

# 2025 Waterford School District Crary Campus Roofing Replacement 501 N. Cass Lake Road Waterford Twp., Michigan 48328



Project  
**2025 WATERFORD  
SCHOOL DISTRICT  
CRARY CAMPUS  
ROOFING REPLACEMENT**

Project Location  
**501 N. CASS LAKE ROAD  
WATERFORD TWP., MI 48328**

Engineer's Seal

REV	ISSUED FOR	DATE	BY
	BIDS	02/26/25	KMD

Date  
**02/26/2025**

SME Project No.  
**098209.02**

Project Manager:  
**K. DAMEROW**

Designer:  
**T. ACORD**

CADD:  
**J. NICHOLAS**

Checked By:  
**K. DAMEROW**

Reviewed By:  
**A. CASSIDY**

Sheet Name:  
**COVER SHEET**

Sheet No.  
**G0.1**

## GENERAL NOTES:

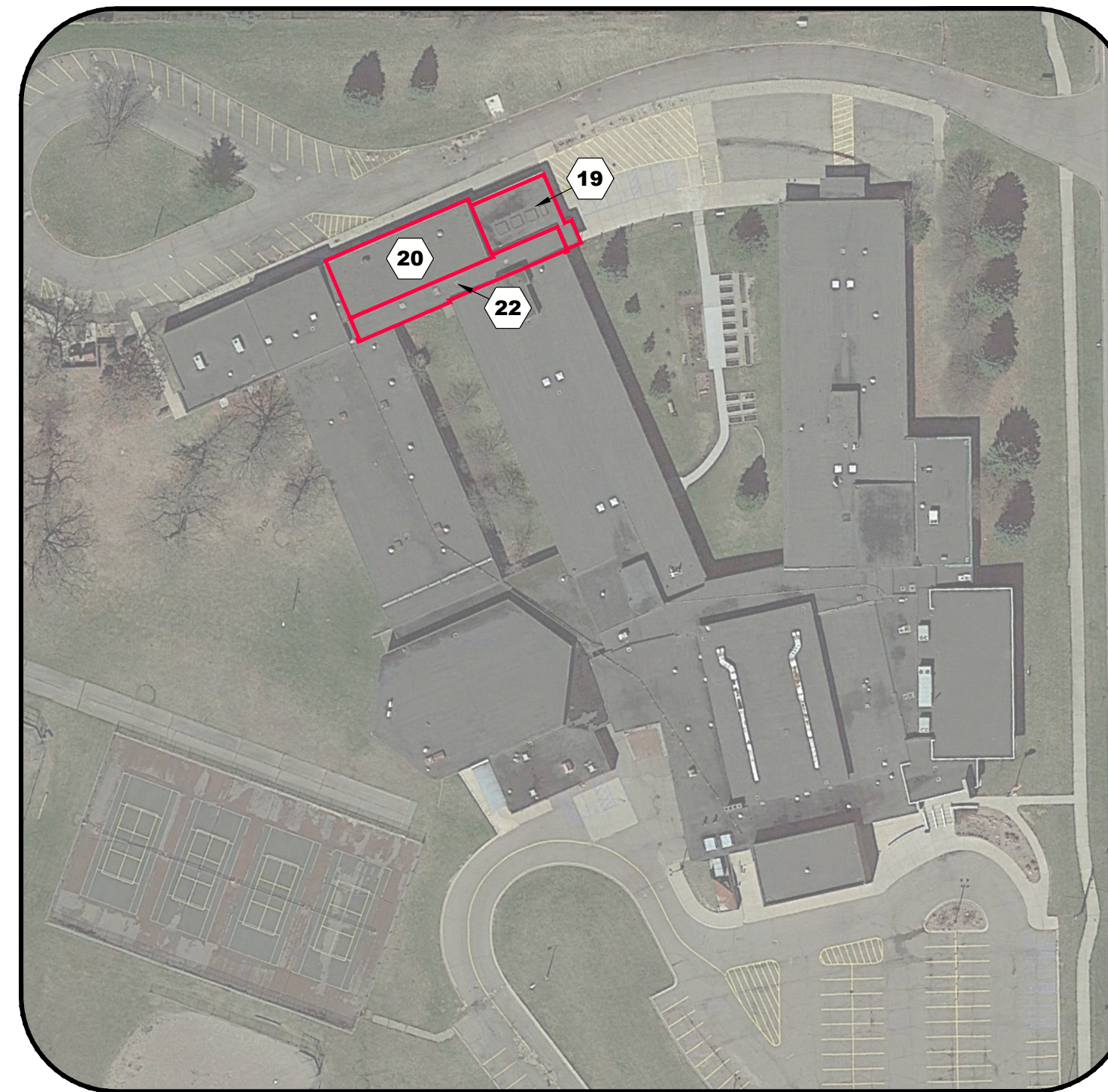
- THE SUMMARY OF WORK CONTAINED IN THESE NOTES AND SHOWN ON THE PLANS MAY NOT INCLUDE ALL ITEMS AND ACTIVITIES NECESSARY TO COMPLETE THE WORK. IN ADDITION TO THE REQUIREMENTS SHOWN IN THE DRAWINGS, TAKE MEASURES REASONABLY NECESSARY TO PROVIDE THE DESIRED WORK RESULT AND TO COMPLETE THE WORK AT NO ADDITIONAL COST TO THE OWNER.
- ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING SAFETY, AND PROTECTION OF PROPERTY AND PEDESTRIANS. PROVIDE AND MAINTAIN SAFETY DEVICES IN COMPLIANCE WITH LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS.
- DO NOT SCALE DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. DIMENSIONS SHOWN ON DRAWINGS ARE BASED UPON LIMITED FIELD VERIFICATION, AND HAVE NOT BEEN COMPLETELY FIELD VERIFIED. THE OWNER AND ENGINEER TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING DIMENSIONS SHOWN ON THE DRAWINGS.
- NOTIFY THE OWNER AND ENGINEER OF ANTICIPATED CHANGES OR ADDITIONS TO THE WORK PRIOR TO THE START OF ACTIVITIES. THE GENERAL LIMITS OF THE WORK ARE NOTED ON THE PROJECT DRAWINGS WITH WORK BOUNDARIES TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- PROMPTLY REPORT UNANTICIPATED CONDITIONS UNCOVERED THAT ARE CONTRARY TO THE DRAWINGS OR WILL ADVERSELY IMPACT THE WORK TO THE OWNER AND ENGINEER FOR ADVISEMENT.
- PROVIDE TEMPORARY PROTECTION, BARRICADES, TEMPORARY STRUCTURES, AND OTHER MEASURES AS NEEDED TO PROTECT THE PEDESTRIAN AND VEHICULAR TRAFFIC ADJACENT TO AND IN THE VICINITY OF THE WORK AREA.
- PROVIDE TEMPORARY PROTECTION WATERPROOFING, TIE-INS, WATER BLOCKS, AND INTERIOR PROTECTION AS NEEDED DURING THE WORK TO PREVENT LEAKAGE INTO THE BUILDING AND WATER DAMAGE TO THE INTERIOR. PROVIDE TARPULINS OR PLASTIC SHEETING FOR TEMPORARY PROTECTION INSIDE THE BUILDING AS NEEDED DURING CONSTRUCTION. PROVIDE TEMPORARY PROTECTION OF EXISTING EQUIPMENT DURING THE WORK, SATISFYING OWNER'S REQUIREMENTS. RESTORE EXISTING EQUIPMENT, BUILDING COMPONENTS, SIDEWALK, AND GROUNDS DAMAGED DURING THIS WORK TO ORIGINAL CONDITION OR REPLACE WITH NEW MATERIALS AS DIRECTED BY THE OWNER. DAMAGED EQUIPMENT/COMPONENTS WILL BE REPLACED AT NO COST TO THE OWNER.
- FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR DELIVERY, STORAGE, MIXING, SURFACE PREPARATION, APPLICATION, AND CURING OF MATERIALS USED FOR RESTORATION WORK.
- SECURE SITE STAGING AREA FOR STORAGE TO BE COORDINATED WITH OWNER PRIOR TO BEGINNING WORK.
- STORAGE OF MATERIALS INSIDE THE BUILDING IS PROHIBITED. DO NOT STORE FLAMMABLE MATERIALS ON THE ROOFS OR IN THE STAGING AREA. REMOVE FLAMMABLE MATERIALS FROM THE SITE AND SECURELY STORE THEM AT THE END OF EACH WORK DAY.
- TAKE DUE CARE AND CAUTION TO AVOID TRACKING DUST, DEBRIS, OR LOOSE MATERIALS TO AREAS OUTSIDE OF THE CONSTRUCTION AREA. REMOVE MATERIALS TRACKED TO AREAS OUTSIDE OF THE CONSTRUCTION AREA AS SOON AS POSSIBLE, AT NO ADDITIONAL COST TO THE OWNER. CONDUCT AN INSPECTION AT THE END OF EACH WORK DAY OF THE PROJECT AREA AND TAKE STEPS TO ENSURE THAT THE ENTIRE WORK AREA IS CLEAN. THIS REQUIREMENT INCLUDES DEBRIS FROM THE CONTRACTOR'S EMPLOYEES EATING LUNCH OR ON BREAKS.
- REMOVE WASTE MATERIALS AND DEBRIS RESULTING FROM THE WORK FROM THE SITE AND DISPOSE OF IN A LEGAL MANNER.
- REMOVE STAINING/CONTAMINANTS FROM BUILDING SURFACES AND THE GROUNDS, INCLUDING SPILLED OR SMEARED SEALANTS, BITUMINOUS MATERIALS, GASOLINE AND FUEL SPILLS, AND HYDRAULIC LEAKAGE FROM THE EQUIPMENT USED ONSITE.
- PROVIDE PROTECTION OF SIDEWALKS OR OTHER PAVEMENTS AGAINST BREAKAGE DUE TO MANLIFT USE OR OTHER EQUIPMENT. RESTORE DAMAGED SIDEWALKS AND PAVEMENTS TO PRE-PROJECT CONDITIONS.
- MAINTAIN UP-TO-DATE SET OF PROJECT DOCUMENTS AT THE JOB-SITE. KEEP ACCURATE AND LEGIBLE RECORDS OF CHANGES TO THE WORK THAT OCCUR DURING CONSTRUCTION AND INFORMATION ON 'AS-BUILT' EXISTING OR CONSTRUCTED CONDITIONS. KEEP RECORDS OF CHANGES AND AS-BUILT CONDITIONS DOCUMENTED ON A SET OF DRAWINGS TO BE PROVIDED TO THE ENGINEER AT CONSTRUCTION COMPLETION.
- UPON COMPLETION OF THE WORK, CLEAR THE ENTIRE SITE OF EQUIPMENT, UNUSED MATERIALS, AND RUBBISH. RESTORE DISTURBED AREAS TO THE SATISFACTION OF THE OWNER.

