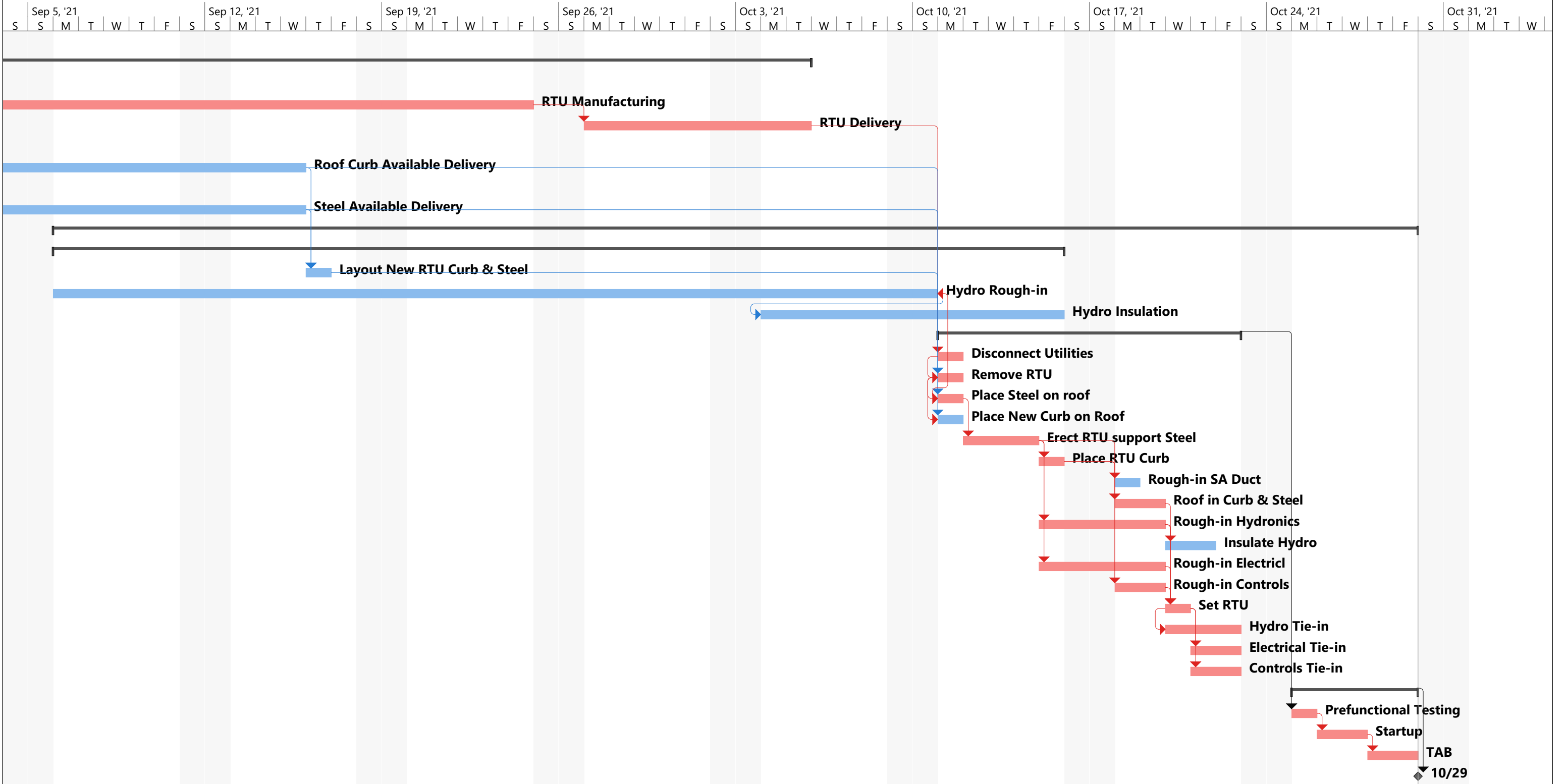
g. Subrogation Waiver: All insurance policies in any way related to this Contract secured or maintained by Contractor as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against County, its organizations, officers, agents, employees, and volunteers.

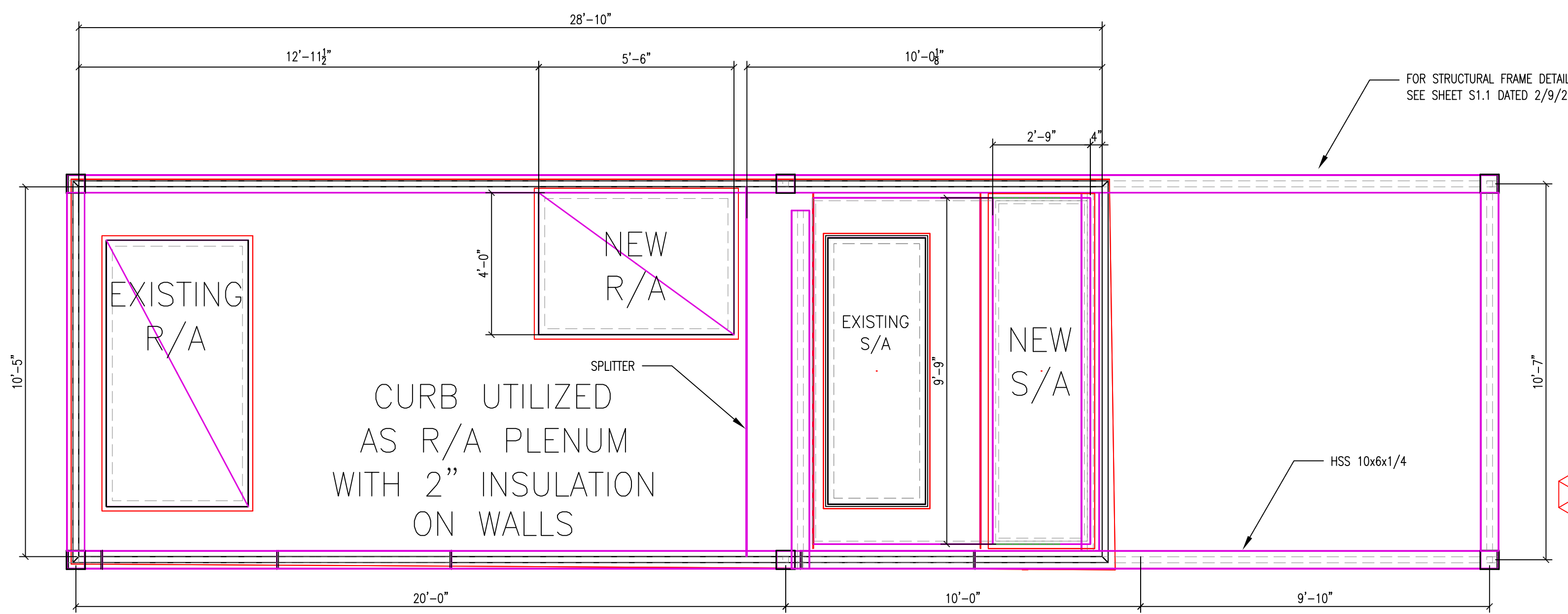
**[Signature Page to Follow]**

IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

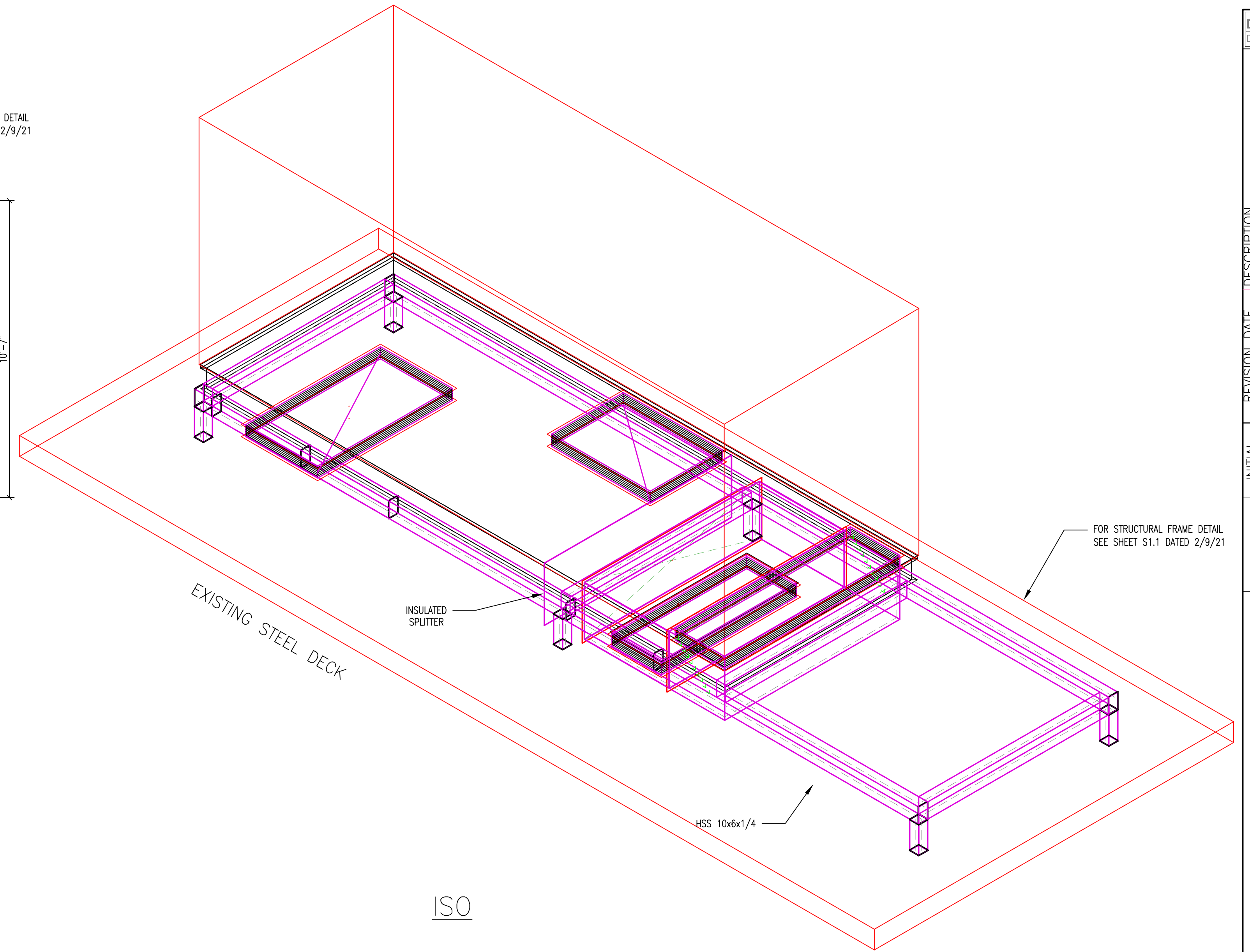
| <b>SIGNED for and on behalf of Boulder County</b> |  | <b>SIGNED for and on behalf of Contractor</b> |  |
|---|--|---|--|
| Signature:  |  | Signature:                                    |  |
| Name:   |  | Name:   |  |
| Title:  |  | Title:  |  |
| Date:   |  | Date:   |  |
| <i>↓↓For Board-signed documents only↓↓</i>        |  |   |  |
| Attest:   |  | <i>Initials</i>                               |  |
| Attestor Name:                                    |  |   |  |
| Attestor Title:                                   |  |   |  |

| ID | Task Name                    | Duratio     | Start        | Finish       | Predecessors | 5, '21      |   |   |   |   |   |   | Aug 1, '21 |   |   |   |   |   |   | Aug 8, '21 |   |   |   |   |   |   | Aug 15, '21 |   |   |   |   |   |   | Aug 22, '21 |   |   |   |   |   |   | Aug 29, '21 |   |   |   |   |   |  |
|----|------------------------------|-------------|--------------|--------------|--------------|-------------|---|---|---|---|---|---|------------|---|---|---|---|---|---|------------|---|---|---|---|---|---|-------------|---|---|---|---|---|---|-------------|---|---|---|---|---|---|-------------|---|---|---|---|---|--|
|    |                              |             |              |              |              | M           | T | W | T | F | S | S | M          | T | W | T | F | S | S | M          | T | W | T | F | S | S | M           | T | W | T | F | S | S | M           | T | W | T | F | S | S | M           | T | W | T | F | S |  |
| 1  | Contract                     | 0 d         | 4/1          | 4/1          |              |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 2  | <b>ProConstruction</b>       | <b>74 d</b> | <b>6/24</b>  | <b>10/5</b>  |              | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 3  | RTU Submittals               | 10 d        | 6/24         | 7/7          | 1FS+60 d     |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 4  | RTU Manufacturing            | 57 d        | 7/8          | 9/24         | 3            | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 5  | RTU Delivery                 | 7 d         | 9/27         | 10/5         | 4            |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 6  | Roof Curb Submittal          | 20 d        | 7/8          | 8/4          | 3            | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 7  | Roof Curb Available Delivery | 30 d        | 8/5          | 9/15         | 6            |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 8  | Steel Submittal              | 10 d        | 8/5          | 8/18         | 6            |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 9  | Steel Available Delivery     | 20 d        | 8/19         | 9/15         | 8            |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 10 | <b>Construction</b>          | <b>40 d</b> | <b>9/6</b>   | <b>10/29</b> |              | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 11 | <b>PreRTU Down Work</b>      | <b>30 d</b> | <b>9/6</b>   | <b>10/15</b> |              | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 12 | Layout New RTU Curb & Steel  | 1 d         | 9/16         | 9/16         | 7,9          |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 13 | Hydro Rough-in               | 25 d        | 9/6          | 10/11        | 18SF         |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 14 | Hydro Insulation             | 10 d        | 10/4         | 10/15        | 13FS-5 d     |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 15 | <b>RTU Down</b>              | <b>10 d</b> | <b>10/11</b> | <b>10/22</b> |              | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 16 | Disconnect Utilities         | 1 d         | 10/11        | 10/11        | 5FS+3 d      |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 17 | Remove RTU                   | 1 d         | 10/11        | 10/11        | 12,16SS      |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 18 | Place Steel on roof          | 1 d         | 10/11        | 10/11        | 17SS,9       |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 19 | Place New Curb on Roof       | 1 d         | 10/11        | 10/11        | 7,17SS       |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 20 | Erect RTU support Steel      | 3 d         | 10/12        | 10/14        | 18           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 21 | Place RTU Curb               | 1 d         | 10/15        | 10/15        | 20           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 22 | Rough-in SA Duct             | 1 d         | 10/18        | 10/18        | 21           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 23 | Roof in Curb & Steel         | 2 d         | 10/18        | 10/19        | 21           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 24 | Rough-in Hydronics           | 3 d         | 10/15        | 10/19        | 20           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 25 | Insulate Hydro               | 2 d         | 10/20        | 10/21        | 24           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 26 | Rough-in Electricl           | 3 d         | 10/15        | 10/19        | 20           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 27 | Rough-in Controls            | 2 d         | 10/18        | 10/19        | 20FS+1 d     |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 28 | Set RTU                      | 1 d         | 10/20        | 10/20        | 23,24,26,27  |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 29 | Hydro Tie-in                 | 3 d         | 10/20        | 10/22        | 28SS         |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 30 | Electrical Tie-in            | 2 d         | 10/21        | 10/22        | 28           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 31 | Controls Tie-in              | 2 d         | 10/21        | 10/22        | 28           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 32 | <b>Startup &amp; TAB</b>     | <b>5 d</b>  | <b>10/25</b> | <b>10/29</b> |              | [Gantt Bar] |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 33 | Prefunctional Testing        | 1 d         | 10/25        | 10/25        | 15           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 34 | Startup                      | 2 d         | 10/26        | 10/27        | 33           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 35 | TAB                          | 2 d         | 10/28        | 10/29        | 34           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |
| 36 | Final                        | 0 d         | 10/29        | 10/29        | 32           |             |   |   |   |   |   |   |            |   |   |   |   |   |   |            |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |   |             |   |   |   |   |   |  |

