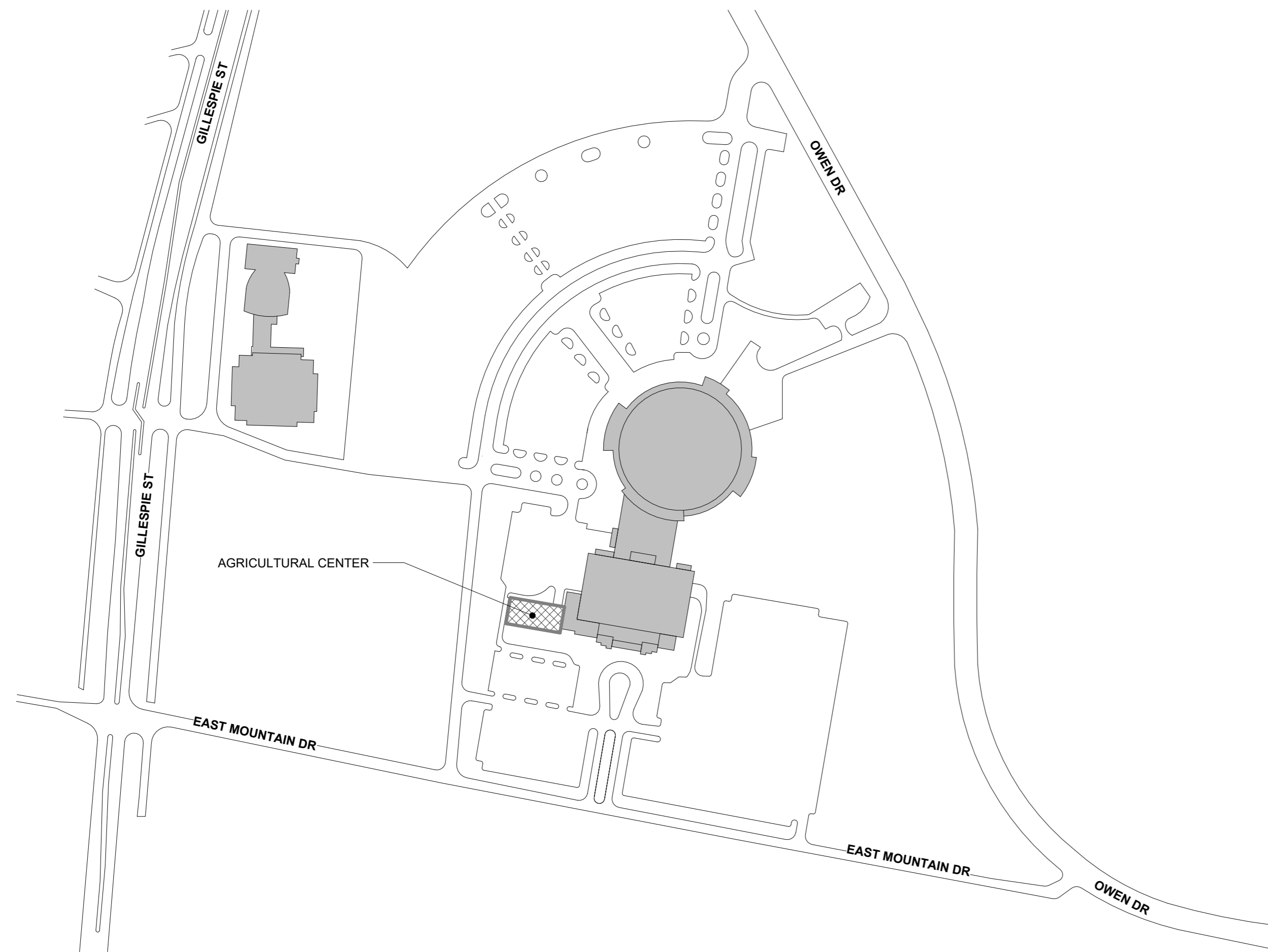


CAMPUS MAP



PROJECT TITLE

AGRICULTURAL CENTER ROOF REPLACEMENT

FOR

CUMBERLAND COUNTY

301 EAST MOUNTAIN DR.
FAYETTEVILLE, NORTH CAROLINA 28306

CONSULTANTS

PROJECT NAME

AGRICULTURAL CENTER
ROOF REPLACEMENT

FOR

CUMBERLAND COUNTY

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306

SEAL



BID SET

PROJECT TEAM

DESIGNED BY:
S. FLEMING
DRAWN BY:
K. HALE
CHECKED BY:
S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

INDEX OF DRAWINGS,
LOCATION MAP,
CAMPUS MAP AND KEY PLAN

ISSUE DATE

10/2/2025

PROJECT NO.

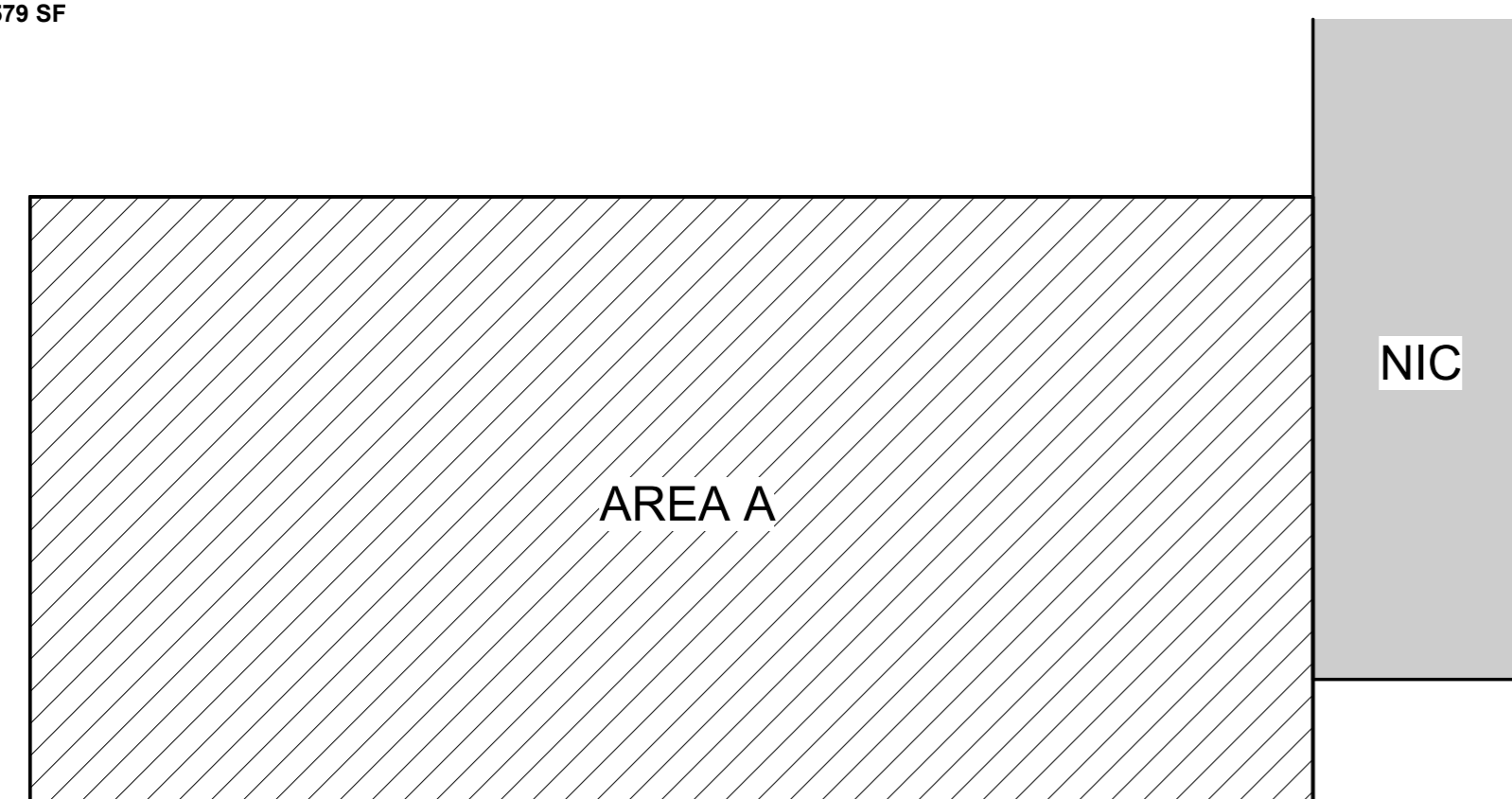
25-01

SHEET NUMBER

G1.0

KEY PLAN

APPROXIMATE AREAS
AREA A 12,579 SF
TOTAL 12,579 SF



INDEX OF DRAWINGS

SHEET	TITLE
GENERAL	
G1.0	INDEX OF DRAWINGS, LOCATION MAP, CAMPUS MAP AND KEY PLAN
G1.1	BUILDING CODE SUMMARY, NEW ROOF ASSEMBLY DETAILS
DEMOLITION	
D1.0	DEMOLITION ROOF PLAN AND GENERAL NOTES
D1.1	DEMOLITION DETAILS AND SECTIONS
ROOF	
R1.0	ROOF PLAN AND GENERAL NOTES
R1.1	DETAILS AND SECTIONS

CONSULTANTS

PROJECT NAME

AGRICULTURAL CENTER ROOF REPLACEMENT

FOR
CUMBERLAND COUNTY

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306

SEAL



BID SET

PROJECT TEAM

DESIGNED BY:
S. FLEMING
DRAWN BY:
K. HALE
CHECKED BY:
S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

BUILDING CODE SUMMARY, NEW ROOF ASSEMBLY DETAILS

ISSUE DATE

10/2/2025

PROJECT NO.

