

# Replace Roof and Construct Solar Array

## Bldg 1029

### Fort Leonard Wood, Missouri



Engineering | Energy | Innovation

2225 West Chesterfield Boulevard, Suite 200  
Springfield, MO 65807

P: 417.877.1700 F: 417.324.7735  
www.cjd-eng.com

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MICHAEL L. KEHOE, GOVERNOR

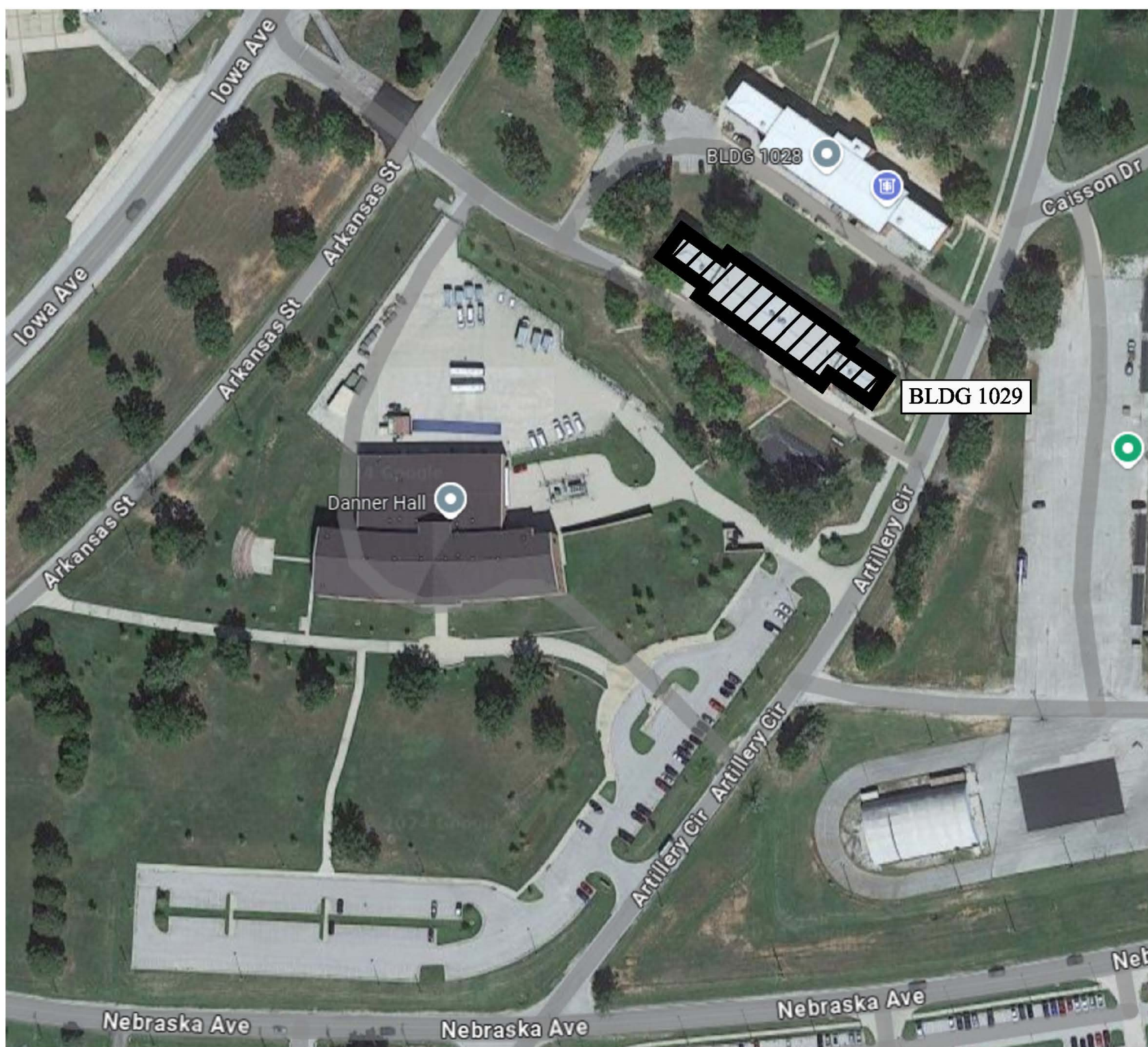
DEPARTMENT OF MISSOURI  
NATIONAL GUARD

PROJECT MANAGEMENT: DEPARTMENT OF MISSOURI  
NATIONAL GUARD  
OFFICE OF THE ADJUTANT GENERAL  
FACILITIES MANAGEMENT OFFICE

DESIGNER: CJD ENGINEERING LLC

CONSULTANT: BUDDY WEBB & COMPANY, INC.

LOCATION:



PROJECT NUMBER: T2412-01

SITE NUMBER: 6306

FACILITY NUMBER: 8136306003

#### SHEET INDEX:

G-000	COVER SHEET
G-001	ABBREVIATIONS, NOTES, AND SYMBOLS
D-101	ROOF DEMOLITION PLAN
A-101	ROOF PLAN
A-501	MISCELLANEOUS DETAILS
A-502	MISCELLANEOUS DETAILS
A-503	MISCELLANEOUS DETAILS
E-100	ROOF POWER PLAN
E-500	ELECTRICAL DETAILS
E-600	ELECTRICAL SCHEDULES

SHEET NUMBER:

# G-000

1 OF 10 SHEETS  
JULY 2, 2025



TERMS AND ABBREVIATIONS:

A/C	AIR CONDITIONING	MOD	MODIFIED
A/E	ARCHITECT/ENGINEER	MR	MOISTURE RESISTANT
ABV	ABOVE	MTD	MOUNTED
ACT	ACOUSTICAL CEILING TILE	MTL	METAL
ADJ	ADJUSTABLE	MW	MICROWAVE
AFF	ABOVE FINISHED FLOOR	NEC	NATIONAL ELECTRICAL CODE
AFG	ABOVE FINISHED GRADE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
ALT	ALTERNATE	NIC	NOT IN CONTRACT
ALUM	ALUMINUM	NTS	NOT TO SCALE
APPROX	APPROXIMATE	OA	OUTSIDE AIR
ARCH	ARCHITECT	OC	ON CENTER
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS	OPNG	OPENING
BLW	BELOW	ORD	OVERFLOW ROOF DRAIN
BTWN	BETWEEN	PLAM	PLASTIC LAMINATE
CAB	CABINET	PL	PLATE
CHW	CHILLED WATER	PLMB	PLUMBING
CIP	CAST-IN-PLACE	PLYWD	PLYWOOD
CL	CENTERLINE	PT	PAINT
CLG	CEILING	PVC	POLYVINYL CHLORIDE
CMU	CONCRETE MASONRY UNIT	RA	RETURN AIR
CO	CLEANOUT	RAD	RADIUS
CONC	CONCRETE	RCP	REFLECTED CEILING PLAN
CONT	CONTINUOUS	RD	ROOD DRAIN
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE	REFR	REFRIGERATION
CW	COLD WATER	REINF	REINFORCED
DBL	DOUBLE	REQD	REQUIRED
DEMO	DEMOLISH/DEMOLITION	REQT	REQUIREMENT
DET	DETAIL	RET	RETURN
DIAG	DIAGONAL	RL/RS	REFRIGERANT LIQUID/SUCTION
DS	DOWNSPOUT	RM	ROOM
DW	DISHWASHER	RO	ROUGH OPENING
DWG	DRAWING	RTD	RATED
EA	EXHAUST AIR	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SF	SQUARE FEET
ELEC	ELECTRICAL	SHT	SHEET
ENG	ENGINEER	SIM	SIMILAR
EQ	EQUAL	SK	SINK
EQUIP	EQUIPMENT	SO	SQUARE
ETC	ET CETERA	SS	STAINLESS STEEL
EX	EXISTING	STD	STANDARD
EXT	EXTERIOR	STOR	STORAGE
FAB	FABRICATE	STR	STAIR
FD	FLOOR DRAIN	STRUCT	STRUCTURAL
FDC	FIRE DEPARTMENT CONNECTION	SUB	SUBCONTRACTOR
FEC	FIRE EXTINGUISHER CABINET	SUP	SUPPLY
FFCO	FINISH FLOOR CLEANOUT	SUSP	SUSPENDED
FGCO	FINISH GRADE CLEANOUT	TAB	TEST, ADJUST, AND BALANCE
FFE	FINISH FLOOR ELEVATION	T&G	TONGUE AND GROOVE
FIN	FINISH	TELE	TELEPHONE
FLR	FLOOR	TOS	TOP OF STEEL
FS	FLOOR SINK	TYP	TYPICAL
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
FV	FIELD VERIFY	UR	URINAL
GA	GAUGE	VB	VAPOR BARRIER
GALV	GALVANIZED	VENT	VENTILATION
GC	GENERAL CONTRACTOR	VERT	VERTICAL
GD	GARBAGE DISPOSAL	W/	WITH
GWB	GYP SUM WALLBOARD	WC	WATER CLOSET
HB	HOSE BIB	WH	WATER HEATER
HORIZ	HORIZONTAL	WWF	WELDED WIRE FABRIC
HT	HEIGHT	WWM	WELDED WIRE MESH
HW	HOT WATER		
HWR	HOT WATER RECIRCULATION		
IBC	INTERNATIONAL BUILDING CODE		
IFC	INTERNATIONAL FIRE CODE		
IFGC	INTERNATIONAL FUEL GAS CODE		
IMC	INTERNATIONAL MECHANICAL CODE		
IPC	INTERNATIONAL PLUMBING CODE		
INSUL	INSULATION		
JB	JUNCTION BOX		
LAV	LAVATORY		
MATL	MATERIAL		
MAX	MAXIMUM		
MB	MOP BASIN		
MECH	MECHANICAL		
MEP	MECHANICAL/ELECTRICAL/PLUMBING		
MFR	MANUFACTURER		
MIN	MINIMUM		
MISC	MISCELLANEOUS		

SYMBOLS LEGEND:

PLAN NOTATIONS:	
	DETAIL REFERENCE UPPER - DETAIL NUMBER LOWER - SHEET NUMBER
	CLASSROOM
	KEY NOTE
	EQUIPMENT DESIGNATION
	CONNECTION OF NEW TO EXISTING
	EXISTING DESIGNATION
	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
HVAC DUCTWORK:	
	FLEXIBLE DUCTWORK; SIZE
	CEILING RETURN/EXHAUST GRILLE
	CEILING SUPPLY DIFFUSER
	DUCTWORK; SIZE (DIAMETER OR WIDTH/HEIGHT)
	EXISTING DUCTWORK
	DUCT TRANSITION / BALANCE DAMPER
	DIFFUSER TYPE, CFM
	FIN TUBE BASEBOARD HEAT
	FAN
	FAN COIL UNIT
HVAC PIPING:	
	HEATING WATER SUPPLY PIPING
	HEATING WATER RETURN PIPING
	CHILLED WATER SUPPLY PIPING
	CHILLED WATER RETURN PIPING
	CONDENSATE DRAIN
TEMPERATURE CONTROLS:	
	TEMPERATURE SENSOR AND EQUIPMENT SERVED
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	HUMIDITY SENSOR
NOTE: INSTALL WALL MOUNTED THERMOSTATS AND SENSORS AT 48" ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE	
	START/STOP ANALOG INPUT; FUNCTION
	VFD SPEED ANALOG OUTPUT; FUNCTION
	FAN STATUS BINARY INPUT; FUNCTION
	CLG STG 1 BINARY OUTPUT; FUNCTION
	MOTORIZED CONTROL DAMPER
	CONTROL VALVE
	TEMPERATURE SENSOR
	HUMIDITY SENSOR
	DIFFERENTIAL PRESSURE SENSOR
	VARIABLE FREQUENCY DRIVE
PLUMBING PIPING:	
	WASTE PIPING BELOW SLAB
	WASTE PIPING ABOVE SLAB
	PLUMBING VENT PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RECIRC PIPING

NOTE: NOT ALL SYMBOLS ARE USED IN THESE CONSTRUCTION DOCUMENTS AND ALL SYMBOLS USED ON CONSTRUCTION DRAWINGS MAY NOT BE INDICATED ON THIS SYMBOLS LEGEND.

BUILDING CODES:

2010 AMERICANS WITH DISABILITIES ACT (ADA)
2009 ICC/ANSI A117.1 ACCESSIBILITY CODE
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE

GENERAL NOTES:

- THESE GENERAL NOTES SHALL APPLY TO ALL SHEETS.
- REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL WORK SHALL COMPLY WITH THE LATEST INTERNATIONAL BUILDING CODES, NATIONAL ELECTRICAL CODE, AND ALL AMENDMENTS PER LOCAL AUTHORITY HAVING JURISDICTION.
- PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS FOR DIMENSIONS. FIELD VERIFY DIMENSIONS.
- EQUIPMENT, CONDUIT, PIPING, AND DUCTWORK LAYOUTS ARE DIAGRAMMATIC. FIELD COORDINATE EXACT LOCATIONS AND ROUTINGS WITH STRUCTURE, LIGHT FIXTURES, ETC. FINAL RESULT SHALL BE EQUIVALENT TO THAT INDICATED ON DRAWINGS.
- COOPERATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS. BEFORE ANY PIPING, DUCTWORK, CONDUIT, ETC. IS INSTALLED, IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.
- MAINTAIN ALL CLEARANCES REQUIRED FOR EQUIPMENT. DO NOT ROUTE PIPING, DUCTWORK, ETC. ABOVE ELECTRICAL PANELS.
- CONTRACTOR SHALL FIELD VERIFY EXTENT OF EXISTING CONSTRUCTION.
- PROVIDE ALL ACCESSORIES, COMPONENTS, ETC. REQUIRED FOR COMPLETE INSTALLATION OF SPECIFIED EQUIPMENT.
- PROVIDE STRUTS, HANGERS, AND ACCESSORIES AS REQUIRED FOR SUPPORT OF CONDUIT, PIPING, DUCTWORK, EQUIPMENT, ETC.
- DRAWINGS REPRESENT FINAL RESULT. REMOVE, RELOCATE, MODIFY EXISTING EQUIPMENT, FIXTURES, WIRING, CONDUIT, ETC. AS REQUIRED. FIELD VERIFY EXISTING CONDITIONS AND EXACT REQUIREMENTS.
- THE CONTRACTOR SHALL INCLUDE IN BID THE COSTS TO CUT, PATCH AND REPAIR EXISTING WALLS, FLOORS AND CEILING CONSTRUCTION AS REQUIRED TO INSTALL EQUIPMENT, CONDUIT, ETC.
- SEAL ALL PENETRATIONS THROUGH FIRE-RATED ASSEMBLIES AS NECESSARY TO RESTORE FIRE-RESISTANCE RATING OF ASSEMBLY.
- CONTRACTOR SHALL SUBMIT ALL FIRE-STOPPING MATERIALS FOR REVIEW AND APPROVAL. PROVIDE COMPLETE WITH ALL LITERATURE AND SPECIFICATION INFORMATION TO CLEARLY SHOW COMPLIANCE WITH BUILDING CODES FOR INTENDED APPLICATION. REFER TO SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.

STATE OF MISSOURI  
MICHAEL L. KEHOE,  
GOVERNOR



RYAN S. JONES - ENGINEER  
PE-200401193  
PROFESSIONAL SEAL

Missouri State Certificate of Authority #2005026903  
Specialty: Electrical Engineering  
Specialty: Mechanical Engineering  
Specialty: Civil Engineering  
Specialty: Chemical Engineering  
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Specialty: Food Engineering  
Specialty: Textile Engineering  
Specialty: Paper Engineering  
Specialty: Leather Engineering  
Specialty: Glass Engineering  
Specialty: Rubber Engineering  
Specialty: Plastic Engineering  
Specialty: Ceramic Engineering  
Specialty: Metallurgical Engineering  
Specialty: Welding Engineering  
Specialty: Manufacturing Engineering  
Specialty: Quality Engineering  
Specialty: Safety Engineering  
Specialty: Health Engineering  
Specialty: Environmental Engineering  
Specialty: Occupational Engineering  
Specialty: Ergonomics Engineering  
Specialty: Human Factors Engineering  
Specialty: Systems Engineering  
Specialty: Software Engineering  
Specialty: Computer Engineering  
Specialty: Information Engineering  
Specialty: Telecommunications Engineering  
Specialty: Electrical Engineering  
Specialty: Mechanical Engineering  
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Specialty: Quality Engineering  
Specialty: Safety Engineering  
Specialty: Health Engineering  
Specialty: Environmental Engineering  
Specialty: Occupational Engineering  
Specialty: Ergonomics Engineering  
Specialty: Human Factors Engineering  
Specialty: Systems Engineering  
Specialty: Software Engineering  
Specialty: Computer Engineering  
Specialty: Information Engineering  
Specialty: Telecommunications Engineering

CJD  
Engineering | Energy | Innovation  
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Springfield, MO 65807  
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OFFICE

FT. LEONARD WOOD  
READINESS CENTER  
BLDG 1029

REPLACE ROOF AND  
CONSTRUCT SOLAR ARRAY

PROJECT # T2412-01  
SITE # 6306  
FACILITY # 8136306003

REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DATE: \_\_\_\_\_  
ISSUE DATE: 07/02/2025

CAD DWG FILE: G-001.DWG  
DRAWN BY: CJD  
CHECKED BY: RSJ  
DESIGNED BY: CJD

SHEET TITLE:

ABBREVIATIONS,  
NOTES,  
& SYMBOLS

SHEET NUMBER:

G-001  
2 OF 10 SHEETS  
JULY 2, 2025





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**Buddy Webb & Company, Inc.**  
**Architects - Consultants**  
3057 EAST CAIRO STREET  
SPRINGFIELD, MISSOURI 65802  
(417) 877-1385 TELEPHONE

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REVISION:  
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DATE:  
ISSUE DATE: 07/02/2025

CAD DWG FILE: 6306-8136306003-A-102  
DRAWN BY: AJP  
CHECKED BY: BW  
DESIGNED BY: BW

SHEET TITLE:  
**ROOF  
DEMOLITION  
PLAN**

SHEET NUMBER:

**D-101**

3 OF 10 SHEETS  
JULY 2, 2025

## KEY NOTES

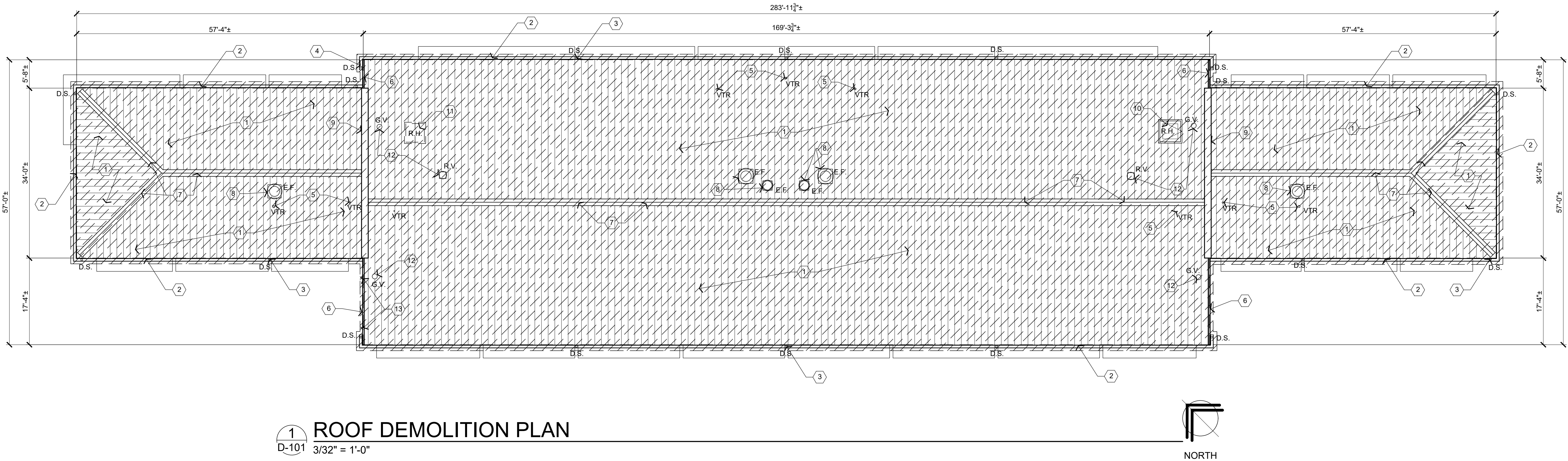
- 1 REMOVE EXISTING STANDING METAL BUILDING STANDING SEAM ROOFING  
PANEL SYSTEM, PREPARE EXISTING ROOF TO ACCEPT NEW ROOFING SYSTEM.
- 2 REMOVE ALL EXISTING SHEET METAL GUTTER (TYPICAL).
- 3 REMOVE ALL EXISTING SHEET METAL DOWNSPOUT (DS) SYSTEM TO EXISTING  
CAST IRON PIPING. PREPARE BUILDING FOR NEW DOWNSPOUT SYSTEM.
- 4 REMOVE EXISTING DAMAGE CAST IRON DOWNSPOUT PIPING (GROUND LEVEL)  
AND PREPARE PIPE FOR NEW DOWNSPOUT BOOT TO ACCEPT NEW  
DOWNSPOUT.
- 5 REMOVE ALL EXISTING PLUMBING VENT THRU ROOF (VTR) BOOT, PREPARE  
FOR NEW FLASHING.
- 6 REMOVE ALL EXISTING SHEET METAL RAKE EDGE FLASHING.
- 7 REMOVE ALL EXISTING SHEET METAL RIDGE CAP FLASHING.
- 8 REMOVE EXISTING MECHANICAL EXHAUST SYSTEM, CO2B AND FLASHING.  
REWORK EXISTING CONSTRUCTION AS REQUIRED FOR INSTALLATION OF NEW  
CONSTRUCTION. EXISTING MECHANICAL EXHAUST UNIT TO BE REVISED.
- 9 REMOVE EXISTING ROOF EXPANSION JOINT, PREPARE FOR INSTALLATION OF  
NEW EXPANSION JOINT SYSTEM.
- 10 REMOVE EXISTING ROOF HATCH AND CURB, REWORK EXISTING  
CONSTRUCTION AS REQUIRED FOR INSTALLATION OF NEW CONSTRUCTION.
- 11 REMOVE EXISTING ROOF HATCH AND ROOF CURB, PREPARE OPENING FOR  
NEW INFILL CONSTRUCTION.
- 12 REMOVE EXISTING GRAVITY OR RELIEF VENT AND FLASHING SYSTEM.  
REWORK EXISTING CONSTRUCTION AS REQUIRED FOR INSTALLATION OF NEW  
CONSTRUCTION.
- 13 REMOVE EXISTING ELECTRONIC COMMUNICATION DEVICE AND ASSOCIATED  
ELECTRICAL SYSTEM AND REWORK EXISTING CONSTRUCTION AS REQUIRED  
FOR INSTALLATION OF NEW CONSTRUCTION. COORDINATE WORK WITH  
OWNER.

## SYMBOLS LEGEND

- VTR ← VENT THROUGH ROOF  
E.F. ← MECHANICAL EXHAUST UNIT  
G.V. ← GRAVITY VENT THROUGH ROOF  
R.V. ← RELIEF VENT THROUGH ROOF  
D.S. ← LOCATION OF DOWNSPOUTS  
R.H. ← ROOF HATCH  
R.H. ← ROOF HATCH (SEALED)  
← FALL PROTECTION ANCHOR SYSTEM  
← FALL PROTECTION SYSTEM  
← SNOW GUARD SYSTEM  
× ← ELECTRONIC COMMUNICATION DEVICE

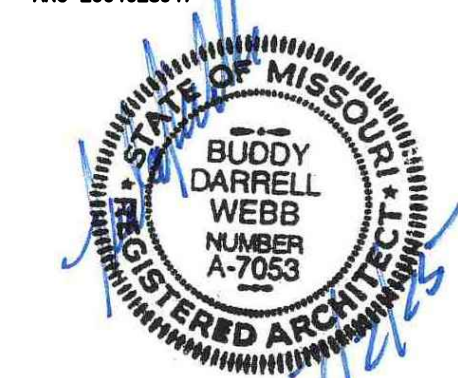
## GENERAL NOTES

- A REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.
- B FIELD VERIFY EXISTING CONDITIONS BY DETAILED INSPECTION  
PRIOR TO SUBMITTING BID AND BEGINNING CONSTRUCTION. NOTIFY  
ARCHITECT IF EXISTING CONDITIONS DEVIATE SUBSTANTIALLY  
FROM THOSE INDICATED HEREIN.
- C EXISTING SHEET METAL ROOFING SYSTEM AND ASSOCIATED  
CONSTRUCTION, INCLUDING MECHANICAL ROOF CURBS, SHEET  
METAL FLASHING (UNLESS OTHERWISE INDICATED), GUTTERING,  
AND DOWNSPOUTS SYSTEMS, TO BE REMOVED DOWN TO TOP OF  
EXISTING STRUCTURAL SUPPORT OR SUBSTRATE SYSTEM  
CONDITIONS. EXISTING NAILERS IN GOOD CONDITION TO REMAIN.
- D VERIFY CONDITIONS OF EXISTING STRUCTURAL SUPPORT OR  
SUBSTRATE CONDITIONS TO REMAIN. REPAIR AND/OR REPLACE AS  
REQUIRED FOR PROPER INSTALLATION OF NEW ROOFING SYSTEM.  
FIELD VERIFY EXISTING CONDITIONS AND SCOPE OF WORK  
REQUIRED.
- F UNLESS OTHERWISE INDICATED, ALL SALVAGE TO CONTRACTOR  
FOR PROPER DISPOSAL.
- G REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL  
REQUIREMENTS.



**1 ROOF DEMOLITION PLAN**  
D-101 3/32" = 1'-0"





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**Architects - Consultants**  
3057 EAST CARO STREET  
SPRINGFIELD, MISSOURI 65802  
(417) 877-1385 TELEPHONE

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REPLACE ROOF AND  
CONSTRUCT SOLAR ARRAY

PROJECT # T2412-01  
SITE # 6306  
FACILITY # 8136306003

REVISION:  
DATE:  
REVISION:  
DATE:  
REVISION:  
DATE:  
ISSUE DATE: 07/02/2025

CAD DWG FILE: 6306-8136306003-A-101  
DRAWN BY: AJP  
CHECKED BY: BW  
DESIGNED BY: BW

SHEET TITLE:  
**ROOF PLAN**

SHEET NUMBER:

**A-101**

4 OF 10 SHEETS  
JULY 2, 2025

## KEY NOTES

- SHEET METAL STANDING SEAM (MECHANICALLY SEALED) ROOFING PANEL SYSTEM WITH R-5 THERMAL BLOCKS OVER EXISTING FRAMING.
- SNOW GUARD SYSTEM (EXTEND FULL LENGTH OF ROOF) ATTACHED WITH ALUMINUM S-S CLAMPS. INSTALL 4'-0" FROM EDGE OF LOW EAVE.
- SHEET METAL GUTTER (TYPICAL). REFER TO DETAIL 1/A-501. SIZES TO BE 8"x8".
- SHEET METAL DOWNSPOUT (DS) SYSTEM. SIZES 4"x4" TYPICAL.
- FALL PROTECTION ANCHOR SYSTEM ATTACHED WITH ALUMINUM "S-S" CLAMPS. INSTALL 2'-0" MIN FROM RIDGE OF ROOF. CENTER BETWEEN METAL ROOF PANEL SEAMS AND SPACE EQUALLY. COORDINATE WITH SHEET METAL ROOF SYSTEM MANUFACTURER FOR INSTALLATION.
- PLUMBING VENT THRU ROOF (VTR). REFER TO 6/A-501 AND 7/A-501. CENTER BETWEEN ROOF PANEL SEAMS. MATCH EXISTING SIZES (FIELD VERIFY).
- SHEET METAL RAKE / HEAD WALL FLASHING. REFER TO DETAIL 2/A-502 AND 3/A-502.
- METAL RIDGE CAP FLASHING - FIXED AT RIDGE. REFER TO DETAIL 4/A-501.
- MECHANICAL SYSTEM HOT VENT FLUE. REFER TO DETAIL 8/A-501. MATCH EXISTING SIZES (FIELD VERIFY).
- SOLAR ROOF PANEL SYSTEM AND RAIL MOUNTING SYSTEM ATTACHED TO ROOF PANELS WITH "S-S" CLAMPS. ATTACHMENT CLAMPS UTILIZES BASIS FOR DESIGN AS "S-S" METAL ROOF INNOVATIONS, LTD.". REFER TO ELECTRICAL DRAWINGS, PROJECT MANUAL AND ICC.ES.ORG PRODUCT #3869 FOR ADDITIONAL REQUIREMENTS.
- SHEET METAL PARAPET FLASHING, REFER TO DETAIL 1/A-502.
- EXISTING CONCRETE WINDOW SHADES BELOW TO REMAIN, PROTECT DURING CONSTRUCTION.
- EXISTING MECHANICAL EXHAUST UNIT ON NEW RAISED ROOF CURB, REFER TO DETAIL 8/A-502. SIZE TO MATCH EXISTING MECHANICAL EQUIPMENT.
- METAL HIP CAP FLASHING - FIXED AT RIDGE. REFER TO DETAIL 5/A-501.
- NEW ROOF HATCH WITH INSULATED CURB AND SAFETY POST. REFER TO DETAIL 4/A-503 AND 8/A-502. SIZE TO MATCH EXISTING CONCRETE OPENING.
- EXISTING ROOF HATCH OPENING INFILL CONSTRUCTION, REFER TO DETAIL 8/A-503.
- PROVIDE SUPPLEMENTAL FRAMING AROUND EXISTING OPENING TO PROVIDE ADEQUATE SUPPORT FOR ROOFING.
- SHEET METAL RAKE EDGE FLASHING, REFER TO DETAILS 2/A-501 AND 3/A-501.
- EXISTING GRAVITY VENT OR RELIEF VENT ON NEW RAISED ROOF CURB, REFER TO DETAIL 8/A-502. SIZE TO MATCH EXISTING VENT UNIT.
- EXISTING ELECTRONIC COMMUNICATION DEVICE CONSTRUCTION TO BE REINSTALLED. COORDINATE WORK WITH OWNER.

## SYMBOLS LEGEND

- VTR ← VENT THROUGH ROOF  
E.F. ← MECHANICAL EXHAUST UNIT  
G.V. ← GRAVITY VENT THROUGH ROOF  
R.V. ← RELIEF VENT THROUGH ROOF  
D.S. ← LOCATION OF DOWNSPOUTS  
R.H. ← ROOF HATCH  
R.H. (SEALED) ← ROOF HATCH (SEALED)  
□ ← FALL PROTECTION ANCHOR SYSTEM  
□ ← FALL PROTECTION SYSTEM  
— ← SNOW GUARD SYSTEM  
x ← ELECTRONIC COMMUNICATION DEVICE

## BUILDING CODES

COUNTY: POLASKI

GOVERNING CODES AND STANDARDS  
BUILDING CODE: 2012 IBC  
PLUMBING CODE: 2012 IPC  
MECHANICAL CODE: 2012 IMC  
ELECTRICAL CODE: 2011 NEC  
FIRE CODE: 2012 IFC  
FUEL / GAS CODE: 2012 IFGC  
ENERGY CODE: 2012 IECC  
ACCESSIBLE CODE: 2010 ADA

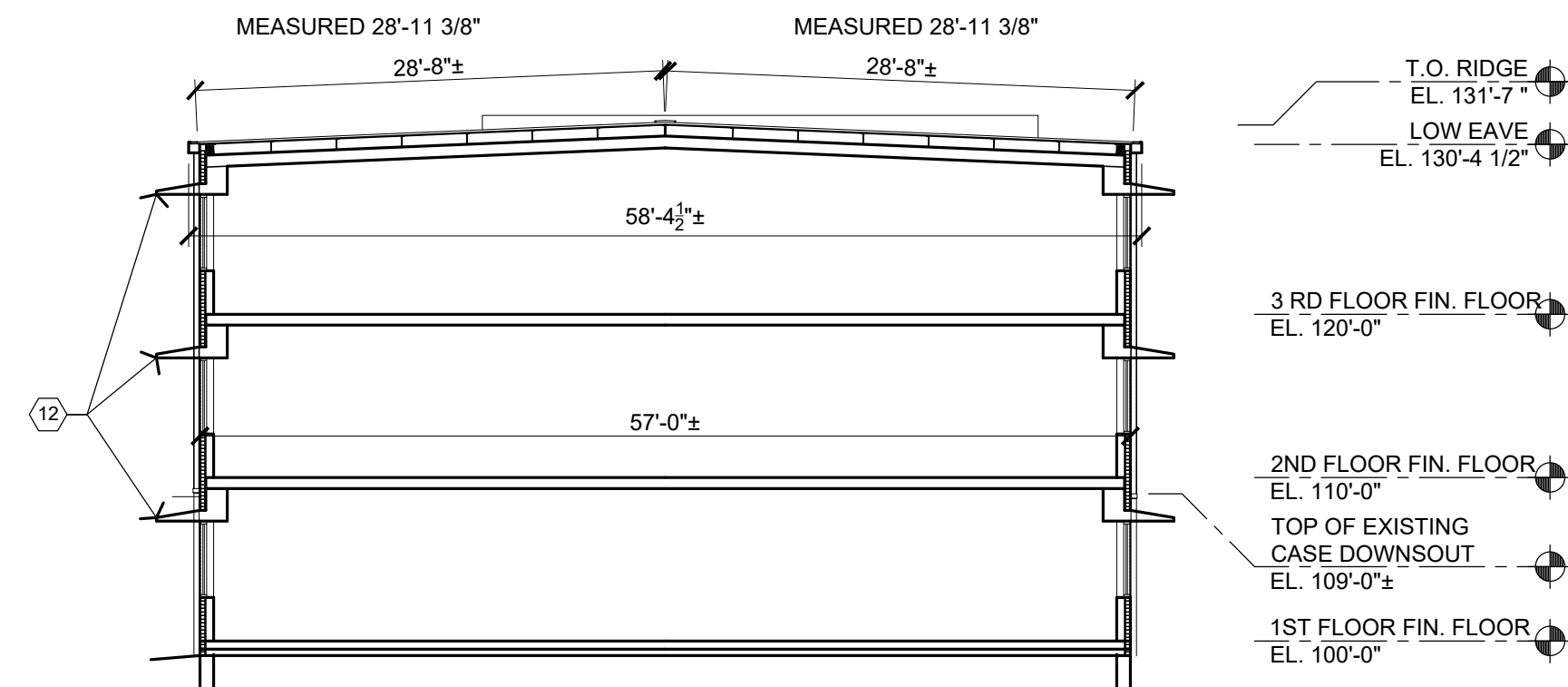
**STRUCTURAL DESIGN**  
1. ROOF LIVE LOAD 20.0 PSF  
2. ROOF DEAD/COLLATERAL LOADS:  
A. DEAD LOADS: 20.0 PSF  
3. SNOW LOADS  $C_e = 1.0$   $C_t = 1.0$   
GROUND LOAD ( $P_g$ ) 20 PSF  
MINIMUM ROOF SNOW LOAD ( $P_f$ ): 20 PSF  
IMPORTANCE FACTOR ( $I_s$ ): 1.0  
4 WIND LOADS  $G_C p_i = \pm 0.18$   
BASIC WIND SPEED:  $V_m = 115$  MPH  
 $V_{m10} = 89.1$  MPH  
EXPOSURE: C  
 $G_C p_i = \pm 0.18$   
 $G_C p_i = 0.210$   
Kz: 0.85  
5. SEISMIC  
Ss: 0.197  
S1: 0.105  
Sds: 0.210  
Sd1: 0.187  
IMPORTANCE FACTOR ( $I_e$ ): 1.0  
SITE CLASS: D  
DESIGN CATEGORY: C

ALTERNATES:  
REFER TO PROJECT MANUAL SECTION 01 23 00 FOR  
ADDITIONAL REQUIREMENTS.