## SCOPE OF WORK:

- REMOVE AND REPLACE ROOFING ASSEMBLY ON EACH ROOF WITH NEW FULLY ADHERED, BLACK, 60-MIL UNREINFORCED EPDM MEMBRANE, INSULATION, PERIMETER FLASHINGS, EDGE METAL FLASHINGS, 20-YEAR ROOFING MANUFACTURER'S WARRANTY, AND 2-YEAR CONTRACTOR'S WARRANTY. EDGE METAL TO BE INCLUDED IN ROOFING MANUFACTURER'S 20-YEAR WARRANTY.
- REPLACE EACH DRAIN AS INDICATED ON PROJECT DRAWINGS AND SPECIFICATIONS.
- REPLACE DETERIORATED WOOD BLOCKING TO MATCH EXISTING.
- ADD WOOD BLOCKING ON CURBS AND PERIMETERS TO ACCOMMODATE NEW INSULATION HEIGHTS.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE NUMBER OF NAILERS REQUIRED AT CURBS TO PROVIDE A MINIMUM OF 8-INCHES FLASHING HEIGHT.
- PROVIDE LICENSED ELECTRICAL, PLUMBING, OR HVAC SUBCONTRACTORS TO DISCONNECT AND RECONNECT MECHANICAL UNITS, ADJUST OR RELOCATE UTILITIES, RAISE CURBS, INSTALL NEW DRAINS, AND ABANDON DESIGNATED CURBS, SKYLIGHTS, DRAINS, AND PIPING AT NO ADDITIONAL COST TO THE OWNER. IN-PLACE SYSTEMS SHALL ACCOMMODATE NEW INSULATION THICKNESSES AND MEET WARRANTY REQUIREMENTS FOR FLASH HEIGHT BY ROOFING MANUFACTURER.
- ALL MECHANICAL UNITS AND UTILITIES MUST BE OPERATIONAL AND DRAINS FREE-FLOWING AT THE COMPLETION OF THE PROJECT. THIS INCLUDES CONDUITS DAMAGED BY SCREWS OR OTHER ITEMS THAT MAY DAMAGE UTILITIES.
- WORK TO BE COMPLETED IN ACCORDANCE WITH LOCAL CODES AND JURISDICTION(S) OF AUTHORITY. DO NOT SHUT OFF OR INHIBIT UTILITY SERVICES WITHOUT NOTIFYING OWNER'S REPRESENTATIVE IN ADVANCE.

## ABBREVIATION INDEX

DIA	DIAMETER
GA	GALUGE
OC	ON CENTER
SIM	SIMILAR
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VIF	VERIFY IN FIELD



**OVERALL SITE PLAN**  
NOT TO SCALE



**OVERALL SITE PLAN**  
NOT TO SCALE

## ENGINEER

SME  
43980 PLYMOUTH OAKS BLVD.  
PLYMOUTH, MI 48170

CONTACT: KYLE DAMEROW, PE, RRC  
PHONE: 734.454.9900  
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www.sme-usa.com

SME PROJECT NO. 098209.02

## OWNER / CLIENT

WATERFORD SCHOOL DISTRICT  
501 N. CASS LAKE ROAD  
WATERFORD, MI 48328

OWNER REPRESENTATIVE : MR. SIDNEY TIPPETT  
PHONE: 248-674-3193  
EMAIL: TIPPES01@WSDMI.ORG

## APPLICABLE CODES

2015 MICHIGAN BUILDING CODE

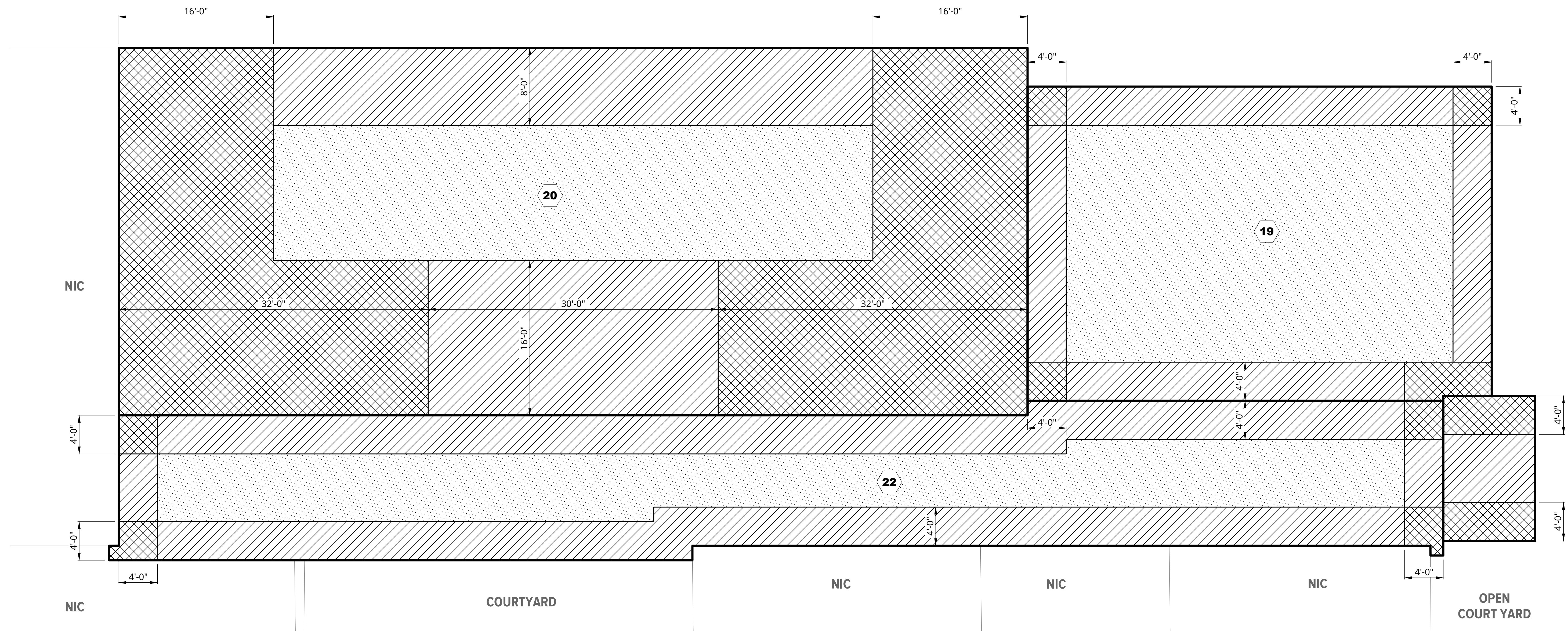
## LIST OF DRAWINGS

SHEET No.	SHEET TITLE
G0.1	COVER SHEET
G1.1	ROOF WIND DESIGN LOADING/ZONE PLAN AREAS 19, 20, AND 22
A1.1	ROOF PLAN AREAS 19, 20, AND 22
A4.1	FLASHING DETAILS
A4.2	FLASHING DETAILS

Revisions

REV	ISSUED FOR	DATE	BY
1	BIDS	02/26/25	KMD

Date	<b>02/26/2025</b>
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CADD:	<b>J. NICHOLAS</b>
Checked By:	<b>K. DAMEROW</b>
Reviewed By:	<b>A. CASSIDY</b>
Sheet Name:	<b>ROOF WIND DESIGN LOADING / ZONE PLAN AREAS 19, 20, AND 22</b>
Sheet No.	<b>G1.1</b>



**ROOF WIND DESIGN LOADING / ZONE PLAN AREAS 19, 20, AND 22**  
 SCALE: 3/16" = 1'-0"

**LEGEND**

- # ROOF AREA I.D.
- Zone 1 (Dotted Hatching)
- Zone 2 (Diagonal Hatching)
- Zone 3 (Cross-hatching)

**WIND DESIGN CRITERIA (MBC 2015)**  
 CRARY CAMPUS  
 ULTIMATE DESIGN (FACTORED) BASIC WIND SPEED (3 SECOND GUST) = 120 MPH  
 NOMINAL WIND SPEED = 93 MPH  
 EXPOSURE CATEGORY = C  
 RISK CLASSIFICATION = III  
 INTERNAL PRESSURE COEFFICIENT (PARTIALLY ENCLOSED) = +/- 0.18

- NOTES:  
 1. WORK WIND DESIGN LOADING ZONE PLAN WITH TABLE 1, THIS SHEET.  
 2. WIND UPLIFT PRESSURE GIVEN IN TABLE 1 TO BE USED FOR DESIGN OF ROOFING FASTENING SYSTEM(S).  
 3. DESIGN PRESSURES BASED ON EFFECTIVE WIND AREA OF 10FT<sup>2</sup> OR LESS.