25-01

G1.1

Name of Project: Agricultural Center Roof Replacement
Address: 301 East Mountain Drive Zip Code 28306
Proposed Use: B (Civic administration) (No change)
Owner/Authorized Agent: TBD Phone # TBD E-mail TBD
Owned By: City/County Private State
Code Enforcement Jurisdiction: City County State

LEAD DESIGN PROFESSIONAL:
DESIGN FIRM Fleming & Associates, PA
DESIGNER NAME Stephen Fleming, PE, RBEC
LICENSE # 11278 TELEPHONE # (910) 433-2825 E-MAIL sfleming@flemingandassociates.com

EDITION OF CODE: 2018 NC State Building Code: Existing Building Code
 Addition Alteration- Level 1 Alteration- Level 2 Alteration- Level 3 Repair
CONSTRUCTED: (date) 1988
REPAIR: (date) N/A
RECOVER: (date) N/A

BASIC BUILDING DATA
Construction Type: I-A II-A III-A IV V-A
(check all that apply) I-B II-B III-B V-B
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: No Yes Class I II III Wet Dry
Fire District: No Yes (Primary)
Building Height: (feet) 30'

ALLOWABLE AREA
Occupancy:
Assembly
Business
Educational
Factory F-1 and F-2
Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
Institutional
Mercantile
Residential R-1 R-2 R-3 R-4
Storage S-1, S-2, Parking Garage, Repair Garage
Utility and Miscellaneous

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY
Roof Construction Including supporting beams and joists			

STRUCTURAL DESIGN
DESIGN LOADS:
Wind Uplift Resistance (This section to be duplicated for each distinct roof area)
Basic Wind Speed (V_w) 122 mph (ASCE 7-10)
Exposure Category C
Design Pressure (psf) (includes factor of safety of 2.0):
Roof Area: A, B, C All Other Roof Areas
Field -45.0 N/A
Perimeter -76.0 N/A
Corner -114.0 N/A
Perimeter Width 8' N/A
Corner Dimension 8'x8' N/A
Dead Loads: Existing Roof Load 2.5 psf (components above roof deck only)
Replacement Roof Load 5.0 psf (components above roof deck only)
Net Load Change 2.5 psf (components above roof deck only)
Snow Load: 10psf
Risk Category: N/A

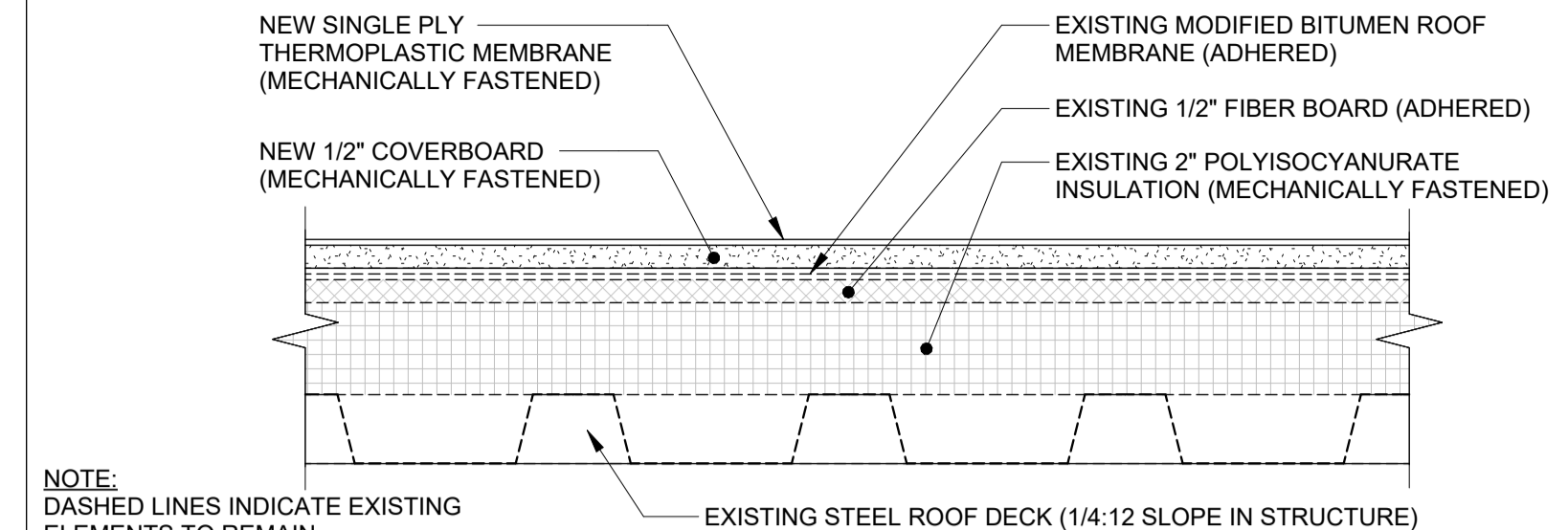
ENERGY SUMMARY
ENERGY REQUIREMENTS:
The following data shall be considered minimum and any special attribute required to meet the North Carolina Energy Conservation Code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.
Climate Zone: 3 4 5
Method of Compliance:
 Prescriptive (Energy Code)
 Performance (Energy Code)
 Prescriptive (ASHRAE 90.1-2013)
 Performance (ASHRAE 90.1-2013)
 "No less conforming... than the existing building" (NCEBC 708.1.1 Exception 4)

THERMAL ENVELOPE:
Roof/ceiling Assembly (each assembly)
Description of Assembly See roof assembly detail.
U-value of total assembly See roof assembly detail.
R-value of insulation See roof assembly detail.
Skylights in each assembly
U-Value of skylight
total square footage of skylights in each assembly

ROOF DRAINAGE SYSTEM DESIGN CALCULATION/SIZING
Existing system calculation: WORST CASE:
EXIST. PRIMARY 4"Ø ROOF DRAIN DRAINING 1,817 FT² OF ROOF AREA WITH 3"Ø RETRO ROOF DRAIN INSTALLED CAN DRAIN 2,200 FT² OF ROOF AREA AT 4.0 IN/HR RAINFALL RATE PER T1106.2(1) OF 2018 NPCC
Modification to existing system: NO MODIFICATIONS TO EXISTING PRIMARY SYSTEM.
New (where none exists) secondary system: SECONDARY DRAINAGE IS PROVIDED BY EXISTING 2-1/2"Ø SCUPPERS THROUGH THE PARAPET WALLS WITH A CAPACITY TO DRAIN 456 FT² OF ROOF AREA AT 7.2 IN./15MIN RAINFALL. REPLACE EXISTING SCUPPERS WITH NEW 5"Ø HORIZ. SCUPPERS AT 1/8:12 SLOPE MIN. CAPACITY =1,855 FT² OF ROOF AREA FOR 7.2 IN./15MIN RAINFALL.

BUILDING CODE SUMMARY FOR COMMERCIAL ROOF PROJECTS 1
NOT TO SCALE G1.1

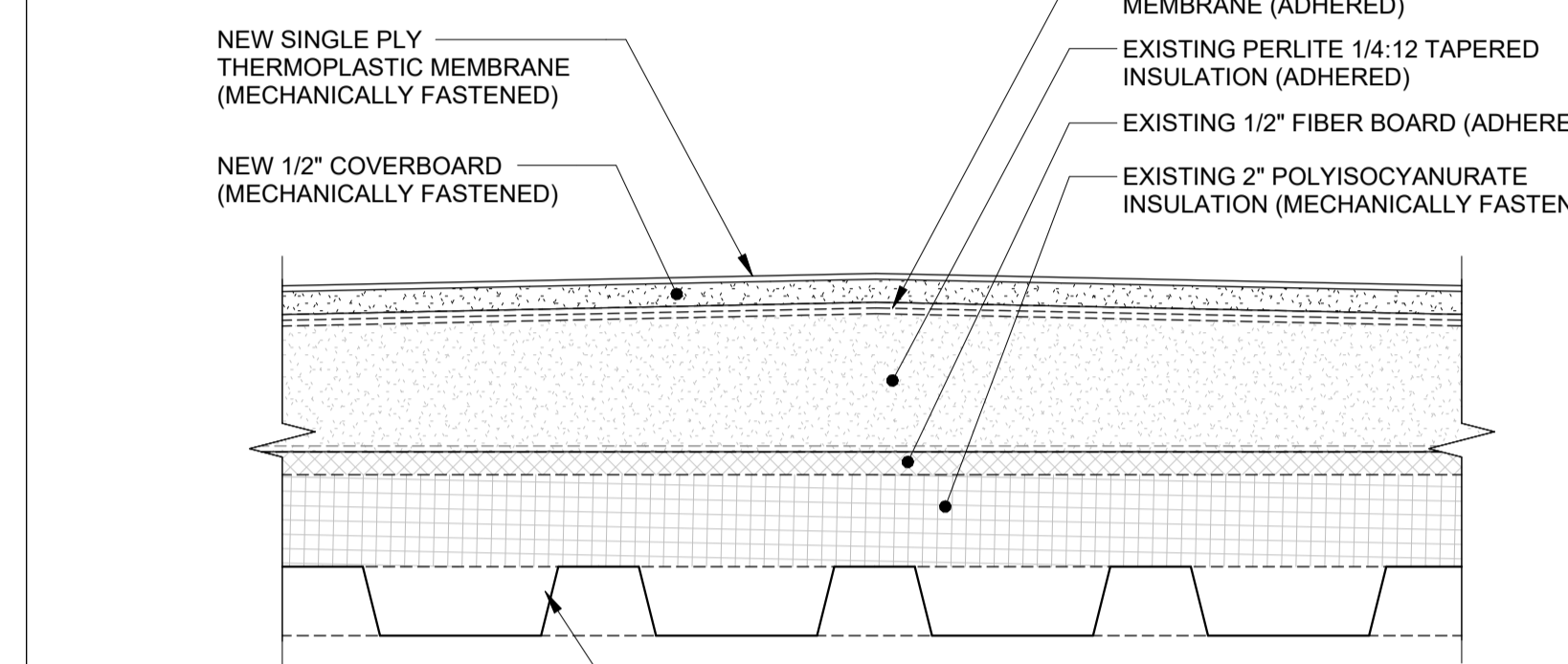
NOTE:
R-VALUE OF EXISTING INSULATION: 11.7
R-VALUE OF NEW ASSEMBLY: 12.5
U-VALUE OF NEW ASSEMBLY: 0.080