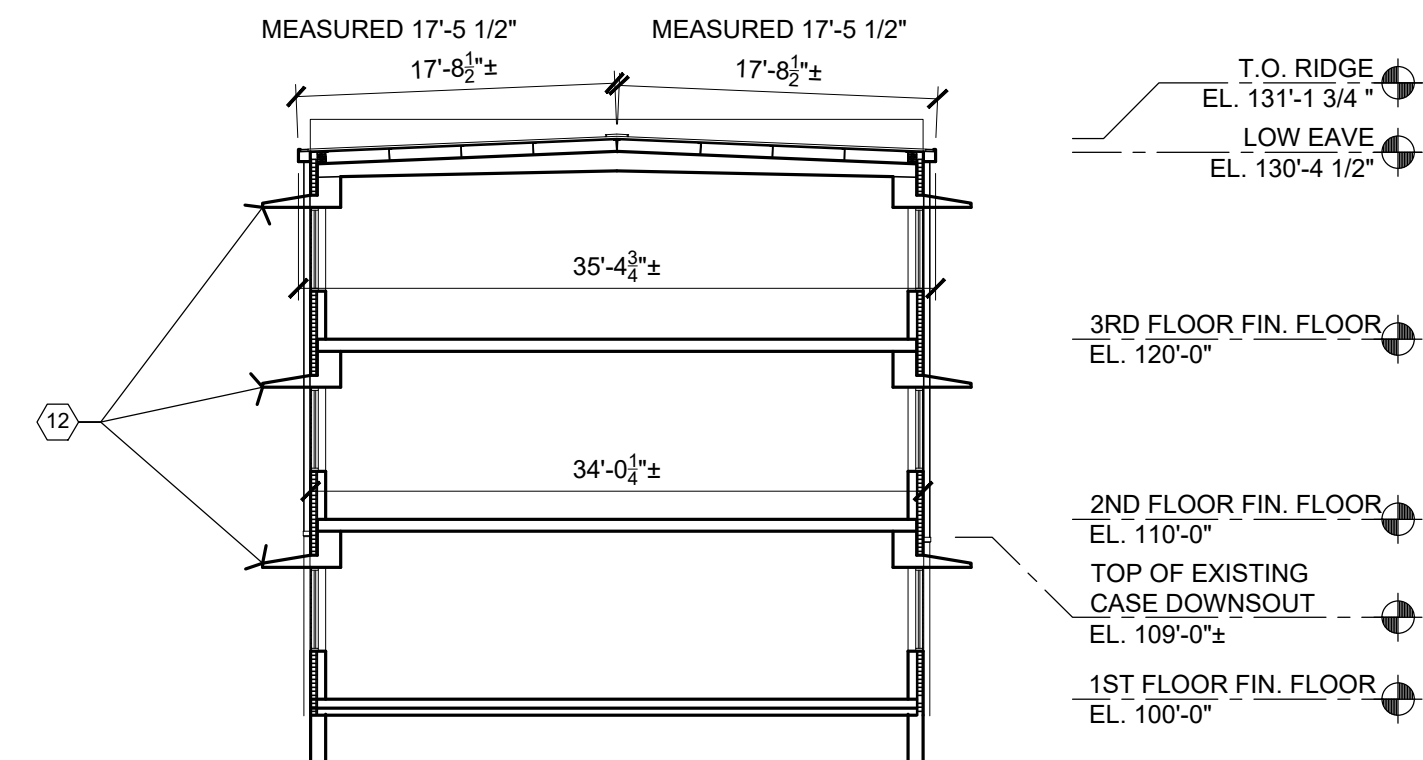
ALTERNATE NO. 1: (NEW ROOF INSULATION SYSTEM).  
PROVIDE NEW ROOF INSULATION BOARD (R-30 MINIMUM)  
SYSTEM ON TOP OF EXISTING CONCRETE ROOF DECK  
BELOW AREAS OF NEW ROOFING CONSTRUCTION.

## GENERAL NOTES

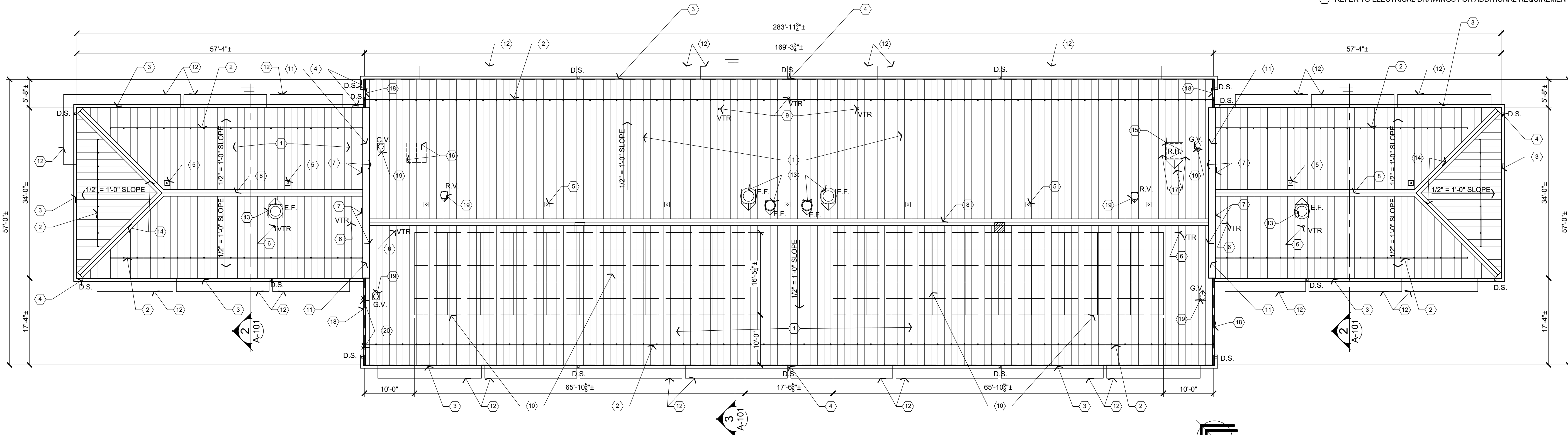
- (A) REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.
- (B) FIELD VERIFY EXISTING CONDITIONS BY DETAILED INSPECTION PRIOR TO SUBMITTING BID AND BEGINNING CONSTRUCTION. NOTIFY ARCHITECT IF EXISTING CONDITIONS DEVIATE SUBSTANTIALLY FROM THOSE INDICATED HEREIN.
- (C) ALL EXISTING ROOF MOUNTED MECHANICAL EQUIPMENT, GRAVITY VENTS, AND RELIEF VENTS TO BE REUSED ARE TO BE PROVIDED WITH NEW PREFABRICATED SHEET METAL INSULATED ROOF CURBS OR FIELD FABRICATED SHEET METAL CLADDING ON TREATED 2X6 (MIN.) WOOD ROOF CURBS IN SIZES AND TYPES TO MATCH EXISTING EQUIPMENT (FIELD VERIFY). ALL NEW CURBS TO BE PROVIDED WITH UP SLOPE CRICKETS FOR PROPER DRAINAGE. NEW ROOF CURB TYPES AND CONSTRUCTION TO BE APPROVED BY NEW SHEET METAL ROOFING SYSTEM MANUFACTURER. COORDINATE LOCATIONS WITH NEW SHEET METAL ROOFING SYSTEM JOINTS AND SEAMS.
- (D) PROVIDE NEW PREFABRICATED VENTS AND FLASHING BOOTS IN SIZES AND TYPES TO MATCH EXISTING TO BE REMOVED (FIELD VERIFY). TYPES AND CONSTRUCTION TO BE APPROVED BY NEW SHEET METAL ROOFING SYSTEM MANUFACTURER. COORDINATE LOCATIONS WITH NEW SHEET METAL ROOFING SYSTEM JOINTS AND SEAMS AND LOCATE IN CENTER OF ROOF PANELS.
- (F) ALL SUPPORTS FOR EXPOSED ROOF MOUNTED SOLAR PANEL SYSTEM FRAMING, PIPING, CONDUIT, FALL PROTECTION DEVICES, SNOW GUARDS, ETC. TO BE MOUNTED ON PREFABRICATED ALUMINUM S-S CLAMPS ATTACHED TO TOP OF SHEET METAL ROOFING SYSTEM SEAMS. ALL EXPOSED FRAMING, SUPPORTS, AND FASTENERS SHALL BE NON-CORROSIVE MATERIAL TYPES. EXPOSED FINISHES TO MATCH NEW ROOFING SYSTEM.
- (G) WHERE REQUIRED, PROVIDE NEW STRUCTURAL FRAMING TO MATCH EXISTING OR TREATED 2X6 WOOD NAILERS TO PROPERLY SUPPORT PERIMETERS OF CURBS AND ROOF PENETRATIONS.
- (H) WHERE REQUIRED, PROVIDE CEMENTITIOUS LEVELING COMPOUND AT CONCRETE SUBSTRATE JOINTS, DEPRESSIONS AND SURFACE IRREGULARITIES AS REQUIRED FOR INSTALLATION OF ROOFING SYSTEM SUPPORT SYSTEMS.
- (I) WHERE REQUIRED, PROVIDE SEALANT WITH BACKER ROD AT EXISTING CONCRETE ROOF SLAB JOINTS.
- (J) PROVIDE NEW TREATED 2X WOOD NAILERS TO REPLACE DAMAGED MATERIAL.
- (K) PROVIDE NEW SHEET METAL FLASHING, COUNTER FLASHING, DRIPS, AND FASCIA CLADDING AROUND PERIMETER OF ROOFING EDGES.
- (L) ROOF EDGE SECUREMENT TO COMPLY WITH ANSI/FM 4435/ES-1 WIND DESIGN STANDARD FOR EDGE SYSTEMS USED WITH LOW SLOPE ROOFING SYSTEMS.
- (M) SHEET METAL CONSTRUCTION SHALL COMPLY WITH SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA) DESIGN STANDARDS AND RECOMMENDATIONS.
- (N) ROOFING CONSTRUCTION SHALL COMPLY WITH NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA) DESIGN STANDARDS AND RECOMMENDATIONS.
- (O) NEW ROOFING SYSTEM COLOR AND FINISH TO MATCH EXISTING AND TO BE SELECTED BY OWNER FROM FULL RANGE OF MANUFACTURER'S STANDARD AND/OR PREMIUM SAMPLES.
- (P) REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.



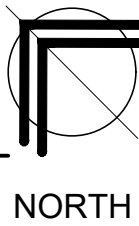
**3 BUILDING SECTION**  
A-101 3/32" = 1'-0"



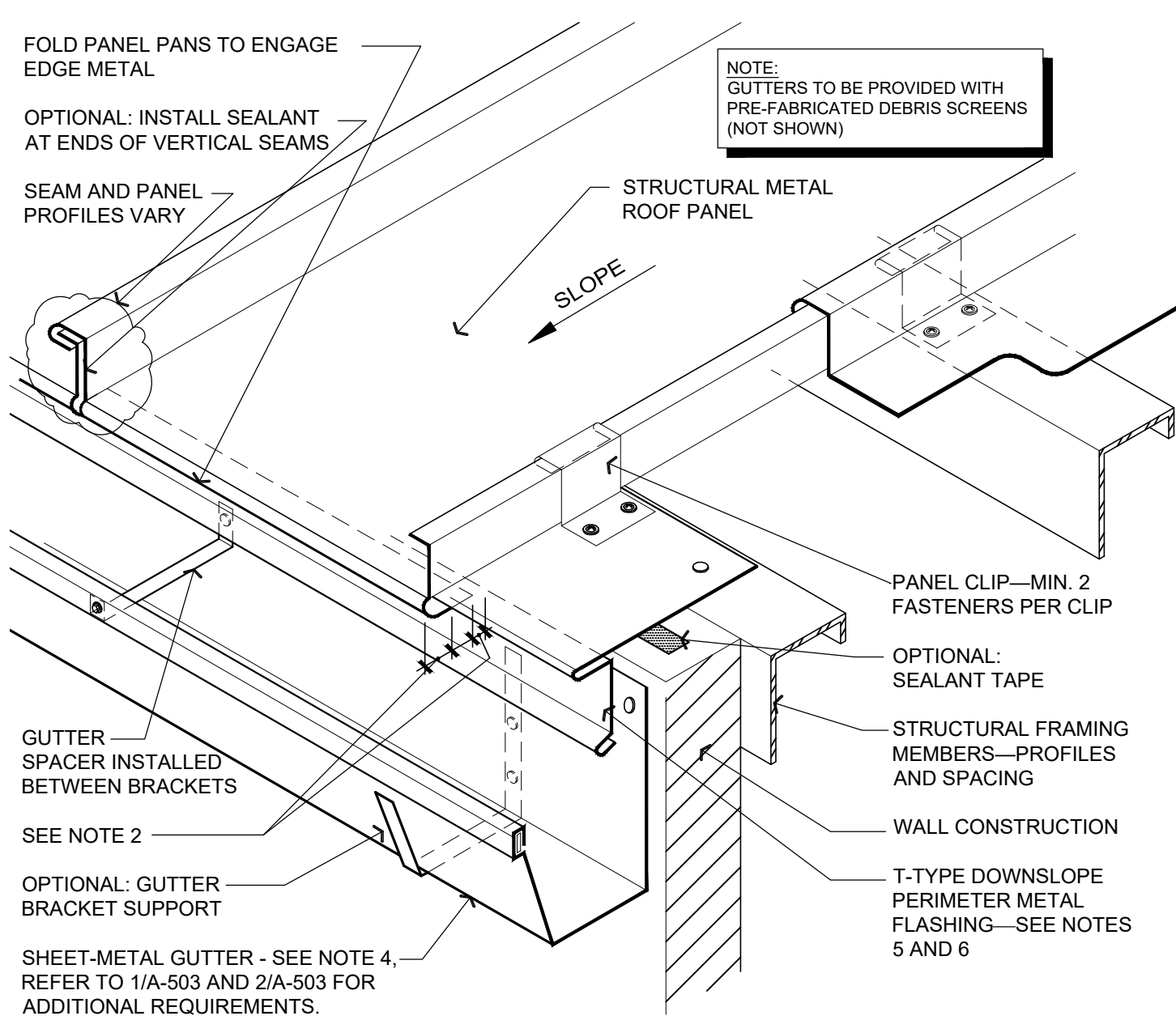
**2 BUILDING SECTION**  
A-101 3/32" = 1'-0"