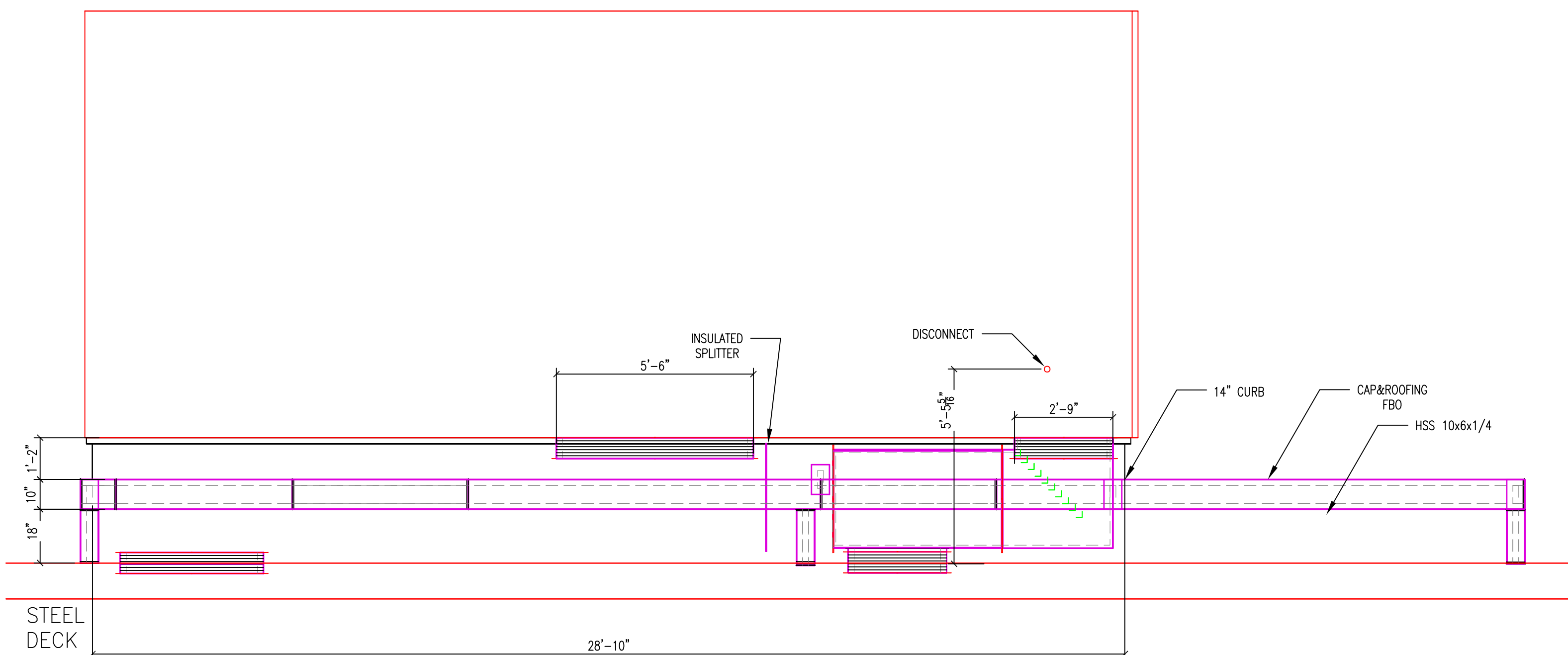




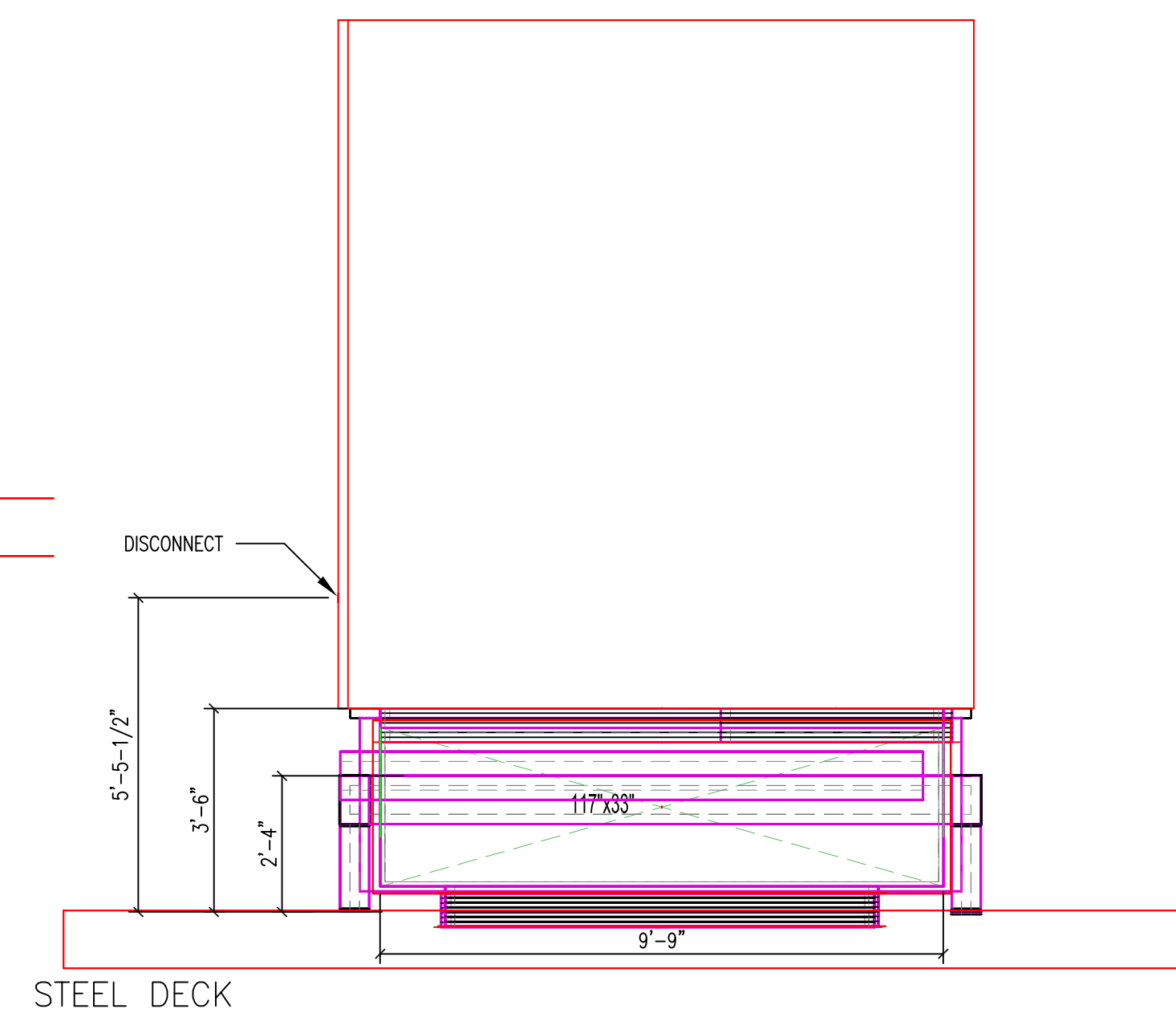
TOP



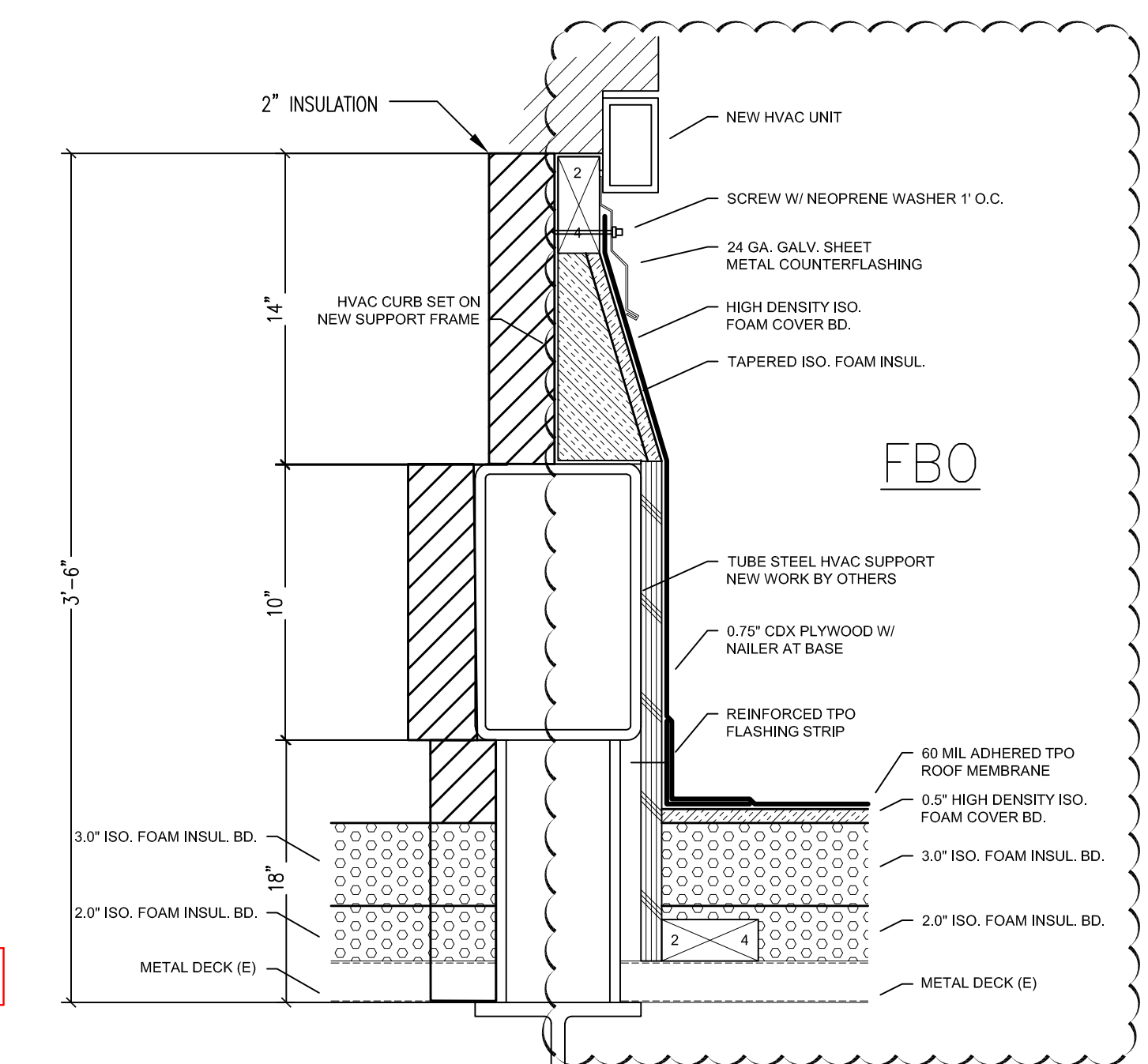
ISO



FRONT



RIGHT



(B2) HVAC CURB FLASHING FBO  
R2.0 NTS

SCALE: 3/8" = 1'-0"

DOCUMENT

| REVISION | DATE | DESCRIPTION |
|----------|------|-------------|
|          |      |             |

|               |  |
|---------------|--|
| INITIAL       |  |
| FIELD CONTACT |  |

ST Vrain  
AHU Curb Detail

REVISION LIST

ProCraft  
MECHANICAL

|                |           |
|----------------|-----------|
| DRAWN BY       | CC        |
| SIGN-OFF DATE  | 7/23/2021 |
| DRAWING NUMBER | ###       |
| PROJECT NUMBER | ###       |

FILE NAME: Q:\Projects\Misc Files\20-032A - Boulder County HUB AHU - Standard\AHU Curb Detail.dwg



# Project Manual

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**Boulder County  
St. Vrain AHU & Roof Replacement**

**Project: #101024**  
7/16/2021



**Roof Tech Consultants, Inc.**  
14828 W. 6<sup>th</sup> Avenue, B-8  
Golden, Colorado 80401



PROJECT MANUAL  
BOULDER COUNTY  
ST. VRAIN AHU & ROOF REPLACEMENT  
PROJECT: #101024

**SPECIFICATIONS**

**SECTION**

DIVISION 1 - GENERAL REQUIREMENTS

|  |          |
|--|----------|
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| ACCESS & SETUP                                 | 01 14 13 |
| CLIENT INTERFACE                               | 01 14 16 |
| COORDINATION                                   | 01 31 13 |
| PROJECT MEETINGS                               | 01 31 19 |
| SUBMITTALS                                     | 01 33 00 |
| SUBMITTAL REGISTER                             | 01 33 10 |
| REFERENCE STANDARDS & DEFINITIONS              | 01 42 00 |
| CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS | 01 50 00 |
| CUTTING & PATCHING                             | 01 73 29 |
| CLOSEOUT PROCEDURES                            | 01 77 00 |
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DIVISION 2 - SITE WORK

|                                 |          |
|---------------------------------|----------|
| SELECTIVE DEMOLITION            | 02 41 13 |
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DIVISION 6 – WOOD, PLASTICS, AND COMPOSITIES

|                 |          |
|-----------------|----------|
| ROUGH CARPENTRY | 06 10 00 |
|-----------------|----------|

DIVISION 7 – ROOFING SYSTEMS

|                                     |          |
|-------------------------------------|----------|
| TPO SINGLE PLY ROOFING              | 07 54 23 |
| SHEET METAL FLASHINGS & ACCESSORIES | 07 60 00 |
| SEALANTS                            | 07 92 00 |

DIVISION 22 – PLUMBING

|               |             |
|---------------|-------------|
| DRAIN TESTING | 22 14 26.13 |
|---------------|-------------|

END SECTION 00 01 10

## SECTION 01 11 00 – SUMMARY OF WORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of:
  - 1) Project Location: St. Vrain Community Hub - 515 Coffman St, Longmont, CO 80501.
- B. The Work consists of:
  - 1) Replace Roofing Systems:
    - a) Coordination: The large HVAC unit and its existing curb will be changed out as part of this project. Coordinate roofing work with mechanical work so as to keep the building watertight during construction and provide the specified and detailed roof system once the mechanical work is completed.
    - b) Demolition: At the areas indicated on the Roof Plan, remove the existing modified bitumen roofing system and underlying insulation down to the surface of the metal deck. Remove roofing flashings and counterflashings not designated to remain.
    - c) Base Insulation Layers: Install a new base layer of 2” thick isocyanurate foam insulation. Set a second layer of foam over the first that is 3” thick.
    - d) Base Insulation Fastening: Fasten both layers of insulation simultaneously with FM Approved screw and plate insulation fasteners.
    - e) Cover Board Layer: Over the base layers of insulation set a 0.5” thick high density isocyanurate foam cover board.
    - f) Cover Board Fastening: Set cover board in ribbons of low rise foam insulation adhesive.
    - g) Install a new adhered 60 mil TPO membrane over the top of the cover board insulation.
    - h) Install new supported and unsupported TPO flashings.
    - i) Provide new sheet metal flashings and counterflashings.
    - j) Provide a written 20 year warranty covering the new roofing material and labor in a leak free state at a no-dollar limit. Also

provide a roofing contractor's two year written warranty covering the new roofing system in a leak free state.

- C. The Work will be constructed under a single prime contract. The successful bidder must accomplish all roofing work through that firm's crews.

### 1.3 CONTRACT FORMS

- A. Refer to Project Manual Index

### 1.4 SCOPE OF SERVICES

- A. The work of this Contract, except as otherwise specified, shall include all labor, materials, equipment and facilities necessary to produce the required result, all transportation and services, and all materials and equipment incorporated and intended to be incorporated in such results. The Work includes all fees, taxes, permit costs, insurance premiums, and costs for overhead, superintendence, temporary facilities, and other direct and indirect costs and expenses incidental to the performance of the Work.

### 1.5 EXISTING CONDITIONS

- A. The Contractor shall accept the area of the work in its present condition and carefully examine the area of the work and determine for himself all existing conditions visually discernable and/or reasonably expected from his understanding of the Construction Documents.

### 1.6 CONTRACTOR USE OF PREMISES

- A. General: During the construction period the Contractor shall have restricted use of the premises for construction operations, including use of the site. The Contractor's use of the premises is limited by the Owner's right to perform work and where indicated on the Plans.
- B. Confine operations at site to areas within the limits of the work of this Contract.
  - 1) Do not load structure with weight that will endanger structure.
  - 2) Do not reasonably encumber site with materials or equipment.
  - 3) Assume full responsibility for protection and safekeeping of products stored on premises.
  - 4) Move any stored products which interfere with operations of Owner.
  - 5) Obtain and pay for use of additional storage or work areas needed for operation.

1.7 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy: The Owner will occupy the building during construction. The Contractor shall use all reasonable means to not disrupt the operations of the building or the personnel in and around the building.

1.8 PROTECTION

- A. The Contractor shall make all necessary provisions for the protection of the public and traffic and the use of surrounding areas. He shall provide barriers and any other safeguards as required to protect the public in accordance with the local laws. The safeguards and protections shall be fully maintained in first-class condition during the entire construction period, and at no time shall required protection be removed. When required, provide all-night lights, lanterns, flares, etc. for night-time protection. All excavations shall be completely protected at all times.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION (NOT APPLICABLE)**

END OF SECTION 01 11 00

SECTION 01 14 13 – ACCESS AND SETUP

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Work Included: This specification section covers the allowable access location and setup procedures. Also covered are the phasing requirements for the installation of the new roofing.
- B. Related Work:
  - 1) The contractor shall submit engineering documentation indicating that any scaffolding or hoist equipment used on this job can operate within the project lifting and load parameters for the equipment design.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.
- B. Only qualified personnel may use equipment or give signals to equipment operators.
- C. Operate all equipment within equipment design standards.
- D. Photograph all surfaces that are to be used for storage, access and setup. Photographs need to be of sufficient clarity to indicate the condition of the storage, access and setup surfaces and any adjacent walls, streets or sidewalks. Provide one set of the photographs to the Owner prior to the start of work. Contractor shall restore all affected surfaces to the same condition at job's end.

1.3 EQUIPMENT HANDLING

- A. Schedule equipment arrival with Building Staff so as not to interfere with normal facility operations.
- B. Do not block any roads or entrances without 72 hours of notification and Building Staff approval.
- C. Secure all delivered equipment and setup material against theft or vandalism.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION**

3.1 PHASING REQUIREMENTS

- A. The major phases of the project shall take place in a manner so that the roof is finished on a daily basis and the roof is watertight. Do not phase construct any portion of the roof without permission from Roof Consultant.

### 3.2 SITE ACCESS

- A. Site access locations are shown on the drawings. The Contractor must stay within these boundaries.
- B. Access to the site may be restricted by Building Events. Coordinate access requirements with the Building Staff.
- C. Limited amounts of water and electricity shall be provided by the Owner.
- D. Do not block or lock building exits or entrances without permission from the Building Staff.
- E. Setup areas must be kept clean or screened off.
- F. Interior access will not be allowed.
- G. If access openings must be cut to install new materials, coordinate with Building Staff. Obtain utility locate prior to cutting into any concealed spaces.

### 3.3 INTERIOR STORAGE AND ACCESS

- A. No interior access or storage is allowed. The one exception is for work that must be performed from the inside such as drain installation.

### 3.4 COMPLIANCE

- A. Do not permit materials not complying with provisions of this Section to be brought onto or stored at the job site.
- B. Promptly remove non-complying materials and replace with materials meeting the requirements of this Section.

### 3.5 DISPOSAL CHUTE

- A. Contractor must provide adequate protection around demolition disposal locations. A disposal chute and a tarp that spans the length of the dumpster must be used or a tarp that completely covers the side of the building.
- B. Contractor is responsible for cleaning, painting and repairing any walls, windows or sidewalks damaged by demolished material and equipment at no additional cost to owner.

END OF SECTION 01 14 13

01 14 16 CLIENT INTERFACE

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Work Included: This specification section covers the phasing, coordination and protection considerations that must be taken by the Contractor in order to protect the client in the building.

1.2 PERSONNEL

- A. Provide a single point of primary contact for the project. This person shall coordinate and notify the Client and Owner as to concerns. Likewise and concerns from the Client or Owner shall be relayed to this party first.
- B. Provide a point of contact on the roof for the Client and Owner so that at emergencies can be acted on immediately.

1.3 PHONE NUMBERS

- A. Submit emergency contact phone numbers of the Primary Contact, the Roof Top Contact and a number for emergency after hour problems.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION**

3.1 GENERAL COORDINATION

- A. While working on the roof, the Contractor will be required to coordinate the shutdown of any mechanical intakes in the area of work.
- B. A coordination meeting will be held to schedule the shutdown of these intakes.
- C. The Contractor must contact the Client Contact and the Principle Representative the day before any scheduled work indicating that work is planned for the next day.

3.2 ODOR CONTROL

- A. The Contractor shall not open any liquid containers near air intakes or other openings into the building. Work shall be staged so as to minimize the effects of odors on the interior building occupants.
- B. A 3' diameter barrel fan must be available on the job site to dilute any odors from the work.

Boulder County  
St. Vrain AHU & Roof Replacement

Project: #101024

END OF SECTION 01 14 16



## SECTION 01 31 13 – COORDINATION

### **PART 1 - GENERAL**

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:
  - 1) General project coordination procedures.
  - 2) Coordination Drawings.
  - 3) Administrative and supervisory personnel.
  - 4) General installation provisions.
  - 5) Cleaning and protection.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1) Division 1 Section "Access and Setup" specifies procedures accessing the site and allowable storage restrictions.
  - 2) Division 1 Section "Project Meetings" for progress meetings.
  - 3) Division 1 Section "Submittals" for preparing and submitting the Contractor's Construction Schedule.
  - 4) Division 1 Section "Materials and Equipment" for coordinating general installation.
  - 5) Division 1 Section "Contract Closeout" for coordinating contract closeout.

#### 1.3 COORDINATION

- A. Coordinate construction operations included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections that depend on each other for proper installation, connection, and operation.
  - 1) Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.

- 2) Schedule construction operations in the sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 3) Coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
  - 4) Make provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
- 1) Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.
- C. Separate Contractors: Coordinate with the work of separate contractors performing work concurrent with the work of this contract.
- D. Superintendent: A part-time superintendent representing the General Contractor shall be present at the site at times during construction activities.
- E. Foreman: Provide a full time qualified foreman that will be present during all aspects of the work.
- F. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
- 1) Preparation of schedules.
  - 2) Installation and removal of temporary facilities.
  - 3) Delivery and processing of submittals.
  - 4) Progress meetings.
  - 5) Project closeout activities.
- G. Conservation: Coordinate construction operations to assure that operations are carried out with consideration given to conservation of energy, water, and materials.
- 1) Salvage materials and equipment involved in performance of, but not actually incorporated in, the Work.

#### 1.4 SUBMITTALS

### **PART 2 - PRODUCTS (NOT APPLICABLE)**

### **PART 3 - EXECUTION**

#### 3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Roof Consultant for final decision.
- F. Recheck measurements and dimensions, before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.

### 3.2 GENERAL COORDINATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

### 3.3 CLEANING AND PROTECTION

- A. Clean and protect construction in progress and adjoining materials in place, during handling and installation. Apply protective covering where required to assure protection from damage or deterioration at Substantial Completion.
- B. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to assure operability without damaging effects.
- C. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
  - 1) Water or ice.
  - 2) Solvents.
  - 3) Chemicals.

- 4) Puncture.
- 5) Abrasion.
- 6) Heavy traffic.
- 7) Combustion.
- 8) Unusual wear or other misuse.
- 9) Contact between incompatible materials.
- 10) Unprotected storage.
- 11) Improper shipping or handling.
- 12) Theft.
- 13) Vandalism.