TABLE 1  
 SERVICE (UNFACTORED) DESIGN WIND LOADS - COMPONENTS AND CLADDING

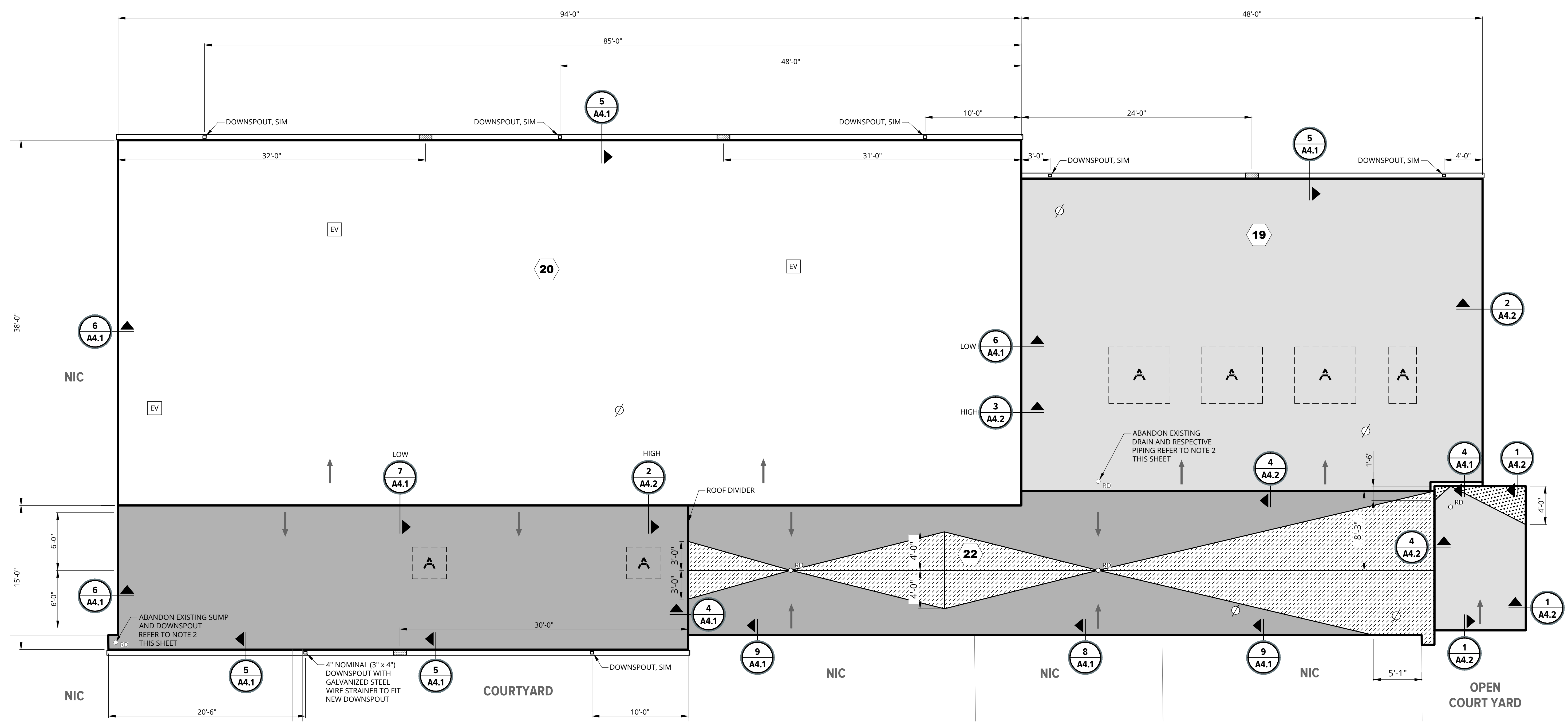
ROOF SURFACE VERTICAL PRESSURE (PSF)	
ZONE 1	-22
ZONE 2 AND TOP/SIDE OF PARAPET	-35
ZONE 3 AND TOP/SIDE OF PARAPET	-53

NOTE:  
 "- # " INDICATES PRESSURE ACTING AWAY FROM THE ROOF SURFACE, I.E. SUCTION

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 Feb 26, 2025 - 12:29pm - Jason.Nicholas  
 PLOT DATE:

Revisions			
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Sheet Name:	<b>ROOF PLAN AREAS 19, 20, AND 22</b>
Sheet No.	<b>A1.1</b>



**ROOF PLAN AREAS 19, 20, AND 22**  
SCALE: 3/16" = 1'-0"

- CRARY CAMPUS NOTES:**
- FIELD VERIFY ALL DIMENSIONS AND EXISTING SLOPES.
  - REMOVE CURBS/SKYLIGHTS DESIGNATED FOR ABANDONMENT. PROVIDE ENGINEER ACCESS TO REVIEW IN-PLACE CONDITIONS AND TO DEVELOP DETAIL FOR STEEL DECK INFILL. COORDINATE WITH ENGINEER PRIOR TO CURB AND SKYLIGHT REMOVAL. PROVIDE TEMPORARY PROTECTION TO KEEP AREA WEATHERTIGHT UNTIL REPAIRS CAN BE DESIGNED AND INSTALLED AT NO ADDITIONAL COST TO OWNER.

ROOF AREAS	ROOF ASSEMBLY (MEMBRANE TO DECK)
19	MEMBRANE: BLACK, 60-MIL, UNREINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE COVER BOARD: 1/2" HIGH DENSITY POLYISOCYANURATE (ISO) COVER BOARD ADHERED IN LOW-RISE FOAM TAPERED INSULATION SYSTEM: 1/4"/FT TAPERED ISO INSULATION SYSTEM, ADHERED IN LOW-RISE FOAM BASE INSULATION: 2 LAYERS OF 2.6" ISO INSULATION, ADHERED IN LOW-RISE FOAM ADHESIVE VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER BASE SHEET: SBS FIBERGLASS MAT MECHANICALLY ATTACHED
20	MEMBRANE: BLACK, 60-MIL, UNREINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE COVER BOARD: 1/2" DENSDECK PRIME COVER BOARD ADHERED IN LOW-RISE FOAM BASE INSULATION: 2 LAYERS OF 2.6" ISO INSULATION, ADHERED IN LOW-RISE FOAM ADHESIVE VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER BASE SHEET: SBS FIBERGLASS MAT MECHANICALLY ATTACHED
22	MEMBRANE: BLACK, 60-MIL, UNREINFORCED EPDM MEMBRANE, FULLY ADHERED IN BONDING ADHESIVE COVER BOARD: 1/2" HIGH DENSITY POLYISOCYANURATE (ISO) COVER BOARD ADHERED IN LOW-RISE FOAM TAPERED INSULATION SYSTEM: 1/8"/FT TAPERED ISO INSULATION SYSTEM, ADHERED IN LOW-RISE FOAM BASE INSULATION: 1 LAYER OF 2.6" ISO INSULATION, ADHERED IN LOW-RISE FOAM ADHESIVE VAPOR RETARDER: VAPOR RETARDER ADHERED IN PRIMER BASE SHEET: SBS FIBERGLASS MAT MECHANICALLY ATTACHED

**ROOFING LEGEND**

#	ROOF AREA I.D.
NIC	ROOF AREA NOT IN CONTRACT
RD	ROOF DRAIN RE: 1/A4.1
Ø	PIPE PENETRATION RE: 2/A4.1
EV	EXHAUSTS FAN RE: 3/A4.1
A	ABANDONED CURB, UNIT, OR SKYLIGHT VERIFY ABANDONMENT WITH OWNERS REPRESENTATIVE. REFER TO NOTE 2 THIS SHEET
←	GUTTER EXPANSION JOINT
←	WATER SHED DIRECTION
▲	1/4" PER FOOT TAPERED SADDLE
▲	1/2" PER FOOT TAPERED SADDLE
■	1/8" PER FOOT TAPERED SYSTEM
■	1/4" PER FOOT TAPERED SYSTEM