**1 ROOF PLAN**  
A-101 3/32" = 1'-0"

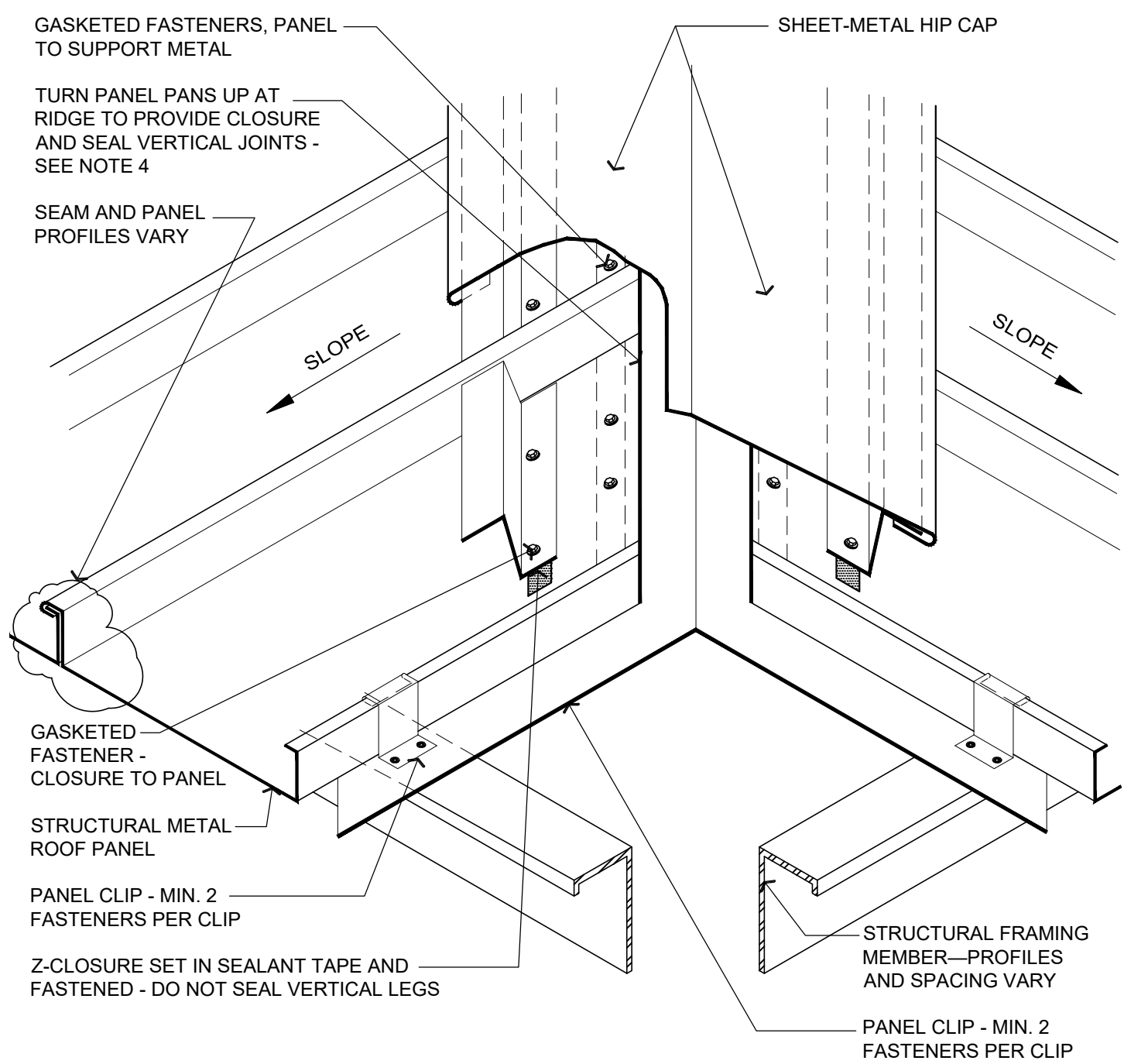






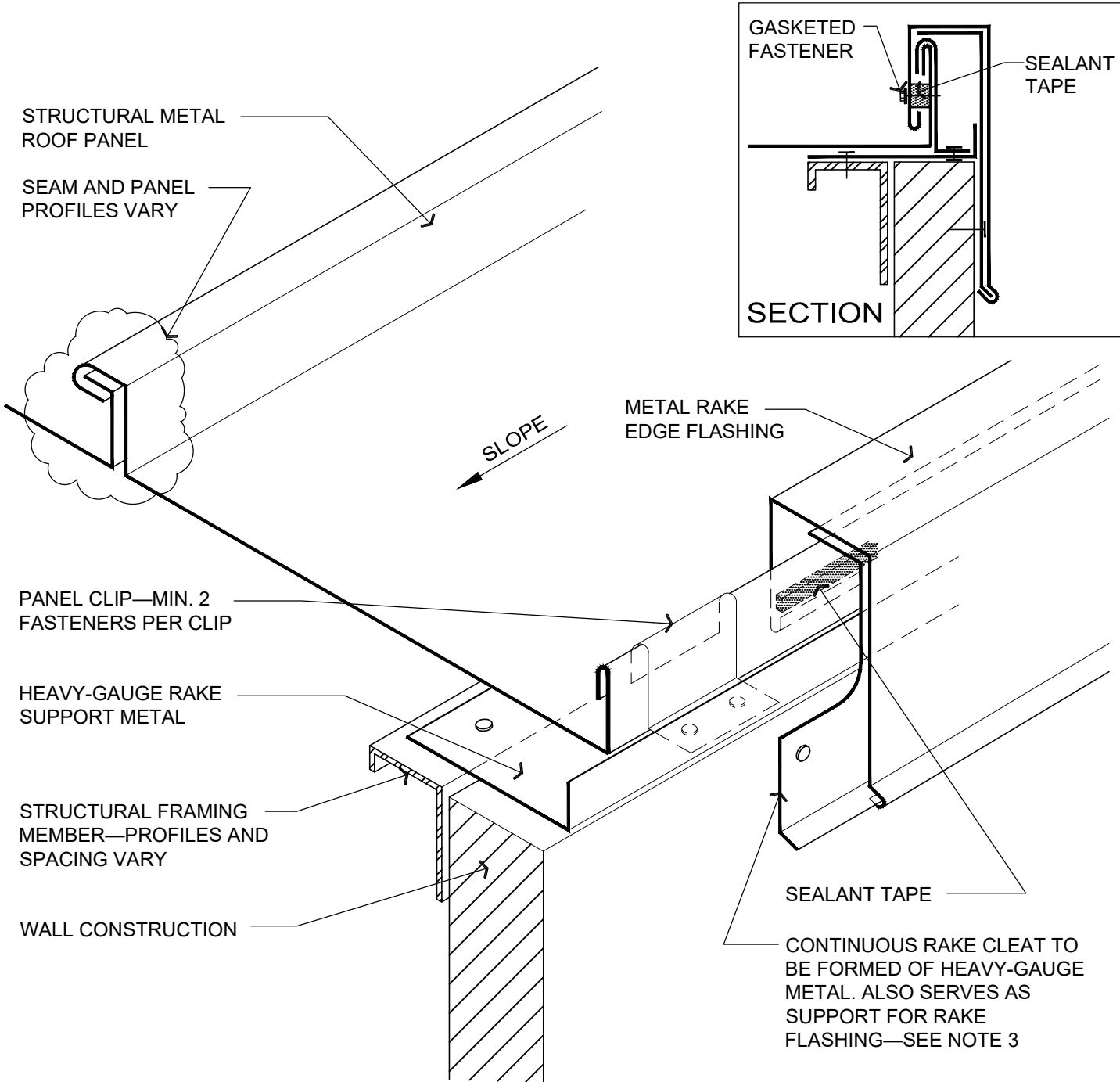
- NOTES:
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.
  2. DIMENSIONS SHOULD ACCOMMODATE EXPECTED MOVEMENT.
  3. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  4. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR MORE INFORMATION ON GUTTERS.
  5. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR PERIMETER EDGE-METAL THICKNESS AND CLEAT RECOMMENDATIONS.
  6. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**1** **DETAIL** **EAVE FLASHING WITH GUTTER**  
A-501 NOT TO SCALE



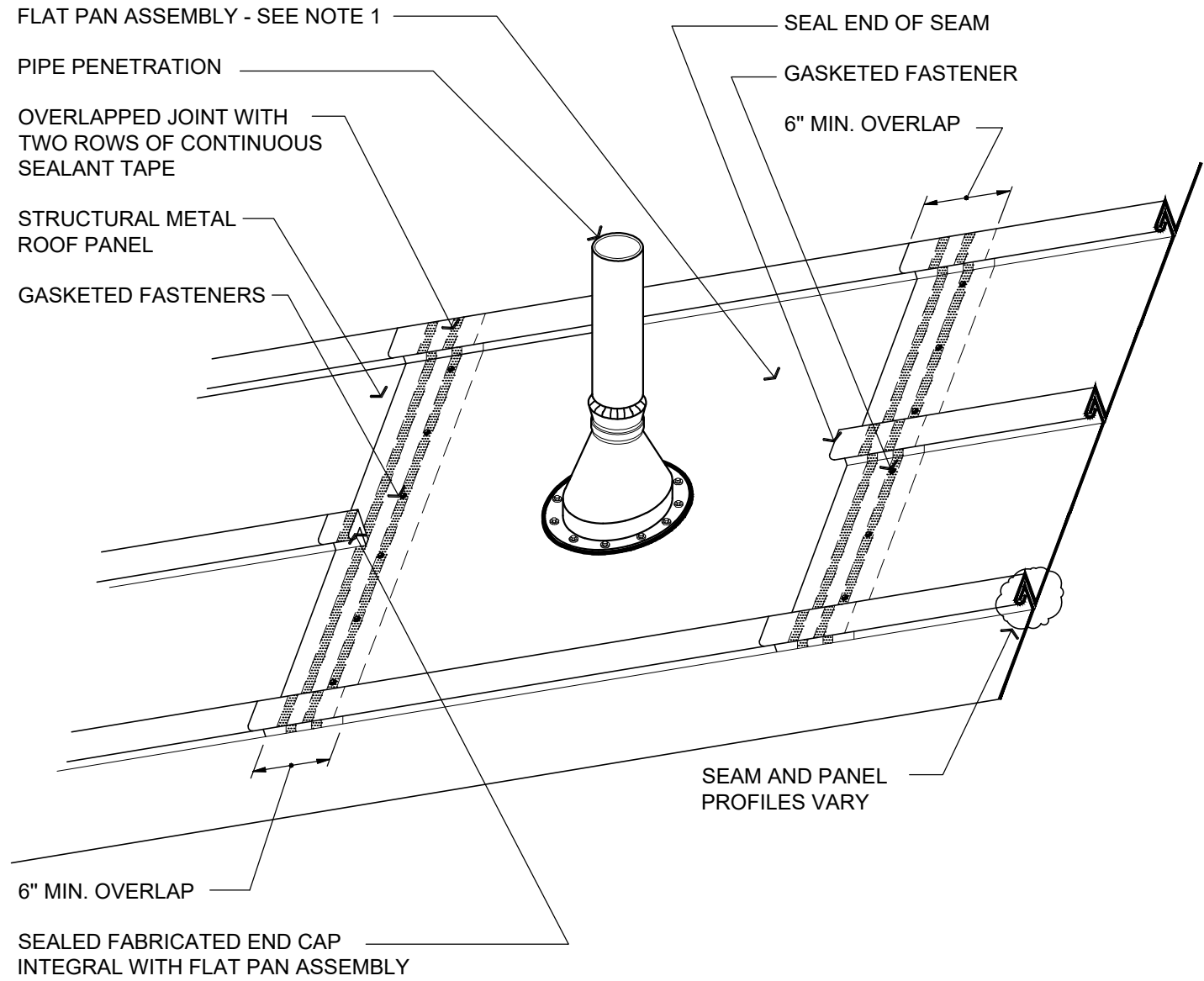
- NOTES:
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.
  2. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  3. THIS DETAIL FIXES THE PANEL ALONG THE HIP.
  4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**5** **DETAIL** **HIP CAP FLASHING - FIXED AT HIP**  
A-501 NOT TO SCALE



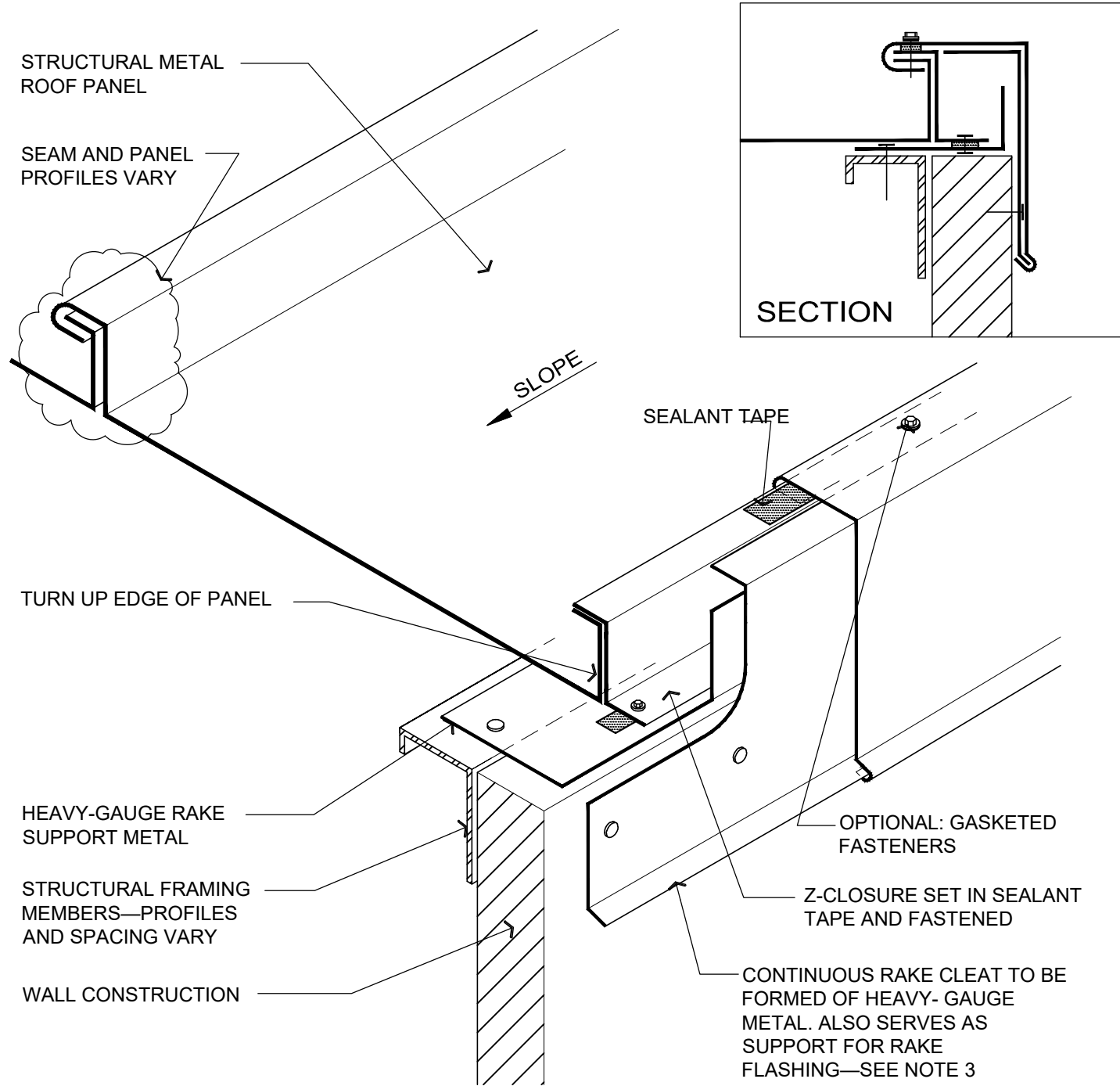
- NOTES:
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.
  2. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  3. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR PERIMETER EDGE-METAL THICKNESS AND CLEAT RECOMMENDATIONS.
  4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**2** **DETAIL** **RAKE EDGE FLASHING - STARTER PANEL**  
A-501 NOT TO SCALE



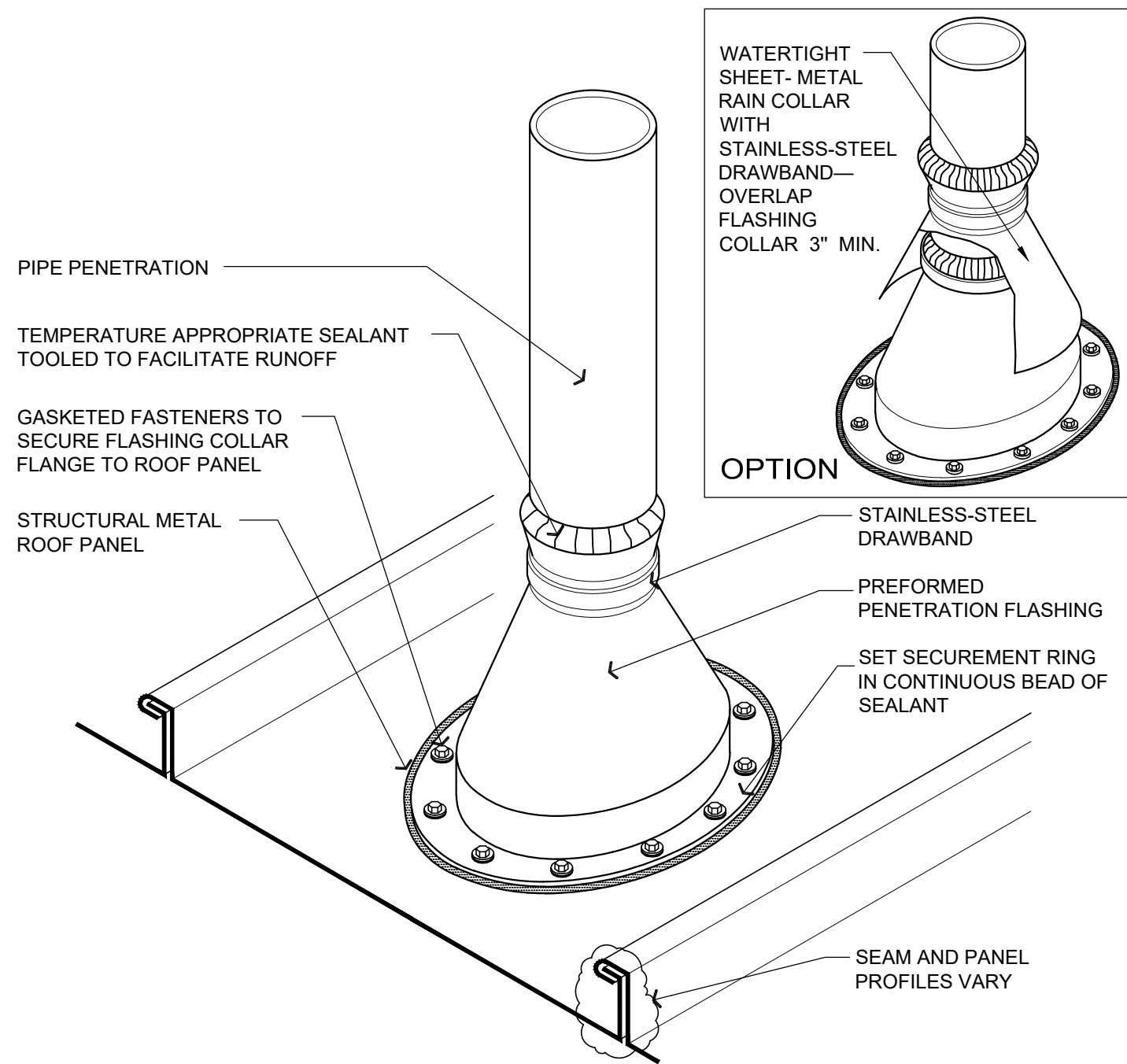
- NOTES:
1. PROPER STRUCTURAL SUPPORT AND ATTACHMENT IS REQUIRED FOR FLAT PAN ASSEMBLY.
  2. WHERE PENETRATIONS INTERSECT SEAMS, THIS DETAIL IS PREFERRED RATHER THAN INSTALLING PREFORMED BOOT THROUGH SEAM.
  3. IF FIELD PANELS OVERLAP AT THE PENETRATION, ATTACHMENT OF THE DOWNSLOPE PANEL ALONG ITS UPSLOPE END MAY BE NECESSARY.
  4. VENT STACKS AND OTHER PIPES SHOULD HAVE ADEQUATE CLEARANCE ON ALL SIDES FROM WALLS AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING AND PANEL DRAINAGE.
  5. FOR HOT PIPES, SPECIFIC HIGH-TEMPERATURE BOOTS SHOULD BE USED.
  6. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  7. REFER TO INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**6** **DETAIL** **PIPE PENETRATION FLASHING**  
A-501 NOT TO SCALE



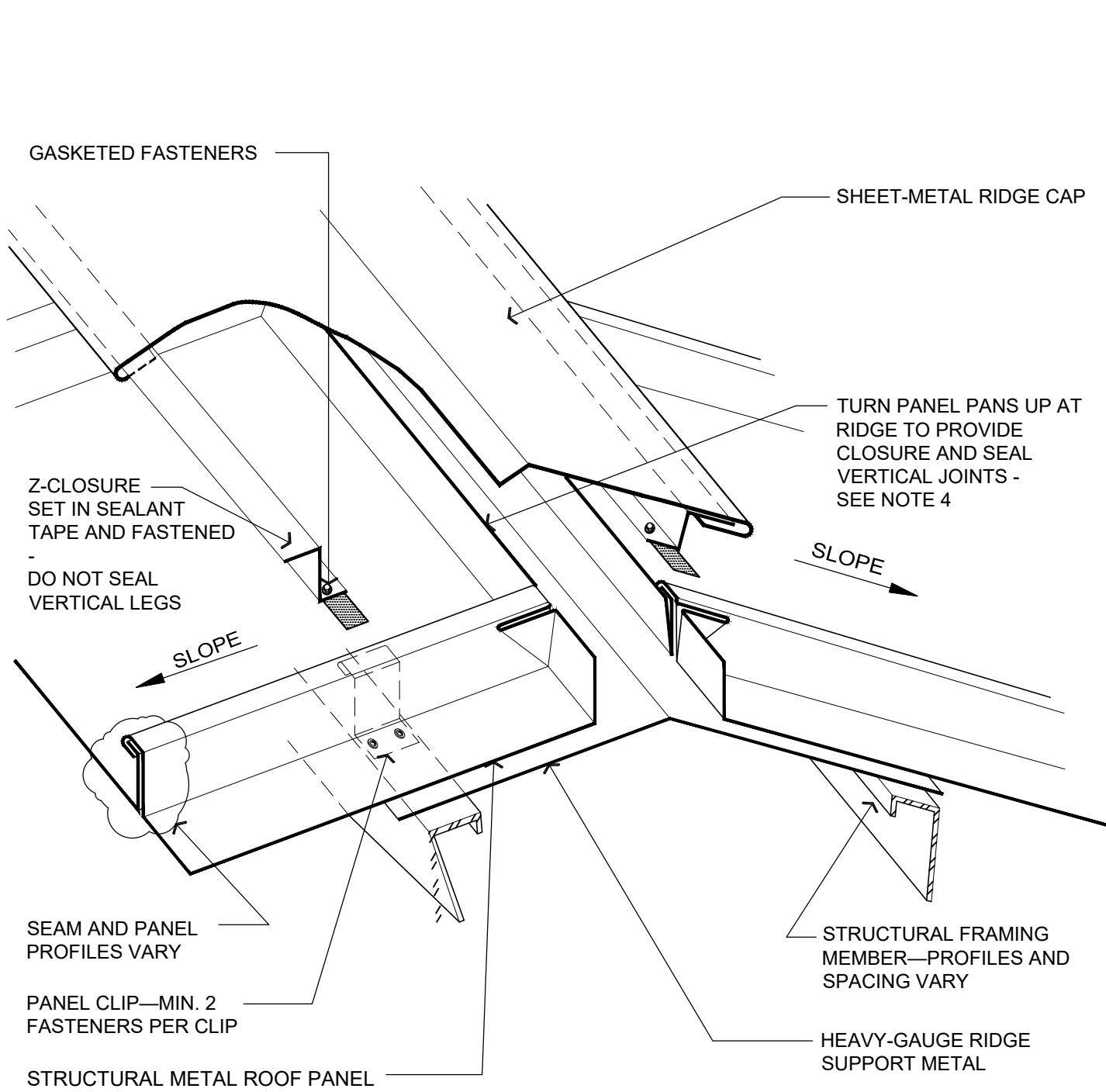
- NOTES:
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.
  2. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  3. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR PERIMETER EDGE-METAL THICKNESS AND CLEAT RECOMMENDATIONS.
  4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**3** **DETAIL** **RAKE EDGE FLASHING - END PANEL**  
A-501 NOT TO SCALE