END OF SECTION 01 31 13

SECTION 01 33 00 – SUBMITTALS

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
- B. Certificates of Insurance in General Conditions
- C. Application for Payment in General Conditions
- D. Tax Data in General Conditions

1.2 SUMMARY

- A. All submittals shall be made electronically and sent directly to the Owner's Representative and the Roof Consultants Office for review. Use the Submittal Register for every submittal. Submit pertinent items that may not be listed on the register.
- B. In general, submit information and data for all new roofing components and detailed accessories.
- C. Monthly submit a schedule indicating planned performance and actual performance in sufficient detail to track each trade. If contractor becomes more than 3 weeks behind the original anticipated schedule. A meeting shall be held where a plan shall be proposed by the Contractor for bringing the work back in line with the schedule.
- D. Submit all Safety Data Sheets prior to bringing materials on site.
- E. Submit engineering reports for any platforms, scaffolding or other load bearing accessories that may have to be erected in order to compete the work. The reports shall be detailed enough to establish that the scaffolding and platforms can be erected and maintained in a safe condition without jeopardizing the building or personnel.
- F. Highlight items intended for use if copies of pages are submitted with more than a single item on them.
- G. Indicate materials, finishes, sizes, thicknesses, configurations, reinforcements, fastenings, connections, supports, anchors, connections to other work, fabrication details, erection details, accessories, rough-in drawings, schedules, etc.
- H. Submit the materials list as indicated in various Divisions to the Roof Consultant/Engineer prior to the delivery of materials to the job site.
- I. Provide the Roof Consultant/Engineer with manufacturer's instructions and Maintenance Manuals as indicated in various Divisions.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION (NOT APPLICABLE)**

END OF SECTION 01 33 00

SUBMITTAL REGISTER  
 ADHERED 60 MIL TPO ROOF SYSTEM  
 BOULDER COUNTY ST. VRAIN AHU & ROOF REPLACEMENT  
 PROJECT: #101024  
 CONTRACTOR \_\_\_\_\_

| SUB I.D. NO. | SPEC. DIV. NO. | TYPE OF SUB | DESCRIPTION OF MATERIAL                   | SUBMITTAL DATE | APPROVE/ REJECT | RESUBMIT BY | FINAL ACTION | REMARKS             |
|--------------|----------------|-------------|---|----------------|-----------------|-------------|--------------|---------------------|
| 1            | 01 11 00       | LETTER      | SAMPLE GUARANTY                           |                |                 |             |              |                     |
| 2            | 01 11 00       | FORM        | CONTRACTOR SUPPLIED SUBMITTAL REGISTER    |                |                 |             |              | WITH EACH SUBMITTAL |
| 3            | 01 11 00       | FORM        | CONTRACTOR SUPPLIED SCHEDULE              |                |                 |             |              |                     |
| 4            | 06 10 00       | LETTER      | WOOD FIRE TREATED PRESERVATIVE LITERATURE |                |                 |             |              |                     |
| 5            | 07 54 23       | LETTER      | INSULATION                                |                |                 |             |              |                     |
| 6            | 07 54 23       | LETTER      | TPO MEMBRANE LITERATURE                   |                |                 |             |              |                     |
| 7            | 07 54 23       | LETTER      | ADHESIVES                                 |                |                 |             |              |                     |
| 8            | 07 54 23       | LETTER      | FLASHING MATERIALS                        |                |                 |             |              |                     |
| 9            | 07 60 00       | SAMPLE      | PRE-FINISHED SHEET METAL SAMPLE           |                |                 |             |              |                     |

SUBMITTAL REGISTER  
 ADHERED 60 MIL TPO ROOF SYSTEM  
 BOULDER COUNTY ST. VRAIN AHU & ROOF REPLACEMENT  
 PROJECT: #101024  
 CONTRACTOR \_\_\_\_\_

|    |          |        |   |  |  |  |  |  |
|----|----------|--------|---|--|--|--|--|--|
| 10 | 07 54 23 | LETTER | LAP SEALANT<br>AND WATER BLOCK                |  |  |  |  |  |
| 11 | 07 92 00 | LETTER | SEALANTS                                      |  |  |  |  |  |
| 12 | 07 54 23 | LETTER | FASTENER<br>LITERATURE &<br>FASTENING PATTERN |  |  |  |  |  |
| 13 | 22 14 26 | LETTER | DRAIN PARTS<br>DRAIN TEST REPORT              |  |  |  |  |  |
| 14 | 01 33 00 | LETTER | SAFETY DATA SHEETS                            |  |  |  |  |  |
| 15 |          | LETTER | SUBCONTRACTOR LIST                            |  |  |  |  |  |
| 16 |          | LETTER | EMERGENCY<br>CONTACTS                         |  |  |  |  |  |
|    |          |        |   |  |  |  |  |  |
|    |          |        |   |  |  |  |  |  |



SUBMITTAL REGISTER  
ADHERED 60 MIL TPO ROOF SYSTEM  
BOULDER COUNTY ST. VRAIN AHU & ROOF REPLACEMENT  
PROJECT: #101024  
CONTRACTOR \_\_\_\_\_

This submittal register lists the major items to be submitted for this project. Submit any other material items not shown but will be used in the construction of this roofing project.

## SECTION 01 31 19 – PROJECT MEETINGS

### **PART 1 - GENERAL**

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project meetings, including, but not limited to, the following:
  - 1) Preconstruction conferences.
  - 2) Progress meetings.
- B. The Contractor shall schedule, conduct and record the contents of the meetings and distribute typed minutes to all pertinent parties within two days after the meeting.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1) Division 1 Section "Coordination" for procedures for coordinating project meetings with other construction activities.
  - 2) Division 1 Section "Submittals" for submitting the Contractor's Construction Schedule.
  - 3) See individual specification sections for requirements for preconstruction conferences.

#### 1.3 PRECONSTRUCTION CONFERENCE

- A. Schedule a preconstruction conference before starting construction, at a time convenient to the Owner/Owner's Representative and the Roof Consultant, but no later than 15 days after execution of the Agreement. Hold the conference at the Project Site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: Authorized representatives of the Owner, Roof Consultant, and their consultants; the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress, including the following:

- 1) Construction schedule.
- 2) Critical work sequencing.
- 3) Designation of responsible personnel.
- 4) Procedures for processing field decisions and Change Orders.
- 5) Procedures for processing Applications for Payment.
- 6) Distribution of Contract Documents.
- 7) Submittal of Shop Drawings, Product Data, and Samples.
- 8) Preparation of record documents.
- 9) Use of the premises.
- 10) Parking availability.
- 11) Office, work, and storage areas.
- 12) Equipment deliveries and priorities.
- 13) Safety procedures.
- 14) First aid.
- 15) Security.
- 16) Housekeeping.
- 17) Working hours.

D. Submittals: Contractor is responsible for submitting the following at the preconstruction conference:

- 1) Schedule of Values
- 2) List of major subcontractors
- 3) Construction schedule
- 4) Critical work sequencing

#### 1.4 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project Site at weekly intervals. Notify the Construction Manager and the Roof Consultant of scheduled meeting dates.
- B. Attendees: In addition to representatives of the Owner and the Roof Consultant, each subcontractor, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the status of the Project.

- 1) Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to insure that current and subsequent activities will be completed within the Contract Time.
- 2) Review the present and future needs of each entity present, including the

following:

- a) Interface requirements.
  - b) Time.
  - c) Sequences.
  - d) Status of submittals.
  - e) Deliveries.
  - f) Off-site fabrication problems.
  - g) Access.
  - h) Site utilization.
  - i) Temporary facilities and services.
  - j) Hours of work.
  - k) Hazards and risks.
  - l) Housekeeping.
  - m) Quality and work standards.
  - n) Change Orders.
  - o) Documentation of information for payment requests.
- D. Reporting: No later than working 3 days after each meeting, distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- 1) Schedule Updating: Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

**PART 2 - PRODUCTS (NOT APPLICABLE)**

**PART 3 - EXECUTION (NOT APPLICABLE)**

END OF SECTION 01 31 19

## SECTION 01 73 29 – CUTTING AND PATCHING

### **PART 1 - GENERAL**

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for cutting and patching of nominally completed work to accommodate coordination, other work, testing, etc.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1) Division 1 Section "Coordination" for procedures for coordinating cutting and patching with other construction activities.
  - 2) Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
    - a) Requirements of this Section apply to mechanical and electrical installations. Refer to Division 15 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.

#### 1.3 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures well in advance of the time cutting and patching will be performed if the Owner requires approval of these procedures before proceeding. Request approval to proceed. Include the following information, as applicable, in the proposal:
  - 1) Describe the extent of cutting and patching required. Show how it will be performed and indicate why it cannot be avoided.
  - 2) Describe anticipated results in terms of changes to existing construction. Include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
  - 3) List products to be used and firms or entities that will perform Work.
  - 4) Indicate dates when cutting and patching will be performed.

- 5) Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.
- 6) Where cutting and patching involves adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with the original structure.
- 7) Approval by the Roofing Consultant to proceed with cutting and patching does not waive the Roofing Consultant's right to later require complete removal and replacement of unsatisfactory work.

#### 1.4 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would change their load-carrying capacity or load-deflection ratio.
  - 1) Obtain approval of the cutting and patching proposal before cutting and patching structural elements.
- B. Operational Limitations: Do not cut and patch operating elements or related components in a manner that would result in reducing their capacity to perform as intended. Do not cut and patch operating elements or related components in a manner that would result in increased maintenance or decreased operational life or safety.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in the Roofing Consultant's opinion, reduce the building's aesthetic qualities. Do not cut and patch construction in a manner that would result in visual evidence of cutting and patching. Remove and replace construction cut and patched in a visually unsatisfactory manner.

#### 1.5 WARRANTY

- A. Warranties: Replace, patch, and repair material and surfaces cut or damaged by methods and with materials in such a manner as not to void any warranties required.

### **PART 2 - PRODUCTS**

#### 2.1 MATERIALS, GENERAL

### **PART 3 - EXECUTION**

#### 3.1 INSPECTION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed before cutting. If unsafe or unsatisfactory conditions are encountered, take corrective action before proceeding.
  - 1) Before proceeding, meet at the Project Site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

### 3.2 PREPARATION

- A. Temporary Support: Provide temporary support of work to be cut.
- B. Protection: Protect construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

### 3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
  - 1) Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements retained or adjoining construction. Where possible, review proposed procedures with the original Installer; comply with the original Installer's recommendations.
  - 1) In general, where cutting, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2) To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
  - 3) Cut through concrete and masonry using a cutting machine, such as a Carborundum saw or a diamond-core drill.
  - 4) Comply with requirements of applicable Division 2 Sections where cutting and patching requires excavating and backfilling.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

- 1) Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
- 2) Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- 3) Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch after the area has received primer and second coat.

### 3.4 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar items. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.

END OF SECTION 01 73 29



SECTION 01 77 00 – CONTRACT CLOSEOUT

**PART 1 - GENERAL**

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout including, but not limited to, the following:
  - 1) Inspection procedures.
  - 2) Project record document submittal.
  - 3) Operation and maintenance manual submittal.
  - 4) Submittal of warranties.
  - 5) Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 16.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
  - 1) In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete.
    - a) Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
    - b) If 100 percent completion cannot be shown, include a list of incomplete items (Contractor's Punch List), the value of incomplete construction, and reasons the Work is not complete.
  - 2) Advise the Owner of pending insurance changeover requirements.
  - 3) Submit specific warranties, workmanship bonds, maintenance agreements, final certifications, and similar documents.
  - 4) Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

- 5) Submit record drawings, maintenance manuals, final project photographs, damage or settlement surveys, property surveys, and similar final record information.
  - 6) Complete final cleanup requirements, including touchup painting.
  - 7) Touch up and otherwise repair and restore marred, exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the Roofing Consultant will either proceed with inspection or advise the Contractor of unfilled requirements. The Roofing Consultant will prepare the Certificate of Substantial Completion following inspection or advise the Contractor of construction that must be completed or corrected before the certificate will be issued (Roofing Consultant's Punch List).
- 1) The Roofing Consultant will repeat inspection when requested and assured that the Work is substantially complete. If a third inspection is required, cost to cover the Roofing Consultant's and Construction Manager's time and associated expenses will be deducted from Contractor's payment.
  - 2) Results of the completed inspection will form the basis of requirements for final acceptance.

#### 1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
- 1) Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include insurance certificates for products and completed operations where required.
  - 2) Submit an updated final statement, accounting for final additional changes to the Contract Sum.
  - 3) Submit a signed copy of the Roofing Consultant's final inspection list of items to be completed or corrected, endorsed and dated by the Roofing Consultant. The signed copy of the list shall state that each item has been completed or otherwise resolved for acceptance and shall be endorsed and dated by the Roofing Consultant.
- B. Reinspection Procedure: The Roofing Consultant will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except for items whose completion is delayed under circumstances acceptable to the Roofing Consultant.
- 1) Upon completion of reinspection, the Roofing Consultant will prepare a certificate of final acceptance. If the Work is incomplete, the Roofing Consultant will advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final

acceptance.

- 2) If necessary, reinspection will be repeated once, and if a subsequent visit is required, funds associated with the Roofing Consultant's and Construction Manager's inspection will be deducted from the Contractor's payment.

## 1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes. Protect record documents from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for the Roofing Consultant's reference during normal working hours.
- B. Record Drawings: Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark which drawing is most capable of showing conditions fully and accurately. Where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
  - 1) Contractor shall pay all reproduction costs including sepias and prints.
  - 2) Mark new information that is important to the Owner but was not shown on Contract Drawings or Shop Drawings.
  - 3) Note related change-order numbers where applicable.
  - 4) Organize record drawing sheets into manageable sets. Bind sets with durable-paper cover sheets; print suitable titles, dates, and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda. Include with the Project Manual one copy of other written construction documents, such as Change Orders and modifications issued in printed form during construction.
  - 1) Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications.
  - 2) Give particular attention to substitutions and selection of options and information on concealed construction that cannot otherwise be readily discerned later by direct observation.
  - 3) Note related record drawing information and Product Data.
  - 4) Upon completion of the Work, submit record Specifications to the Roofing Consultant for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Note related Change Orders and markup of record drawings and Specifications.
  - 1) Mark these documents to show significant variations in actual Work

- performed in comparison with information submitted. Include variations in products delivered to the site and from the manufacturer's installation instructions and recommendations.
- 2) Give particular attention to concealed products and portions of the Work that cannot otherwise be readily discerned later by direct observation.
  - 3) Upon completion of markup, submit complete set of record Product Data to the Roofing Consultant for the Owner's records.
- E. Record Sample Submitted: Immediately prior to Substantial Completion, the Contractor shall meet with the Roofing Consultant and the Owner's personnel at the Project Site to determine which
- F. Samples are to be transmitted to the Owner for record purposes. Comply with the Owner's instructions regarding delivery to the Owner's Sample storage area.
- G. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order. Identify miscellaneous records properly and bind or file, ready for continued use and reference. Submit to the Construction Manager for the Owner's records.

## **PART 2 - PRODUCTS (NOT APPLICABLE)**

## **PART 3 - EXECUTION**

### **3.1 CLOSEOUT PROCEDURES**

- A. Operation and Maintenance Instructions: Arrange for each Installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Provide instruction by manufacturer's representatives if installers are not experienced in operation and maintenance procedures.

### **3.2 FINAL CLEANING**

- A. General: The General Conditions require general cleaning during construction. Regular site cleaning is included in Division 1 Section "Construction Facilities and Temporary Controls."
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- 1) Complete the following cleaning operations before requesting inspection for certification of Substantial Completion.

- a) Remove labels that are not permanent labels.
  - b) Vacuum clean carpeted surfaces and similar soft surfaces and mop and/or wax as required all hard surface flooring.
  - c) Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
  - d) Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films, and similar foreign substances. Restore reflective surfaces to their original condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
  - e) Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
  - f) Clean the site, including landscape development areas, of rubbish, litter, and other foreign substances. Sweep paved areas broom clean; remove stains, spills, and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth, even-textured surface.
- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from the site and dispose of lawfully.
- 1) Where extra materials of value remain after completion of associated Work, they become the Owner's property. Dispose of these materials as directed by the Owner.

END OF SECTION 01 77 00

## SECTION 01 78 36 – WARRANTIES

### **PART 1 - GENERAL**

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties beyond one year.
  - 1) Refer to the General Conditions for terms of the Contractor's period for correction of the Work.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1) Division 1 Section "Submittals" specifies procedures for submitting warranties.
  - 2) Division 1 Section "Contract Closeout" specifies contract closeout procedures.
  - 3) Divisions 2 through 16 Sections for specific requirements for warranties on products and installations specified to be warranted.
  - 4) Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- C. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. Manufacturer's disclaimers and limitations on product warranties do not relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.3 DEFINITIONS

- A. Standard product warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

#### 1.4 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting failed or damaged warranted construction, remove and replace construction that has been damaged as a result of such failure or must be removed and replaced to provide access for correction of warranted construction.
- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.

#### 1.5 SUBMITTALS

- A. Submit written warranties to the Roofing Consultant prior to the date certified for Substantial Completion. If the Roofing Consultant's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion for the Work, or a designated portion of the Work, submit written warranties upon request of the Roofing Consultant.

#### **PART 2 - PRODUCTS (NOT APPLICABLE)**

#### **PART 3 - EXECUTION (NOT APPLICABLE)**

END OF SECTION 01 78 36

SECTION 02 41 13 – SELECTIVE DEMOLITION

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Work included: Demolish and remove from the site those items so indicated on the Drawings and specified herein.
- B. The Work specified herein applies to the roof replacement project at the St. Vrain Community Hub. The major demolition work items are as follows:
  - 1) Replace Roofing:
    - a) Remove down to the substrate and dispose of the roofing and sheet metal flashings not designated to remain.
    - b) Remove and dispose of any items not designated to remain so as to facilitate with the installation of the new roofing system.
    - c) Lift and reset mechanical equipment or other items as necessary to install the new roofing system.
  - 2) General:
    - a) During the work on the roof, collect material as it is removed and dispose of. Take caution that wind does not spread material.
    - b) Make sure demolished materials do not plug roof drains.
    - c) Make sure wind does not broadcast adhesives and asphalt.
- C. Related Work: Documents affecting Work of this Section include, but are not necessarily limited to, General Conditions, and Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the requirements and the methods needed for proper performance of Work of this Section.

1.3 PRODUCT HANDLING.

- A. Comply with pertinent requirements listed in Division 7.

**PART 2 - PRODUCTS**

- 2.1 No products are required in this section.



### **PART 3 - EXECUTION**

#### **3.1 SURFACE CONDITIONS**

- A. General:
  - 1) Prior to start of demolition, carefully study the Drawings and these Specifications.
  - 2) In company with the Roofing Consultant/Engineer and Owner, visit the site and verify the extent of demolition to be performed under this Contract.
- B. Using only the means and equipment approved for this purpose by the governmental agencies having jurisdiction, demolish and completely remove from the jobsite the existing construction designated to be removed.
- C. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction.
- D. Demolished material shall be considered to be property of the Contractor and shall be completely removed from the jobsite.
- E. Use means necessary to prevent dust becoming a nuisance to the Owner, surrounding areas, and other Work being performed on or near the site.

END OF SECTION 02 41 13

## NON-FRIABLE ASBESTOS DEMOLITION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A) Work included: Demolish and remove from the site non-friable asbestos roofing felts as part of the existing roofing demolition.
- B) The Work specified herein applies to the roof replacement project at the St. Vrain Community Hub. The non-friable ACM materials are identified in the attached PLM Report that will be issued to the successful bidder. The major ACM demolition work items are as follows:
  - 1) Permitting:
    - a) The Contractor is to obtain required permits from State and Local regulatory agencies.
    - b) During the work on the roof, collect material as it is removed and dispose of. Handle all Hazardous material per Regulation No. 8 from the Colorado Air Quality Control Commission. Take caution that wind does not spread material
    - c) The Contractor is to comply with regulations including OSHA.
  - 2) Air Sampling:
    - a) Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101 and as specified herein. Unless otherwise specified, use NIOSH Method 7400 for sampling and analysis. Monitoring may be duplicated by the Owner at the discretion of the Owner's Representative. If the air sampling results obtained by the Owner differ from those results obtained by the Contractor, the Owner will determine which results predominate.
    - b) Sampling Prior to Asbestos Work: Provide area air sampling and establish the baseline one day prior to the demolition of roofing ACM. Establish the background by performing area sampling in similar but uncontaminated sites in the building.
    - c) Sampling During Asbestos Work: Provide personal and area sampling as indicated in 29 CFR 1926.1101 and governing environmental regulations. In addition, provided the same type of work is being performed, provide area sampling at least once close to the work. If sampling outside the enclosure shows airborne levels have exceeded background or 0.01 fibers per cubic centimeter, whichever is greater, stop all work, correct the condition(s) causing the increase, and notify the Owner's Representative immediately. If sampling show levels less than 0.01 fibers per cubic centimeter, sampling may be discontinued as long

as the demolition procedures remain the same as during the sampling period.