NOTE:
DASHED LINES INDICATE EXISTING ELEMENTS TO REMAIN

NEW ROOF ASSEMBLY - AREA A - SLOPE IN STRUCTURE 2
3" = 1'-0" G1.1

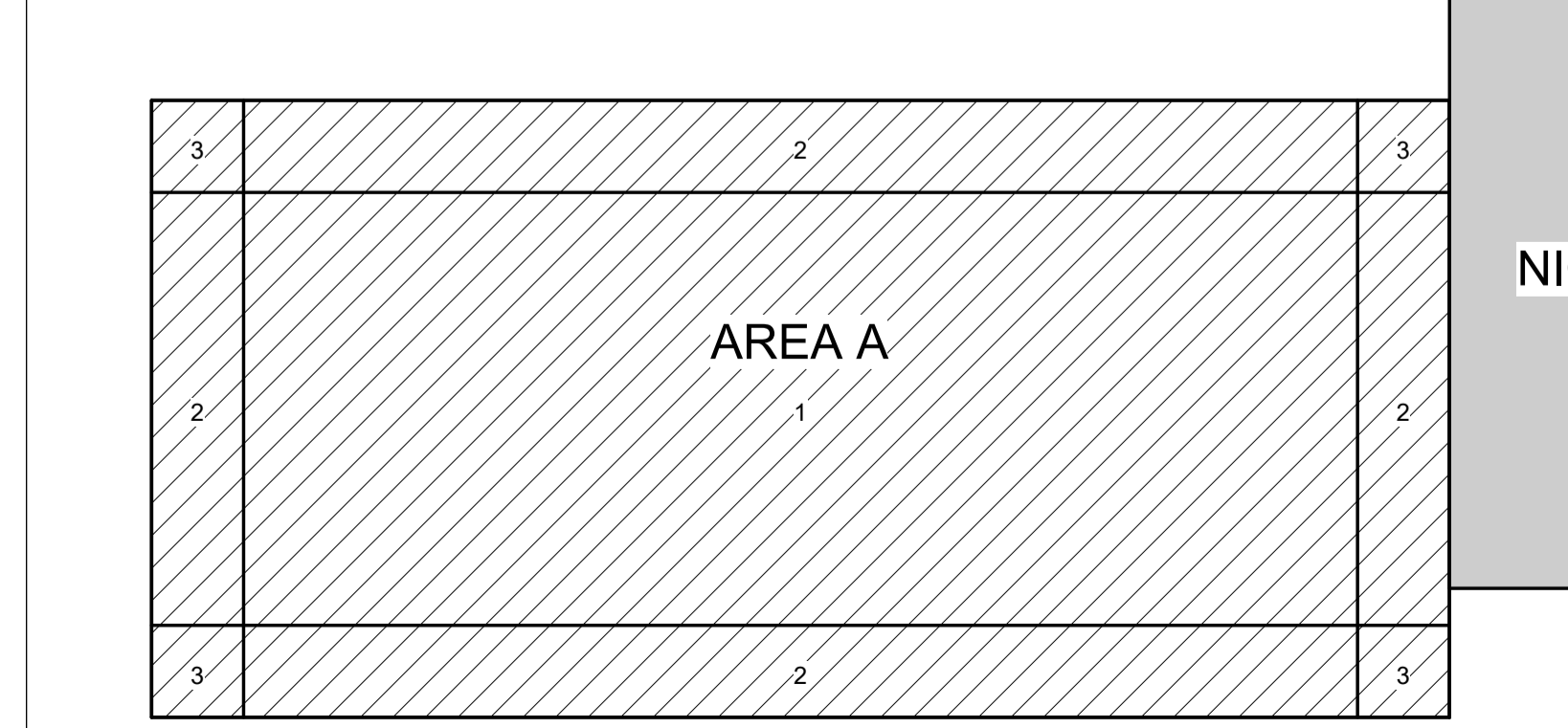
NOTE:
R-VALUE OF EXISTING INSULATION (AVG): 26.7
R-VALUE OF NEW ASSEMBLY (AVG): 27.5
U-VALUE OF NEW ASSEMBLY (AVG): 0.036



NOTE:
DASHED LINES INDICATE EXISTING ELEMENTS TO REMAIN

NEW ROOF ASSEMBLY - AREA A - TAPERED INSULATION 3
3" = 1'-0" G1.1

WIND PRESSURES (psf)
ZONE 1 = -45.0
ZONE 2 = -76.0
ZONE 3 = -114.0
CORNER DIMENSION = 8' x 8'



WIND ZONES 4
NOT TO SCALE G1.1

CONSULTANTS

PROJECT NAME

AGRICULTURAL CENTER ROOF REPLACEMENT

FOR
CUMBERLAND COUNTY

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306

SEAL



BID SET

PROJECT TEAM

DESIGNED BY:
S. FLEMING
DRAWN BY:
K. HALE
CHECKED BY:
S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

DEMOLITION ROOF PLAN AND GENERAL NOTES

ISSUE DATE

10/2/2025

PROJECT NO.

25-01

SHEET NUMBER

D1.0

A. NOTES: EXISTING CONDITIONS

- EXISTING ROOF COMPOSITION AT AREA A:
- MODIFIED BITUMEN CAP SHEET & BASE SHEET (ADHERED)
- TAPERED PERLITE INSULATION AT RIDGE AS SHOWN (ADHERED)
- 1/2" FIBERBOARD (ADHERED)
- 2" POLYISOCYANURATE INSULATION (MECHANICALLY FASTENED)
- 1-1/2" METAL ROOF DECK (SLOPED/FLAT WHERE SHOWN)

B. NOTES: DEMOLITION AT AREA A (RECOVER)

- REMOVE ALL LOOSE GRANULES AND REPAIR ALL BLISTERS. REMOVE ALL WET INSULATION.
- ENSURE BUILDING IS PROTECTED DURING DEMOLITION AND RECOVER.
- EXISTING NAILERS ARE TO REMAIN IF FOUND IN GOOD CONDITION.
- DEMOLISH EXISTING MODIFIED BITUMEN FLASHING, METAL FLASHING AND COPINGS AS SHOWN IN DETAILS.

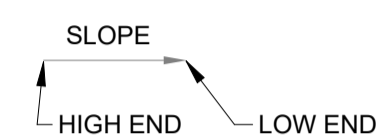
GENERAL NOTES - DEMOLITION

2

NOT TO SCALE

D1.0

- EXIST. PRIMARY ROOF DRAIN. DEMO 5x5' AREA OF INSUL. AT DRAIN TO PREP. FOR INSTALL OF NEW TAPERED SUMP
- EXIST. EXHAUST FAN ON CURB TO REMAIN
- EXIST. EXHAUST FAN ON CURB TO REMAIN
- EXIST. VENT THROUGH ROOF TO REMAIN
- EXIST. SCUPPER (SECONDARY ROOF DRAIN). DEMO & PREP. FOR REPLACEMENT
- AREA OF WET INSULATION. DEMO & PREP. FOR REPLACEMENT
- EXIST. ROOF HATCH. PREP. FOR REPAINTING
- EXIST. OBJECT ABOVE ROOF SURFACE
- DECK DIRECTION



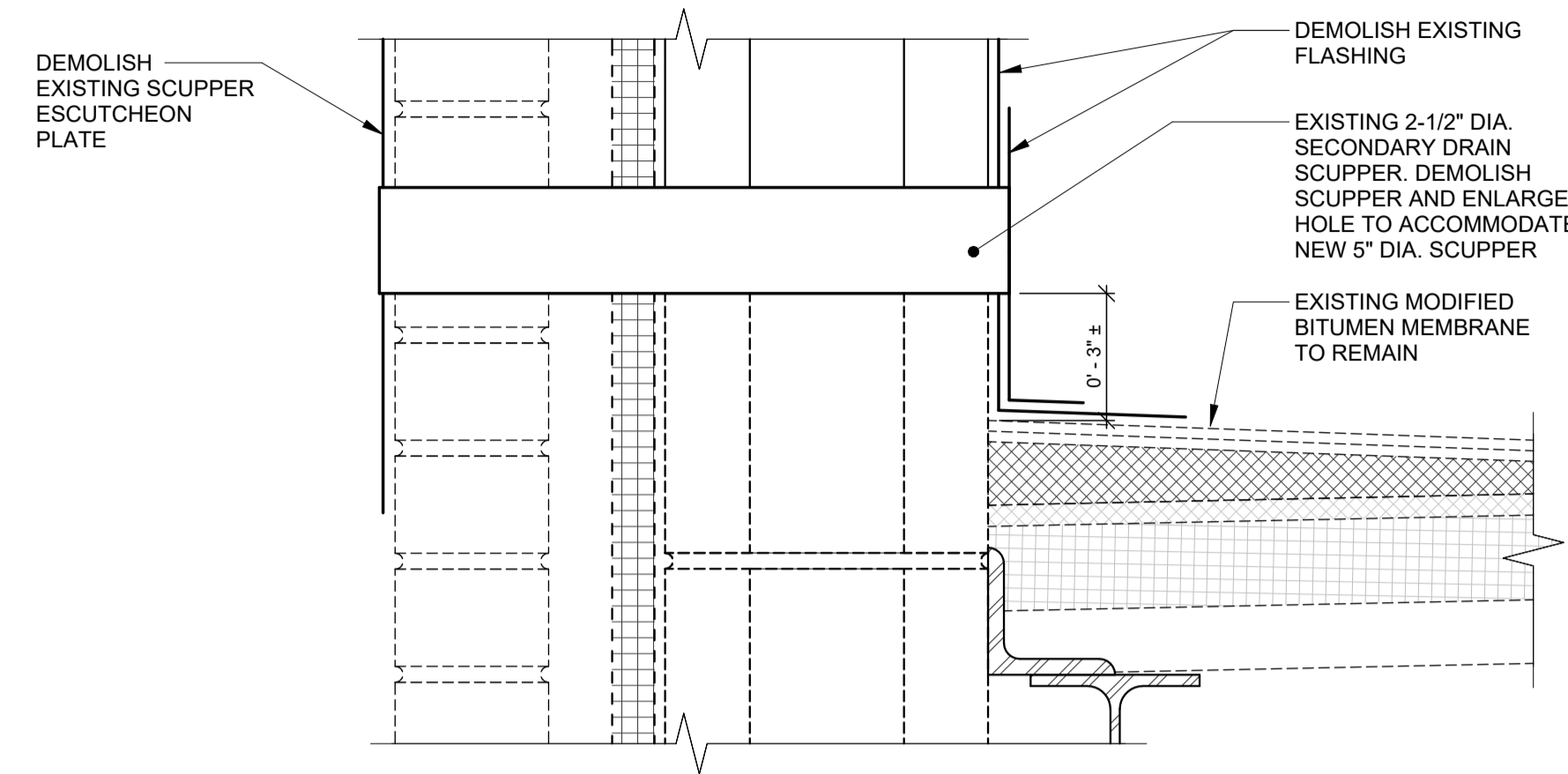
LEGEND - DEMOLITION SYMBOLS

3

NOT TO SCALE

D1.0

NOTE:
EXISTING TO REMAIN
SHOWN DASHED TYP.