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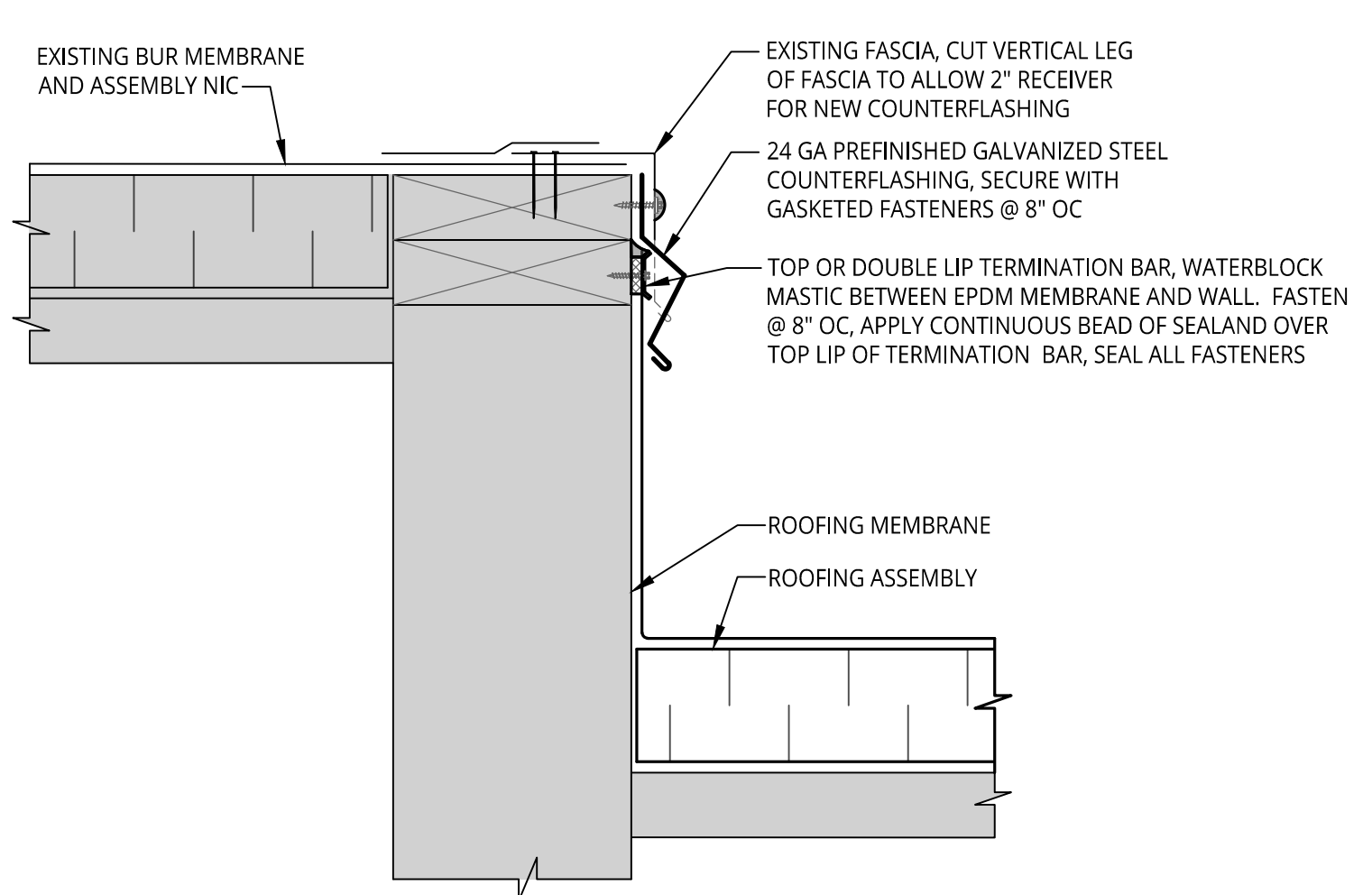
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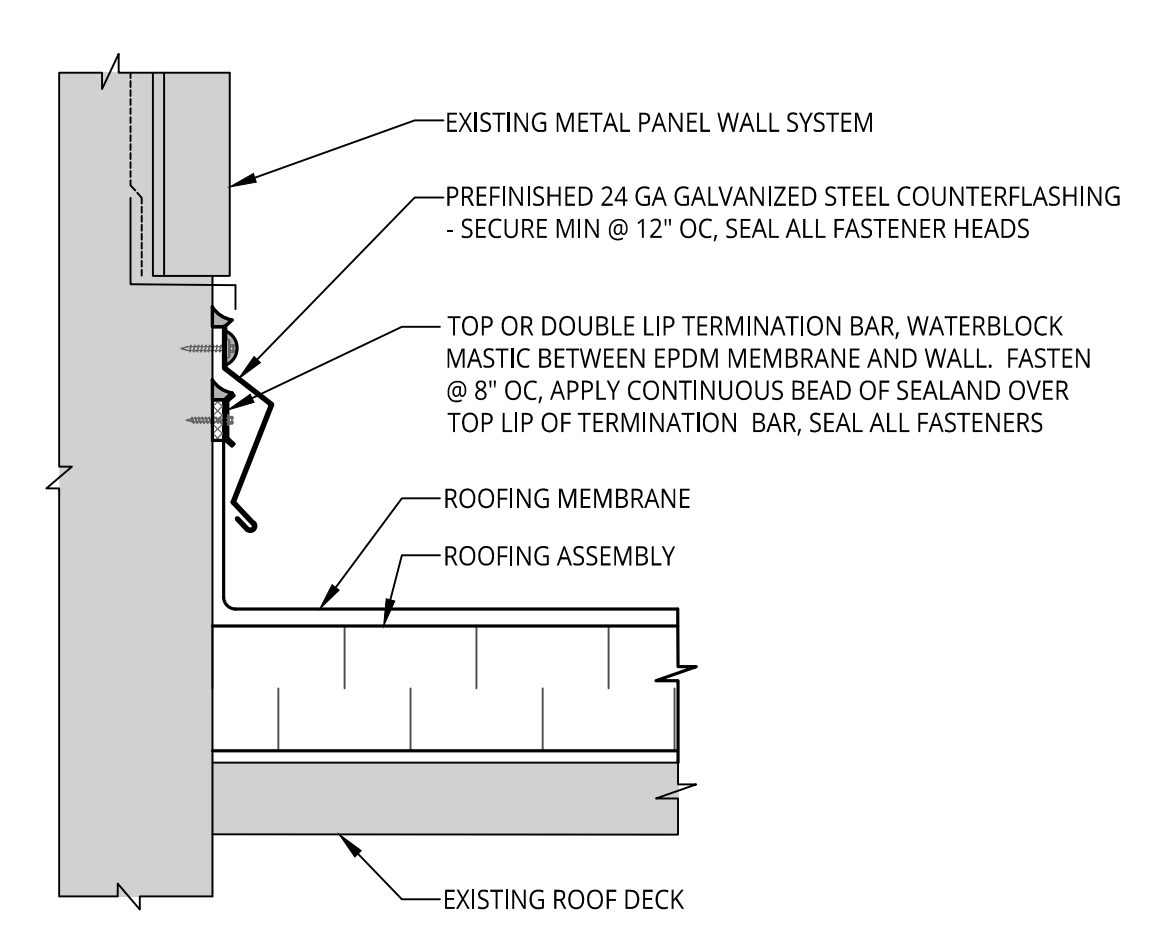
**Reviewed By:**  
A. CASSIDY

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FLASHING DETAILS

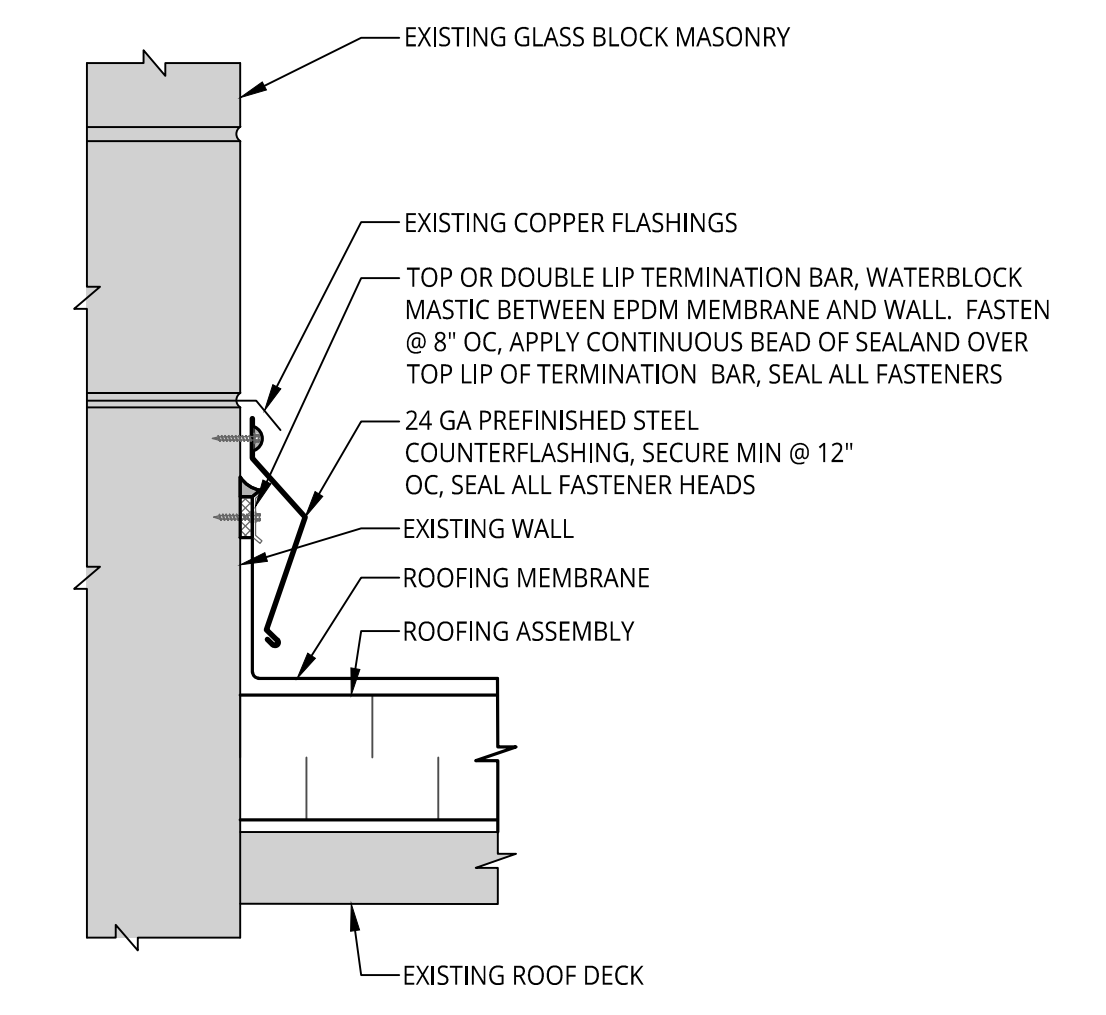
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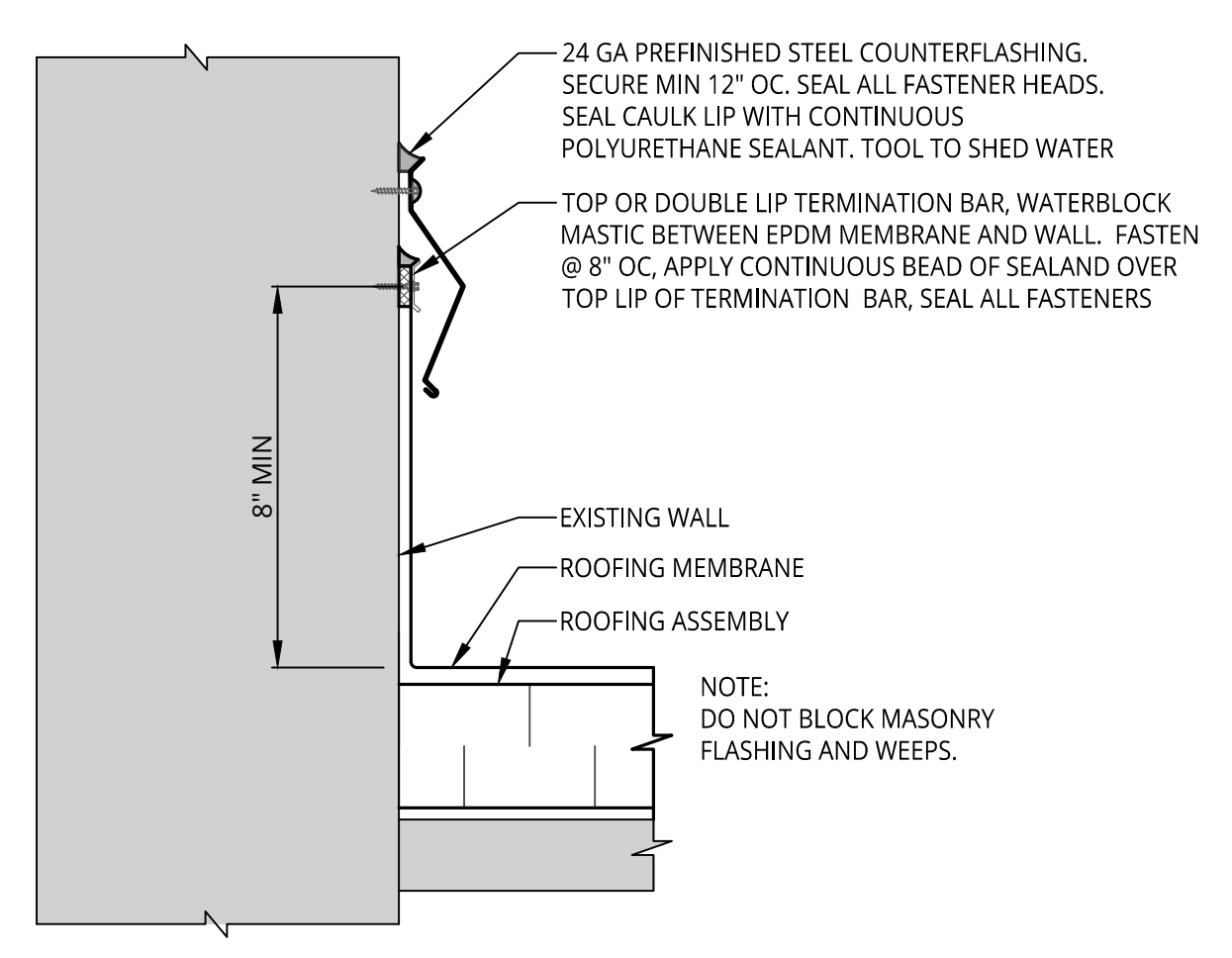
**9 EXISTING BUR TRANSITION**  
A1.1 NOT TO SCALE