3) Materials Disposal:

- a) Provide for proper disposal of asbestos-containing roofing materials per all applicable federal, state and local regulatory requirements for disposal.
- b) Disposal shall be made at an approved non-friable waste disposal site.
- c) The Contractor shall defend and hold the Owner harmless in order to release the Owner from liability relating to the removal of asbestos-containing material.

4) Worker Protection:

- a) Each worker shall wear properly fitted protection equipment as required by regulations and as appropriate for the removal operations.
- b) Instruct and train workers in proper use of protective equipment.
- c) The Contractor is responsible for assuring that proper protection is provided for workers and the General Public during removal operations.

5) Site Protection:

- a) For the protection of ground-level site components from asbestos contamination, the Contractor shall lay sheets of polyethylene on the ground around the building at locations where asbestos-containing roof materials could spill over onto the site.
- b) Upon completion of asbestos roofing removal, dispose of these polyethylene sheet in the same manner as asbestos roofing materials.

C) Related Work: Documents affecting Work of this Section include, but are not necessarily limited to, General Conditions, and Division 1 of these Specifications.

## 1.2 QUALITY ASSURANCE

A) Use adequate numbers of skilled workmen who are trained and experienced in the necessary crafts and who are completely familiar with the requirements and the methods needed for proper performance of Work of this Section.

## 1.3 PRODUCT HANDLING.

A) Comply with pertinent requirements listed in Division 7.

## **PART 2 - PRODUCTS**

2.1 No products are required in this section.

## **PART 3 - EXECUTION**

### **3.1 DEMOLITION**

#### **A) Material Removal:**

- 1) The work covered by this section includes the handling and control of asbestos containing materials. The work also includes the disposal of any asbestos containing materials generated by the work. All asbestos removal work shall be supervised by a competent person.
- 2) The material to be demolished is considered non-friable roofing related ACM. The contractor shall work in a manner that does not allow this material to become friable.
- 3) Wet asbestos material with a fine spray of water during removal, cutting, or other handling so as to reduce the emission of airborne fibers. Remove material and immediately place in 0.15 mm (6 mil) plastic disposal bags or a properly wrapped dumpster bag. Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Lower and otherwise handle asbestos containing material as indicated in 40 CFR 61-SUBPART M.

END OF SECTION 02 82 13

## SECTION 06 10 00 – ROUGH CARPENTRY

### **PART 1 - GENERAL**

#### 1.1 DESCRIPTION

- A. Work Included: Provide wood, nails, bolts, screws, framing anchors and other rough hardware, and other items needed and perform rough carpentry for the construction shown on the Drawings, as specified herein, and as needed for the complete and proper installation.
- B. Related Work: Documents affecting work in this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
- C. The work is primarily associated with the installation of new wood nailers and curbs. All wood shall be compliant with AWPA U1, Use Category 3B and fire preservative treated (Non-Com).

#### 1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the crafts and who are completely familiar with the specified requirements and the methods needed for the proper performance of the work of this Section.
- B. Codes and Standards: In addition to complying with the pertinent codes and regulations of governmental agencies having jurisdiction unless otherwise specifically directed or permitted by the Roofing Consultant comply with:
  - 1) "Product Use Manual" of the Western Wood Products Association for the selection and use of products included in that manual.
  - 2) "Plywood Specification and Grade Guide" of the American Plywood Association.

#### 1.3 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01 34 00.
- B. Deliver the materials to the job site, in a safe manner, out of the way of traffic, and shored up off the ground surface.
- C. Identify framing lumber as to grades, and store each grade separately from other grades.
- D. Protect materials with adequate waterproof wrapping.
- E. Use extreme care in off loading of lumber to prevent damage, splitting, and breaking of materials.

### **PART 2 - PRODUCTS**

## 2.1 GRADE STAMPS

- A. Identify framing lumber by the stamp of the Western Pine Inspection Bureau, or such other grade stamp as is approved in advance by the Roofing Consultant.
- B. Identify plywood as to species, grade, and glue type by the stamp of the American Plywood Association.
- C. Identify other materials of the Section by the appropriate stamp of the agency approved in advance by the Roofing Consultant.

## 2.2 MATERIALS

- A. Provide materials in quantities needed for Work as shown on the Drawings, and meeting or exceeding the following standards of quality:
  - 1) Horizontal framing members: Douglas Fir-Hemlock, Pine, construction grade.
  - 2) Plywood Sheathing: Structural II, CDX, exterior; or standard sheathing with exterior glue.
  - 3) Steel Items: Comply with ASTM A7 or ASTM A36. Use galvanized steel in exterior locations.
  - 4) Machine Bolts: Comply with ASTM A307.
  - 5) Lag Bolts: Comply with Fed Spec FF-B-561.
  - 6) Nails: Use common except as otherwise noted. Comply with Fed Spec FF-N-1. Use galvanized at exterior locations.

## 2.3 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Roofing Consultant.

## **PART 3 - EXECUTION**

### 3.1 SURFACE CONDITIONS

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

### 3.2 DELIVERIES

- A. Stockpile materials sufficiently in advance of need to assure their availability in a timely manner for this work.
- B. Make as many trips to the job site as are needed to deliver materials of this Section in a timely manner to ensure orderly progress of the Work.

### 3.3 COMPLIANCE

- A. Do not permit materials not complying with provisions of this Section to be brought onto or stored at the job site.
- B. Promptly remove non-complying materials and replace with materials meeting the requirements of this Section.

### 3.4 WORKMANSHIP

- A. Produce joints which are tight, true, and well nailed, with members assembled in accordance with the Drawings and with pertinent codes and regulations.
- B. Carefully select members. Select individual pieces so that knots and obvious defects will not interfere with placing bolts or proper nailing, and will allow making of proper connections. Cut out and discard defects which render a piece unable to serve its intended function. Lumber may be rejected by the Roofing Consultant, whether or not it has been installed, for excessive warp, twist, bow, crook, mildew, fungus, or mold, as well as for improper cutting and fitting.
- C. Do not shim any component.

### 3.5 GENERAL FRAMING

- A. In addition to framing operation normal to the fabrication and erection as indicated on the Drawings, install wood blocking and backing required for the work of other trades.
- B. Set horizontal and sloped members with crown up.
- C. Do not notch, cut, or bore members for pipes, ducts, or conduits or for other reasons except as shown on the Drawings or as specifically approved in advance by the Roofing Consultant.
- D. Make bearings full unless otherwise indicated on the Drawings.
- E. Finish bearing surfaces on which structural members are to rest so as to give sure and even support.
- F. Where framing members slope, cut or notch the ends as required to give uniform bearing surface.

### 3.6 BLOCKING AND BRIDGING

- A. Install blocking as required to support items of finish and to cut off concealed draft openings, both vertical and horizontal, between ceiling and floor areas.
- B. Install solid block between joists at points of support and wherever sheathing is discontinuous. Blocking may be omitted where joists are supported on metal hangers.

### 3.7 ALIGNMENT

- A. Nailing:
  - 1) Use only common wire nails or spikes, except where otherwise

specifically noted on the Drawings.

- 2) Provide penetration into the piece receiving the point of not less than 1/2 the length of the nail or spike, provided, however, that 16d nails may be used to connect two pieces of 2" (nominal) thickness.
- 3) Nail without splitting wood.
- 4) Pre-bore as required.
- 5) Remove split members and replace with members complying with the specified requirements.

B. Bolting:

- 1) Drill holes 1/16" larger in diameter than the bolts being used.
- 2) Drill straight and true from one side only.
- 3) Do not bear bolt threads on wood, but use washers under head and nut where both bear on wood, and use washers under all nuts.

C. Screws:

- 1) For lag screws and wood screws, pre-bore holes same diameter as roof of threads, enlarging holes to shank diameter for length of shank.

END OF SECTION 06 10 00



SECTION 07 54 23 – TPO SINGLE PLY ROOFING

**PART 1 - GENERAL**

- 1.1 DESCRIPTION: Furnish the labor, administration, materials and equipment to integrate the work into the overall building system so as to provide a leak free, TPO (Thermoplastic Poly Olefin) elastomeric roof system. The system is an assembly of components including the insulation, roofing membrane, metal flashings, and all related parts necessary to complete the assembly.
- 1.2 ROOF PERFORMANCE REQUIREMENTS: Provide new insulated TPO roof system meeting the following requirements.
  - A. Wind Resistance: The finished roofing system must meet FM 1-90 Approval.
  - B. Thermal Insulation: The finished roof assembly shall have a minimum thermal insulation value of R-31.3.
  - C. Fire Resistance: The roof shall meet the fire resistance requirements of a UL Class A listing.
- 1.3 SECTION INCLUDES:
  - A. Adhered TPO Roofing Membrane.
  - B. Roof Insulation.
  - C. Cover Board.
  - D. Flashings.
  - E. TPO Sealants & Adhesives.
- 1.4 APPLICATOR'S QUALIFICATIONS
  - A. Prior to the Notice of Award, the Contractor shall submit evidence that his company is an approved roofer for the membrane material manufacturer providing the membrane and has five years continuous successful experience in applying TPO roofing systems.
- 1.5 QUALITY ASSURANCE
  - A. A roofing consultant has been engaged to provide part time inspection of materials and workmanship. The Contractor shall provide a minimum of one week's notice to the Roofing Consultant/Engineer prior to the start of roofing operations so that such services can be scheduled.
  - B. Except as modified and supplemented herein, follow the published requirements and written recommendations of the TPO membrane and other material manufacturers. Concerning methods of application industry standards apply only when this contract does not address the matter. Industry Standards shall be pre-

defined in the "NRCA (National Roofing Contractors Association) Manual of Roofing and Waterproofing".

- C. Manufacturer's QC Visits: The waterproofing manufacturer's representative shall attend the pre-construction conference and any meetings that are associated with other trades interfacing with the waterproofing system. The waterproofing membrane manufacturer shall make a minimum of an initial visits followed by monthly visits to assess the quality of the work. A final inspection by the manufacturer's representative shall also be required.
- D. Qualifications:
  - 1) Qualifications of Contractor: Contractor shall be approved by the membrane manufacturer to install the specified roof system and shall be eligible to receive the specified warranty upon completion of the work. Such approval shall have been issued and in effect for not less than two years prior to the bid opening date.
  - 2) 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, no allowance will be made for lack of skill on the part of the workers. Technicians working on the project shall have received training by the roof membrane manufacturer for the procedures necessary to perform the specified work.
  - 3) Supervisor Qualifications: Supervisor shall be certified by the membrane manufacturer. Certification shall have been issued at least 2 years prior to bid date.
  - 4) Manufacturer Representation: Membrane manufacturer shall be represented by a full time individual or firm based in Colorado. Products represented by part time or regional entity will not qualify.
- E. 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.
- F. FM Listing: Provide roofing system and roof covering material that have been evaluated by Factory Mutual for fire spread, wind uplift and hail damage, and bearing FM Class 1 approval markings.

## 1.6 REFERENCES

- A. *Factory Mutual Research Approval Guide* – Factory Mutual Research Corporation, An FM Global Affiliate.
- B. *Roofing Materials and Systems Directory and Fire Resistance Directory* – Underwriters Laboratories Inc.

## 1.7 SUBMITTALS

- A. When submitting manufacturer's literature, highlight all items pertaining to this project. See Division 1 for other items.
- B. Submit to the Roofing Consultant/Engineer the items listed in the Submittal Register found in Division 1, and any other pertinent items not listed but necessary to complete the construction.
- C. Submit current manufacturer's literature for all items shown above. Also submit literature for any other items which may have a direct bearing on the quality of the finished roofing.
- D. Provide certification that materials meet the ASTM and Federal Specifications.

#### 1.8 PRE-CONSTRUCTION CONFERENCE

- A. Prior to the start of work hold a pre-construction conference covering all aspects of the new roof installation. The meeting attendees shall include the manufacturer's representative along with the roofing subcontractor's foreman and superintendent. At a minimum, the following items must be addressed:
  - 1) Mobilization and staging.
  - 2) Protection of the public.
  - 3) Storage location for materials.
  - 4) Environmental installation requirements.
  - 5) Protection of new roofing.
  - 6) Tie-in to existing roofing.
  - 7) Construction of new drain sumps.
  - 8) Fume control.
  - 9) Manufacturer's inspections.
  - 10) Warranty requirements.

#### 1.9 MATERIAL STORAGE AND HANDLING

- A. Where applicable, the Contractor shall store material in accordance with the material manufacturer's recommendation as to temperature.
- B. All insulation and water sensitive products shall be protected from the elements at all times. Such materials are to be stored in an enclosure or securely covered with a waterproof tarp; the plastic wrappers on the insulation products shall not be used as a means of weather protection.
- C. All materials shall be labeled for ready identification. Labels shall include the name of the manufacturer and product description.
- D. The Contractor shall store only that material on the roof that can be used in one day. Material stored on the roof shall be scattered so as not to apply a concentrated load to the roofing system (greater than 20 psf). No materials shall be stored on new roofing unless a protective layer of plywood with a foam insulation base is used.
- E. The Contractor shall use extreme care when transporting materials to the roof surface. Damaged materials shall not be installed and must be removed from the job site.

- F. The Contractor shall provide all required storage enclosures and safeguards.
- G. Materials shall be delivered in their original, unopened containers, clearly labeled. No materials shall be stored below 40 degrees F. Should any materials be stored below this temperature, they may not be installed until they are restored to a temperature greater than this.
- H. No materials shall be stored on surfaces with slopes greater than ½” per foot.
- I. Extreme caution must be used to properly secure the materials from wind.

#### 1.10 ENVIRONMENTAL REQUIREMENTS

- A. Roofing materials shall not be installed in rain or snow. Roofing materials shall not be applied when there is heavy dew or frost on the roofing area. Application will not be allowed when the forecasted daily high temperature is less than 50 degrees or the wind speed is greater than 15 MPH.
- B. Do not heat the solvent based materials with an open flame in order to bring to a proper application temperature. Store materials in a heated location overnight if necessary.
- C. Provide drum heaters to properly maintain adhesive materials.

#### 1.11 PROTECTION

- A. Adjacent surfaces shall be protected from stain and disfigurement during the demolition and application of roofing materials.
- B. The Contractor shall keep the building interior protected from the elements at all times. Representatives from the Contractor shall be available in one hours notice should an emergency occur.

#### 1.12 SCHEDULE

- A. Work is to be performed on a daily basis with each section completed before progressing to the next section of roofing unless specifically directed otherwise by the A/E.
- B. Completion of work will be defined as the installation of all specified roof preparation, insulation, field membrane, flashings, termination bars, and caulking.

#### 1.13 DEFECTS

- A. Conditions which may be detrimental to the completion or performance of the specified work shall be reported in writing to the Roofing Consultant/Engineer prior to commencing such work. Such work shall not start until defects have been corrected.

### **PART 2 - PRODUCTS**

## 2.1 ABBREVIATIONS

- A. ASTM American Society for Testing and Materials
- B. AWPB American Wood Preservers Bureau
- C. FM Factory Mutual
- D. FS Federal Specification or Federal Standard
- E. SMACNA Sheet Metal and Air Conditioning Contractors National Assoc., Inc.
- F. UL Underwriters Laboratories
- G. WWPA Western Wood Products Association

## 2.2 APPLICABLE PUBLICATIONS

- A. The following publications of the issue listed below and referred thereafter by basic designation only form a part of this specification to the extent indicated by the references thereto (use latest publication):

## 2.3 ASTM PUBLICATIONS:

- A. ASTM A 307 Bolts & Nuts
- B. ASTM A 526 Galvanized Steel
- C. ASTM C 1289 Isocyanurate Foam Roof Insulation
- D. ASTM C 6878 TPO Roofing Membrane

## 2.4 FEDERAL STANDARDS/SPECIFICATIONS:

- A. TT-S 230C Sealing Compound

## 2.5 ROOF SYSTEM COMPONENTS

- A. Insulation: Install fiberglass faced isocyanurate foam insulation meeting ASTM C 1289, Type II, Class I, Grade 2.
  - 1) Use 4' x 8' boards for mechanical attachment.
  - 2) Use 4' x 4' boards for adhesive attachment.
- B. Cover Board: Provide cover board that meets ASTM C 1289, Type II, Class 4, Grade 1.
- C. Adhesive Insulation Attachment: Use the membrane manufacturers approved low rise foam adhesive or hot fluid solid moppings of low odor asphalt (ASTM D 312, Type III).
- D. Mechanical Insulation Attachment: Use FM Approved screw and plate roof insulation fasteners.
- E. TPO Roofing: Provide fully adhered 60 mil fire rated TPO sheet. Products from Manville, Firestone and Carlisle are approved.
- F. Accessories: Supply manufacturer required accessory products such as cut edge

sealant in order to fully construct TPO membrane system.

- G. Tapered Insulation/Crickets/Drain Sumps: Provide fiberglass faced tapered isocyanurate foam insulation meeting ASTM C 1289, Type II, Class I, Grade 2. Refer to roof plan for slopes.
- H. Accessories:
  - 1) Termination Bar: Where termination bars are indicated, they shall be a minimum 1/8" x 1" extruded aluminum, with caulk lip as required.
  - 2) Batten Strips: Where batten strips are indicated, they shall be minimum 1" x .043" Galvalume steel strip.
  - 3) Screw Fasteners: Corrosion-resistant, self-tapping, self-drilling #14 screw with low profile head meeting Factory Mutual 4470 requirements.
  - 4) Corrosion-resistant, factory-made metal batten strip, bar, or individual locking metal plates as indicated in details.
  - 5) TPO Coated Sheet Metal: 24 gauge galvanizes sheet metal with a factory applied TPO coating.

## 2.6 PRODUCTS SUPPLIED BY OTHER MANUFACTURERS

- A. Temporary water cutoff shall be constructed with hot asphalt or sprayed polyurethane foam sealant.
- B. Exposed sealant joints at termination bars and roof related sheet metal shall be constructed with one part polyurethane sealant; NP-1 by Sonneborn or approved equal.
- C. 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 A/E.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Deliver all materials to the site in a dry condition with labels intact. Either enclose materials in a trailer or cover with a waterproof tarpaulin to protect from the weather and moisture.
- B. For materials delivery in quantity to the site, obtain and submit a certification that the materials meet the required specification.
- C. Work so that each area of the membrane is completed the same day it is begun. This includes all base flashings.
- D. One, thirty-gallon per minute puddle type pumps must be available on the job in case water must be removed from the roof surface on an emergency basis.
- E. The workers will not have access to the interior of the building unless it is related to associated interior work.

### 3.2 PREPARATION

- A. Prepare all surfaces according to applicable specification sections.
- B. Perform any and all measures necessary to protect the work of other trades from damage due to performance of work specified under this section. Contractor shall restore to original condition any damage caused during performance of such work.
- C. Surfaces scheduled to receive roofing are to be free of any standing water, frost, snow, or loose debris.
- D. Substrate is to be smooth, free of sharp projections, and free of obvious depressions.
- E. Cover any asphalt coated surfaces to receive roof membrane or flashing material.
- F. All metal fittings shall be in place before roofing.
- G. All nailers shall be securely installed prior to roofing.
- H. At start of each workday, drains located within daily work area shall be temporarily plugged to prevent debris from falling into the drain. Plugs to be removed at the end of each workday.

### 3.3 OPERATIONAL PROCEDURES

- A. Install temporary tie-ins and water cut-offs at the end of each workday. Remove all temporary tie-ins at the beginning of each workday.
- B. Except for expedient temporary work, do not roof during inclement weather as defined in the General Section of the Specification. Remove all temporary work prior to installing permanent components and materials.
- C. Confine equipment, storage of materials, debris, operations and movement of workers within the limits established for access at the pre-construction conference.
- D. Protect the building, all contents, and surrounding areas from damage, and building occupants from injury during the work. Do not affect the normal conduct of operations of the personnel in the building. Repairs must be made to all damage caused by lack of such protection to the Owner's satisfaction. If they determine that the repairs are beyond the Contractor's ability, then they will have the repairs performed by others and may charge the Contractor for these repairs.
- E. Remove daily all debris from the demolition and installation of the roof.
- F. When wheeled or other traffic over the partially or fully completed roofing is unavoidable, use adequate plywood protection for the membrane.
- G. Provide fifteen pound fire extinguishers at the point of application of any solvent based materials. The extinguishers should be Type A, B, C. No open flames shall be allowed around any of the solvent based products.