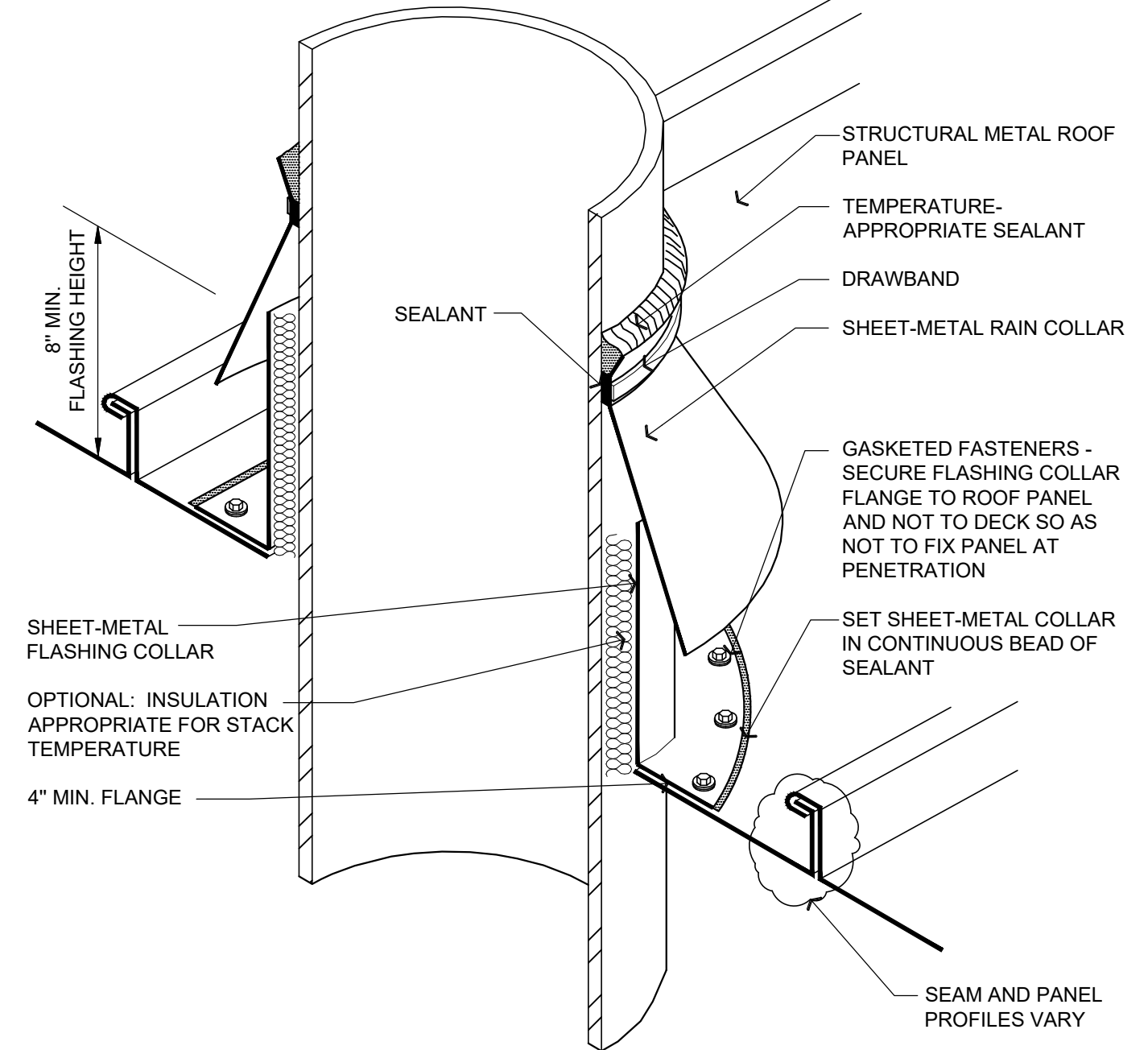
- NOTES:
1. NRCA RECOMMENDS PENETRATIONS SHOULD NOT INTERFERE WITH PANEL SEAMS OR OCCUR AT TRANSVERSE SEAMS. REFER TO DETAIL 6/A-501.
  2. IF FIELD PANELS OVERLAP AT THE PENETRATION, ATTACHMENT OF THE DOWNSLOPE PANEL ALONG ITS UPSLOPE END MAY BE NECESSARY.
  3. VENT STACKS AND OTHER PIPES SHOULD HAVE ADEQUATE CLEARANCE ON ALL SIDES FROM WALLS AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING AND PANEL DRAINAGE.
  4. FOR HOT PIPES, SPECIFIC HIGH-TEMPERATURE BOOTS SHOULD BE USED.
  5. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  6. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**7** **DETAIL** **PIPE PENETRATION FLASHING**  
A-501 NOT TO SCALE



- NOTES:
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.
  2. THIS DETAIL FIXES THE PANEL ALONG THE RIDGE.
  3. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**4** **DETAIL** **RIDGE CAP FLASHING - FIXED AT RIDGE**  
A-501 NOT TO SCALE

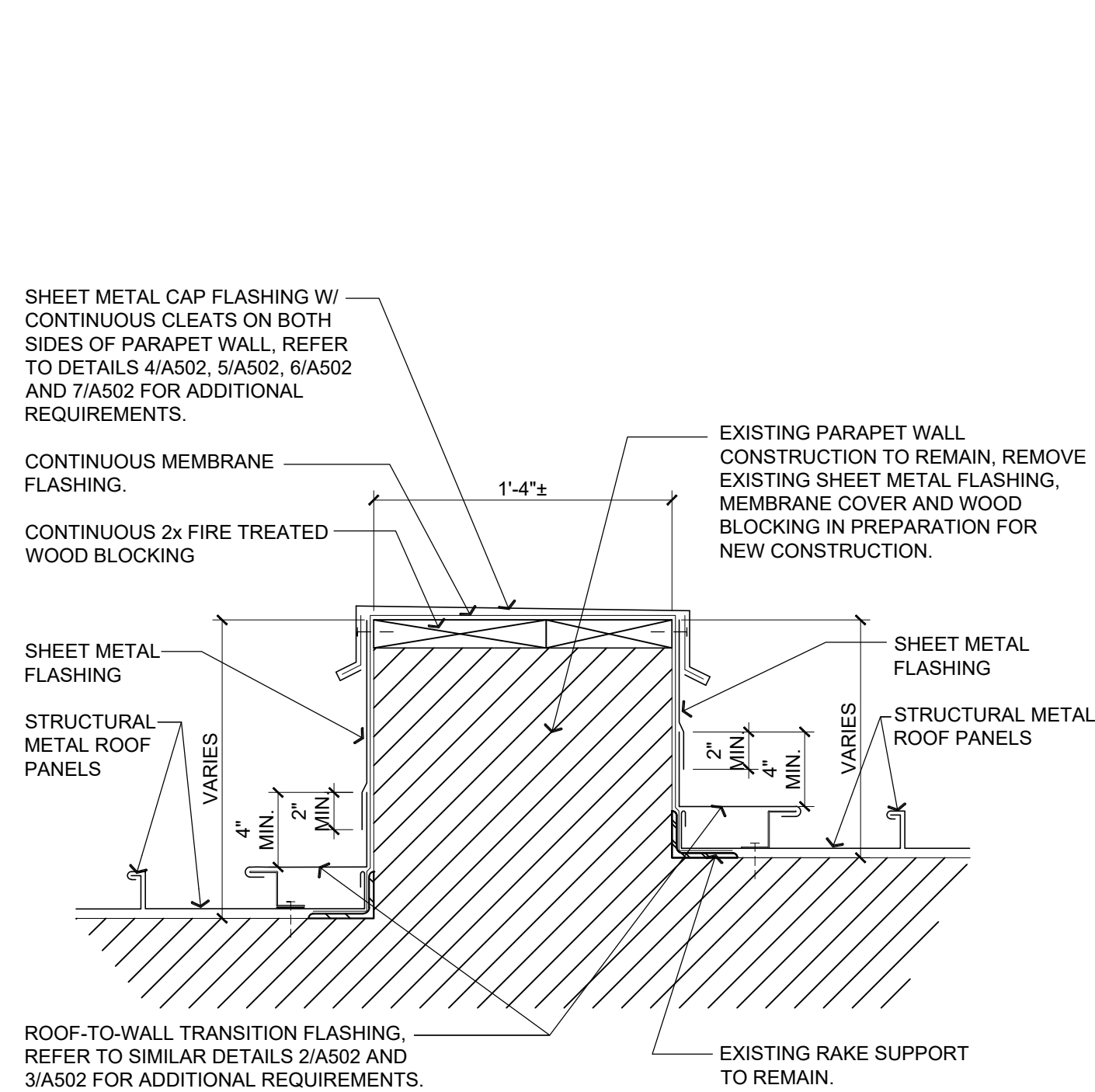


- NOTES:
1. NRCA STRONGLY RECOMMENDS PENETRATIONS SHOULD NOT INTERFERE WITH PANEL SEAMS OR OCCUR AT TRANSVERSE SEAMS. REFER TO DETAIL 6/A-501.
  2. VENT STACKS AND OTHER PIPES SHOULD HAVE ADEQUATE CLEARANCE ON ALL SIDES FROM WALLS AND OTHER PROJECTIONS TO FACILITATE PROPER FLASHING AND PANEL DRAINAGE.
  3. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.
  4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

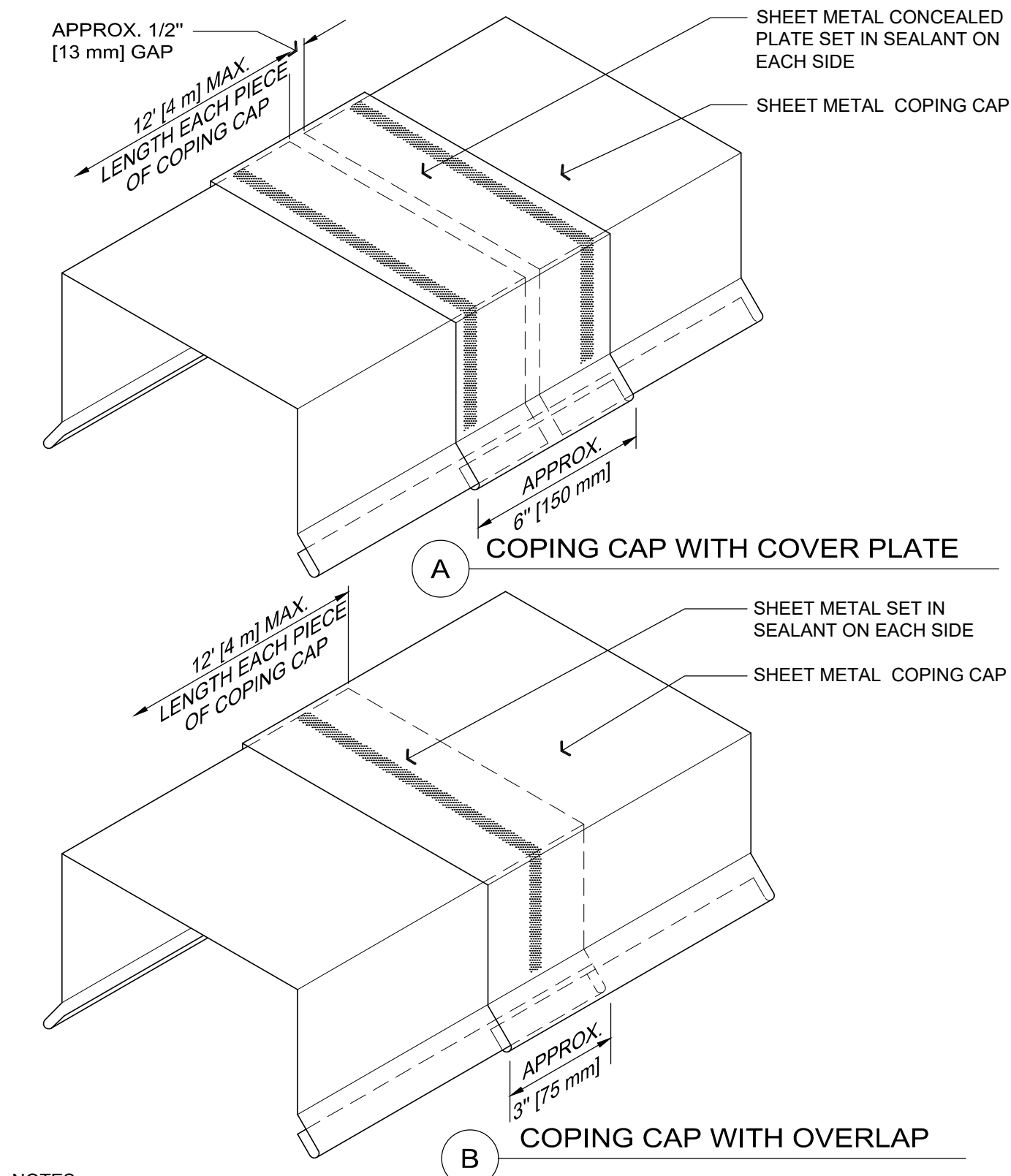
**8** **DETAIL** **SHEET-METAL STACK VENT (HOT OR COLD)**  
A-501 NOT TO SCALE