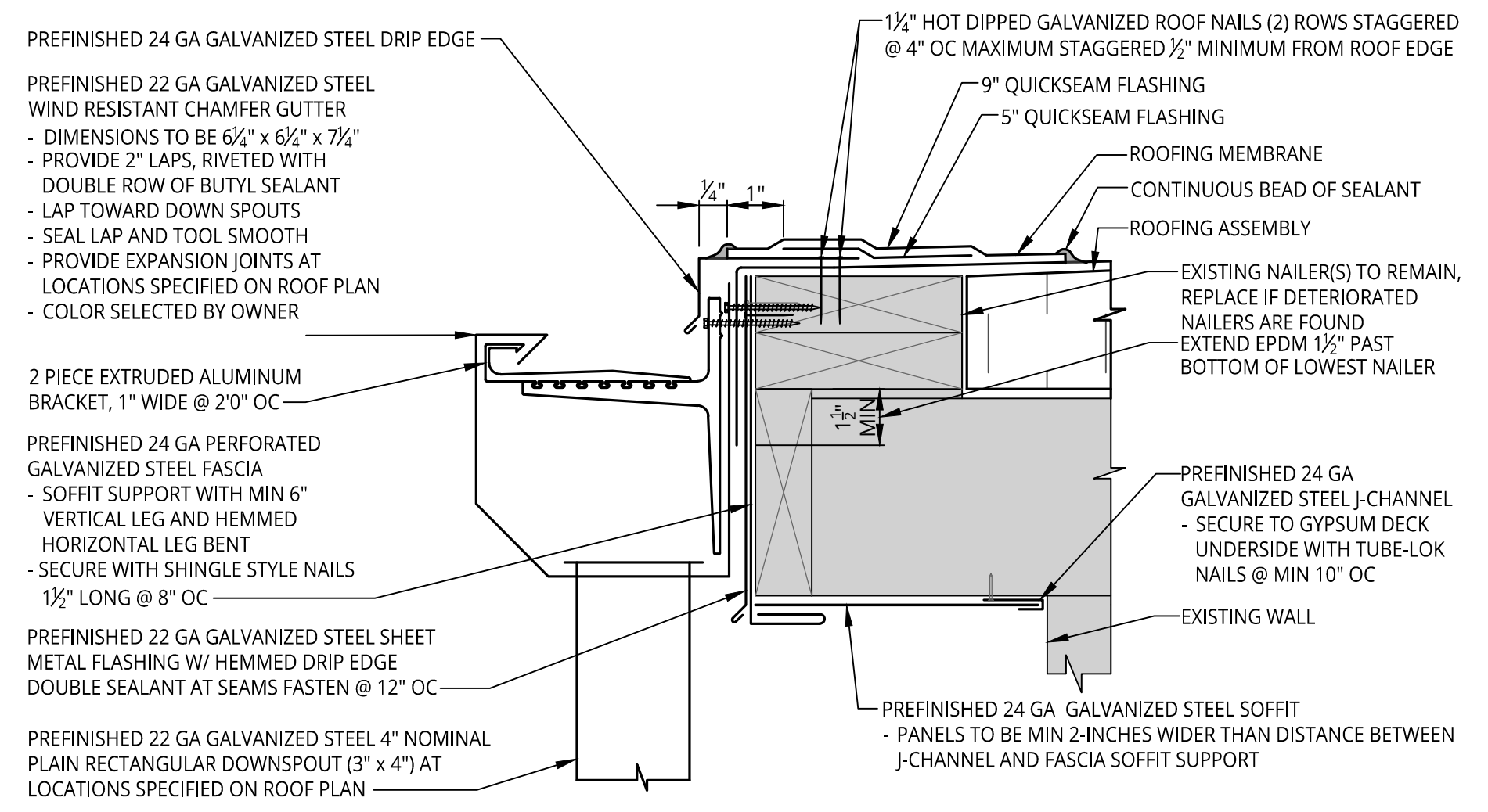
**8 COUNTERFLASHING AT METAL PANEL**  
A1.1 NOT TO SCALE



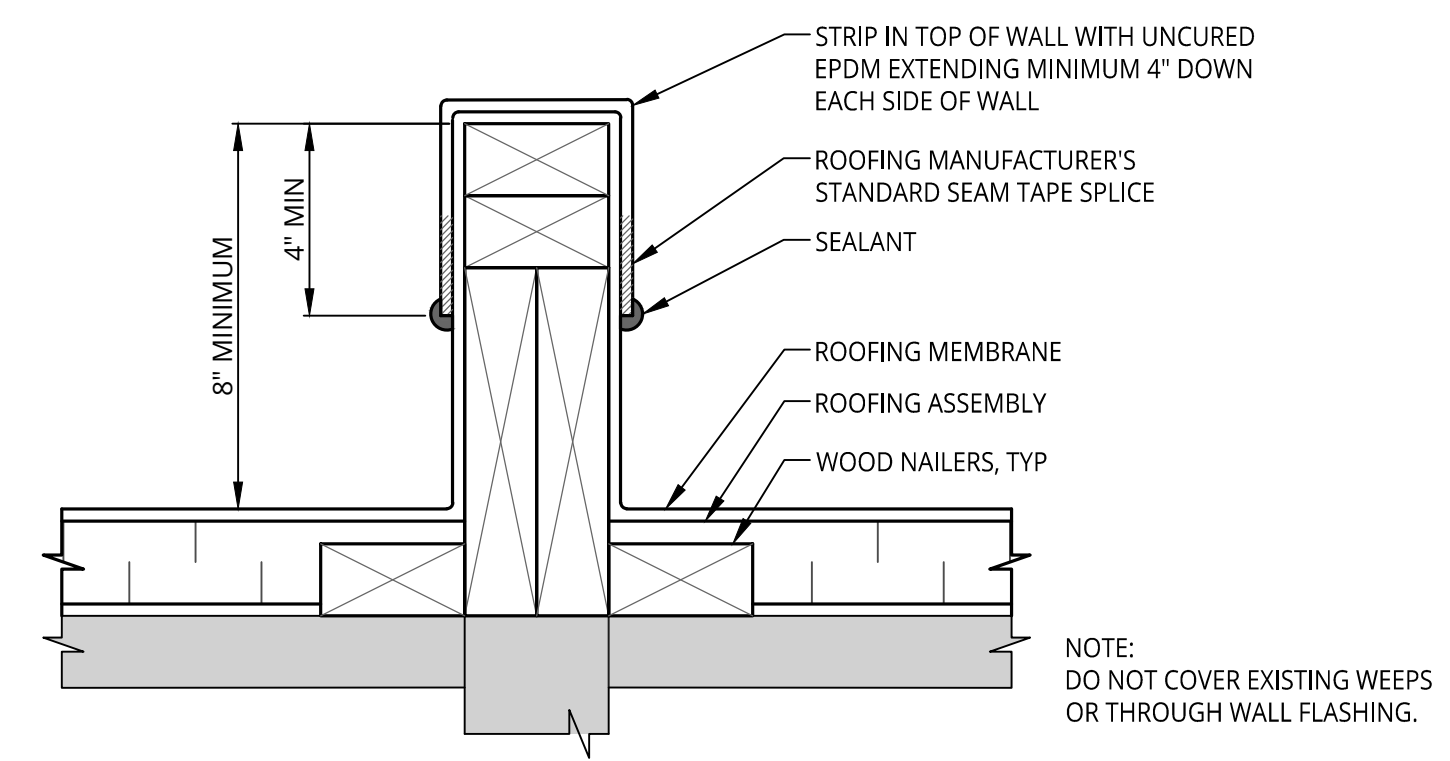
**7 CLERESTORY WINDOW COUNTERFLASHING**  
A1.1 NOT TO SCALE