### 3.4 DEMOLITION

- A. Remove the existing coating system as detailed in Section 02 41 13.
- B. If conditions are uncovered that would be detrimental to the application of the specified work, immediately notify the representative of the Owner.

### 3.5 INSULATION INSTALLATION

- A. Cut the insulation to fit snugly around penetrations and at the perimeters. No insulation gaps of over 1/4" shall be allowed. If gaps greater than this are created, then they shall be eliminated using trimmed pieces of isocyanurate insulation glued in place.
- B. Insulation boards shall be fully adhered with the 4' dimension staggered if possible.
- C. Follow additional applicable requirements of the roof insulation manufacturer and membrane manufacturer. No wet insulation shall be included in the final construction.
- D. Install tapered insulation with slope direction as indicated on the approved shop drawings. Miter cut all panels at valleys for tight fit and alignment throughout valley length.
- E. Install tapered saddles in valleys, where indicated on the approved drawings in the sizes shown. End of saddle shall provide for slope into the sump at the drainage device. End of saddle shall be of sufficient width at sump such that flat spots do not occur in valley. Saddle slope shall be twice the field slope.
- F. When a tapered insulation system is installed along a perimeter edge of uniform nailer height, utilize tapered edge strip along nailers as tapered insulation thickness decreases for smooth transition and for proper support for the membrane system.
- G. Utilize tapered insulation panels and tapered edge strips to construct sumps at roof drains, scuppers and gutters where detailed. Sump size shall be as shown in approved shop drawings. Delete thermal insulation within sumps, as required, for installation of tapered panels so as to provide continuous slope down to drainage device, without creating a sharp/steep sloped transition. At no time shall slope within drain sump exceed 1:12, unless otherwise noted in drawings.
- H. Install tapered crickets on the upslope side of all rectangular penetrations greater than 2'-0" in width perpendicular with slope. Cricket slope shall be twice the field's slope.
- I. Utilize tapered edge strip at transitions in construction of more than 1/4" to provide a smooth transition and proper support for the membrane system or subsequent insulation layer. Field cut and shape edge strip as required. Direct slope of edge strip so as to provide for proper drainage.
- J. Verify that tapered insulation is properly installed according to the approved shop drawings and that no irregularities exist that will result in ponding water in the finished roof system.

### 3.6 MEMBRANE INSTALLATION

- A. Except as modified and supplemented herein, apply membrane to meet the requirements and recommendations of the membrane manufacturer.
- B. Surfaces which have been contaminated by bitumen or other products which are not compatible with the membrane, flashings, or adhesives shall be cleaned prior to the application of any roofing materials. If the surfaces can be cleaned, they



- shall be covered with a thin layer of plywood.
- C. Lift all mechanical unit and other roof top items as necessary to facilitate the proper installation of the membrane and flashings. Unit must be reset and brought back to proper functioning condition as soon as possible after the application of the roofing system. HVAC and other mechanical units require 96 hours of written notice from the Contractor to the Owner before approval can be given for this type of work.
  - D. Over the new insulation system, unroll the TPO sheet without stretching. Allow sheet to relax for 1/2 hour prior to seaming operations.
  - E. Work with largest sheets possible.
  - F. When placing the membrane, ensure factory and field fabricated seams do not intersect drain sumps. Seams through drain sumps will not be approved.
  - G. Fold membrane back approximately in half so as to expose the underside. Sweep the mating surface and insulation to remove contaminants.
  - H. Apply bonding adhesive with roller to both the underside of the membrane and the insulation. Keep bonding adhesive out of seam area. Bonding adhesive shall be applied at rates directed by the manufacturer.
  - I. Allow bonding adhesive to flash off until tacky. Roll the coating portion of the sheet into the coated substrate slowly and evenly to avoid wrinkling.
  - J. Repeat the process on the remaining half sheet.
  - K. Overlap each successive sheet at side laps and all end laps 3" minimum. Sheets shall be spliced so that 2.75" minimum splice tape seam results.
  - L. Heat weld all field formed TPO to TPO membrane seams unless indicated otherwise by manufacturer.
  - M. On a daily basis, seams shall be checked for voids or other deficiencies, repairs made and lap seam sealant applied where required.
  - N. Place cut edge seam sealant on any field cut edges of the TPO membrane.
  - O. All T-joints at factory seams and field formed seams shall be covered with 6" diameter, TPO patches.
  - P. Repair all cuts, punctures, wrinkles within 18" of seams, wrinkles running toward seams, or wrinkles that can be pinched and folded over. Wrinkles requiring repair shall be cut out and patched. Seam cleaner, seam primer, splice adhesive and lap sealant shall be used for all repairs. All cuts and punctures shall be repaired the same day they are discovered.

### 3.7 FLASHING INSTALLATION

- A. Clean all surfaces to be flashed prior to the application of any new materials.
- B. Bond the specified flashing materials to the substrate in such a manner as to avoid loose spots, sags, and wrinkles. Flash all items in the configuration shown on the Drawings.
- C. Flashings shall be constructed and terminated as indicated. Care shall be taken when drilling into brick or terra cotta surfaces. The specified water cutoff sealant shall be applied behind the top edges of the flashings. All base flashing details that are terminated to surfaces of walls shall be detailed using a termination bar and a subsequent sheet metal counterflashing. Termination bars shall be fastened

at all prepunched holes using appropriate fasteners. All fasteners heads and top edges of termination bars shall be sealed using a one part, polyurethane sealant.

- D. Where possible, pre-manufactured, TPO pipe boots shall be used in lieu of field wrapping of pipes.

### 3.8 DRAIN FLASHING

- A. Install tapered insulation drain sump.
- B. Position the membrane over the drain ensuring no factory or field fabricated seams are located within the sump.
- C. Cut hole with  $\frac{1}{2}$ " -  $\frac{3}{4}$ " membrane extending past drain bolt locations. Drain holes shall be no smaller than the drain pipe size.
- D. Cut holes in the membrane for the bolts to penetrate through. **DO NOT CUT NOTCHES BACK TO THE BOLT LOCATIONS.**
- E. Apply water cutoff sealant over the drain bowl flange.
- F. Install the clamping ring and tighten all bolts to achieve complete compression. All bolt locations shall be functional.
- G. Set drain strainer.

### 3.9 SEALANT

- A. Clean the substrate as best possible so no contaminants such as bitumen and dust remain.
- B. If required, prime the surface with the primer recommended by the manufacturer. Also, use sealant backing if required by manufacturer.

END OF SECTION 07 54 23

SECTION 07 60 00 – SHEET METAL FLASHING AND TRIM

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Work included: Provide flashings and sheet metal not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior shell of the building.
- B. This Section covers sheet metal accessories needed for the project but are not sold by the roof system manufacturer.
- C. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen 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 of this Section.
- B. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Roofing Consultantural Sheet Metal Manual" published by the Sheet Metal and Air Conditioning Contractors National Association (SMACNA).
- C. Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed the quality standards specified.

1.3 SUBMITTALS

- A. When submitting manufacturer's literature, highlight all items pertaining to this project.
- B. Submit to the Roofing Consultant the manufacturer's latest published materials and samples along with any other items necessary for construction.
- C. Submit current manufacturer's literature for all items proposed to be provided under this Section.
- D. Provide certification that materials meet the state ASTM and Federal specifications.
- E. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades.
- F. Manufacturer's recommended installation procedures which, when approved by the Roofing Consultant, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.4 PRODUCT HANDLING

- A. Comply with pertinent sections of Division 7.

## **PART 2 - PRODUCTS**

### 2.1 MATERIALS AND GAGES

- A. Where sheet metal is required, and no material or gage is indicated on the Drawings, provide the highest quality and gage commensurate with the referenced standards.

### 2.2 GALVANIZED IRON

- A. Provide sheet metal or sheet iron of a standard brand of open-hearth copper-bearing steel, copper-molybdenum iron, or pure iron sheets.
- B. Zinc coating:
  - 1) Where galvanizing is required, provide zinc coating by hot-dip galvanize to all surfaces.
- C. Weight:
  - 1) Provide not less than 1-1/4 oz. per sq. ft., nor more than 1-1/2 oz. per sq. ft., to surfaces required to be galvanized.
  - 2) Comply with ASTM A93.

### 2.3 PRE-FINISHED SHEET METAL

- A. Provide factory applied Kynar 500 or equal finish.

### 2.4 NAILS, RIVETS AND FASTENERS

- A. Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connection with galvanized iron and steel.

### 2.5 ALUMINUM

- A. Where aluminum is shown, use flat stock of 6063-T5 alloy in thicknesses indicated. Use appropriate fasteners so as not to create galvanic action.

### 2.6 FLUX

- A. Where flux is required, use raw muriatic acid.

### 2.7 SOLDER

- A. Where solder is required, comply with ASTM B32.

## 2.8 SCREWS

- A. Provide new stainless steel screw fasteners at wall panels where existing screws are to be removed for installation of new flashings and counterflashings. Screw shall be of same type and size and shall integral washer flanges with neoprene washers.
- B. At all other locations where new fasteners are called out, provide fastener of same type of material as that to be fastened. Do not use screws smaller than #10.

## 2.9 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Roofing Consultant.

# PART 3 - EXECUTION

## 3.1 SURFACE CONDITIONS

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

## 3.2 WORKMANSHIP

- A. General:
  - 1) Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
  - 2) Unless otherwise specifically permitted by Roofing Consultant, turn exposed edges back with 1/2" hem.
  - 3) Form, fabricate, and install sheet metal to adequately provide for expansion and contraction in the finished Work.
- B. Weatherproofing:
  - 1) Finish watertight and weathertight where so required.
  - 2) Make lock seam work flat and true to line, sweating full of solder.
  - 3) Make lock seams and lap seams, when soldered, at least 1/2" wide.
  - 4) Where lap seams are not soldered, lap according to pitch, but in no case less than 3".
  - 5) Make flat and lap seams in the direction of flow.

C. Joints:

- 1) Provide 3" splice joint at perimeter trim metal and at counterflashings. Set lap in 2 beads of sealant. Secure with ½" splice into hem and two pop rivets of same type of metal as flashing material.
- 2) Join other parts with rivets or sheet metal screws where necessary for strength and stiffness.
- 3) Provide suitable watertight expansion joints for runs of more than 40'-0", except where closer spacing is indicated on the Drawings or required for proper installation.

D. Fastening:

- 1) For fastening into brick or concrete use soft metal jacketed pre-drilled drive-pins, 1/4" in diameter.

3.3 EMBEDMENT

- A. Embed metal in connection with roofs in a solid bed of sealant, using materials and methods which may be described in sections of Division 7.

3.4 TESTS

- A. Upon request of the Roofing Consultant, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight.

END OF SECTION 07 60 00

SECTION 07 92 00 – SEALANT AND CAULKING

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. Section covers sealant and caulking material and application.

1.2 QUALITY CONTROL

- A. Installer Qualifications: An experienced installer who has specialized in installing joint sealants similar in material, design, and extent to those indicated for this Project and whose work has resulted in joint-sealant installations with a record of successful in-service performance.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 00, SUBMITTALS.
- B. Manufacturer's installation instructions for each product used.
- C. Cured samples of exposed sealants for each color where required to match adjacent material.
- D. Manufacturer's Literature and Data:
  - 1) Caulking compound
  - 2) Primers
  - 3) Sealing compound, each type, including compatibility when different sealants are in contact with each other.

1.4 PROJECT CONDITIONS

- A. Environmental Limitations:
  - 1) Do not proceed with installation of joint sealants under following conditions:
    - a) When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 4.4 °C (40 °F).
    - b) When joint substrates are wet.
- B. Joint-Width Conditions:
  - 1) Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions:

- 1) Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.5 DELIVERY, HANDLING, AND STORAGE:

- A. Deliver materials in manufacturers' original unopened containers, with brand names, date of manufacture, shelf life, and material designation clearly marked thereon.
- B. Carefully handle and store to prevent inclusion of foreign materials.
- C. Do not subject to sustained temperatures exceeding 5 °C (90 °F) or less than 32 °C (40 °F).

**PART 2 - PRODUCTS**

2.1 SEALANTS:

A. S-1:

- 1) ASTM C920, polyurethane.
- 2) Type M.
- 3) Class 25.
- 4) Grade NS.
- 5) Shore A hardness of 20-40

2.2 COLOR:

- A. Sealants used with exposed masonry shall match color of mortar joints.
- B. Sealants used with unpainted concrete shall match color of adjacent concrete.
- C. Color of sealants for other locations shall be light gray or aluminum, unless specified otherwise.

2.3 JOINT SEALANT BACKING:

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
  - 1) Type C: Closed-cell material with a surface skin.



2.4 PRIMER:

- A. As recommended by manufacturer of caulking or sealant material.
- B. Stain free type.

**PART 3 - EXECUTION**

3.1 INSPECTION:

- A. Inspect substrate surface for bond breaker contamination and unsound materials at adherent faces of sealant.
- B. Coordinate for repair and resolution of unsound substrate materials.
- C. Inspect for uniform joint widths and that dimensions are within tolerance established by sealant manufacturer.

3.2 PREPARATIONS:

- A. Prepare joints in accordance with manufacturer's instructions and SWRI.
- B. Clean surfaces of joint to receive caulking or sealants leaving joint dry to the touch, free from frost, moisture, grease, oil, wax, lacquer paint, or other foreign matter that would tend to destroy or impair adhesion.
  - 1) Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants.
  - 2) Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include the following:
    - a) Concrete.
    - b) Masonry.
    - c) Unglazed surfaces of ceramic tile.
  - 3) Remove laitance and form-release agents from concrete.
  - 4) Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.
    - a) Metal.
    - b) Glass.
    - c) Porcelain enamel.
    - d) Glazed surfaces of ceramic tile.
- C. Do not cut or damage joint edges.
- D. Apply masking tape to face of surfaces adjacent to joints before applying primers, caulking, or sealing compounds.

- 1) Do not leave gaps between ends of sealant backings.
  - 2) Do not stretch, twist, puncture, or tear sealant backings.
  - 3) Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- E. Apply primer to sides of joints wherever required by compound manufacturer's printer instructions.
- 1) Apply primer prior to installation of back-up rod or bond breaker tape.
  - 2) Use brush or other approved means that will reach all parts of joints.
- F. Take all necessary steps to prevent three sided adhesion of sealants.

### 3.3 SEALANT DEPTHS AND GEOMETRY:

- A. At widths up to 6 mm (1/4 inch), sealant depth equal to width.
- B. At widths over 6 mm (1/4 inch), sealant depth 1/2 of width up to 13 mm (1/2 inch) maximum depth at center of joint with sealant thickness at center of joint approximately 1/2 of depth at adhesion surface.

### 3.4 INSTALLATION:

- A. General:
- 1) Apply sealants and caulking only when ambient temperature is between 5 degrees C and 38 degrees C (40 and 100 degrees F).
  - 2) Do not use polysulfide base sealants where sealant may be exposed to fumes from bituminous materials, or where water vapor in continuous contact with cementitious materials may be present.
  - 3) Do not use sealant type listed by manufacture as not suitable for use in locations specified.
  - 4) Apply caulking and sealing compound in accordance with manufacturer's printer instructions.
  - 5) Avoid dropping or smearing compound on adjacent surfaces.
  - 6) Fill joints solidly with compound and finish compound smooth.
  - 7) Tool joints to concave surface unless shown or specified otherwise.
  - 8) Finish paving or floor joints flush unless joint is otherwise detailed.
  - 9) Apply compounds with nozzle size to fit joint width.
  - 10) Test sealants for compatibility with each other and substrate. Use only compatible sealant.
- B. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise.

### 3.5 CLEANING:

- A. Fresh compound accidentally smeared on adjoining surfaces: Scrape off

immediately and rub clean with a solvent as recommended by the caulking or sealant manufacturer.

- B. After filling and finishing joints, remove masking tape.
- C. Leave adjacent surfaces in a clean and unstained condition.

END OF SECTION 07 92 00

SECTION 22 14 26.13 – ROOF DRAIN TESTING & REPAIR

**PART 1 - GENERAL**

1.1 DESCRIPTION

- A. This section covers the work that is related to roof drains.
- B. Four new cast iron roof drains and cast iron leaders are also part of this work.

1.2 RELATED WORK

- A. Refer to Section 07 54 23 for flashing of roof drains.

1.3 SUMMARY

- A. Provide labor and components to test and repair the existing roof drains.

**PART 2 - PRODUCTS**

- 2.1 DRAIN PARTS: Provide roof accessories as needed to make drains functional with properly secured flashings.

**PART 3 - EXECUTION**

3.1 Drain Work

- A. Drain Testing: Prior to starting of work flood test each drain leader with a ¾” hose running at full flow for 10 minutes. After work is complete perform the same water test. Owners representative or Roof Consultant must be present for test. Document finding in writing and submit.
- B. Strainers: Where roof drain strainers are missing, broken or plastic. Provide new cast iron strainers from Josam, Wade or others. If exact match can't be made provide closest match that function and sits in the bowl properly.
- C. Plastic Drain Strainers: Replace plastic drain strainers with cast iron strainers. Provide new cast iron strainers from Josam, Wade or others. If exact match can't be made provide closest match that function and sits in the bowl properly.
- D. Bolts: Provide new clamp ring bolts as needed. Remove and retap as needed.