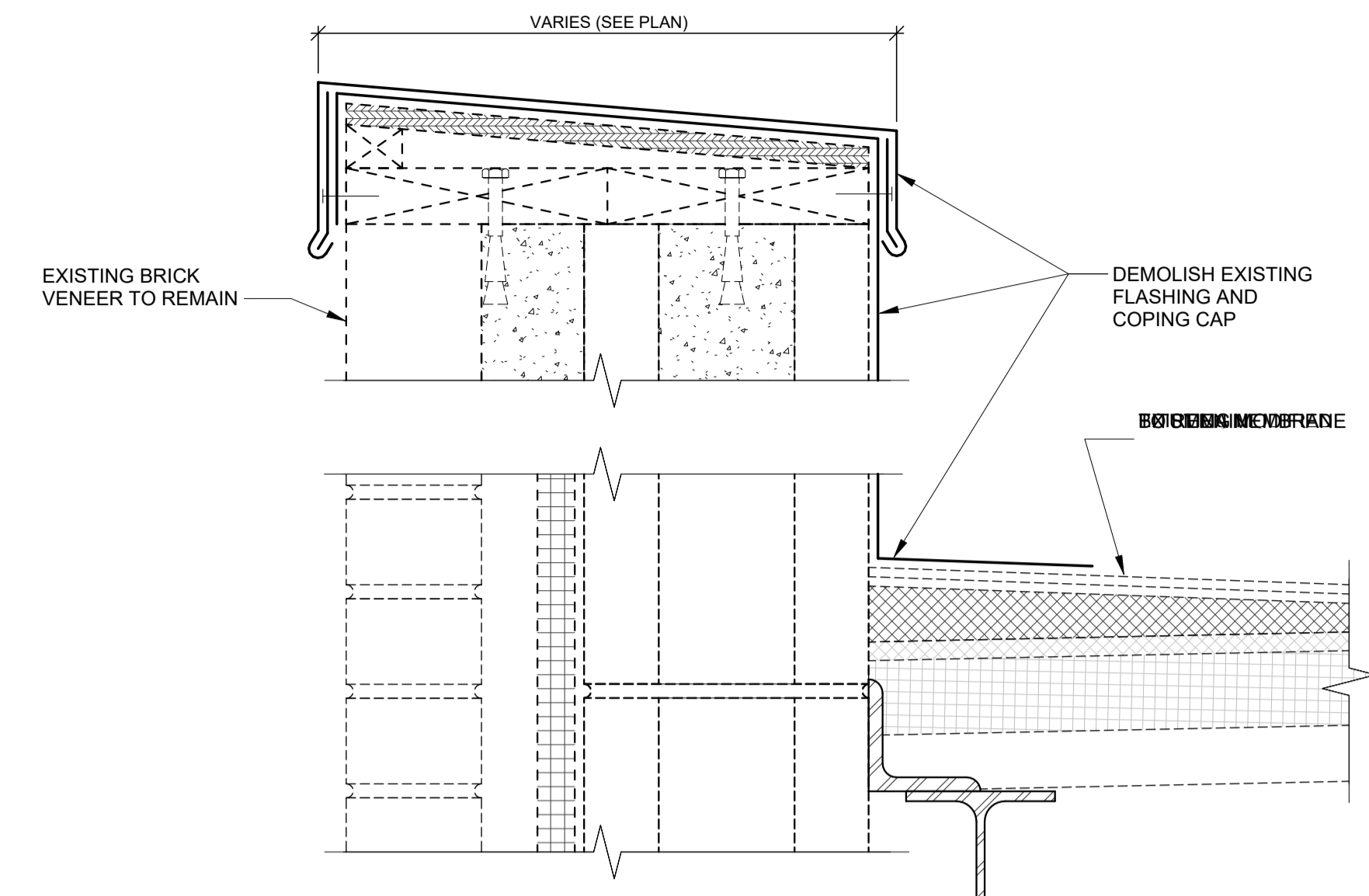
DEMOLITION DETAIL AT SCUPPER

4

3" = 1'-0"

D1.0

NOTE:
EXISTING TO REMAIN
SHOWN DASHED TYP.

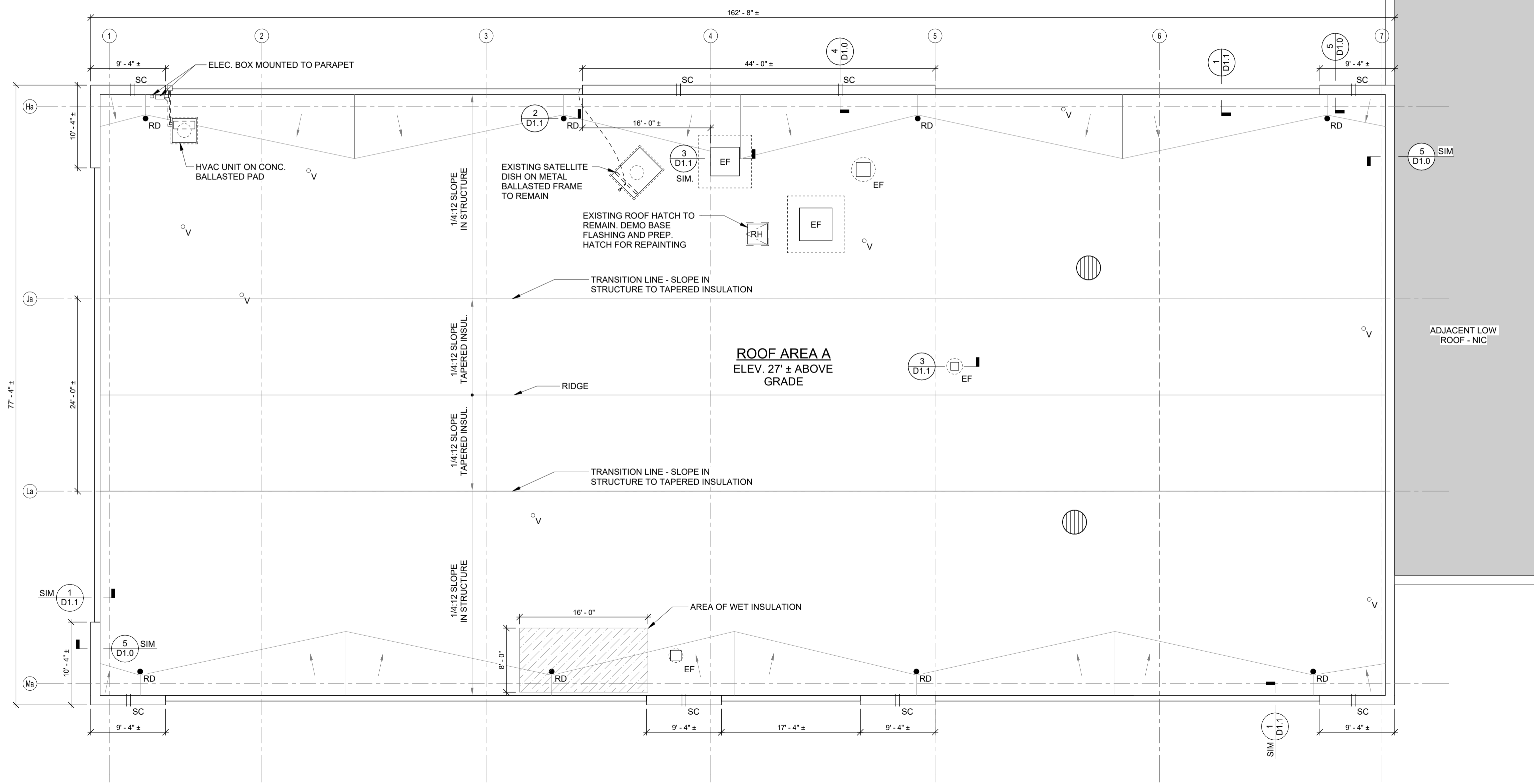


DEMOLITION DETAIL AT MASONRY WALL

5

3" = 1'-0"

D1.0



DEMOLITION ROOF PLAN

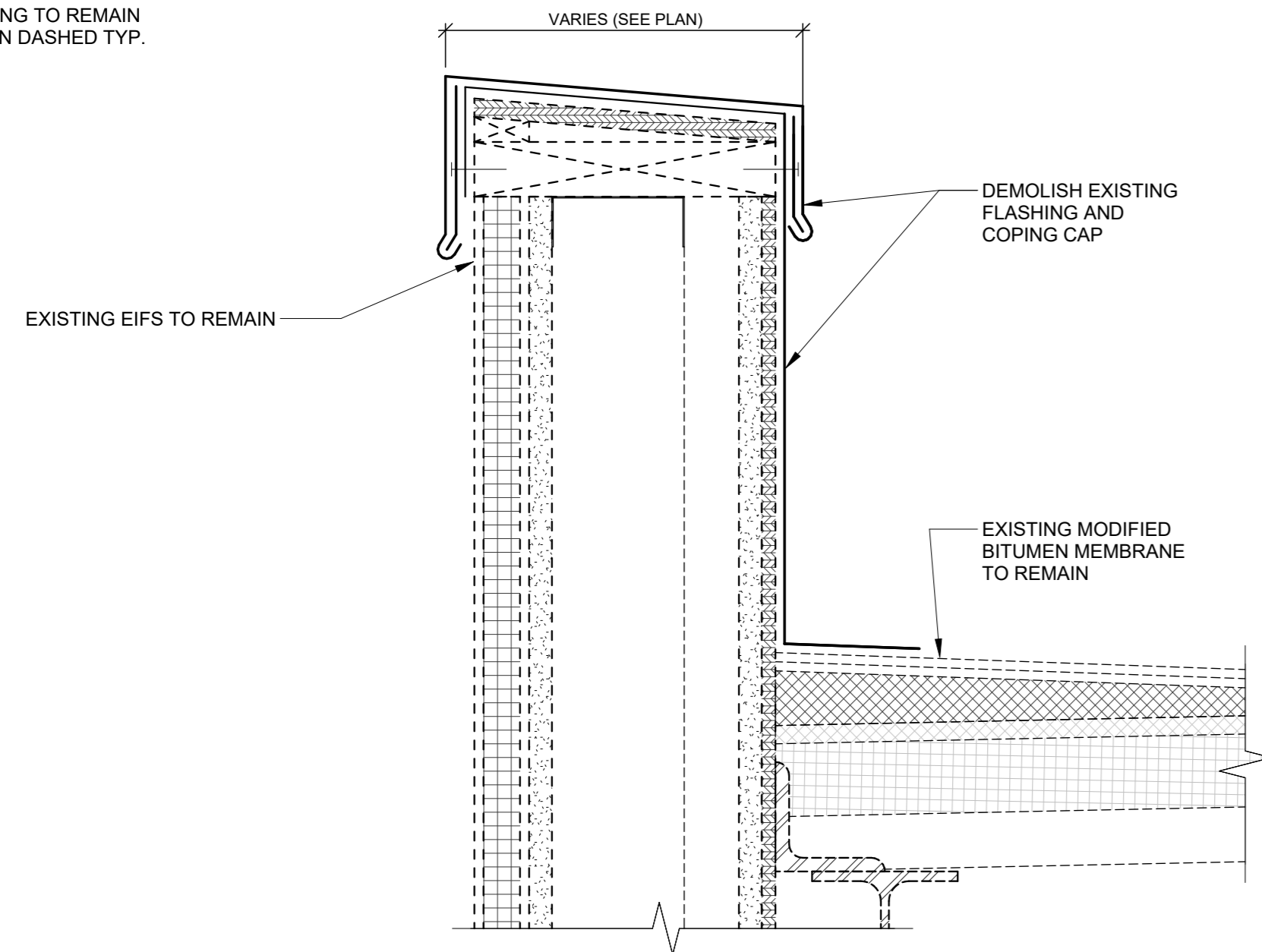
1

1/8" = 1'-0"