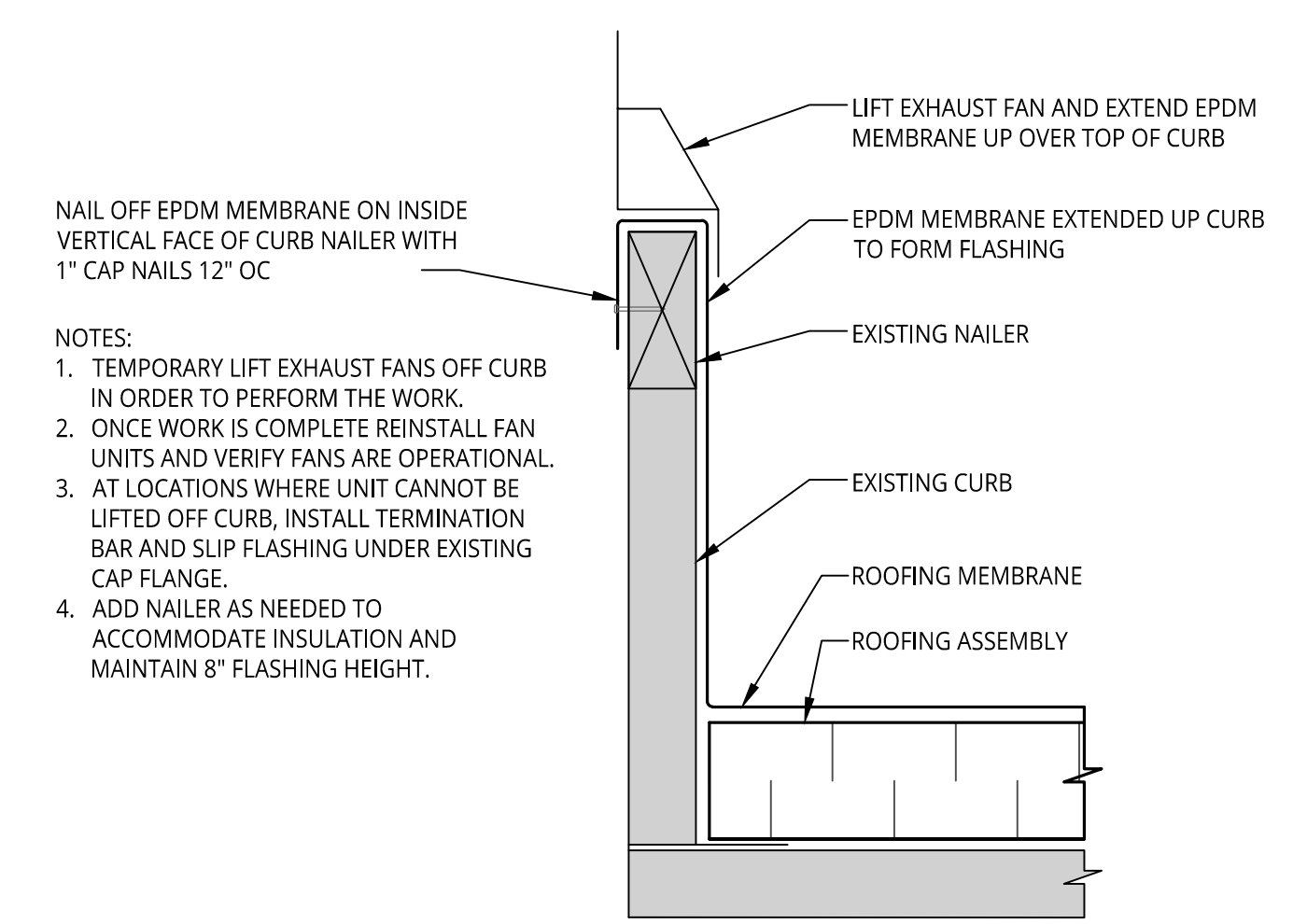
**6 BASE FLASHING - SURFACE MOUNTED COUNTERFLASHING**  
A1.1 NOT TO SCALE



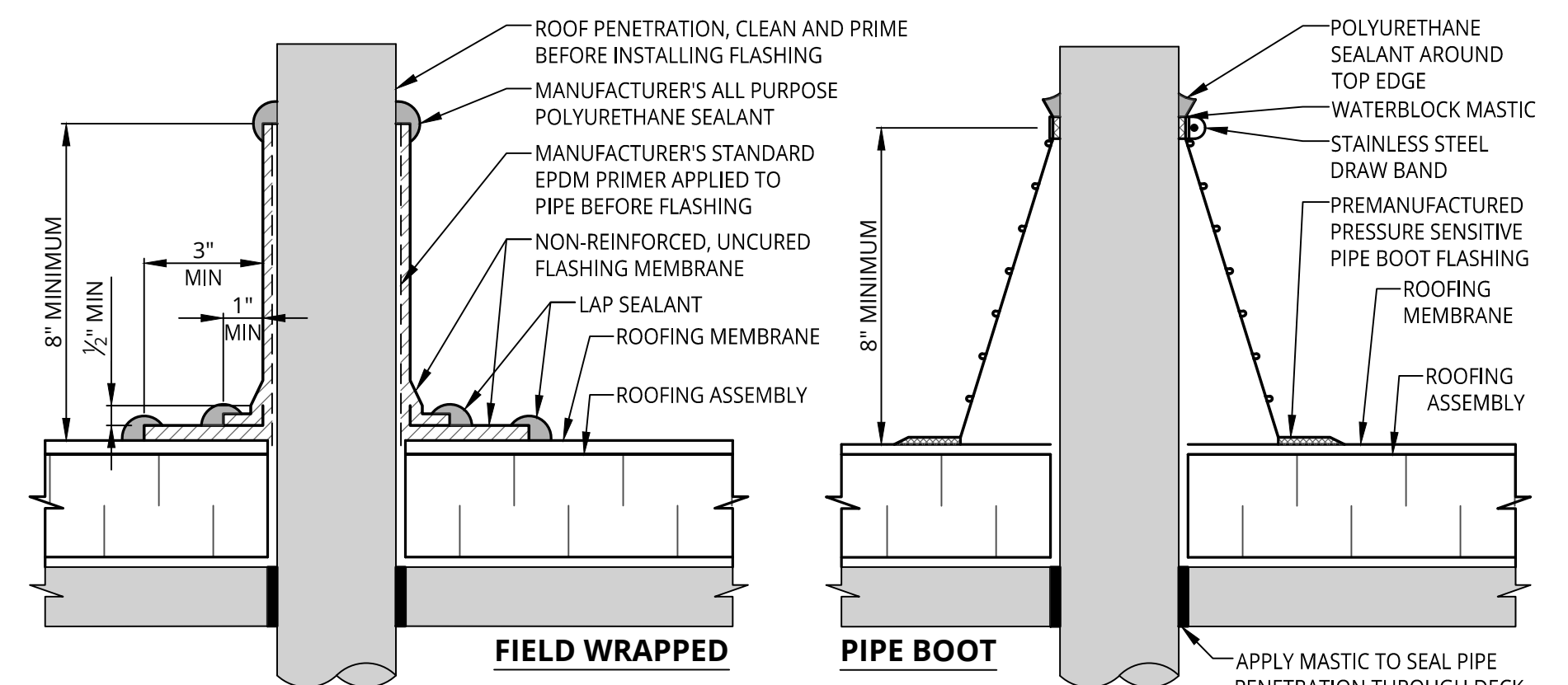
**5 PERIMETER FASCIA WITH SOFFIT REPLACEMENT**  
A1.1 NOT TO SCALE