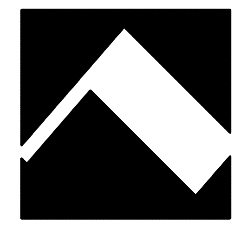
END OF SECTION 22 14 26.13



# BOULDER COUNTY ST. VRAIN NORTH AHU & ROOF REPLACEMENT PROJECT #: 101024

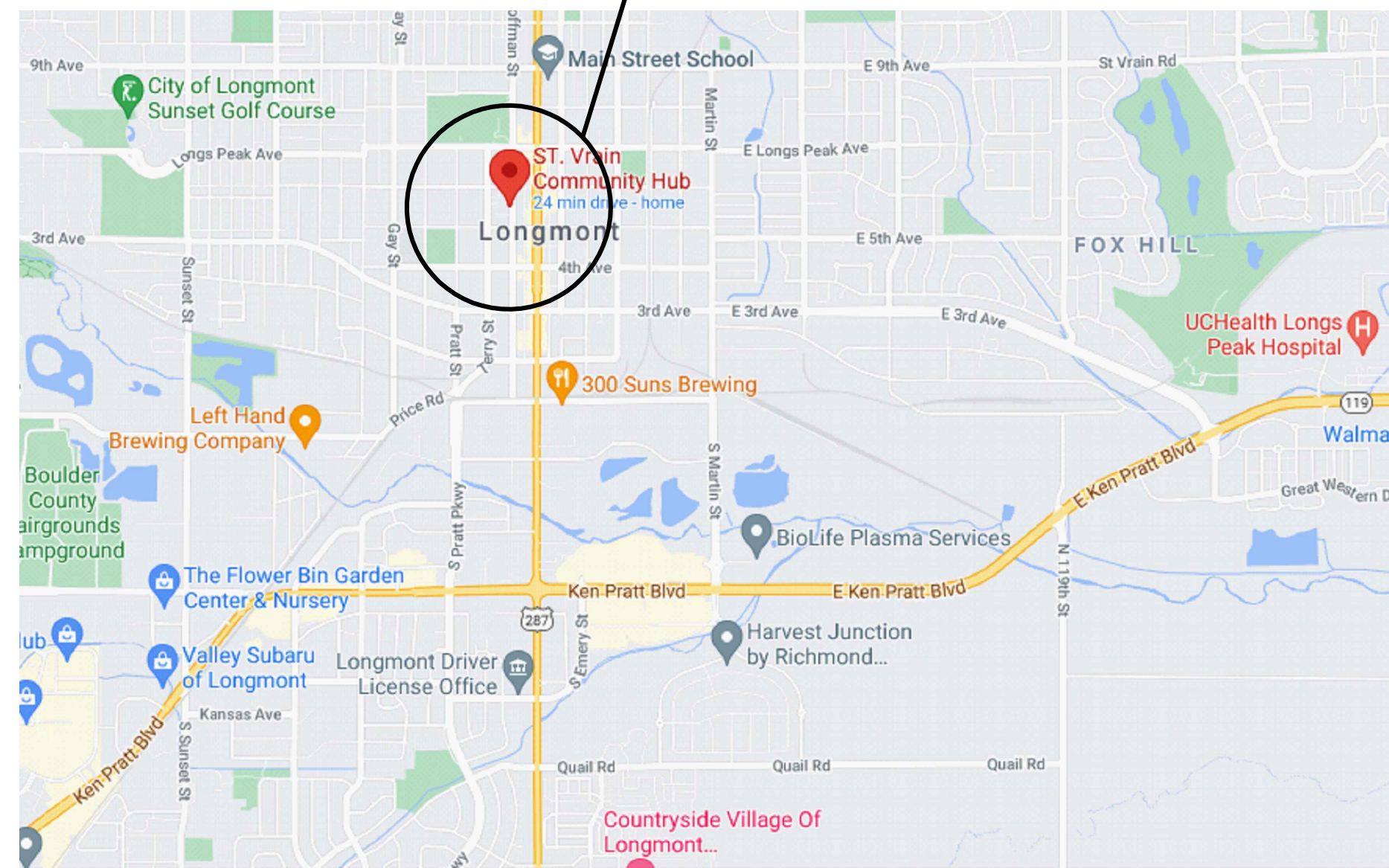


ROOFING CONSULTANT

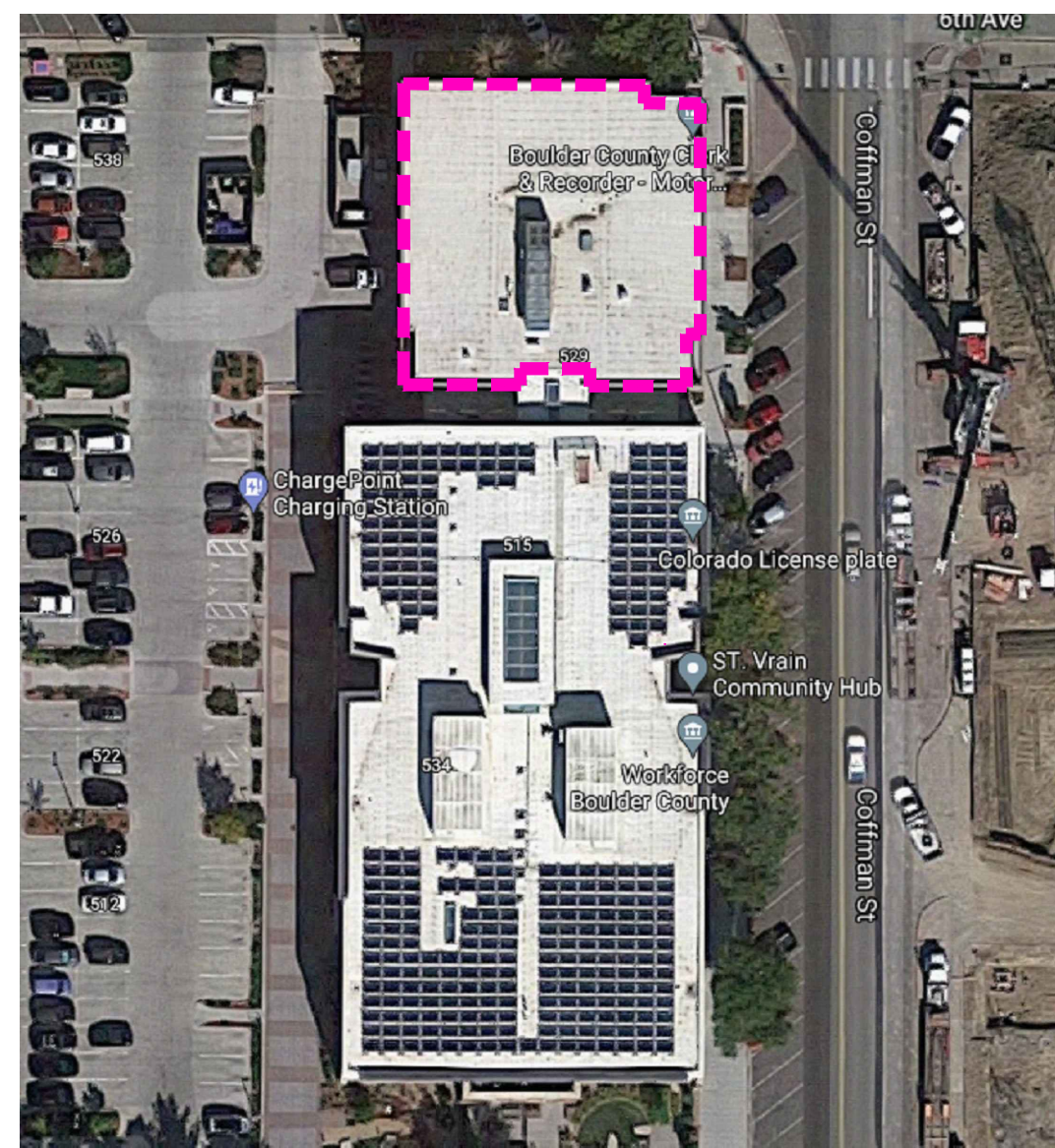


**RoofTech Consultants, Inc.**  
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Golden, Colorado 80401  
Phone: (303) 233-1092  
Fax: (303) 233-2205

515 Coffman St.  
Longmont, CO 80501



VICINITY MAP



SATELLITE PHOTO

**Applicable Codes:**  
2018 International Mechanical Code (IMC)  
2018 International Building Code (IBC)  
2018 International Plumbing Code (IPC)  
2018 International Fuel Gas Code (IFGC)  
2018 International Energy Conservation Code (IECC)

| SHEET INDEX   |              |
|---------------|--------------|
| NUMBER        | DESCRIPTION  |
| ARCHITECTURAL |              |
| G1.0          | COVER SHEET  |
| R1.0          | ROOF PLAN    |
| R2.0          | ROOF DETAILS |
| R2.1          | ROOF DETAILS |

**Design Parameters**  
Roof Insulation Value: R-31.3 Minimum  
Existing Roof Weight: 4 psf  
New Roof Weight: 3 psf  
Design Wind Speed: 140 mph (Ultimate)  
Special Wind Zone: Yes  
Wind Uplift Approval Rating: FM 1-90  
Fire Resistance Rating: UL Class A  
Roof Slope Deck: 0.25"/ft or Better Built Into Roof Decks  
Roof Recover Project: No

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| CHECKED BY:<br>LR | DATE:<br>7/16/2021   |

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ST VRAIN NORTH AHU &  
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Longmont, CO 80501

CADD FILE:  
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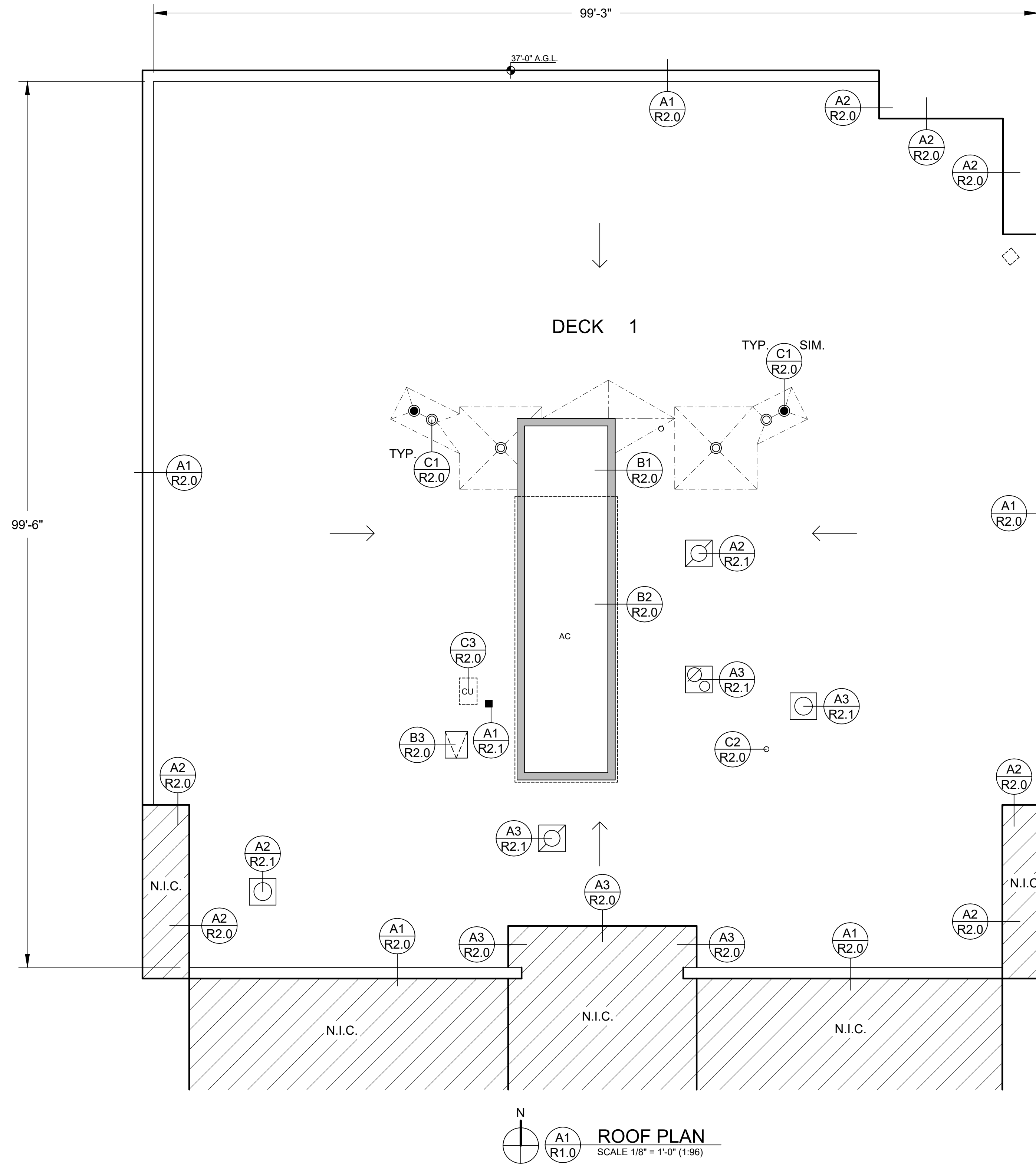
**COVER SHEET**

DRAWING SCALE:  
NO SCALE

**G1.0**

SHEET 1 OF 4





**SYMBOL LEGEND**

|  |                       |
|--|-----------------------|
|  | PARAPET WALL          |
|  | PERIMETER             |
|  | NEW HVAC UNIT         |
|  | BALLASTED CAMERA      |
|  | CONDENSER UNIT        |
|  | EXHAUST FAN           |
|  | DUCT                  |
|  | ROOF HATCH            |
|  | ROOF DRAIN            |
|  | OVERFLOW DRAIN        |
|  | PLUMBING VENT/SUPPORT |
|  | CONDUIT               |
|  | MECHANICAL CURB       |
|  | DECK SLOPE            |

**EXISTING ROOF SYSTEM DECK 1**

METAL DECK  
 3.0" ISO. FOAM INSUL. BD. (R-17.4)  
 0.5" FIBERGLASS COVER BD. (R-2)  
 MODIFIED BITUMEN ROOF MEMBRANE  
 ELASTOMERIC COATING

**NEW ROOF SYSTEM DECK 1**

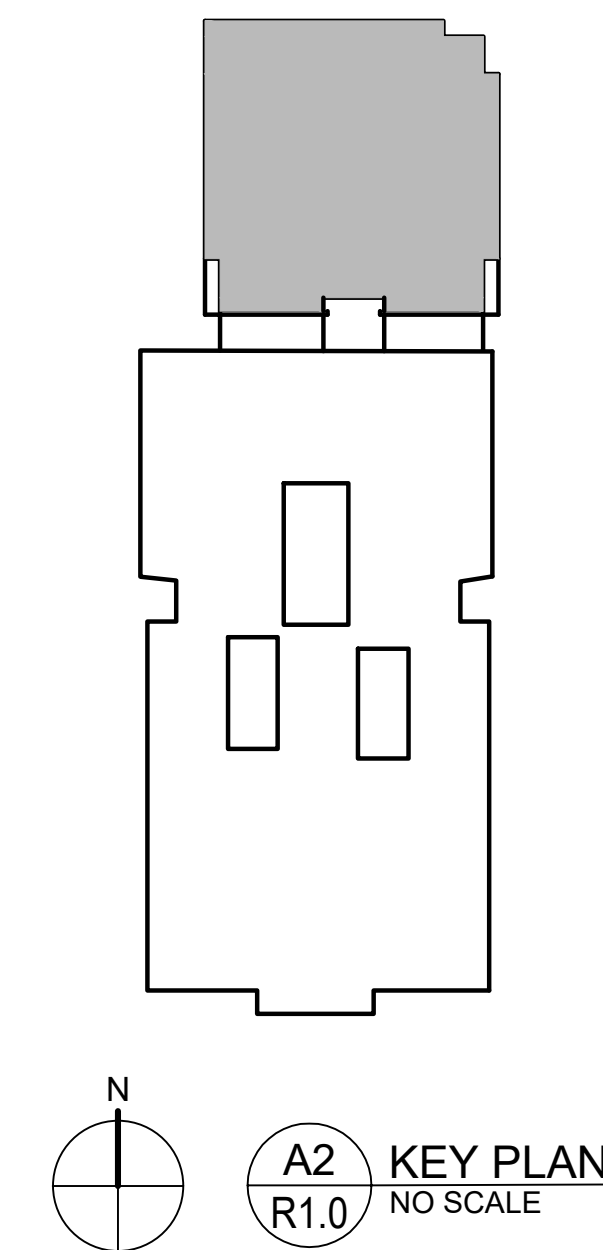
METAL DECK (E)  
 2.0" ISO. FOAM INSUL. BD. (R-11.4)  
 3.0" ISO. FOAM INSUL. BD. (R-17.4)  
 0.5" HD. ISO. FOAM INSUL. BD. (R-2.5)  
 ADHERED 60 MIL TPO ROOF MEMBRANE  
 TOTAL THERMAL VALUE: R-31.3  
 (E) DENOTES EXISTING ITEM TO REMAIN

**TAPERED INSULATION NOTES:**

- USE 1/12 SLOPED TAPER EDGE STRIP MATERIAL TO CREATE DRAIN SUMPS.
- USE 0.5/12 SLOPED TAPERED PANELS TO CREATE CRICKETS.

**MECHANICAL COORDINATION NOTES:**

- THE LARGE MECHANICAL CURB SHOWN WILL BE NEW AS A NEW CURB AND UNIT WILL BE INSTALLED ALONG WITH THE NEW ROOFING. PROVIDE TEMPORARY ROOFING AS NEEDED FOR THE REMOVAL OF THE EXISTING CURB AND INSTALLATION OF THE NEW CURB.
- COORDINATE WITH OWNER TO LIFT AND RESET BALLASTED CAMERA.