D1.0

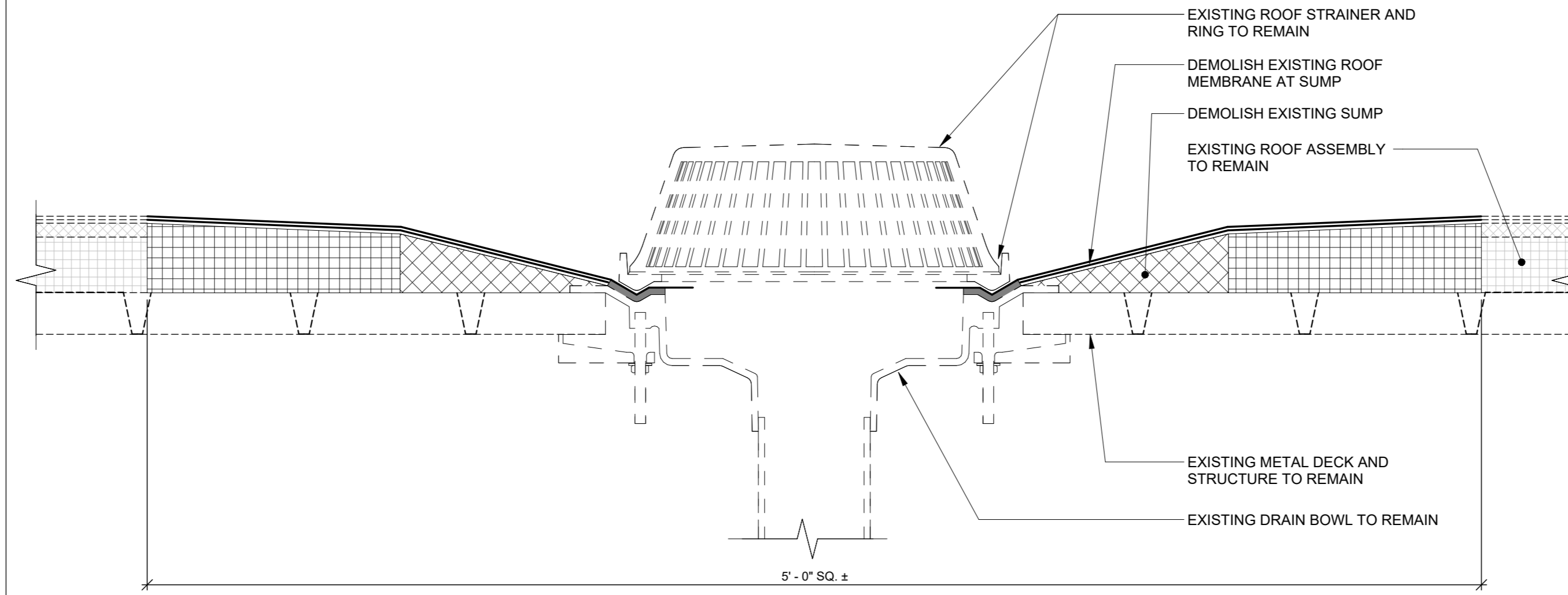


NOTE:
EXISTING TO REMAIN
SHOWN DASHED TYP.



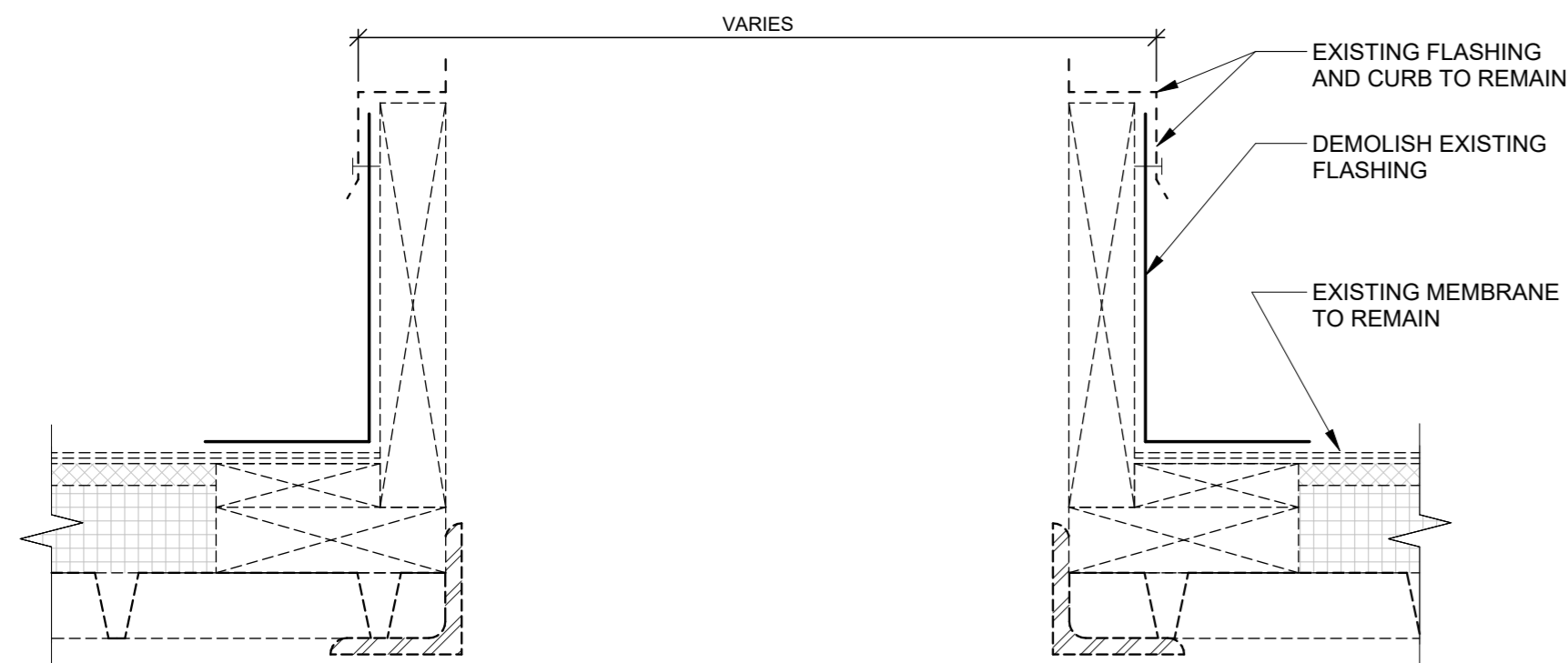
DEMOLITION DETAIL AT PARAPET - EIFS WALL 1
3" = 1'-0" D1.1

NOTE:
EXISTING TO REMAIN
SHOWN DASHED TYP.



DEMOLITION DETAIL AT ROOF DRAIN 2
3" = 1'-0" D1.1

NOTE:
EXISTING TO REMAIN
SHOWN DASHED TYP.



DEMOLITION DETAIL AT TYPICAL CURB 3
3" = 1'-0" D1.1

• STRUCTURAL ENGINEERING
• BUILDING ENCLOSURES

1004 Hay Street
Fayetteville, North Carolina
28305
NC License # C-2828
(t) 910/433-2825
www.flemingandassociates.com

CONSULTANTS

PROJECT NAME

**AGRICULTURAL
CENTER
ROOF
REPLACEMENT**
FOR
**CUMBERLAND
COUNTY**

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306

SEAL



BID SET

PROJECT TEAM

DESIGNED BY:
S. FLEMING
DRAWN BY:
K. HALE
CHECKED BY:
S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

**DEMOLITION DETAILS
AND SECTIONS**

ISSUE DATE

10/2/2025

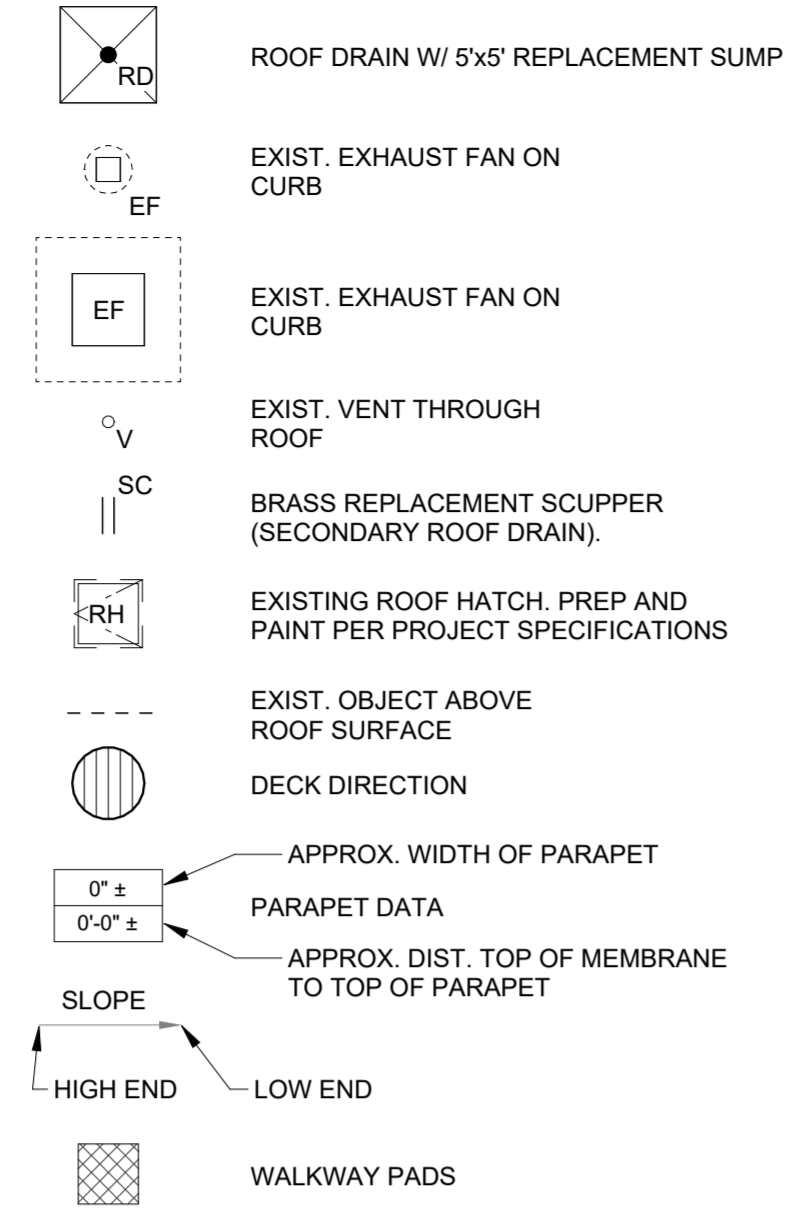
PROJECT NO.