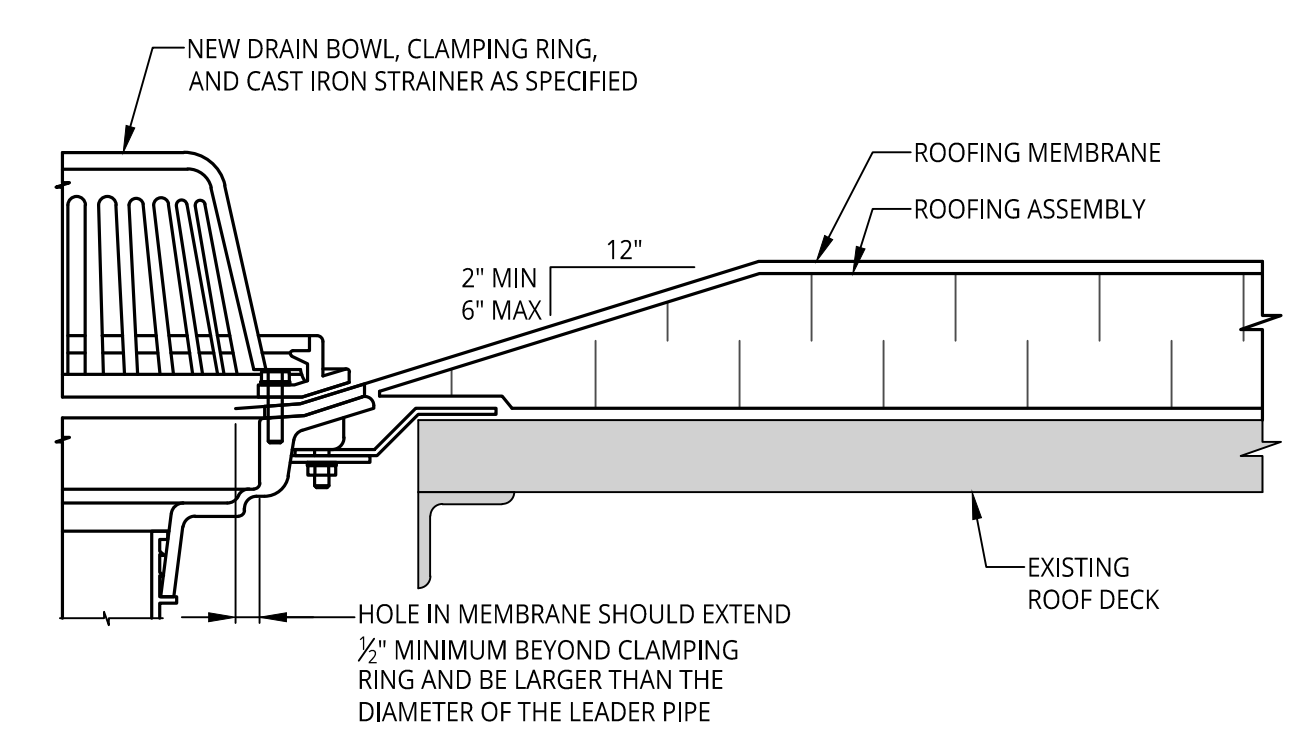
**4 KNEE WALL FLASHING**  
A1.1 NOT TO SCALE



**3 TYPICAL CURB UP AND OVER FLASHING**  
A1.1 NOT TO SCALE



**2 PIPE PENETRATION FLASHING**  
A1.1 NOT TO SCALE



**1 ROOF DRAIN**  
A1.1 NOT TO SCALE

- NAIL OFF EPDM MEMBRANE ON INSIDE VERTICAL FACE OF CURB NAILER WITH 1\"/>

NOTES:  
1. TEMPORARY LIFT EXHAUST FANS OFF CURB IN ORDER TO PERFORM THE WORK.  
2. ONCE WORK IS COMPLETE REINSTALL FAN UNITS AND VERIFY FANS ARE OPERATIONAL.  
3. AT LOCATIONS WHERE UNIT CANNOT BE LIFTED OFF CURB, INSTALL TERMINATION BAR AND SLIP FLASHING UNDER EXISTING CAP FLANGE.  
4. ADD NAILER AS NEEDED TO ACCOMMODATE INSULATION AND MAINTAIN 8\"/>

- NOTES:  
1. REMOVE ALL EXISTING FLASHING BEFORE INSTALLING FIELD-FABRICATED PIPE SEAL.  
2. NAILER REQUIRED TO STABILIZE STEEL DECK AROUND ALL PIPES GREATER THAN 12\"/>

NOTE:  
CAN USE EITHER OF THESE DETAILS

- NOTES:  
1. THE USE OF LAP SEALANT TO SEAL TOP EDGE OF PIPE BOOT IS NOT PERMITTED. PIPE BOOTS ARE NOT TO BE APPLIED DIRECTLY TO HOT VENTS.  
2. NAILERS REQUIRED TO STABILIZE STEEL DECK AT PENETRATIONS LARGER THAN 12\"/>