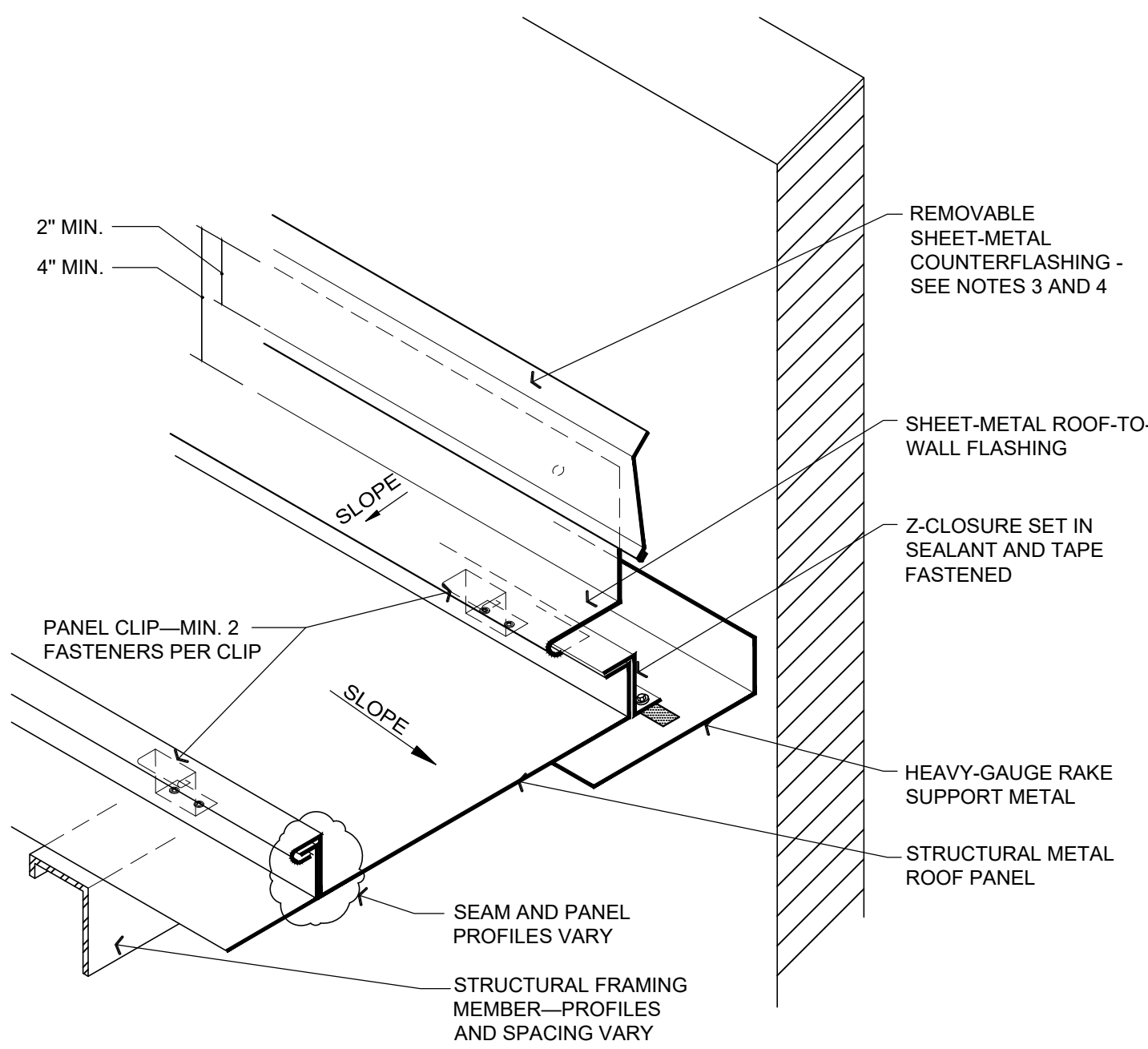




**1** DETAIL ROOF PARAPET TRANSITION  
A-502 1 1/2" = 1'-0"

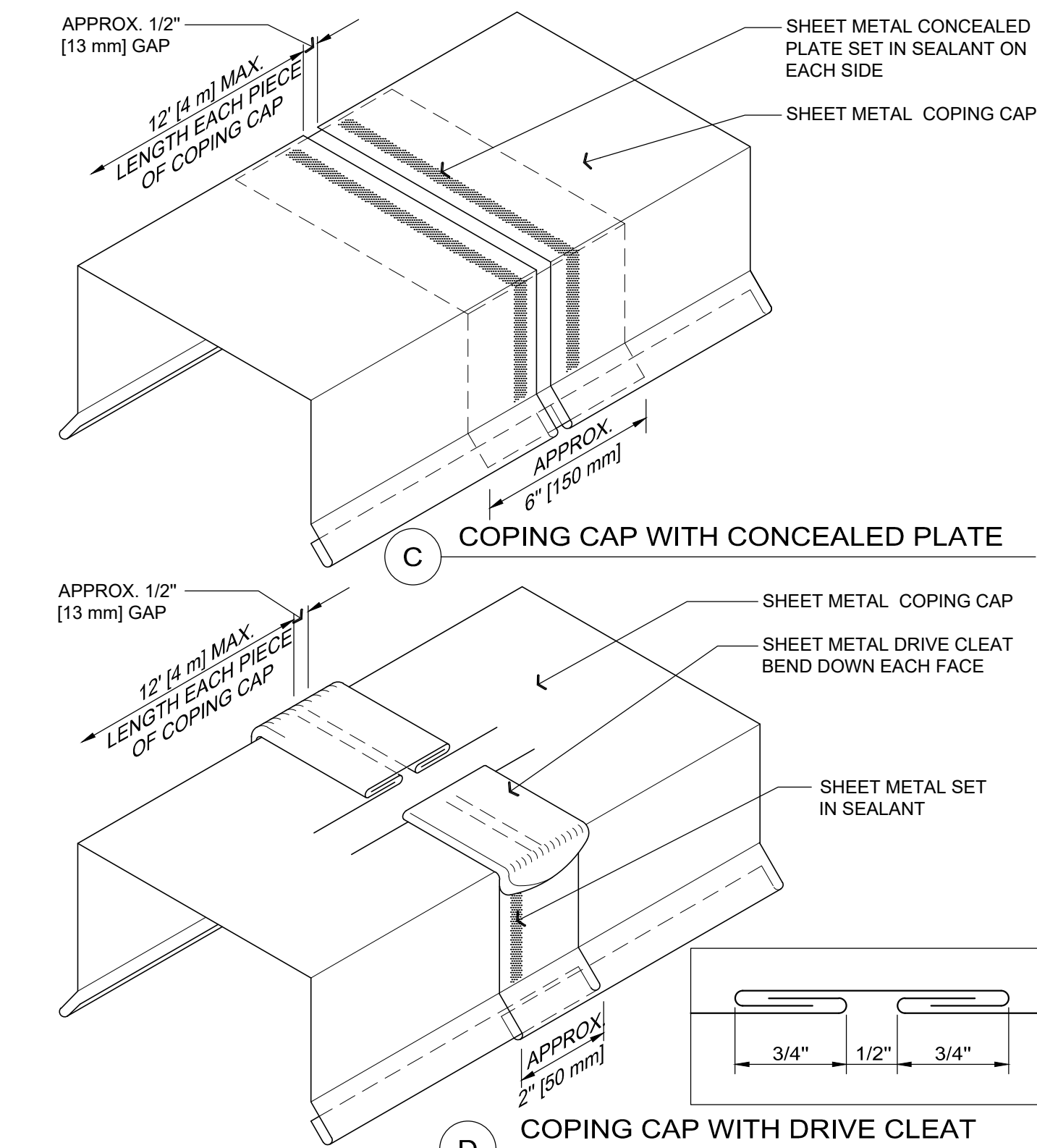


**5** DETAIL COPING CAP OPTIONS  
A-502 NOT TO SCALE



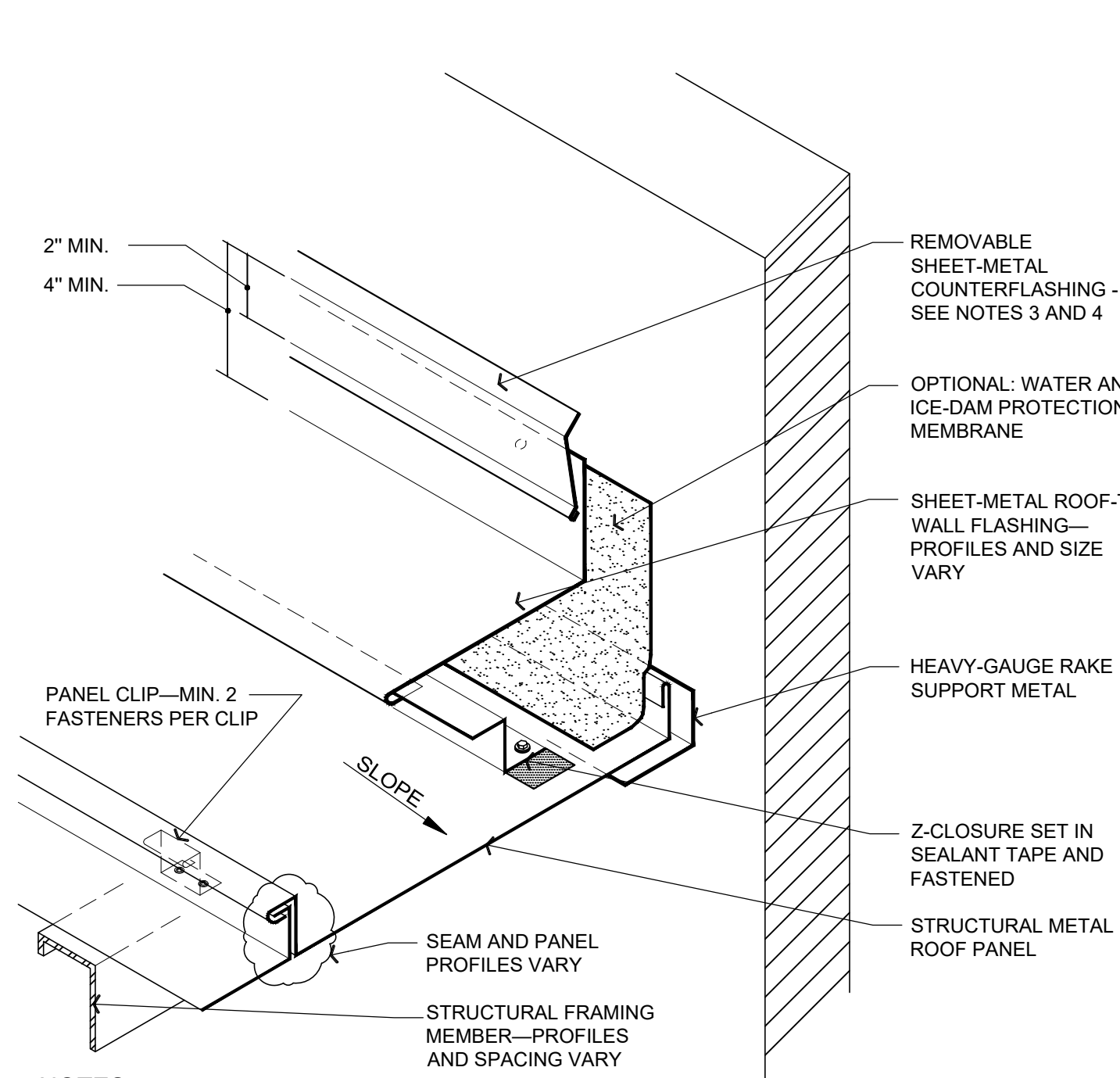
NOTES:  
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.  
2. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.  
3. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR COUNTERFLASHING OPTIONS.  
4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**2** DETAIL ROOF-TO-WALL (SIDEWALL) TRANSITION  
A-502 NOT TO SCALE



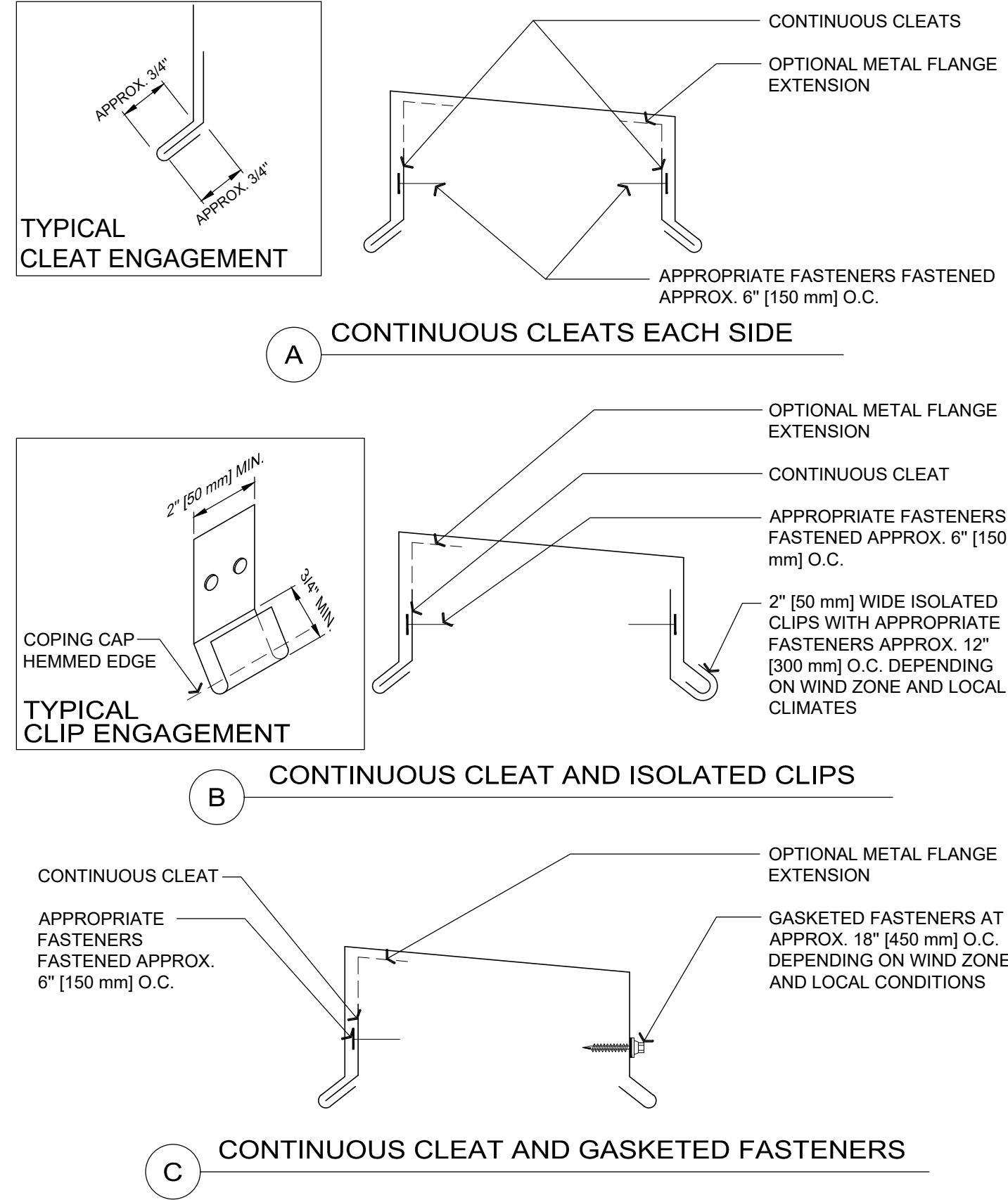
NOTES:  
1. CONTINUOUS CLEAT NOT SHOWN FOR CLARITY.  
2. REFER TO DETAIL 7/A-502 FOR COPING CAP SECUREMENT OPTIONS.  
3. COPING JOINERY IS SIMILAR ON BOTH SIDES.  
4. REMOVAL OF UNDERLYING METAL HEM MAY HELP FACILITATE PROPER NESTING.

**6** DETAIL COPING CAP OPTIONS  
A-502 NOT TO SCALE

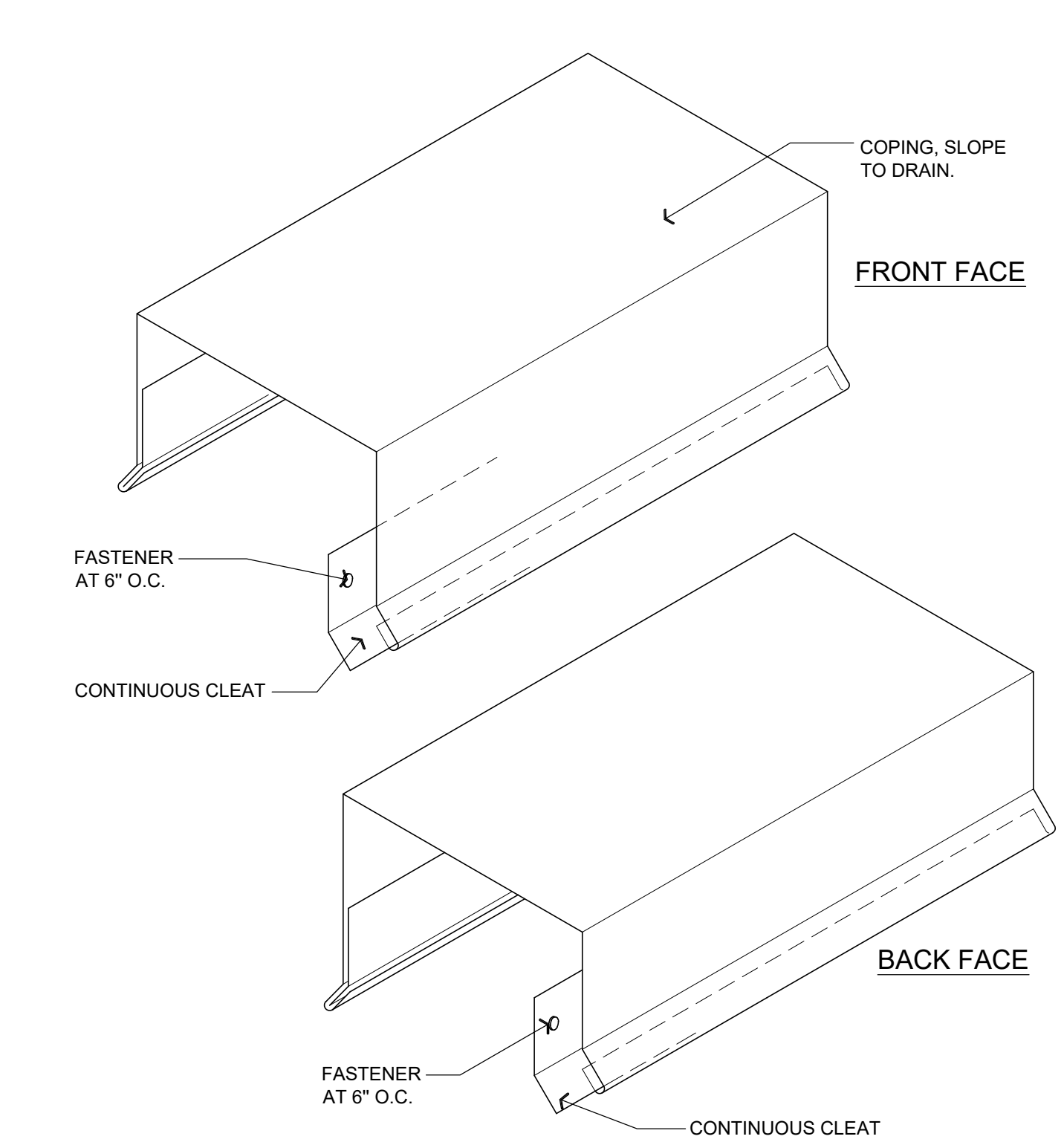


NOTES:  
1. SPECIFIC FASTENING AND STRUCTURAL REQUIREMENTS ARE NOT INDICATED AS THEY VARY FROM SYSTEM TO SYSTEM DEPENDING ON PANEL MANUFACTURER'S REQUIREMENTS, WIND ZONE, BUILDING CODE AND WALL CONSTRUCTION.  
2. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS FOR ROOF SYSTEM ARE NOT SHOWN FOR CLARITY.  
3. REFER TO THE ARCHITECTURAL METAL FLASHING SECTION OF THE NRCA ROOFING MANUAL: ARCHITECTURAL METAL FLASHING, CONDENSATION CONTROL AND REROOFING FOR COUNTERFLASHING OPTIONS.  
4. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**3** DETAIL ROOF-TO-WALL (SIDEWALL) TRANSITION - END PANEL  
A-502 NOT TO SCALE

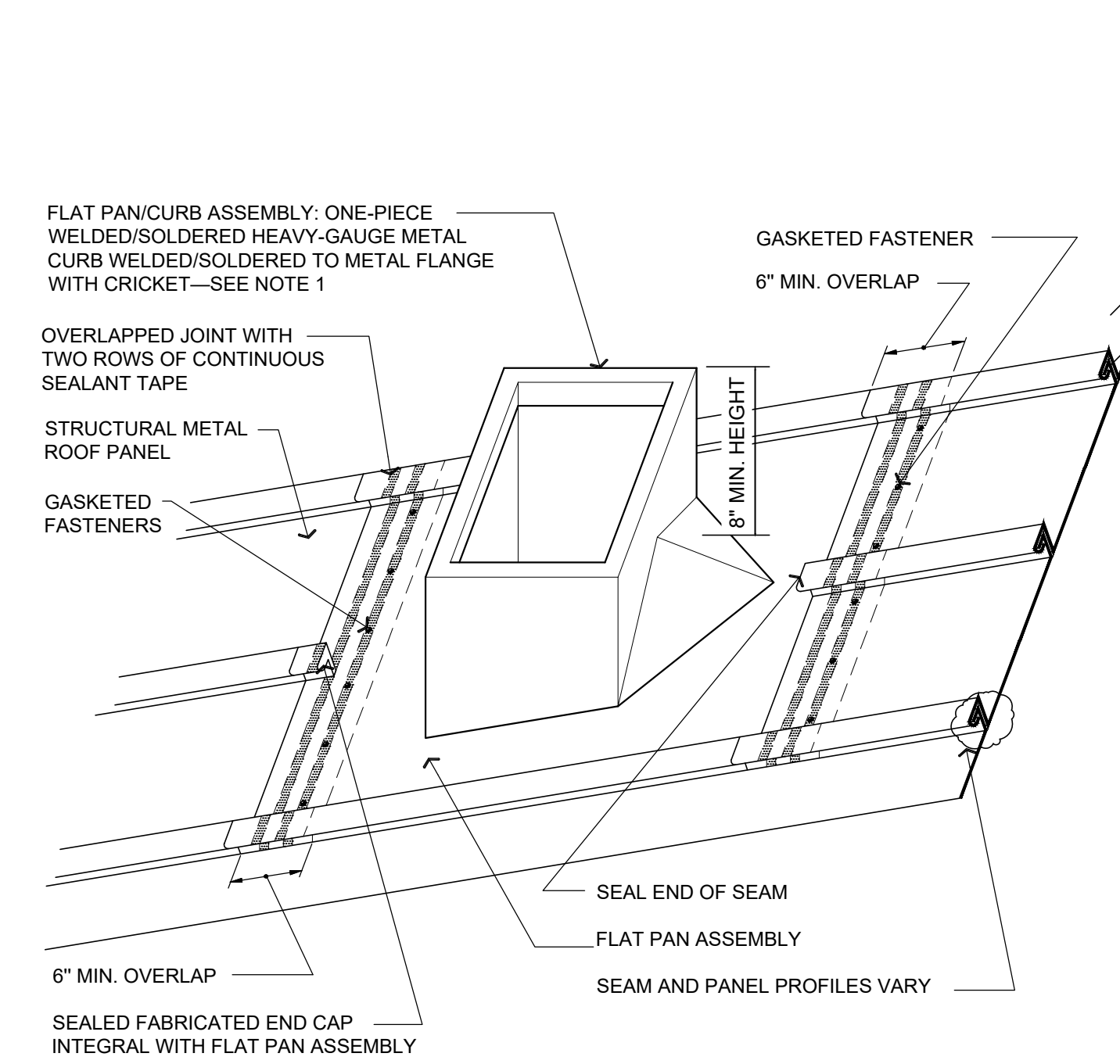


**7** DETAIL COPING CAP SECUREMENT OPTIONS  
A-502 NOT TO SCALE



NOTES:  
1. ROOF MEMBRANE AND ASSOCIATED FLASHINGS NOT SHOWN FOR CLARITY.  
2. NRCA HAS OBTAINED AN ANSI/SPRI ES-1 APPROVAL LISTING FOR THIS SPECIFIC SHOP-FABRICATED FLASHING COMPONENT. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.  
3. REFER TO THE INTRODUCTION OF THE CONSTRUCTION DETAILS CHAPTER FOR ADDITIONAL INFORMATION.