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**ROOF PLAN**

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

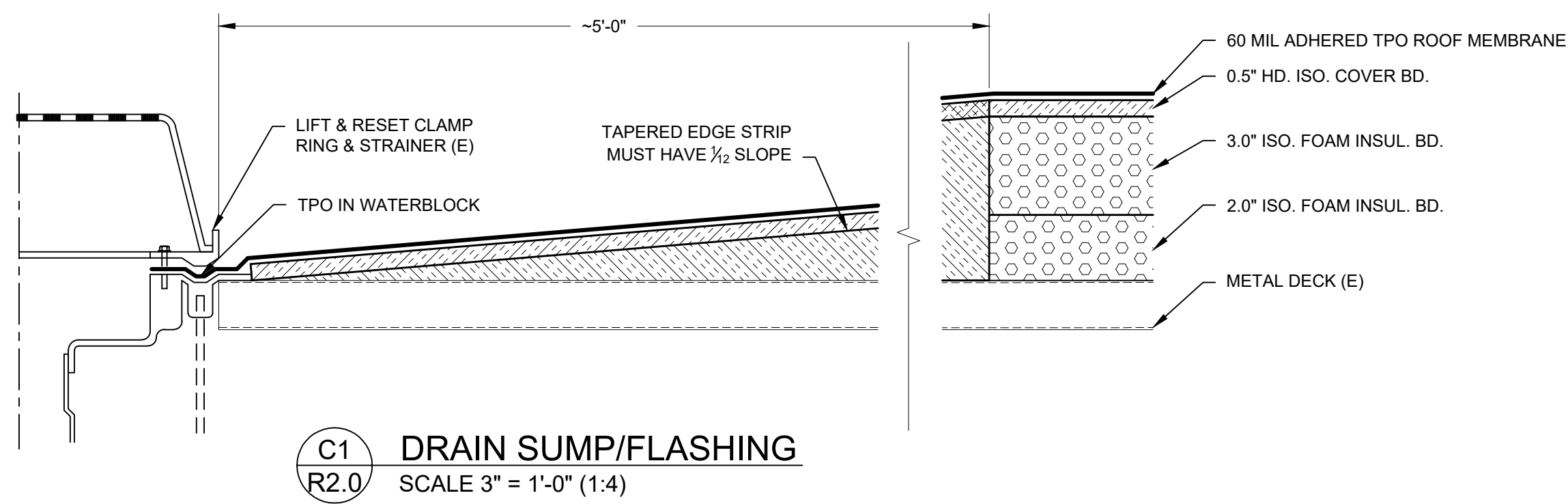
DRAWING #:  
**R1.0**



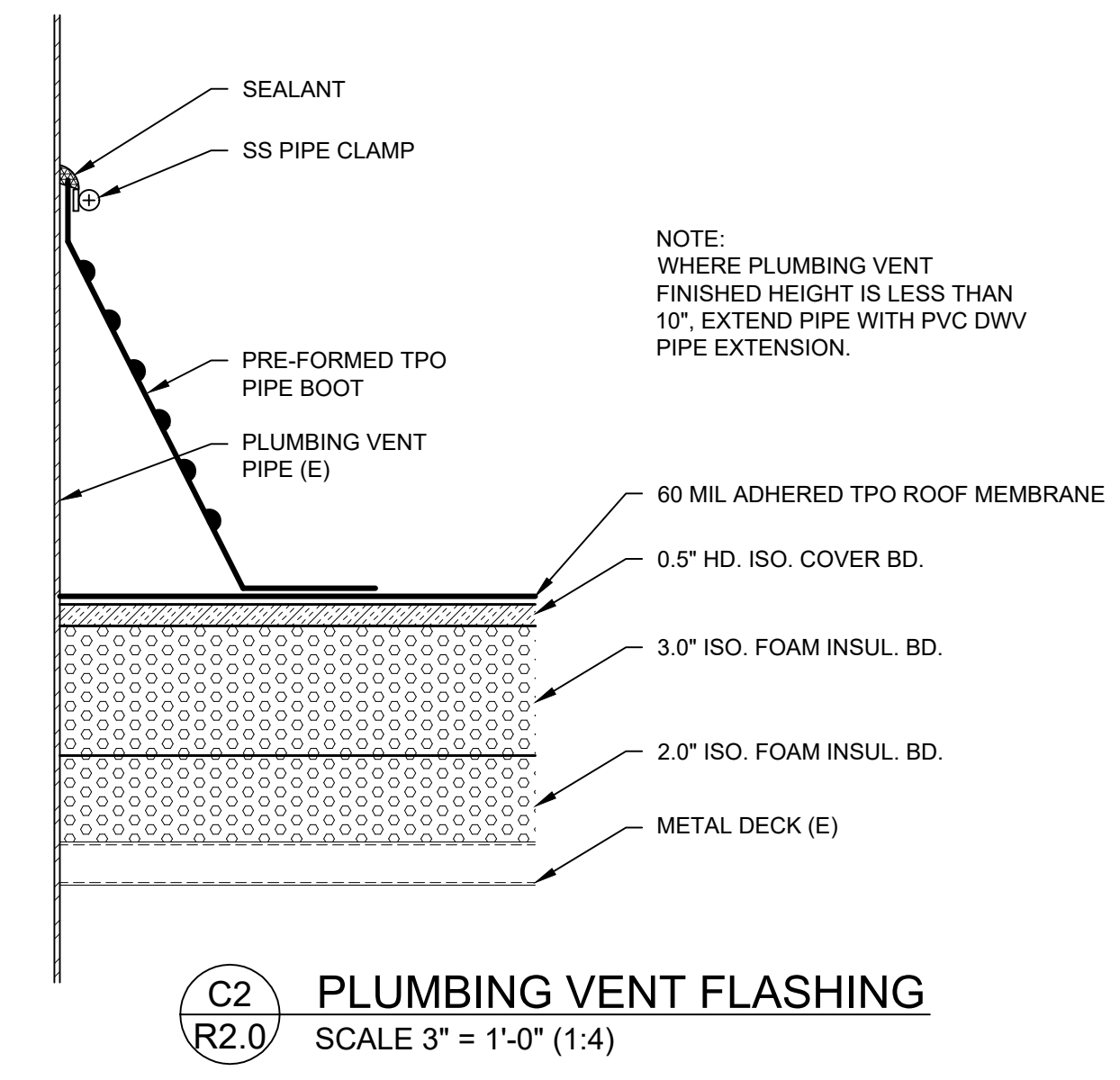
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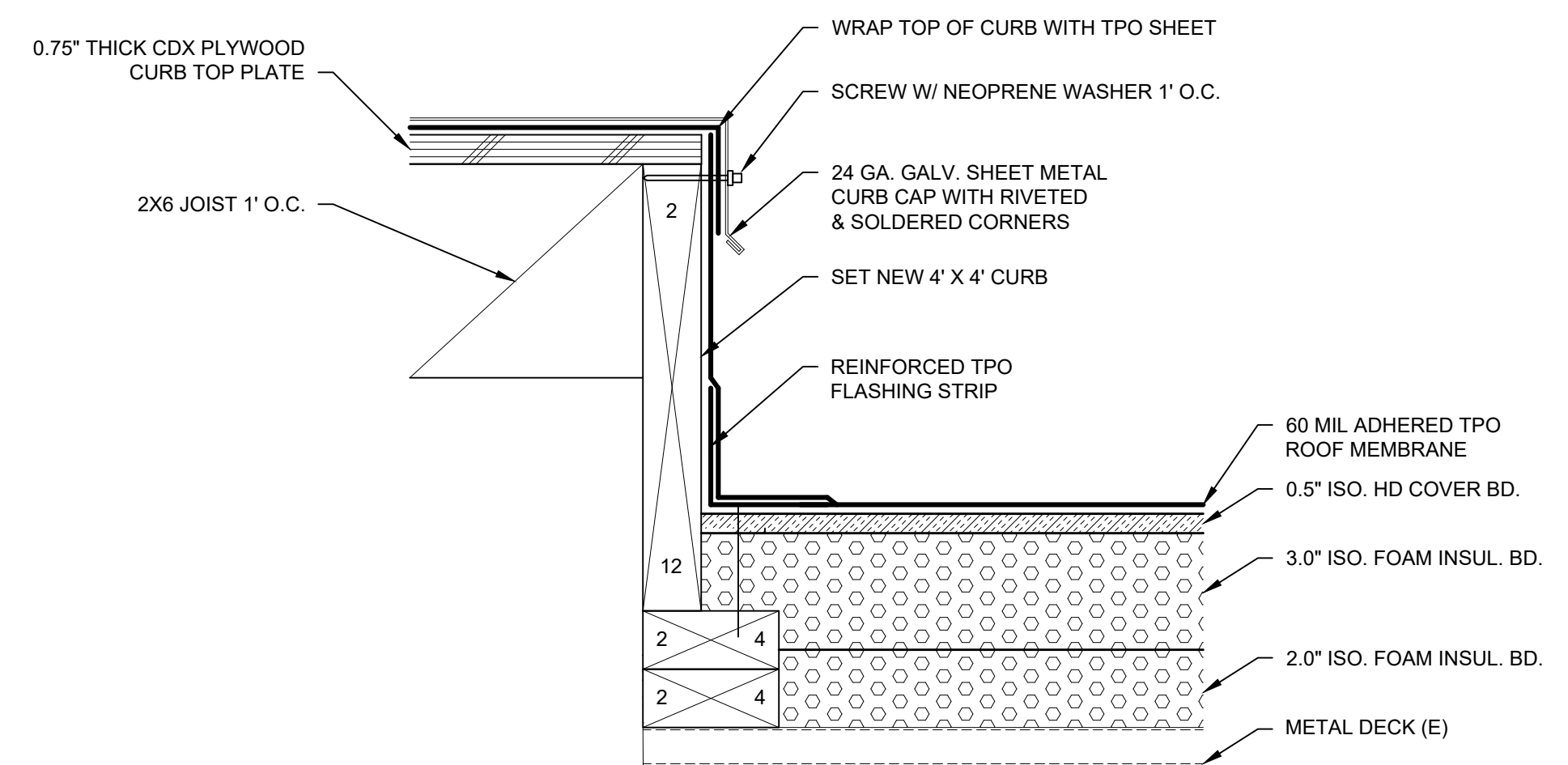


**C1 DRAIN SUMP/FLASHING**  
SCALE 3" = 1'-0" (1:4)

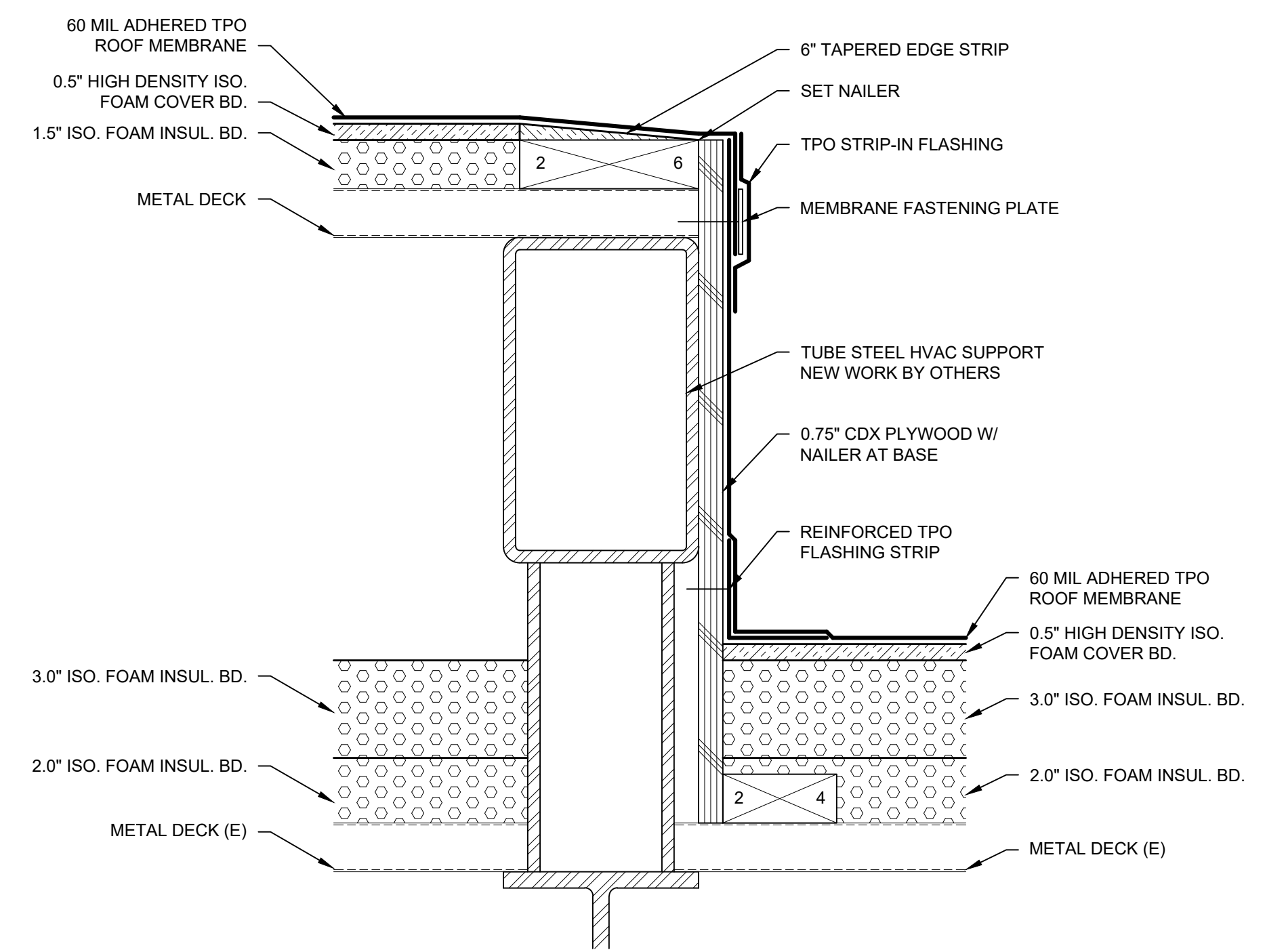


**C2 PLUMBING VENT FLASHING**  
SCALE 3" = 1'-0" (1:4)

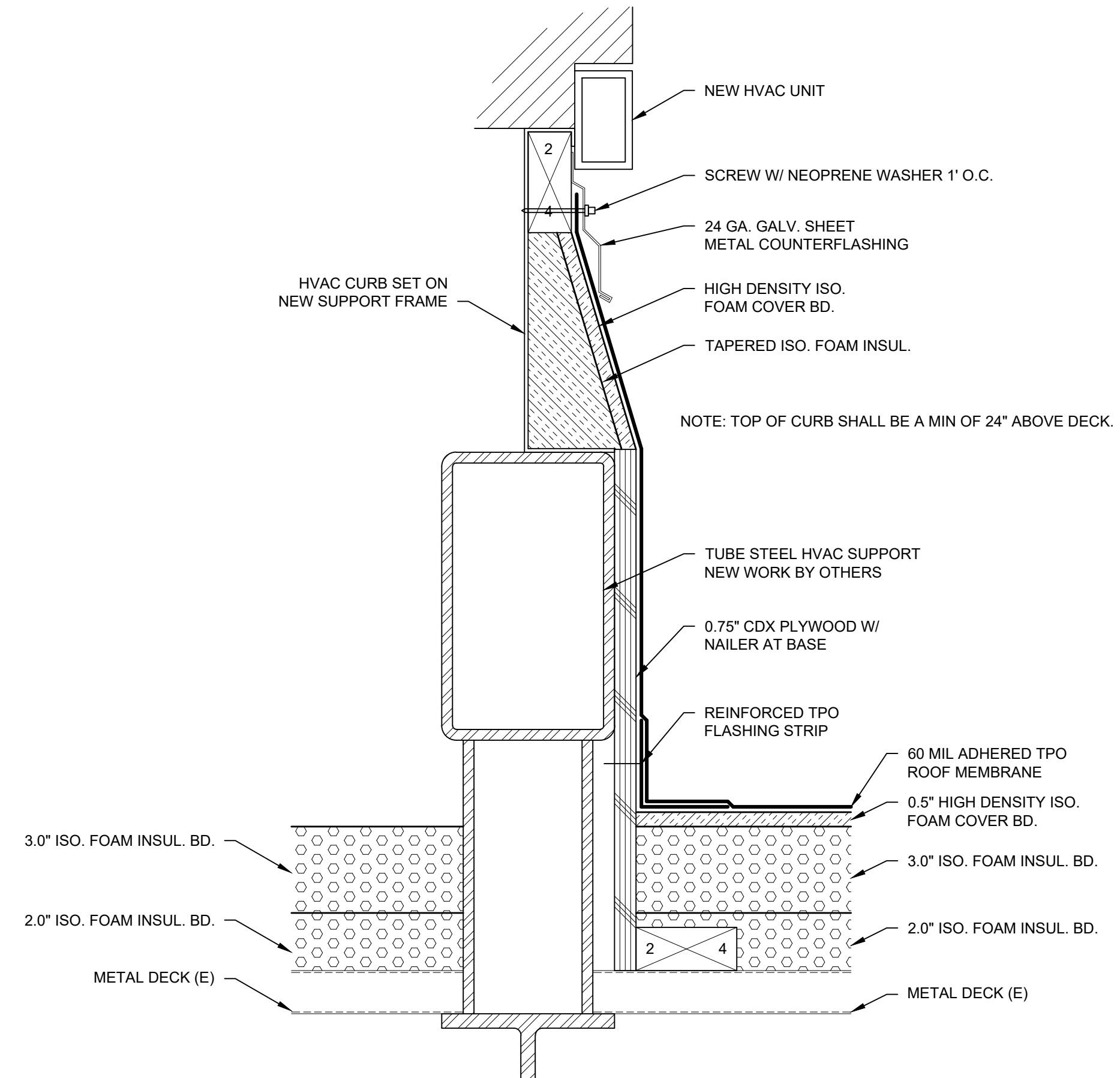
**ROOF DETAIL NOTES:**  
1. (E) DENOTES EXISTING ITEM TO REMAIN.  
2. DETAILS ARE EXPANDED FOR CLARITY. MAKE ALL CONNECTIONS WATERTIGHT.  
3. CUT EDGE & LAP SEALANT NOT SHOWN. FOLLOW MFR. REQUIREMENTS.



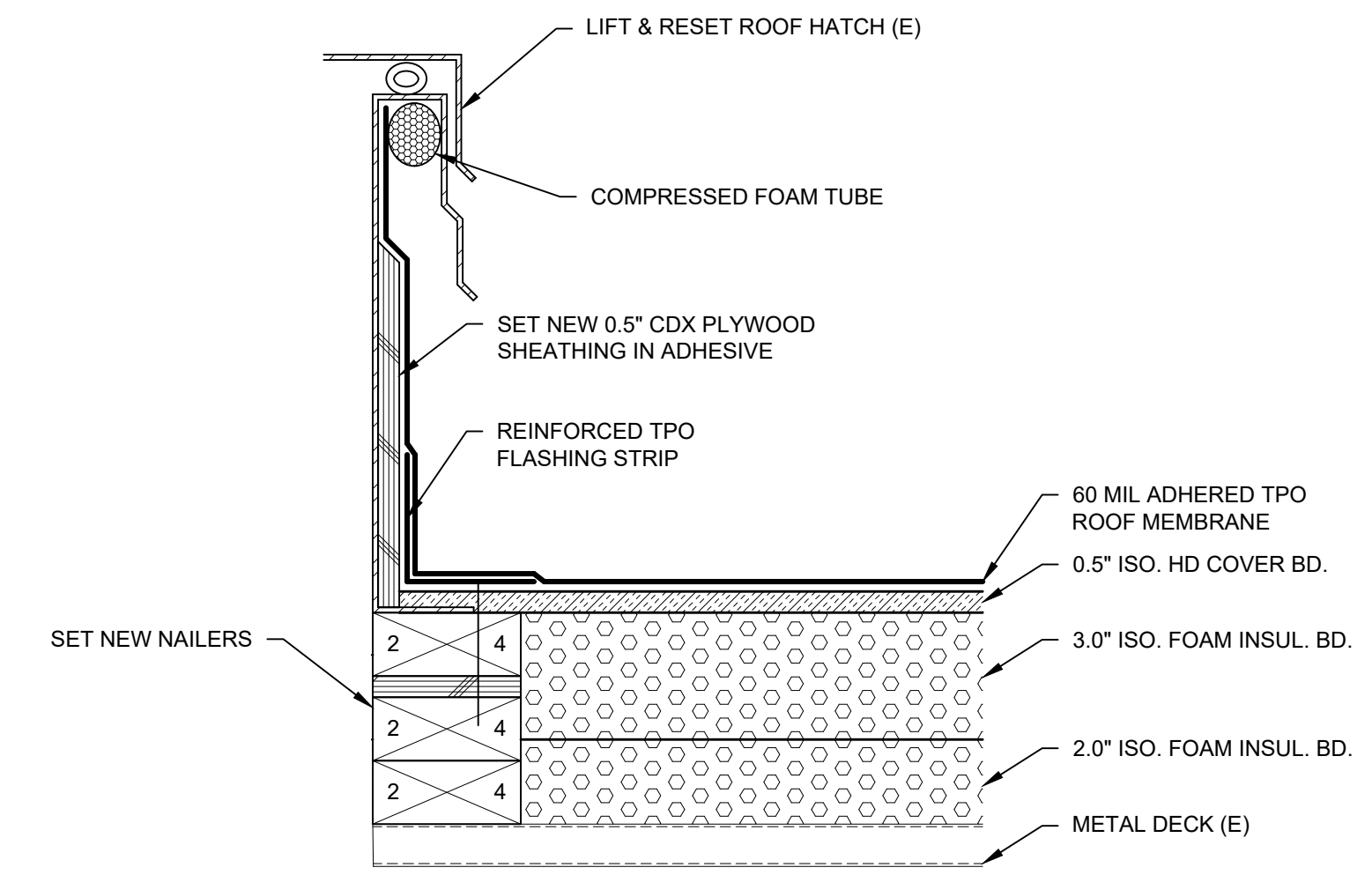
**C3 NEW MECH. CURB/FLASHING**  
SCALE 3" = 1'-0" (1:4)



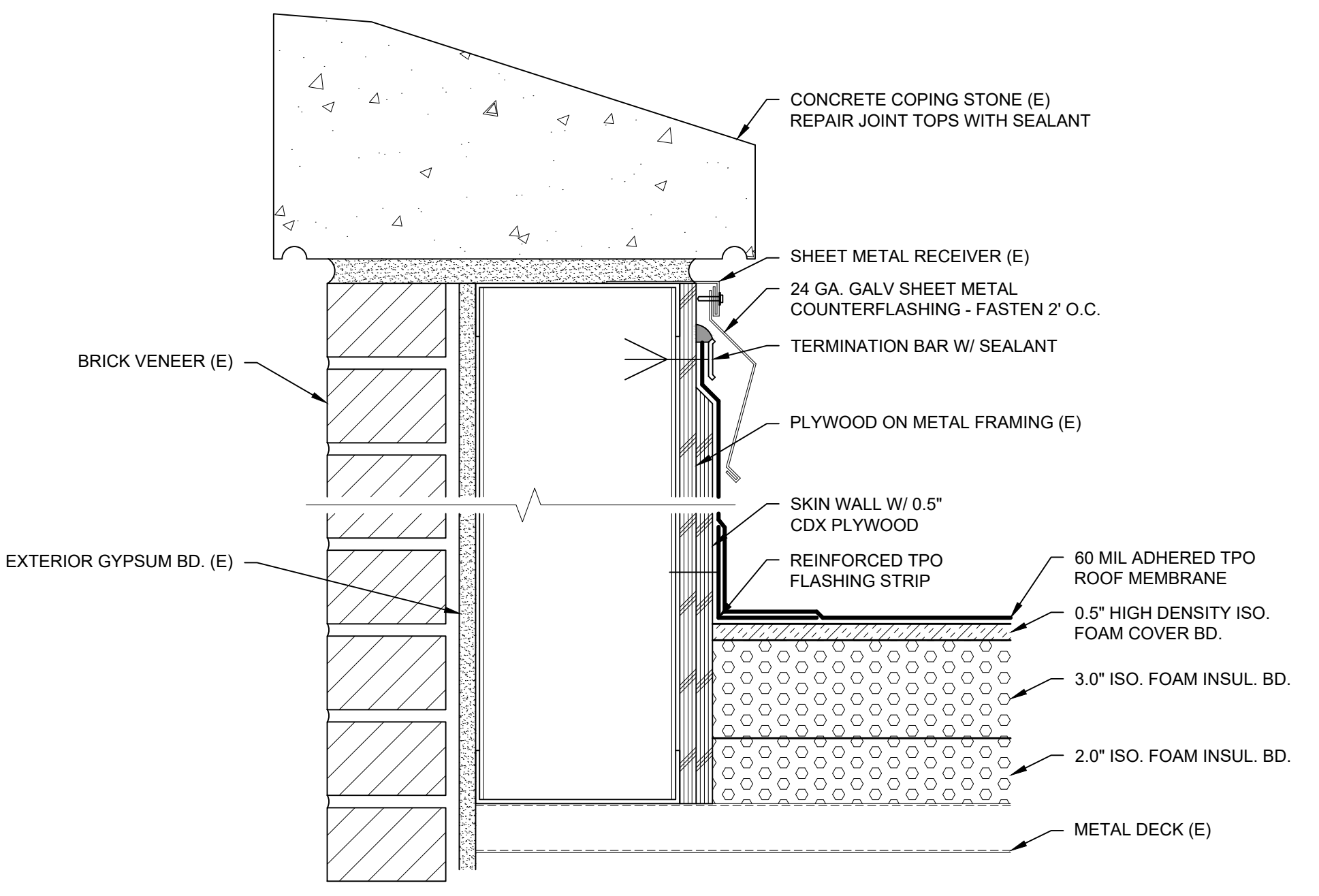
**B1 HVAC CURB FLASHING**  
SCALE 3" = 1'-0" (1:4)