25-01

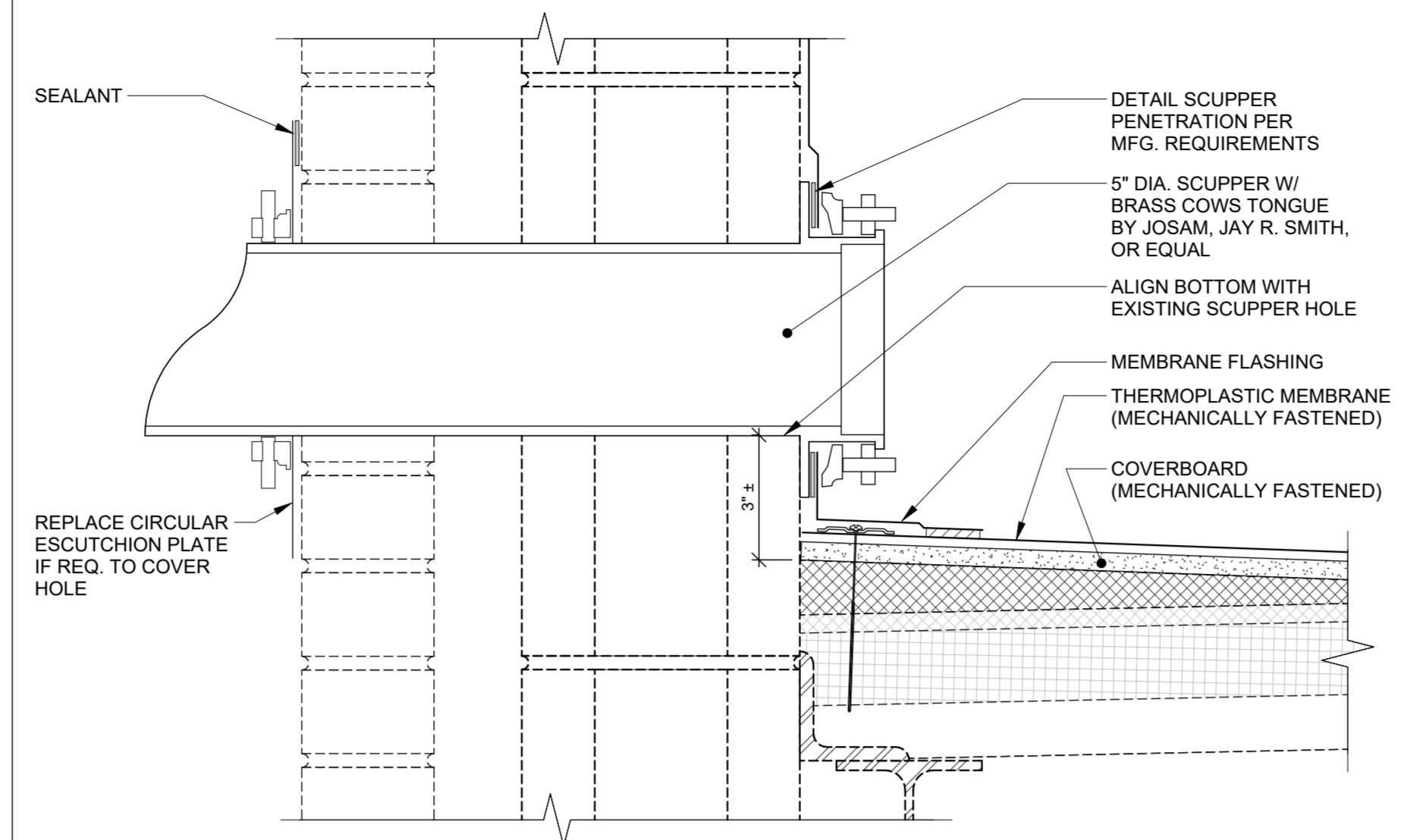
SHEET NUMBER

D1.1

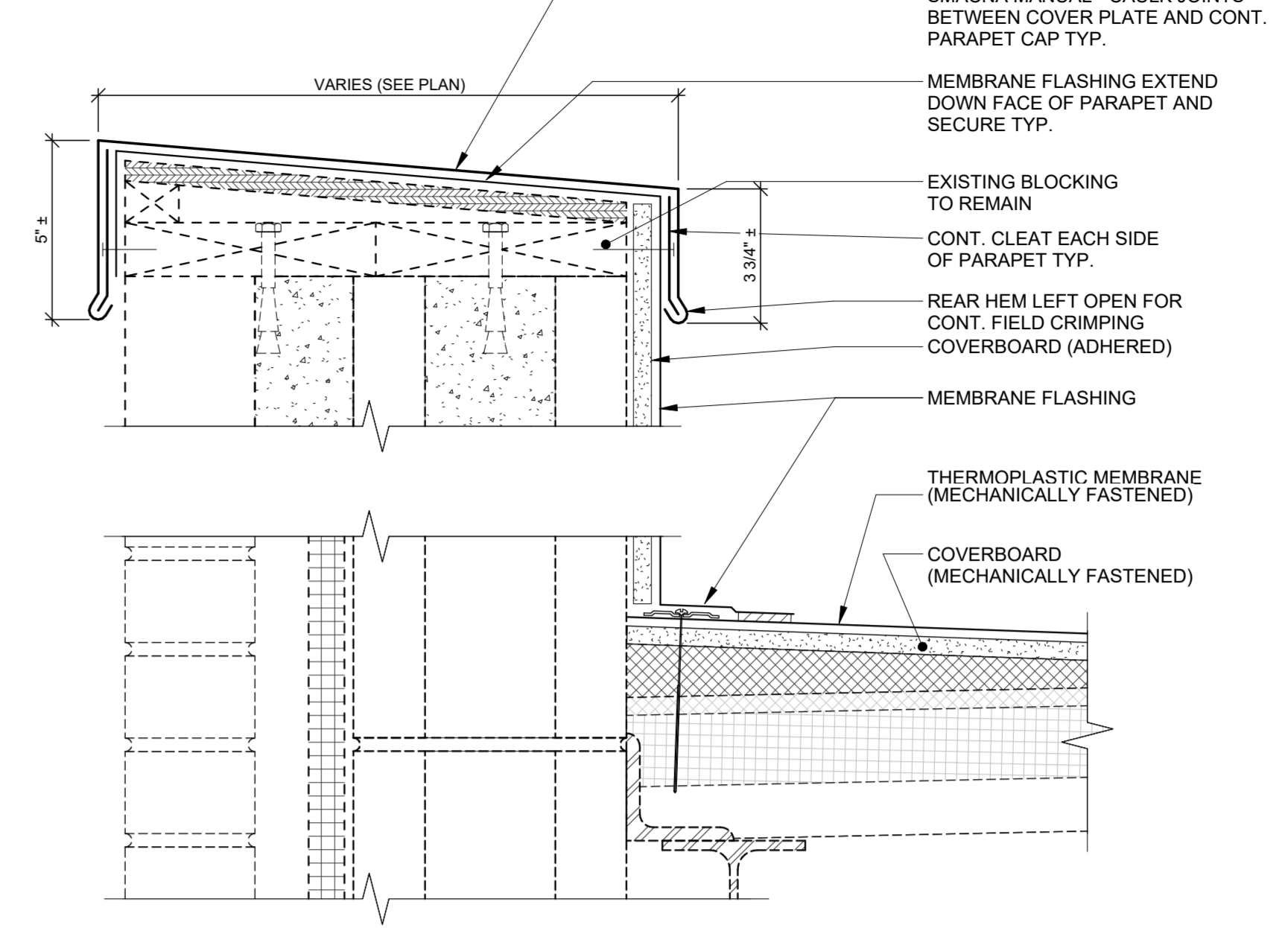
1. ROOF AREA A IS A ROOF RECOVER. ALL ROOF COMPONENTS ARE TO REMAIN EXCEPT AS NOTED IN THE SECTIONS AND DETAILS. CONTRACTOR IS TO INSTALL A NEW THERMOPLASTIC MECHANICALLY ATTACHED MEMBRANE, BASE FLASHING, SHEET METAL COUNTERFLASHING AND METAL COPINGS AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS FOR A COMPLETE ROOF SYSTEM.
2. LAYOUT SHOWN ON THE DRAWINGS FOR NEW RIDGES, HIPS, VALLEYS, AND SADDLES IS FOR GENERAL REFERENCE ONLY. CONTRACTOR TO SUBMIT FINAL TAPERED INSULATION LAYOUT AND SHOP DRAWINGS FROM INSULATION SUPPLIER. SHOP DRAWINGS TO BE SUBMITTED TO ENGINEER FOR REVIEW BEFORE PLACING INSULATION ORDER AND BEFORE WORK BEGINS.
3. DIMENSIONS FOR NEW SHEET METAL COMPONENTS ARE TO BE FIELD VERIFIED BEFORE FABRICATION.
4. FOLLOW RECOMMENDATIONS OF MEMBRANE MANUFACTURER, SPRI, NRCA, SMACNA, AND INDUSTRY STANDARDS UNLESS SHOWN OTHERWISE.
5. CONTRACTOR SHALL HAVE FASTENER MANUFACTURER CONDUCT PULL TESTS IN EACH AREA WHERE A NEW MEMBRANE IS MECHANICALLY FASTENED TO METAL DECK. SUBMIT FASTENER SAMPLE AND RESULTS OF PULL TESTS TO ENGINEER FOR REVIEW BEFORE INSTALLATION.
6. VERIFY ALL ROOF DRAINS ARE CLEAN, FULLY OPERATIONAL, AND WATERTIGHT.
7. PROVIDE CRICKETS ON UP-SLOPE SIDE OF ALL ROOFTOP CURBS GREATER THAN 24" WIDE OR WHERE SHOWN ON PLAN.
8. ALL ROOF EDGING FLASHINGS SHALL COMPLY WITH SECTION 1504.5 OF THE NORTH CAROLINA BUILDING CODE AND BE TESTED FOR RESISTANCE IN ACCORDANCE WITH ANSIS/SPRI ES-1.
9. ALL NEW NAILERS AND ANCHORS SHOWN IN THE DETAILS ARE TO BE INCLUDED IN THE BASE BID. REPLACEMENT OF DAMAGED OR MISSING WOOD NAILERS OR ANCHOR BOLTS ABOVE BASE BID QUANTITIES SHALL BE HANDLED ON A UNIT PRICE BASIS.
10. GAS PIPING, ELECTRICAL CONDUIT, AND CONDENSATION LINES SHALL BE SUPPORTED ON NEW 1'-0" LONG PRESSURE TREATED SLEEPERS AT 4'-0" MAX. PLACED ON MEMBRANE SLIP SHEETS. PENETRATIONS THROUGH WALLS ARE NOT SHOWN FOR CLARITY AND ARE TO BE FLASHED PER MEMBRANE MANUFACTURER'S RECOMMENDATIONS. ANY ELECTRICAL CONDUIT REMOVED AND ASSOCIATED WIRING DISCONNECTED AND RE-TERMINATED MUST COMPLY WITH NEC CHAPTER 3 WIRING METHODS AND SHALL BE PERFORMED BY AN ELECTRICAL CONTRACTOR LICENSED IN THE STATE OF NORTH CAROLINA.
11. PROVIDE OSHA COMPLIANT SAFETY POSTS ON ROOF ACCESS LADDERS



NOTE:
EXISTING TO REMAIN SHOWN DASHED TYP.