**4** DETAIL COPING WITH DRIFT, FRONT AND BACK FACE CLEAT  
A-502 NOT TO SCALE



NOTES:  
1. PROPER STRUCTURAL SUPPORT AND ATTACHMENT IS REQUIRED UNDER ALL SIDES OF THE RAISED CURB.  
2. CURB-MOUNTED EQUIPMENT SHOULD BE WEATHERPROOF AND HAVE A WEATHERPROOF INTERLOCK OR SUFFICIENT OVERLAP WITH THE CURB.  
3. PRE-MANUFACTURED CURBS ARE AVAILABLE.  
4. THIS DETAIL FIXES THE RAISED CURB TO THE STRUCTURAL METAL PANELS.  
5. INSULATION, VAPOR RETARDER AND THERMAL BLOCKS NOT SHOWN FOR CLARITY.  
6. REFER TO THE INTRODUCTION IN CHAPTER 10—CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.

**8** DETAIL RAISED CURB FOR ROOFTOP EQUIPMENT  
A-502 NOT TO SCALE



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**Buddy Webb & Company, Inc.**  
**Architects - Consultants**  
3057 EAST CARO STREET  
SPRINGFIELD, MISSOURI 65802  
(417) 877-1385 TELEPHONE

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OFFICE OF THE ADJUTANT  
GENERAL  
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OFFICE

FT. LEONARD WOOD  
READINESS CENTER  
BLDG 1029

REPLACE ROOF AND  
CONSTRUCT SOLAR ARRAY

PROJECT # T2412-01  
SITE # 6306  
FACILITY # 8136306003

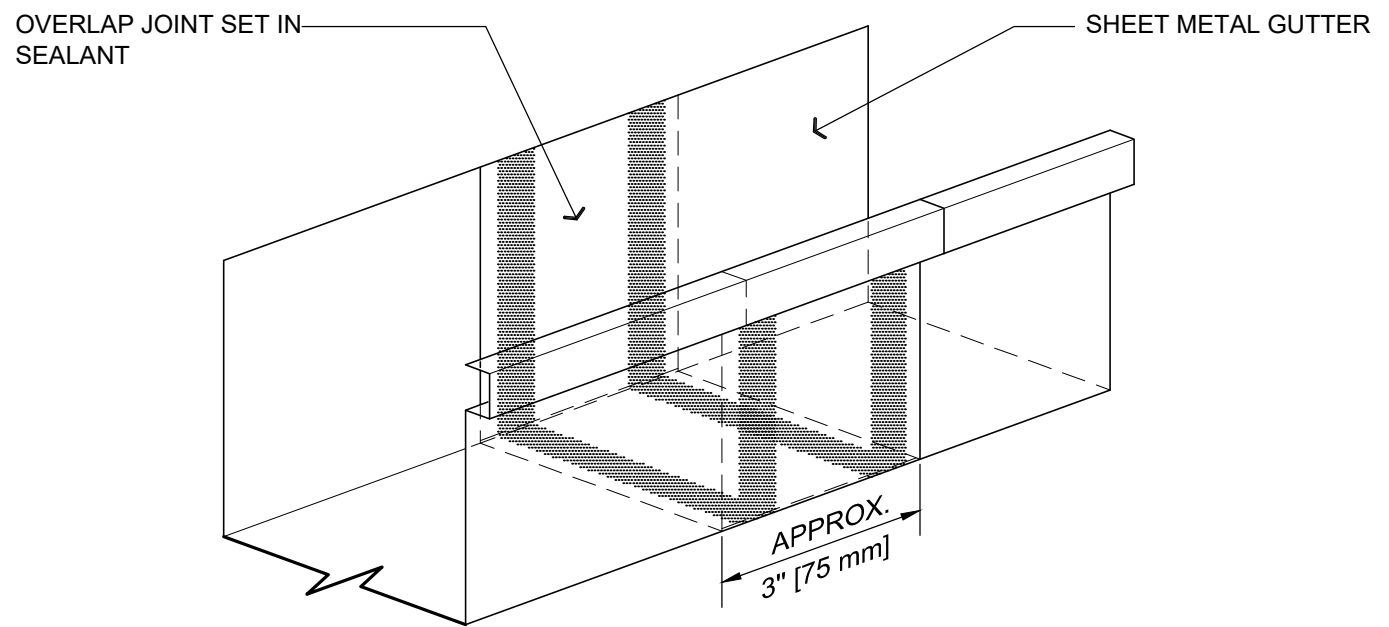
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DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
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DATE: \_\_\_\_\_  
ISSUE DATE: 07/02/2025

CAD DWG FILE: 6306-8136306003-A-502  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_

SHEET TITLE:  
**MISCELLANEOUS  
DETAILS**

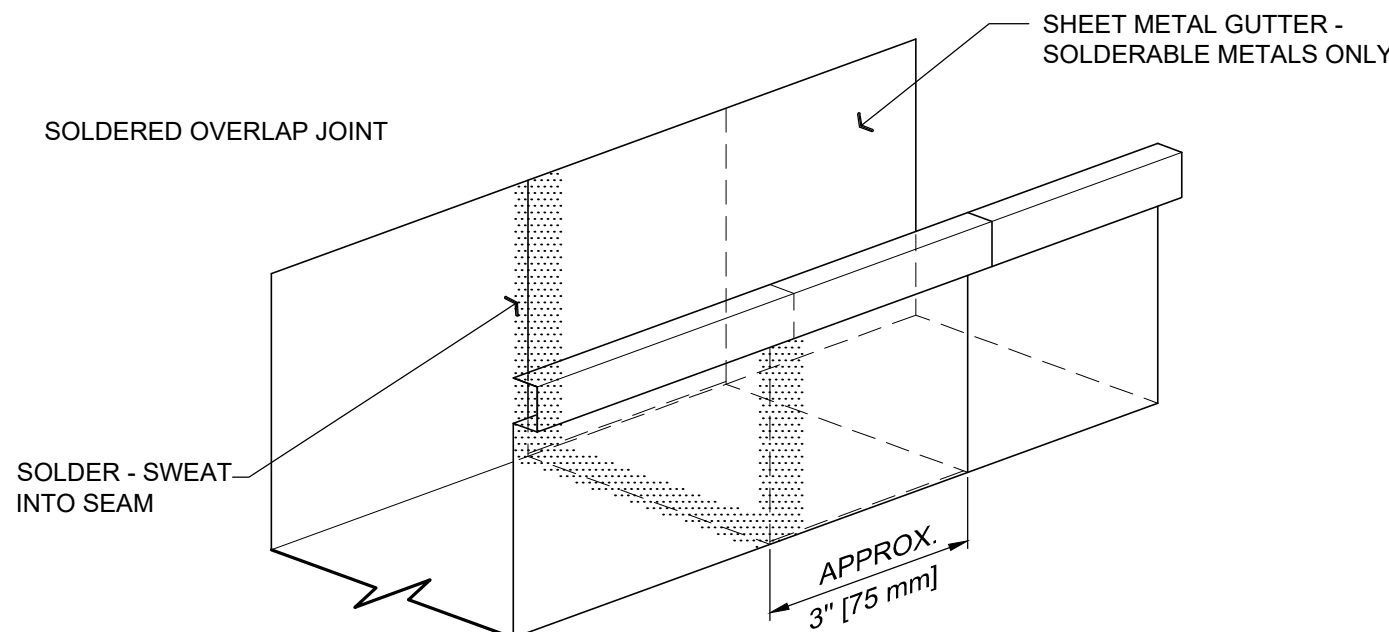
SHEET NUMBER:  
**A-502**  
6 OF 10 SHEETS  
JULY 2, 2025





- NOTES:
- GUTTER PROFILES AND SIZE VARIES (8" SQUARE TYPICAL)
  - APPROPRIATE FASTENERS (E.G. POP-RIVETS) COVERED WITH SEALANT - NOT SHOWN FOR CLARITY.

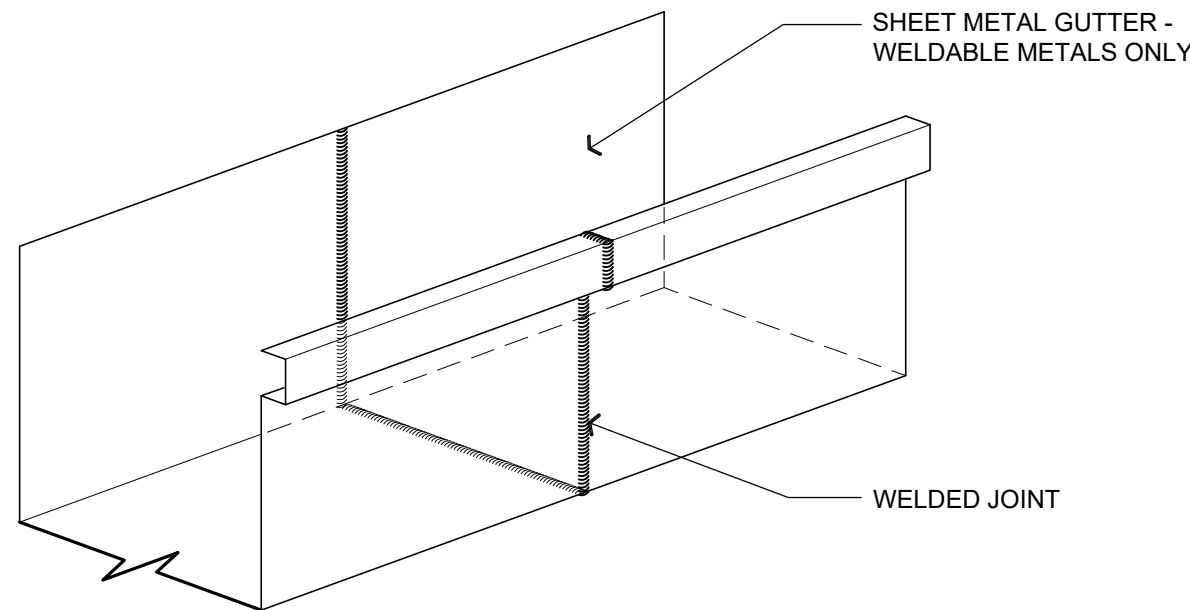
1 GUTTER WITH OVERLAP JOINT AND SEALANT



- NOTES:
- GUTTER PROFILES AND SIZE VARY (8" SQUARE TYPICAL)
  - APPROPRIATE FASTENERS (E.G. POP-RIVETS) COVERED WITH SEALANT - NOT SHOWN FOR CLARITY.

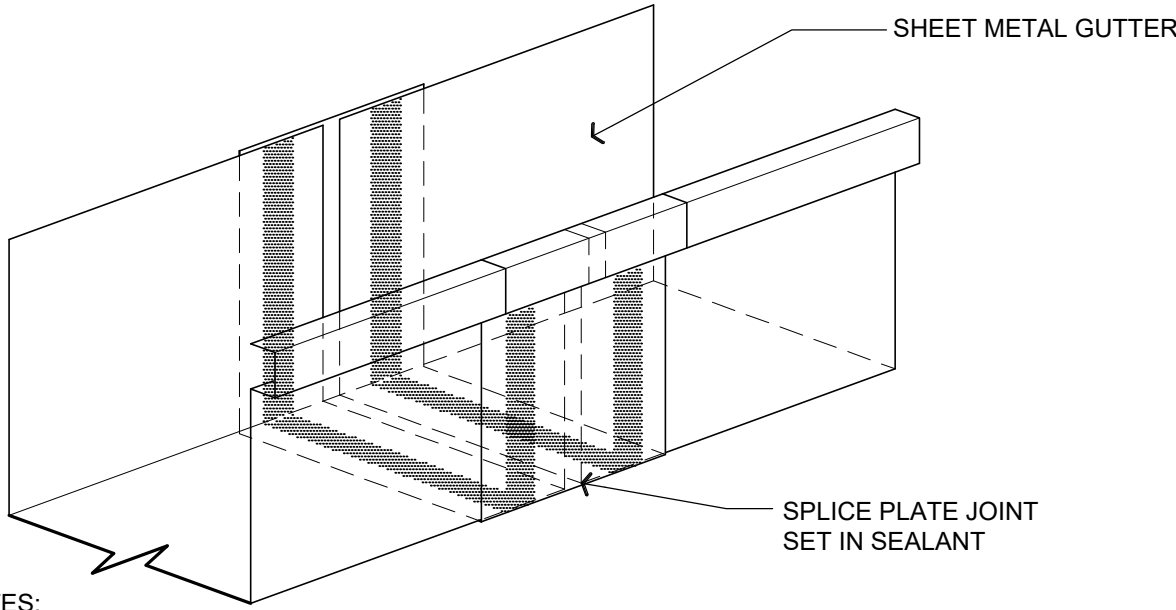
2 GUTTER WITH OVERLAP JOINT AND SOLDER

1 A-503 **DETAIL** GUTTER JOINERY OPTIONS  
NOT TO SCALE



- NOTES:
- GUTTER PROFILES AND SIZE VARY (8" SQUARE TYPICAL)

3 GUTTER WITH BUTT JOINT - WELDED

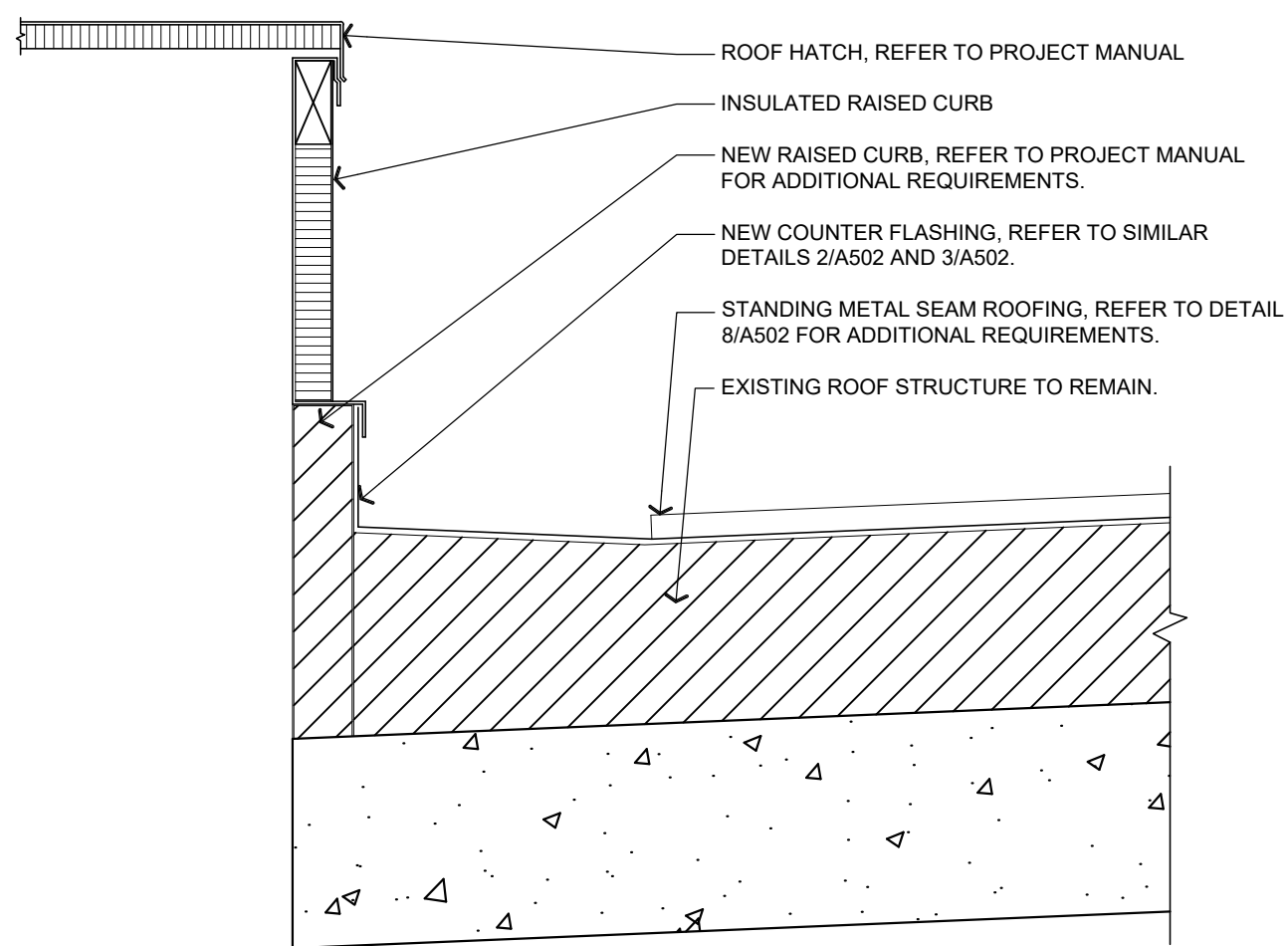
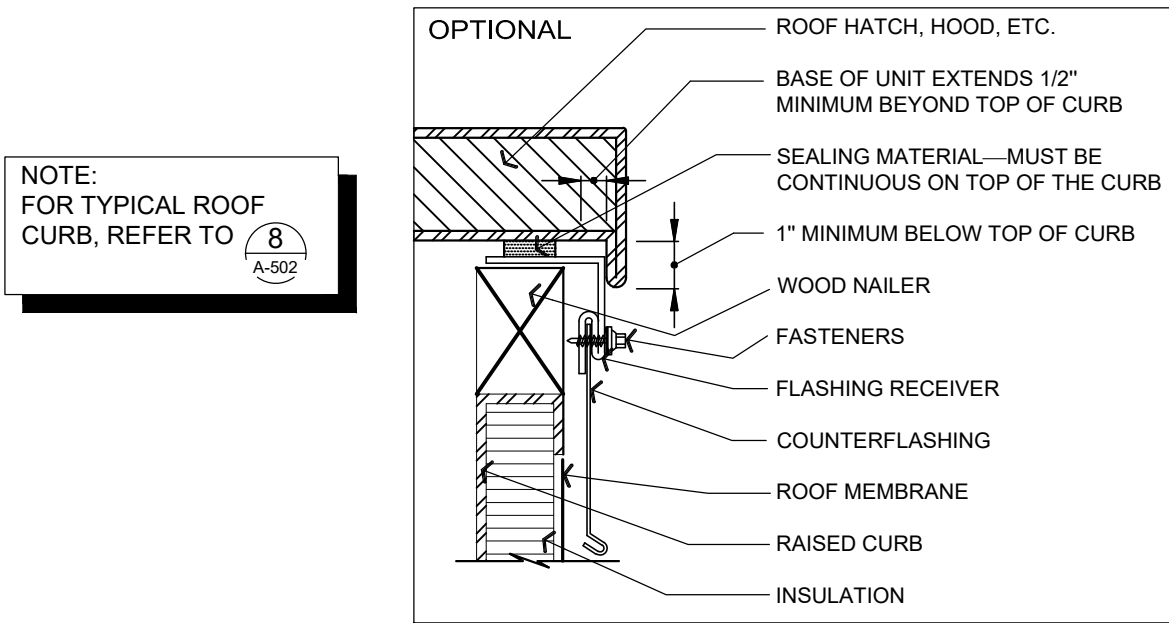