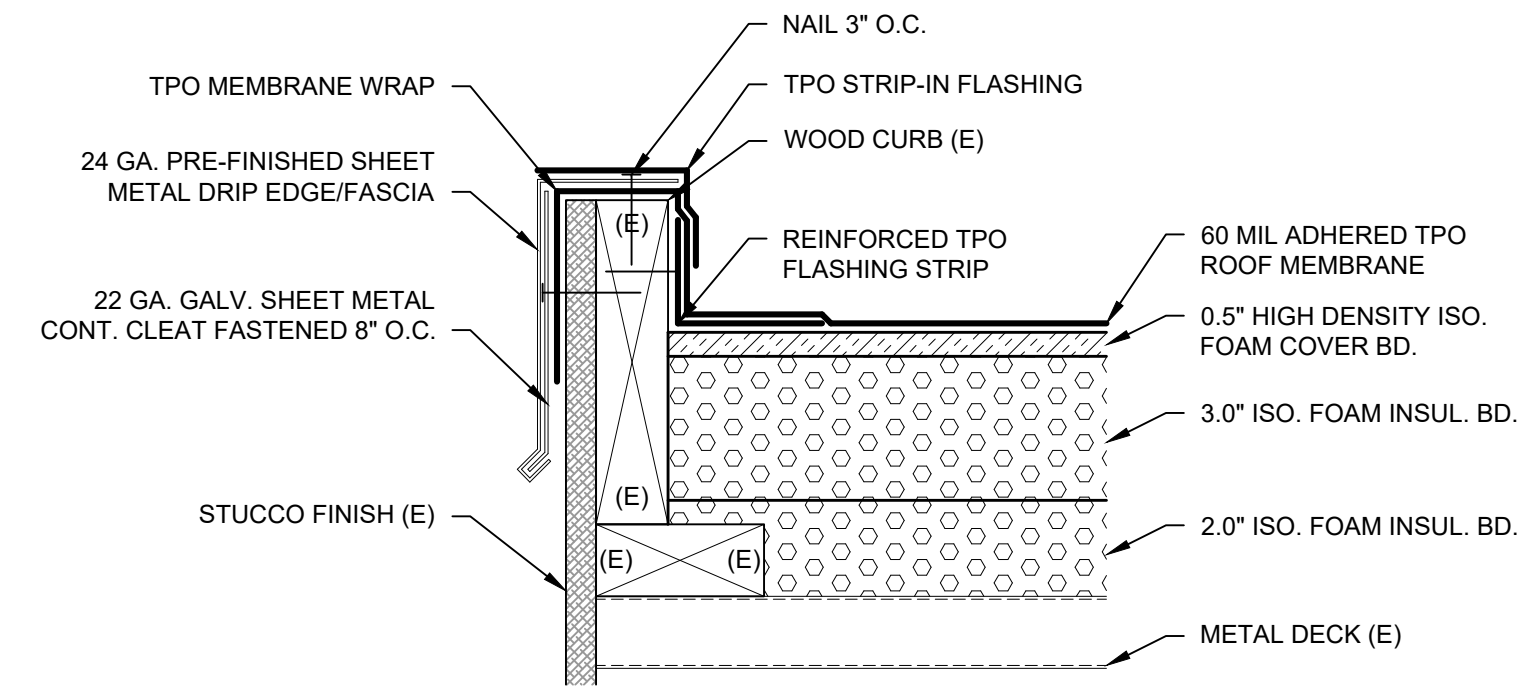
**B2 HVAC CURB FLASHING**  
SCALE 3" = 1'-0" (1:4)



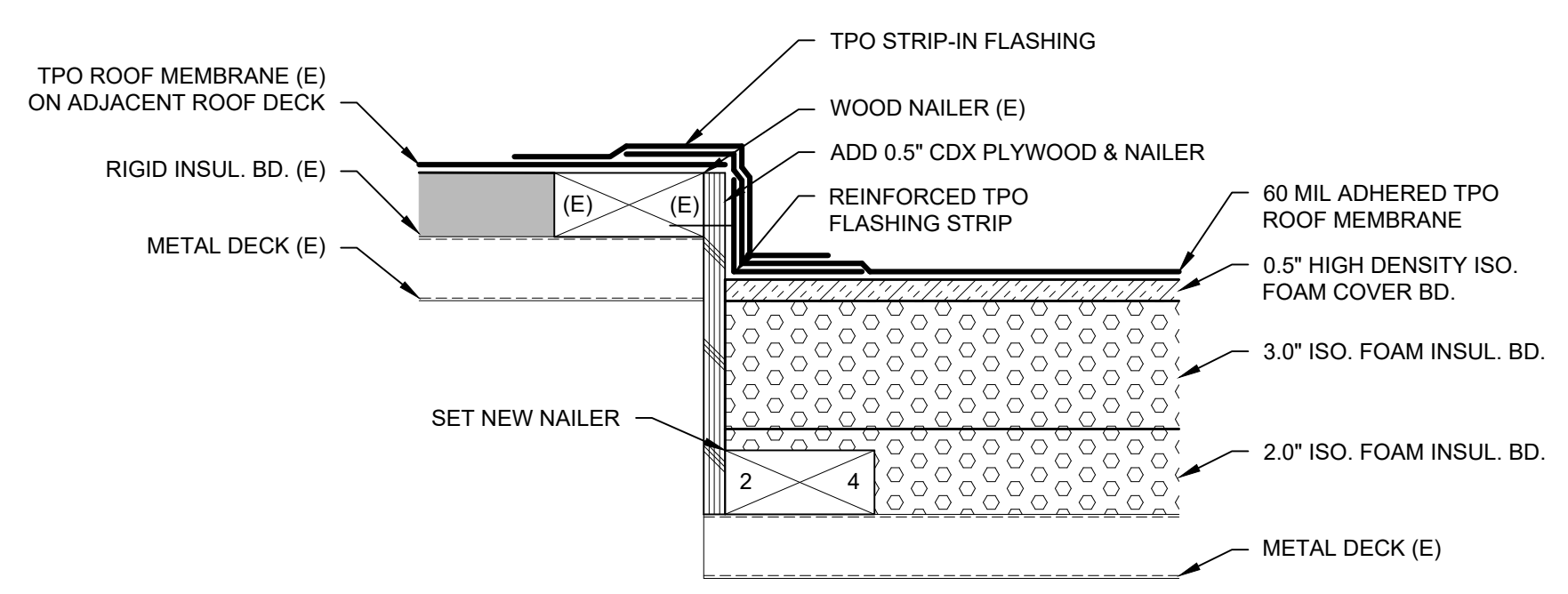
**B3 HATCH CURB FLASHING**  
SCALE 3" = 1'-0" (1:4)



**A1 PARAPET WALL FLASHING**  
SCALE 3" = 1'-0" (1:4)



**A2 PERIMETER FLASHING**  
SCALE 3" = 1'-0" (1:4)



**A3 ROOF TRANSITION FLASHING**  
SCALE 3" = 1'-0" (1:4)

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| CHECKED BY:<br>LR | DATE:<br>7/16/2021   |

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515 Coffman St.  
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**ROOF DETAILS**

DRAWING SCALE:  
3" = 1'-0"

DRAWING #:  
**R2.0**

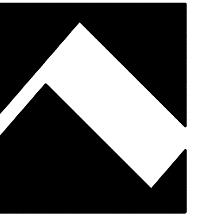


**ROOF DETAIL NOTES:**

1. (E) DENOTES EXISTING ITEM TO REMAIN.
2. DETAILS ARE EXPANDED FOR CLARITY. MAKE ALL CONNECTIONS WATERTIGHT.
3. CUT EDGE & LAP SEALANT NOT SHOWN. FOLLOW MFR. REQUIREMENTS.



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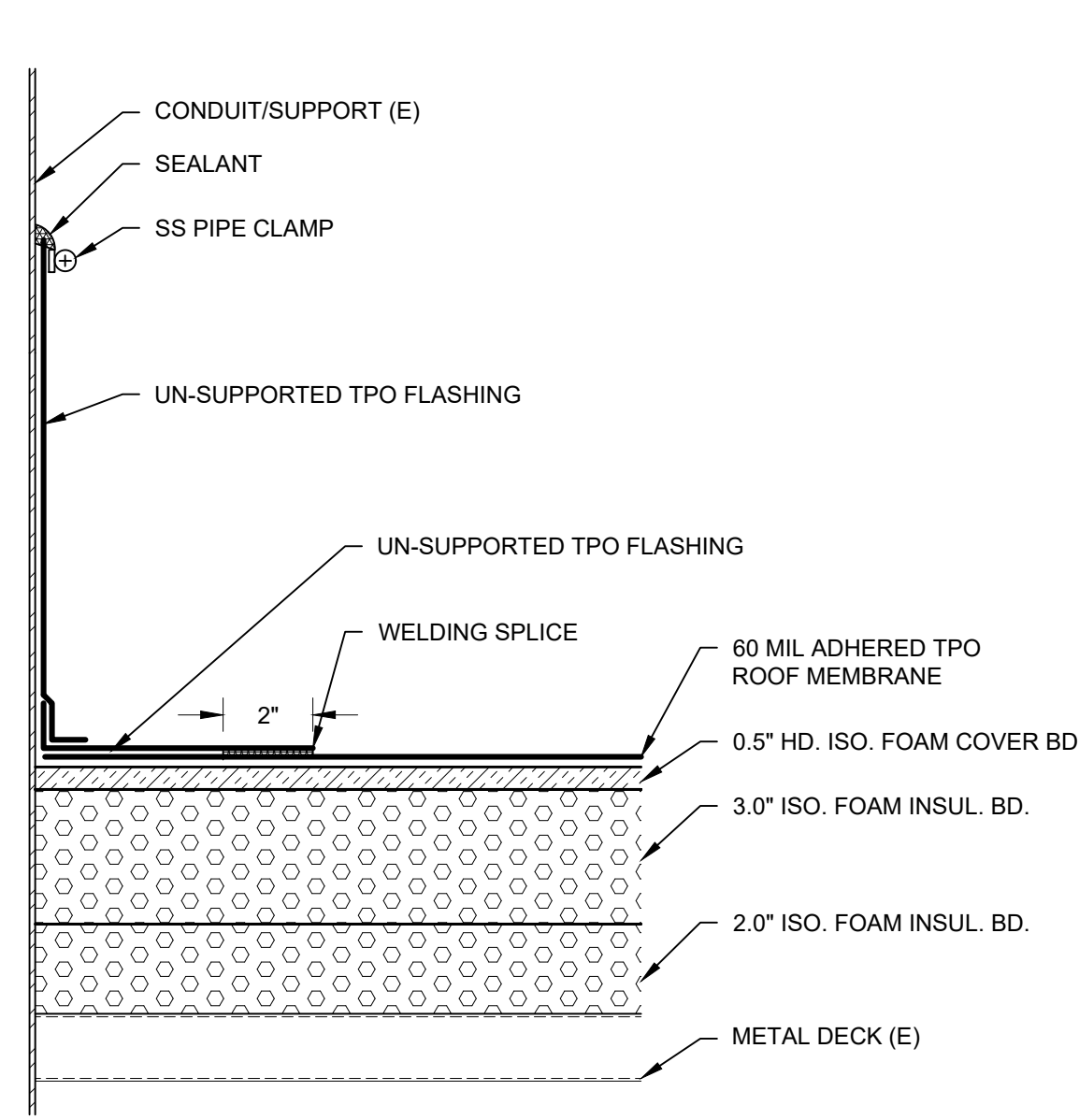
**ROOF DETAILS**

DRAWING SCALE:  
3" = 1'-0"

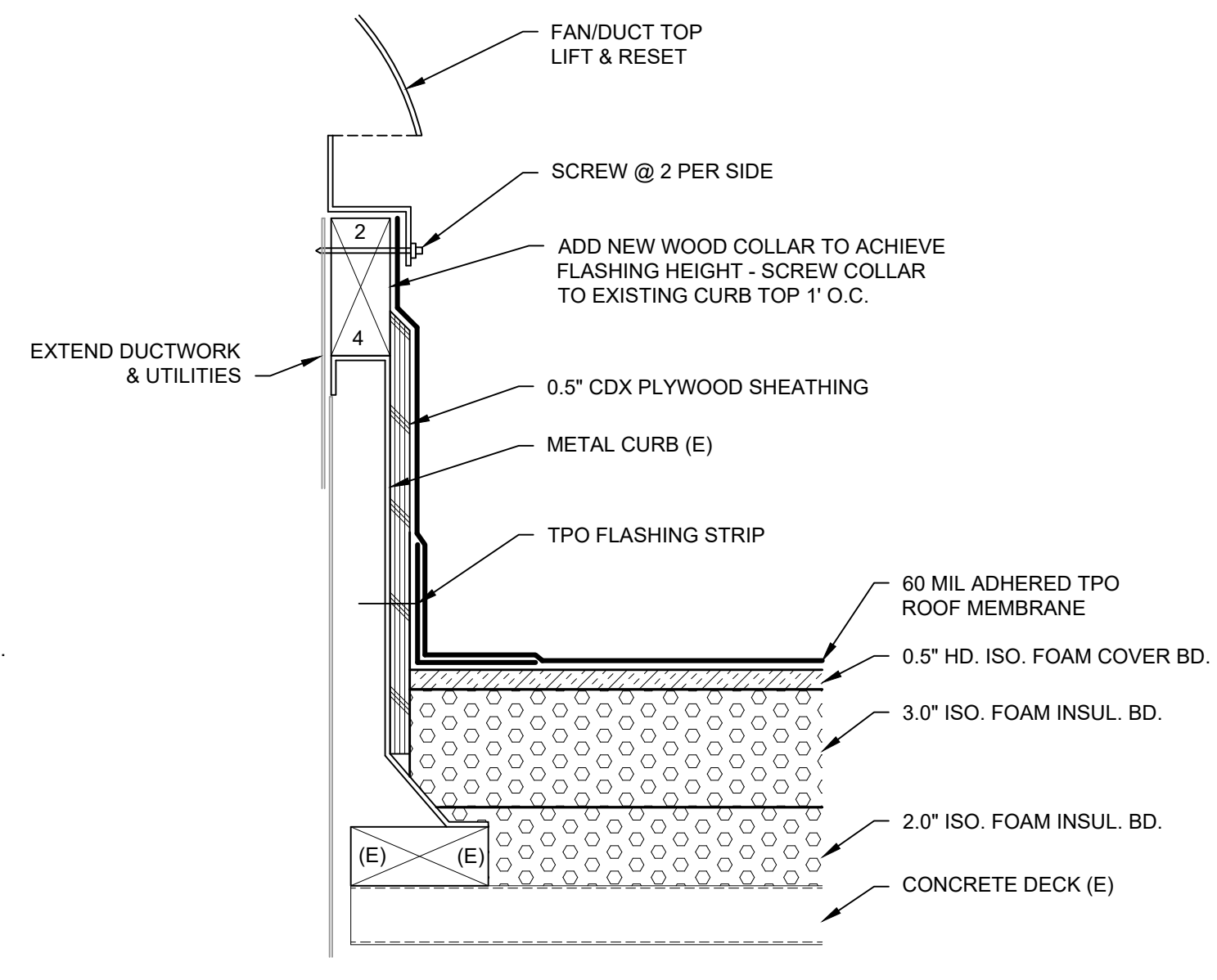
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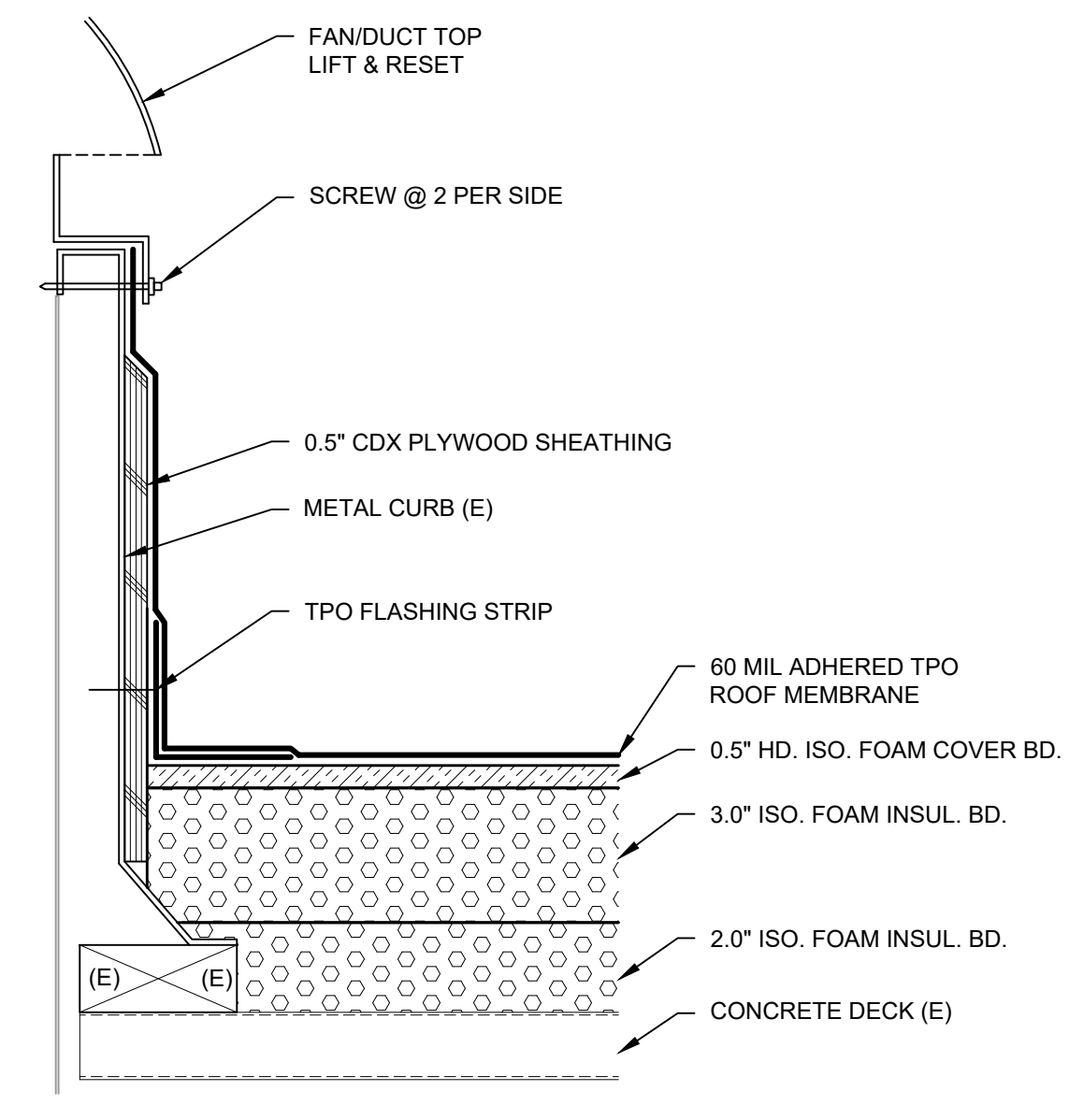
SHEET 4 OF 4



**A1**  
**R2.1** CONDUIT FIELD WRAP FLASHING  
SCALE 3" = 1'-0" (1:4)



**A2**  
**R2.1** MECH. CURB FLASHING  
SCALE 3" = 1'-0" (1:4)



**A3**  
**R2.1** MECH. CURB FLASHING  
SCALE 3" = 1'-0" (1:4)