NOTE:
EXISTING TO REMAIN SHOWN DASHED TYP.

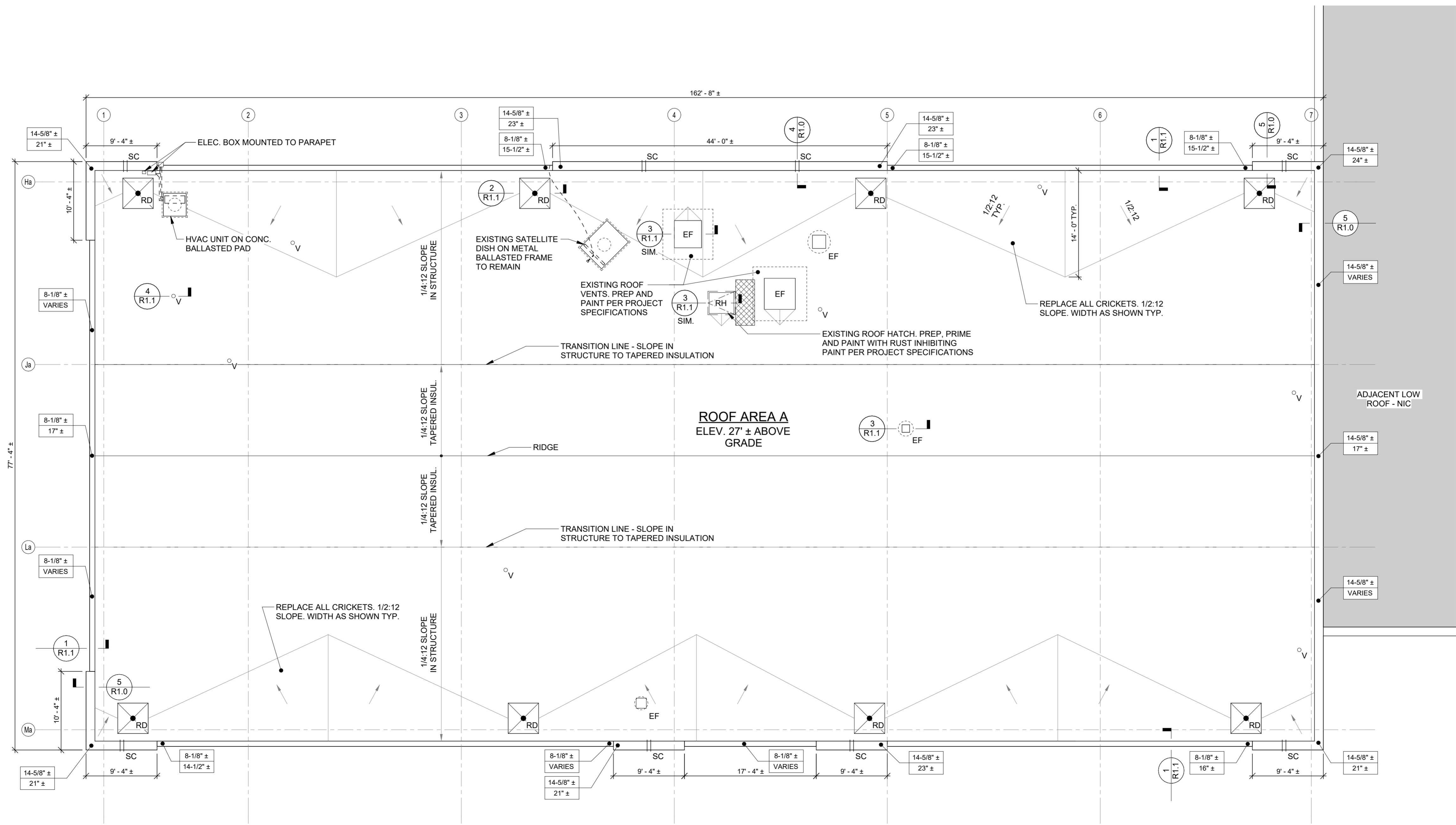


GENERAL NOTES - ROOFING
12" = 1'-0" R1.0

LEGEND - ROOF SYMBOLS
1/8" = 1'-0" R1.0

TYPICAL DETAIL AT REPLACEMENT SCUPPER
3" = 1'-0" R1.0

TYPICAL PARAPET CAP AND FLASHING DETAIL
3" = 1'-0" R1.0



CONSULTANTS

PROJECT NAME

AGRICULTURAL CENTER ROOF REPLACEMENT

FOR CUMBERLAND COUNTY

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306



PROJECT TEAM

DESIGNED BY: S. FLEMING
DRAWN BY: K. HALE
CHECKED BY: S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

ROOF PLAN AND GENERAL NOTES

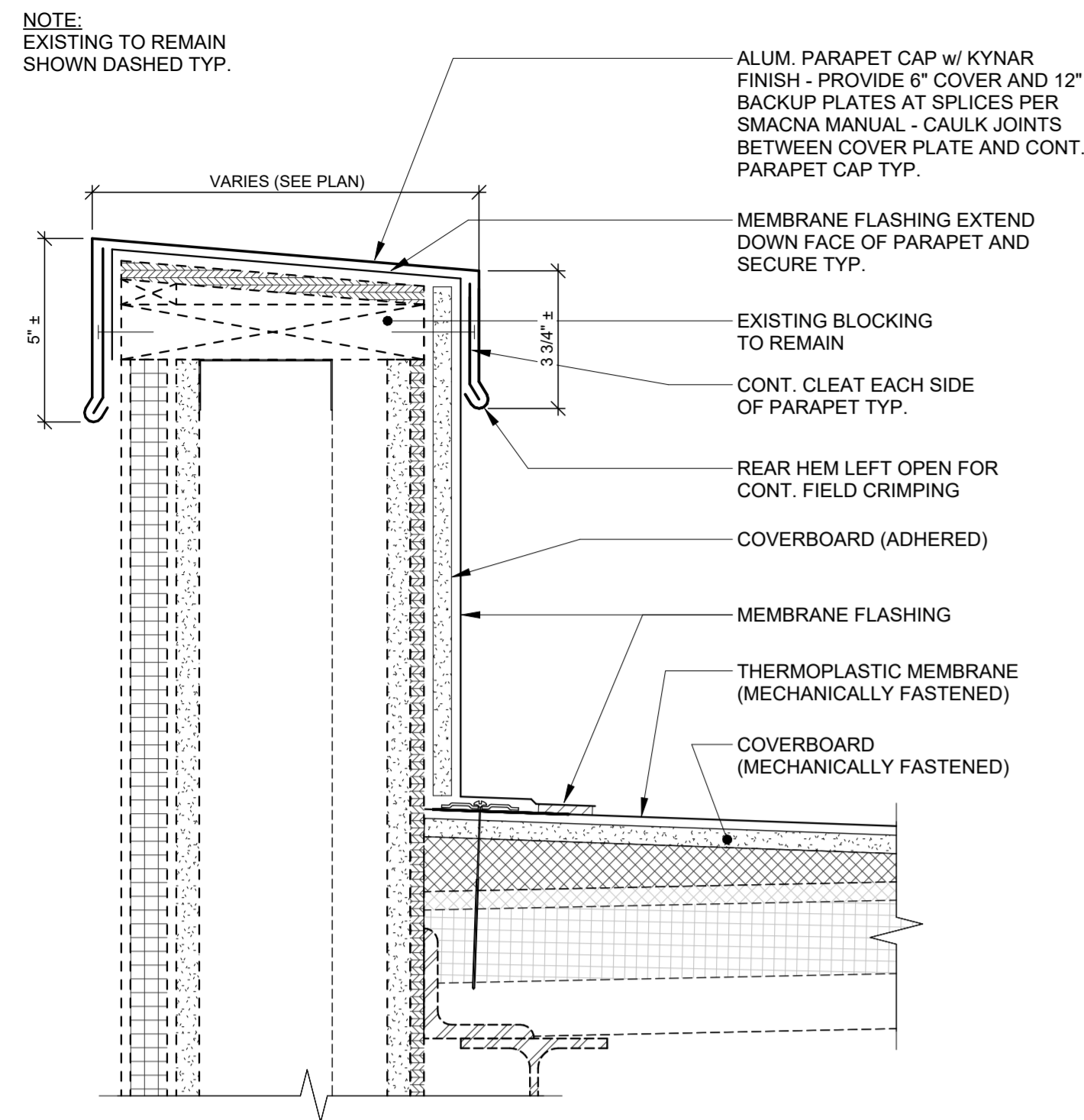
ISSUE DATE: 10/2/2025

PROJECT NO: 25-01

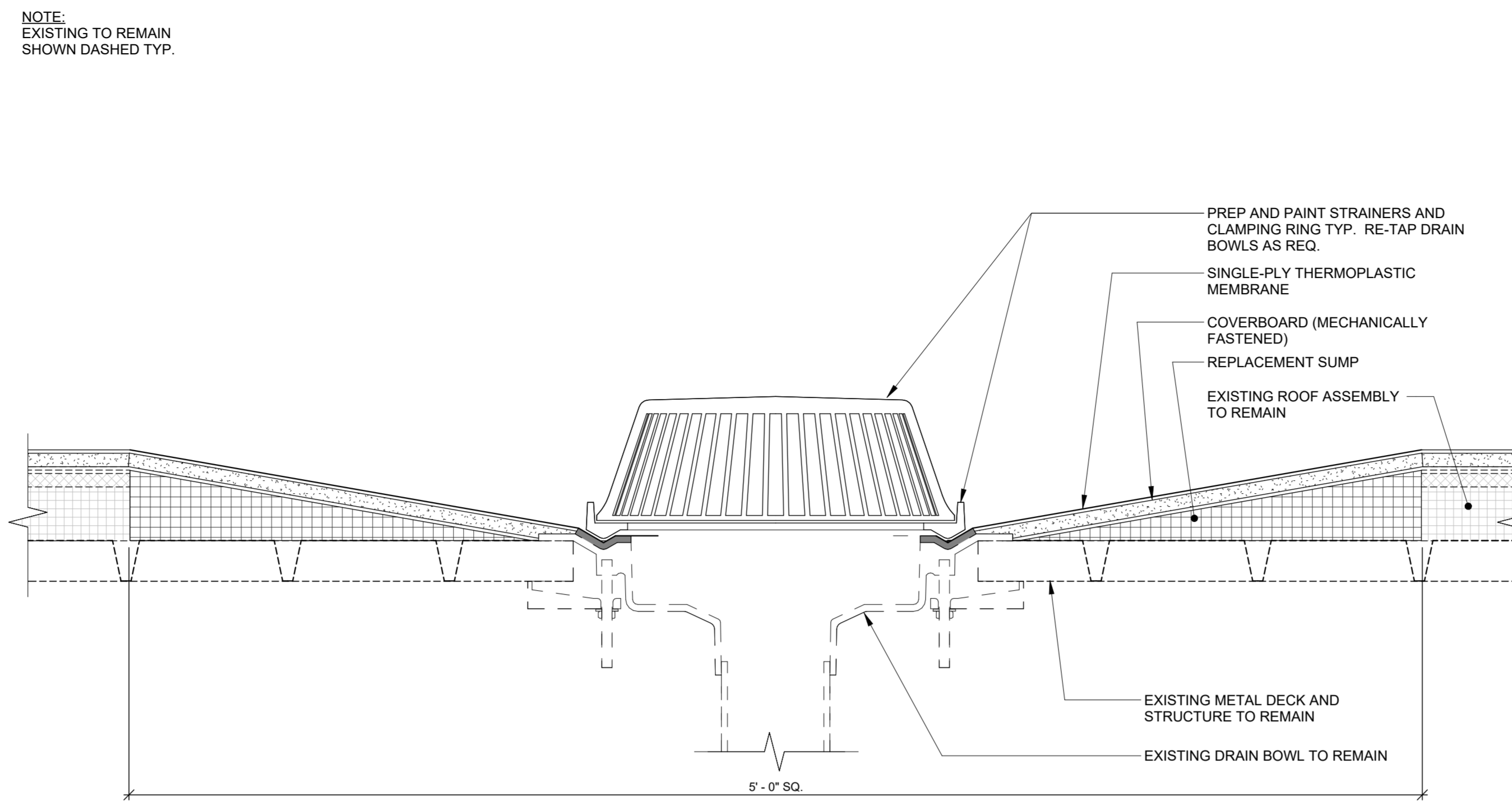