- NOTES:  
1. DO NOT RUN SEAMS THROUGH DRAINS OR SUMPS.  
2. WHERE FIELD SEAMS ARE WITHIN 18\"/>

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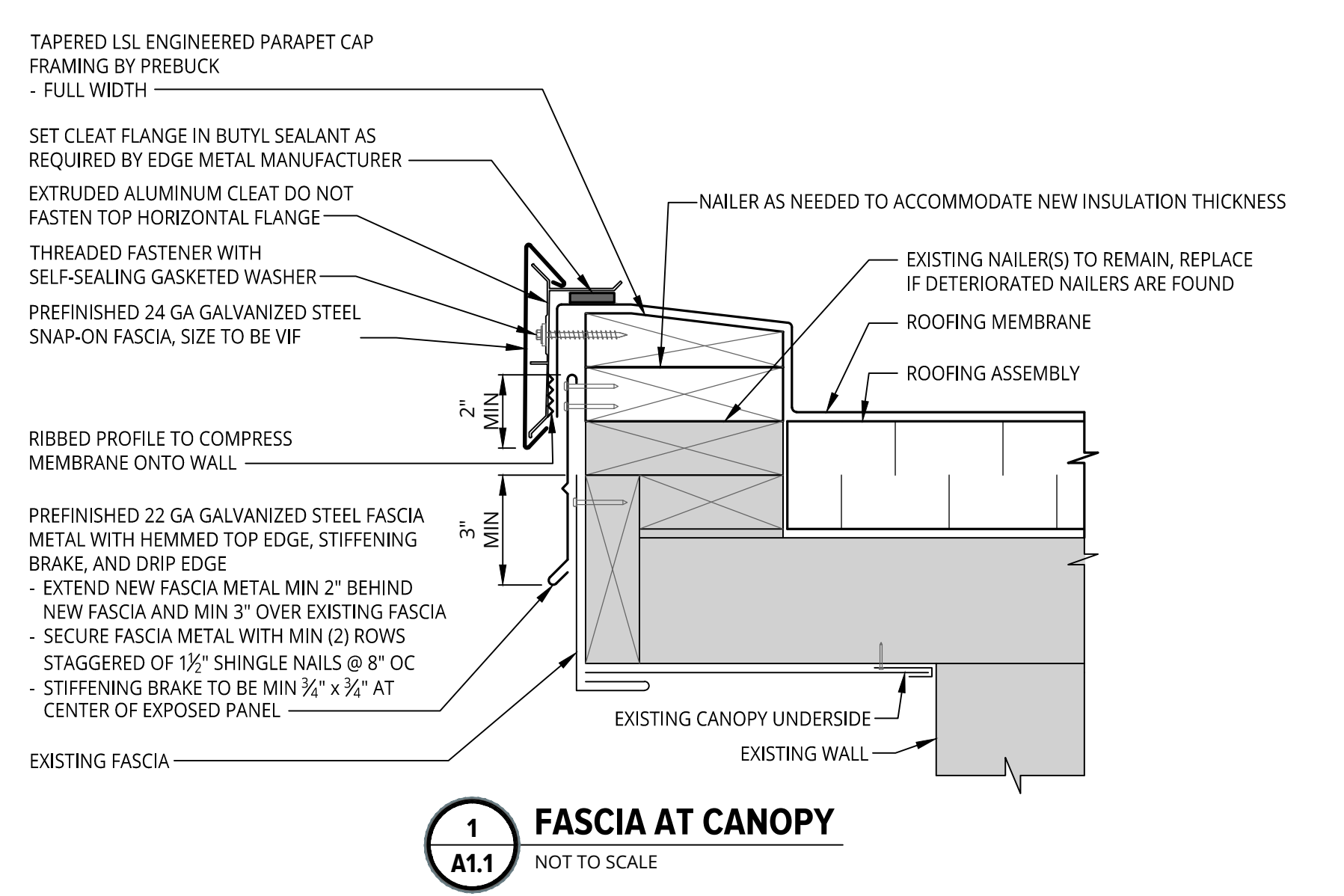
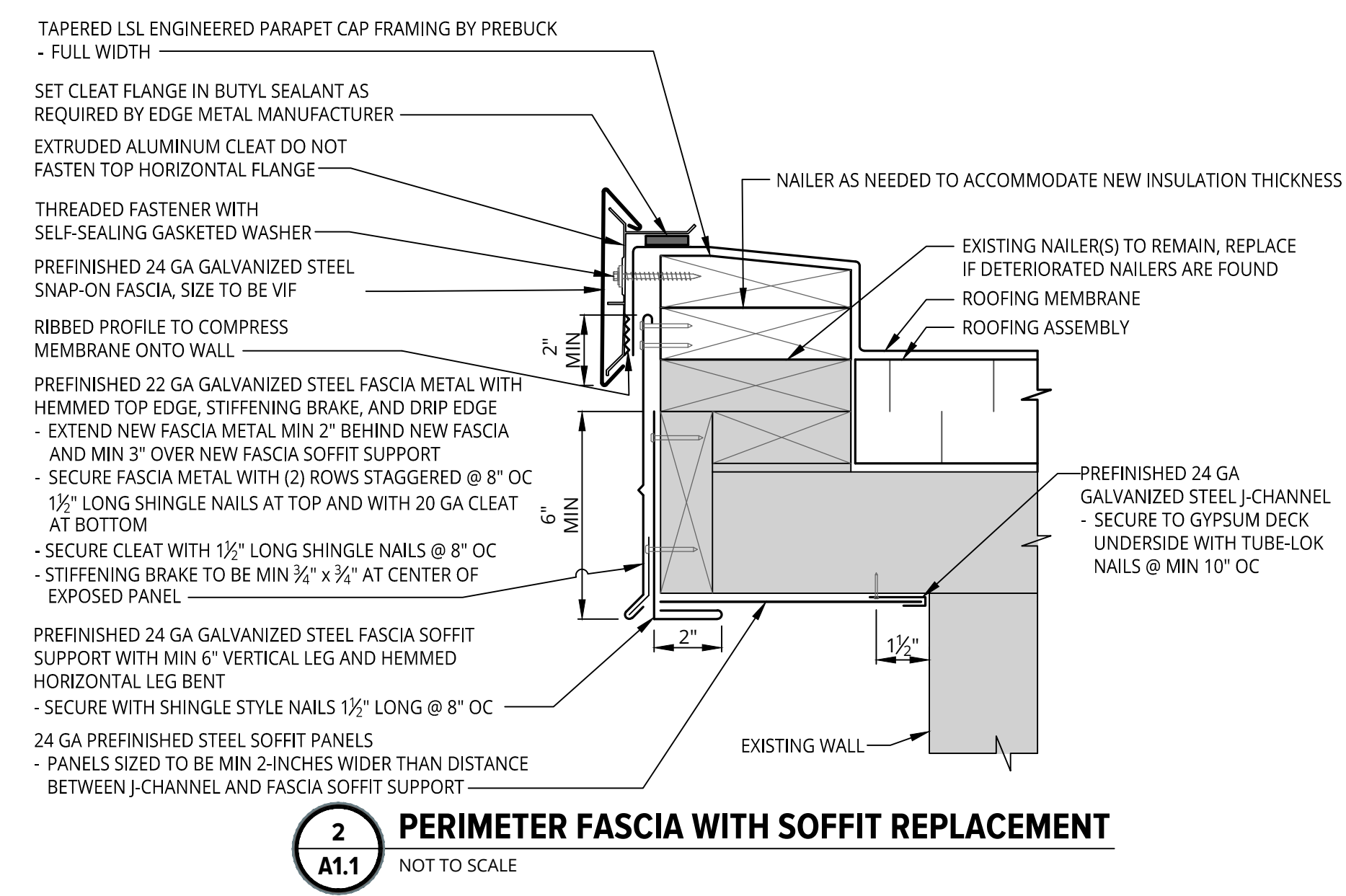
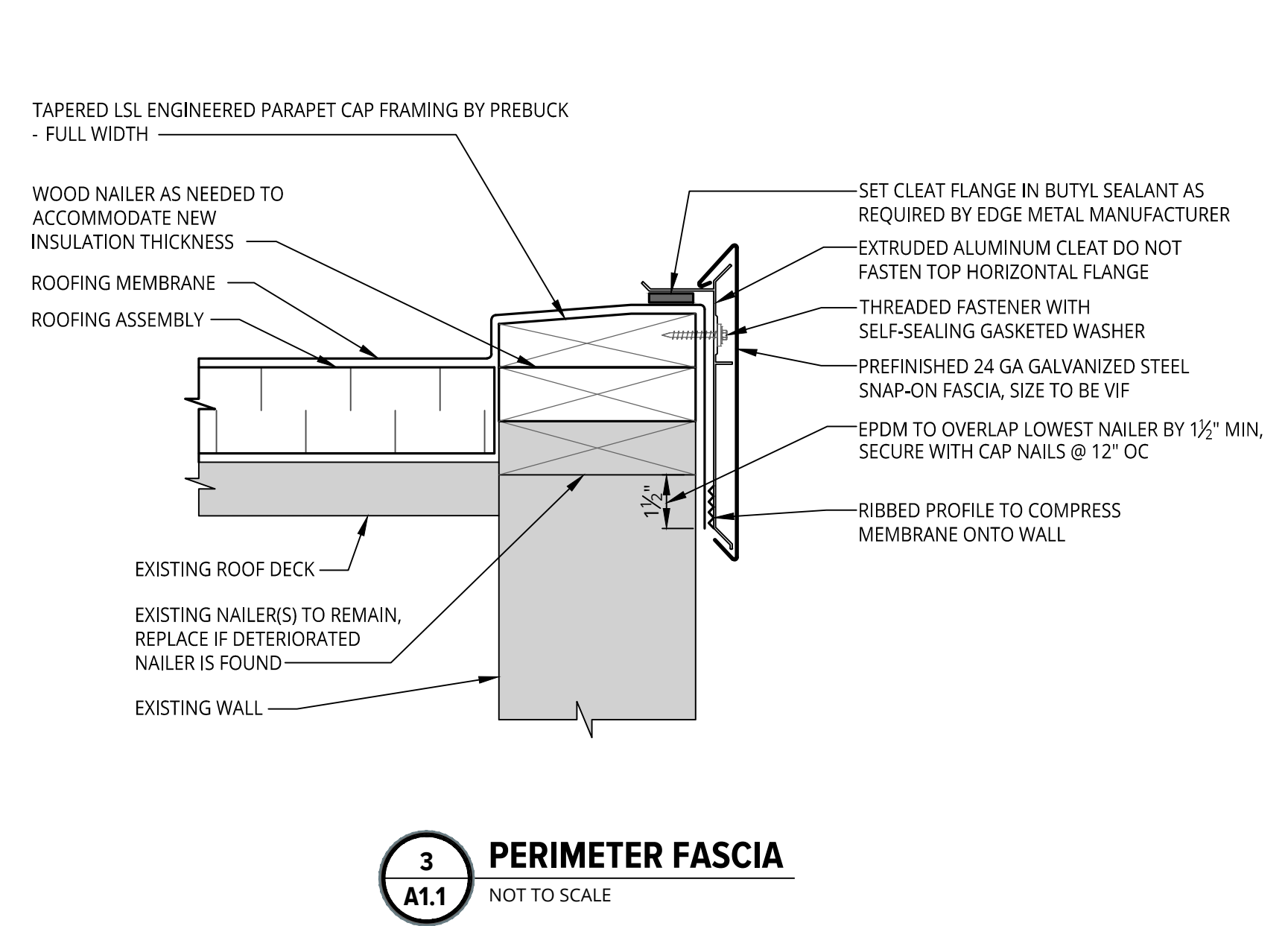
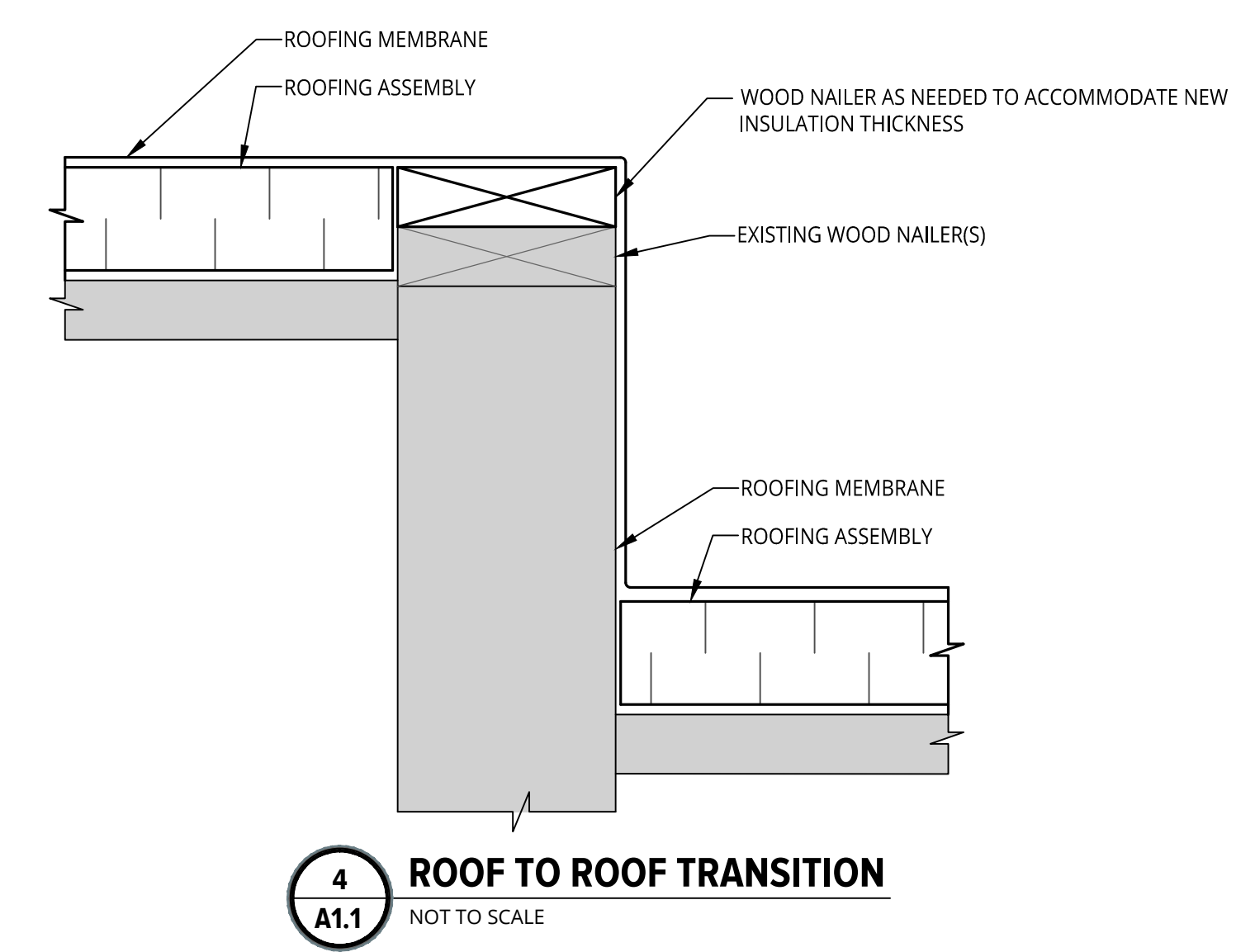
CADD:  
**J. NICHOLAS**

Checked By:  
**K. DAMEROW**

Reviewed By:  
**A. CASSIDY**

Sheet Name:  
**FLASHING DETAILS**

Sheet No.  
**A4.2**



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