SHEET NUMBER: R1.0

CONSULTANTS

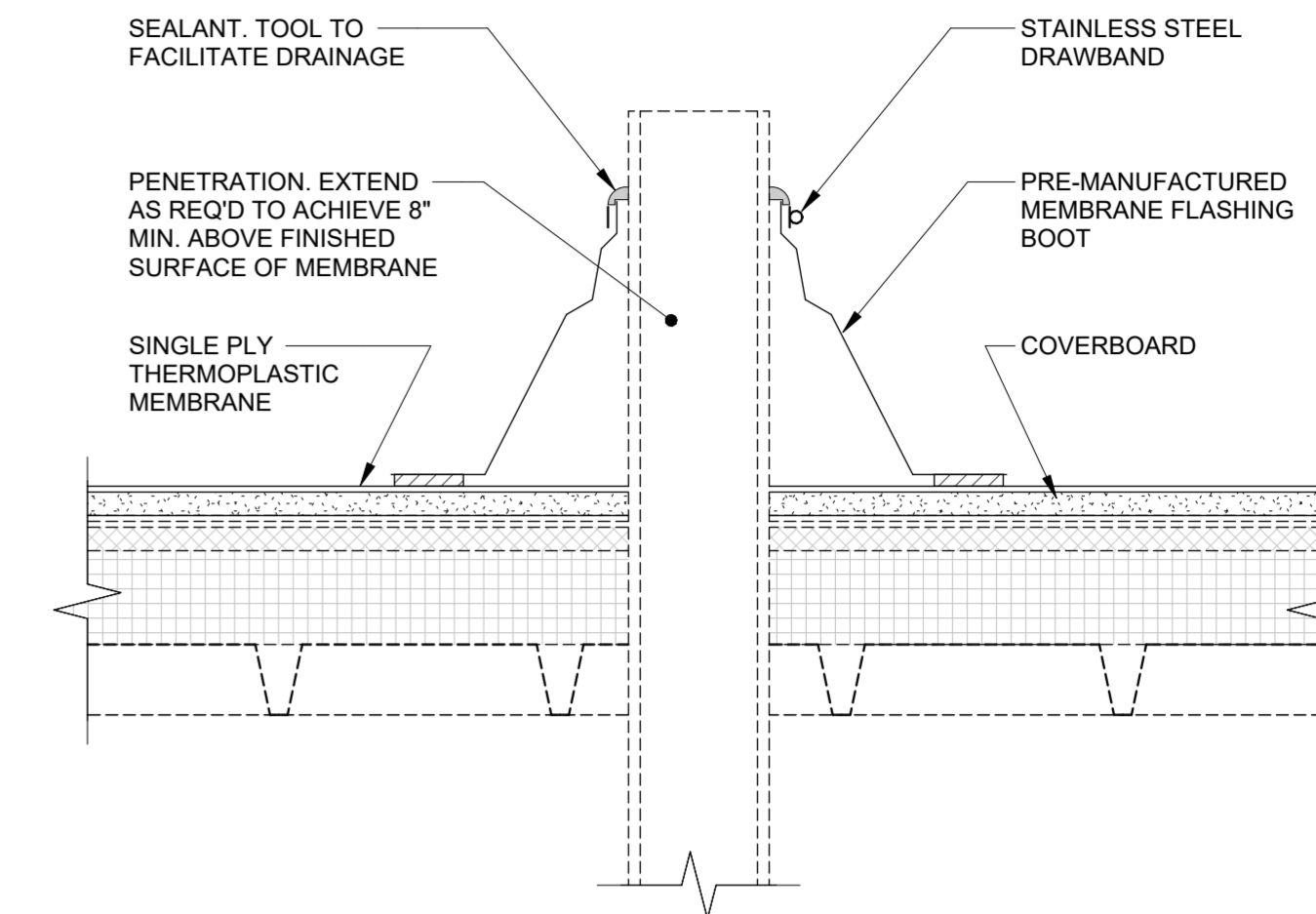
PROJECT NAME



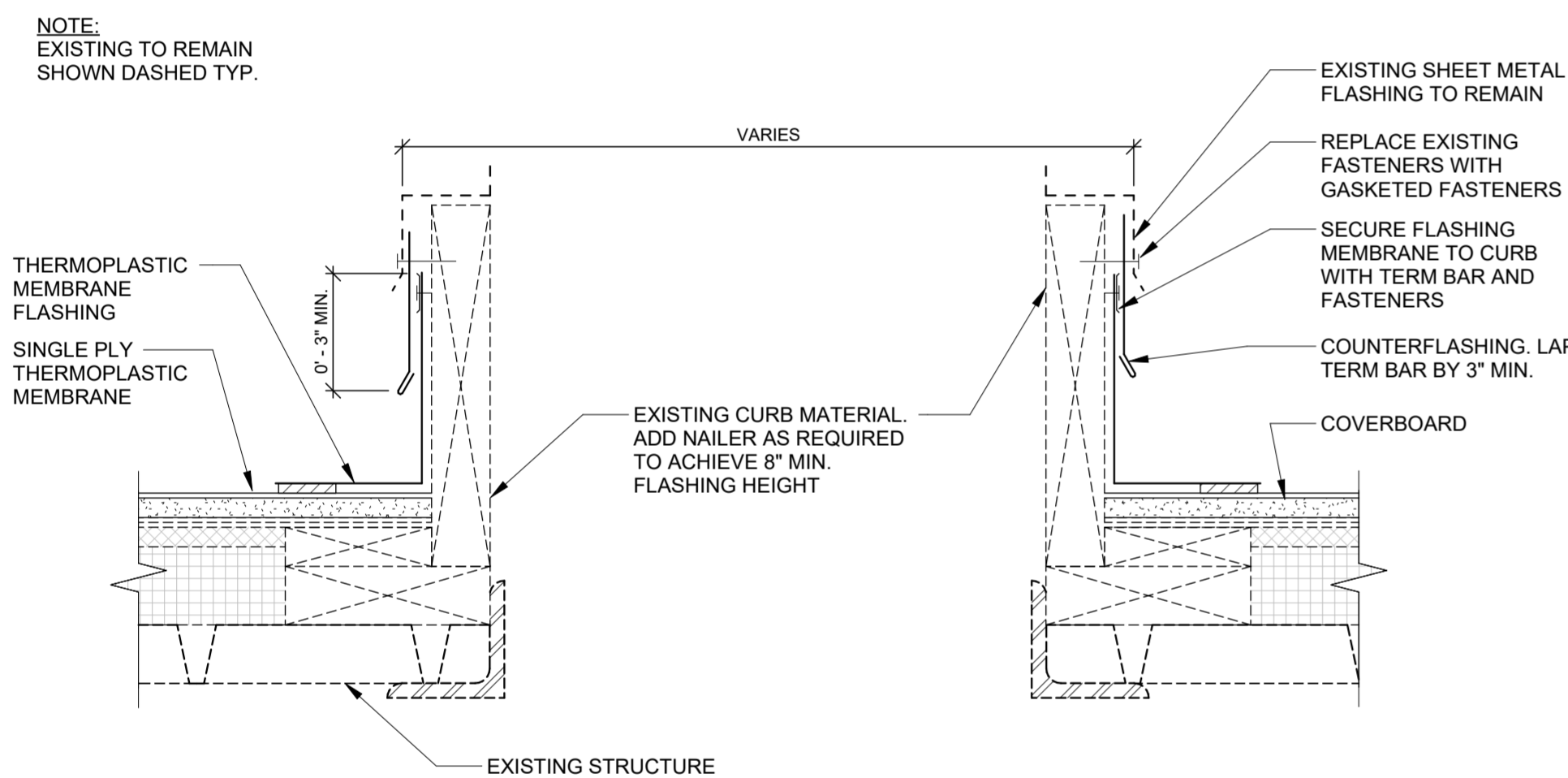
TYPICAL SECTION - PARAPET CAP AND FLASHING AT EIFS WALL 1
3" = 1'-0" R1.1



TYPICAL DETAIL AT ROOF DRAIN 2
3" = 1'-0" R1.1



TYPICAL DETAIL AT PRE-MANUFACTURED BOOT 4
3" = 1'-0" R1.1



TYPICAL DETAIL AT EXHAUST FAN CURB 3
3" = 1'-0" R1.1

AGRICULTURAL CENTER ROOF REPLACEMENT
FOR
CUMBERLAND COUNTY

301 EAST MOUNTAIN DRIVE
FAYETTEVILLE, NC 28306



BID SET

PROJECT TEAM

DESIGNED BY:
S. FLEMING
DRAWN BY:
K. HALE
CHECKED BY:
S. FLEMING

REVISIONS

NO.	DESCRIPTION	DATE

SHEET TITLE

DETAILS AND SECTIONS

ISSUE DATE: 10/2/2025 SHEET NUMBER: R1.1

PROJECT NO: 25-01