- NOTES:
- GUTTER PROFILES AND SIZE VARY (8" SQUARE TYPICAL)
  - APPROPRIATE FASTENERS (E.G. POP-RIVETS) COVERED WITH SEALANT - NOT SHOWN FOR CLARITY.

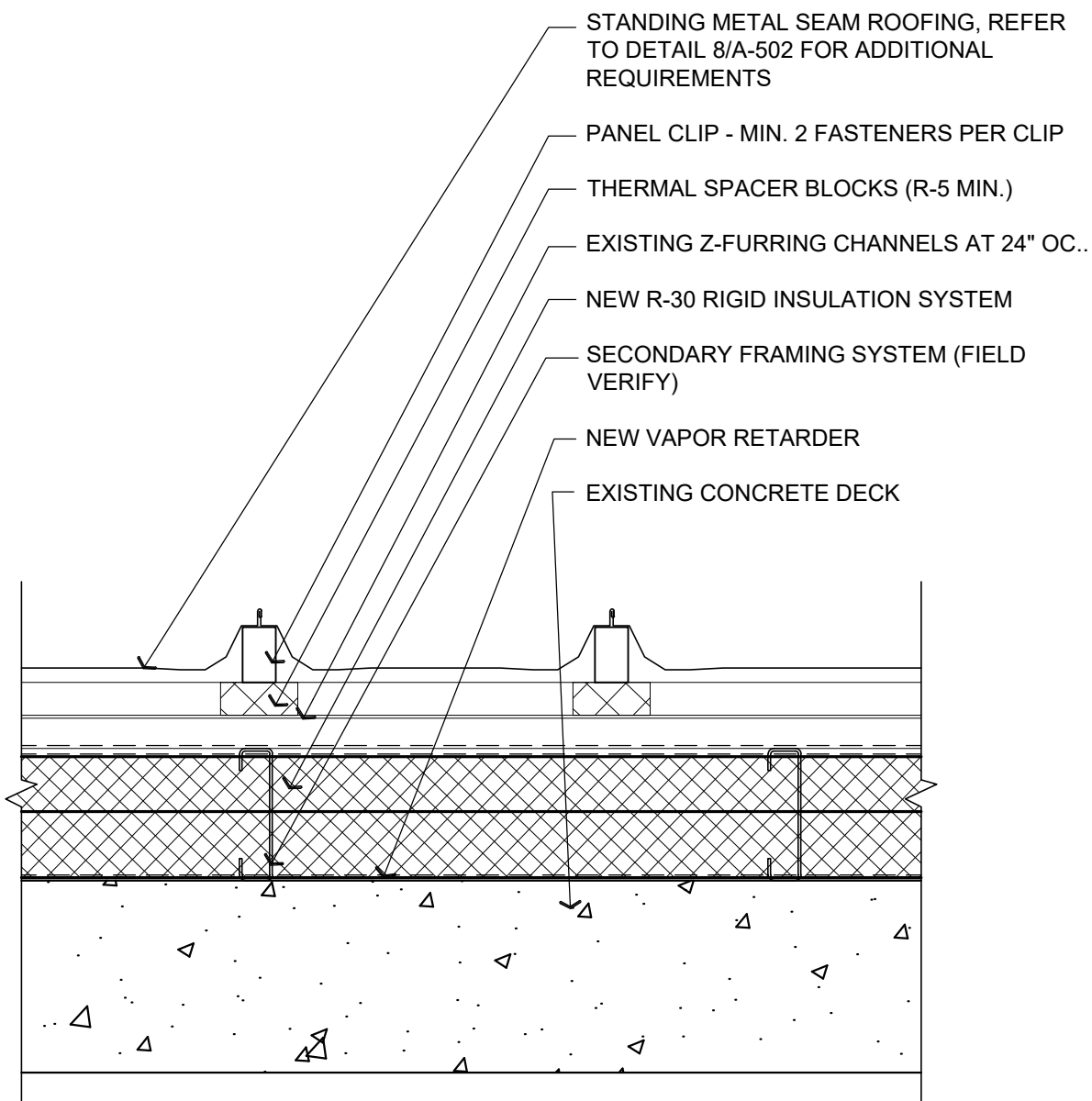
4 GUTTER WITH SPLICE PLATE

2 A-503 **DETAIL** GUTTER JOINERY OPTIONS  
NOT TO SCALE

3 A-503 **NOT USED**  
NOT TO SCALE



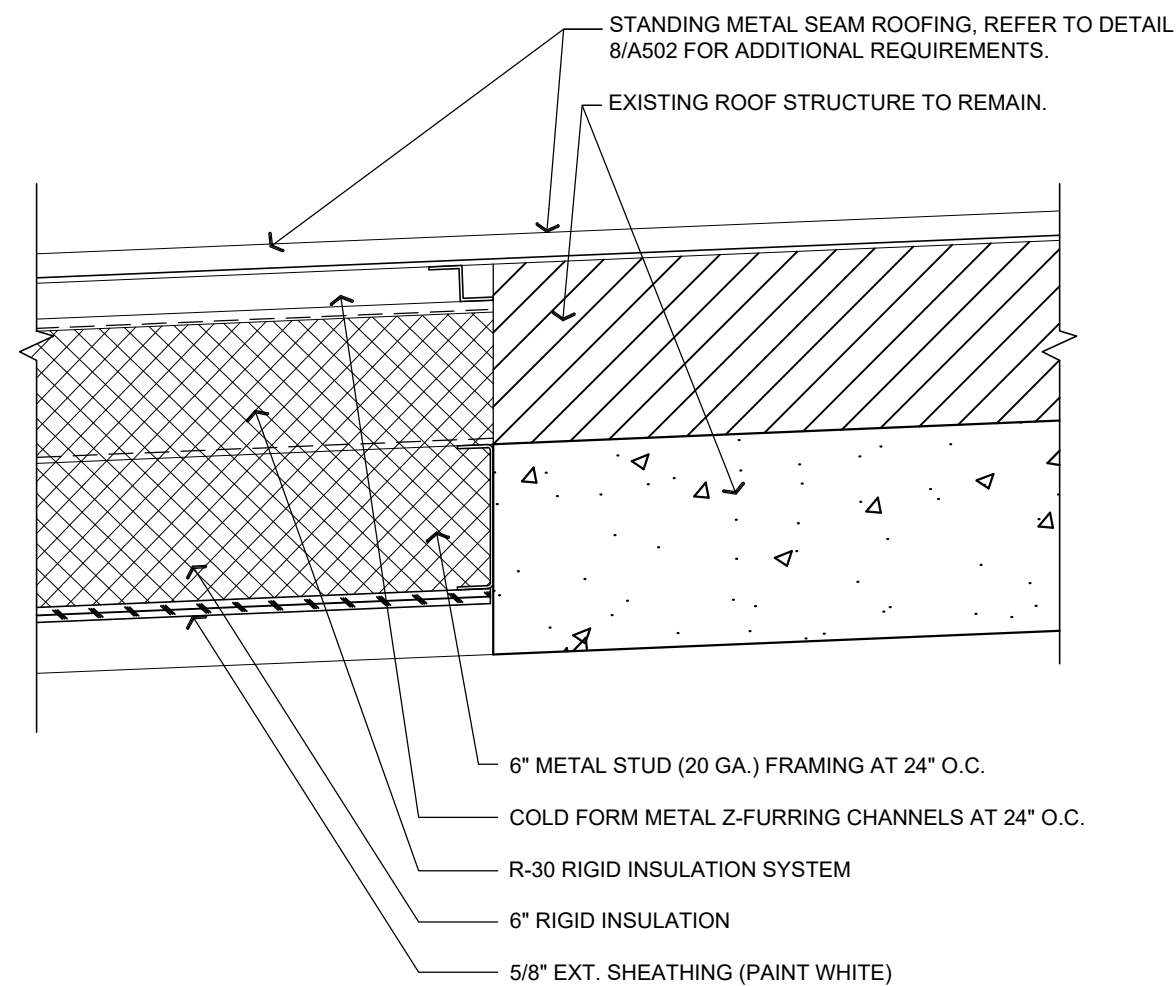
4 A-503 **DETAIL** ROOF CURB TRANSITION  
NOT TO SCALE



ALTERNATES:  
REFER TO PROJECT MANUAL SECTION 01 23 00 FOR ADDITIONAL REQUIREMENTS.

ALTERNATE NO. 1: (NEW ROOF INSULATION SYSTEM).  
PROVIDE NEW ROOF INSULATION BOARD (R-30 MINIMUM)  
SYSTEM ON TOP OF EXISTING CONCRETE ROOF DECK  
BELOW AREAS OF NEW ROOFING CONSTRUCTION.

5 A-503 **DETAIL** TYPICAL ROOF SECTION WITH INSUL.  
NOT TO SCALE



6 A-503 **DETAIL** ROOF OPENING INFILL  
NOT TO SCALE

7 A-503 **NOT USED**  
NOT TO SCALE

8 A-503 **NOT USED**  
NOT TO SCALE

STATE OF MISSOURI  
MICHAEL L. KEHOE,  
GOVERNOR

ARCHITECTURAL FIRM REGISTRATION NO.:  
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3057 EAST CARO STREET  
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GENERAL  
FACILITIES MANAGEMENT  
OFFICE

FT. LEONARD WOOD  
READINESS CENTER  
BLDG 1029

REPLACE ROOF AND  
CONSTRUCT SOLAR ARRAY

PROJECT # T2412-01  
SITE # 6306  
FACILITY # 8136306003

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

ISSUE DATE: 07/02/2025

CAD DWG FILE: 6306-8136306003-A-503  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_

SHEET TITLE:  
**MISCELLANEOUS  
DETAILS**

SHEET NUMBER:

**A-503**

7 OF 10 SHEETS  
JULY 2, 2025



KEYNOTES:

① CONDUIT AND CONDUCTORS DOWN IN CORNER TO ELECTRICAL ROOM. SECURELY ATTACH TO EXTERIOR MASONRY WALL AND PAINT TO MATCH ADJACENT SURFACE. REFER TO ELECTRICAL RISER DIAGRAM.

CONDUIT & CONDUCTOR SCHEDULE:

- ① (2) #4s AND (1) #4 GROUND IN 1" CONDUIT.  
② (2) SETS: (2) #4s AND (1) #4 GROUND IN 1" CONDUITS.

STATE OF MISSOURI  
MICHAEL L. KEHOE,  
GOVERNOR



RYAN S. JONES — ENGINEER  
PE-2004017193  
PROFESSIONAL SEAL

Missouri State Certificate of Authority #2005026903  
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**CJD**  
Engineering | Energy | Innovation  
2225 West Chesterfield Boulevard, Suite 200  
Springfield, MO 65807  
P: 417.877.1700 F: 417.324.7735  
www.cjd-eng.com

DEPARTMENT OF MISSOURI  
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OFFICE OF THE ADJUTANT  
GENERAL  
FACILITIES MANAGEMENT  
OFFICE

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ISSUE DATE: 07/02/2025

CAD DWG FILE: E-100.DWG  
DRAWN BY: QCJ  
CHECKED BY: RSJ  
DESIGNED BY: QCJ

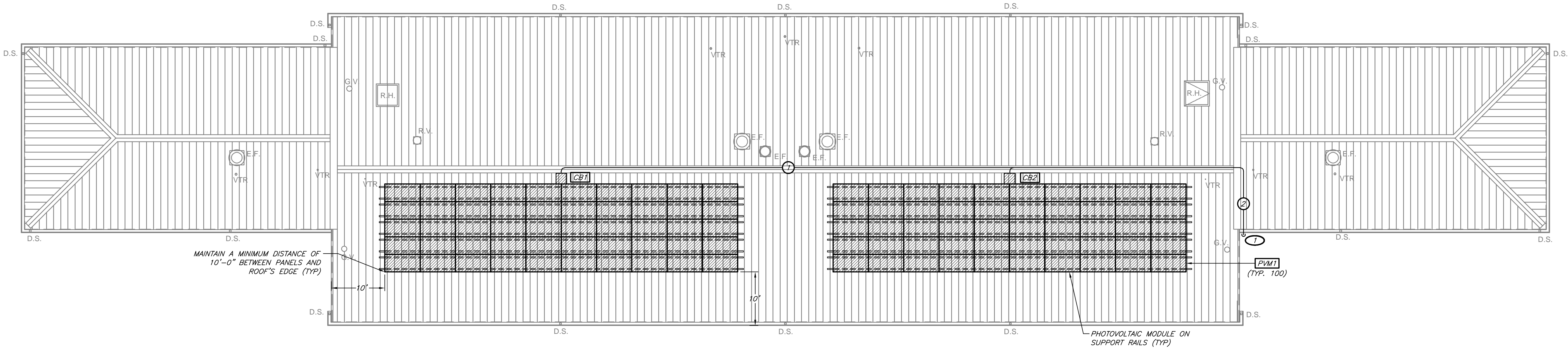
SHEET TITLE:  
**ROOF  
POWER PLAN**

SHEET NUMBER:

**E-100**  
8 OF 10 SHEETS  
JULY 2, 2025

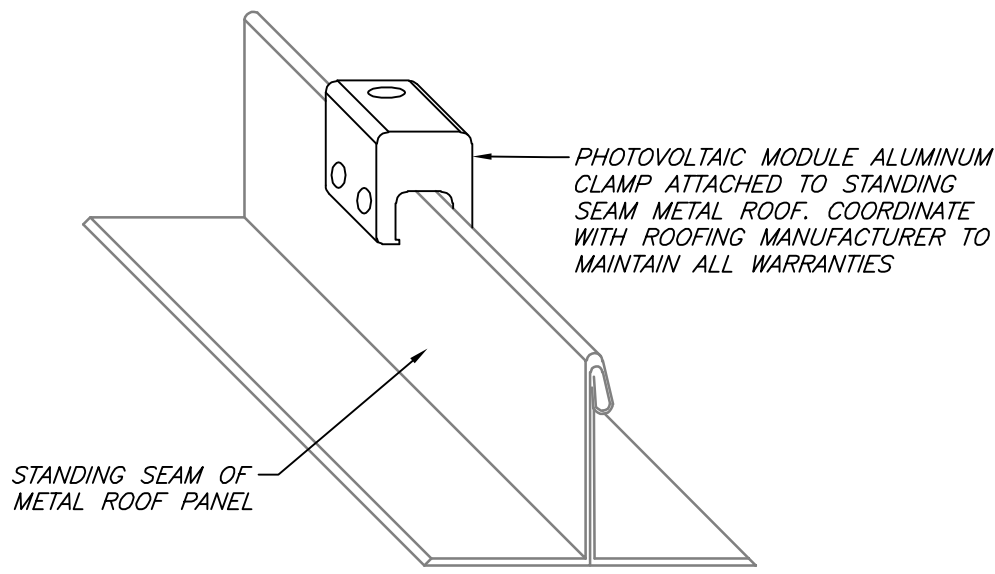
SPECIAL NOTES:

1. PLANS ARE DIAGRAMMATIC. COORDINATE EXACT QUANTITIES AND SIZES OF MODULES, DC COMBINERS, INVERTERS, CONDUCTORS, AND CONDUITS WITH PV SYSTEM MANUFACTURER.
2. INSTALL ALL PHOTOVOLTAIC MODULES AND SUPPORTS PER MANUFACTURER'S RECOMMENDATIONS, WITH NO ROOF PENETRATIONS. REFER TO SHEET E-500 FOR CONNECTION DETAILS. PROVIDE ALL NECESSARY MOUNTING HARDWARE FOR COMPLETE INSTALLATION OF PV SYSTEM.
3. ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT POWER TO ALL EXISTING ROOF-MOUNTED MECHANICAL EQUIPMENT AS REQUIRED TO SUPPORT REPLACEMENT OF ROOFING SYSTEM. REFER TO SHEET A-101 FOR EQUIPMENT QUANTITIES AND LOCATIONS. FIELD VERIFY EXACT REQUIREMENTS.

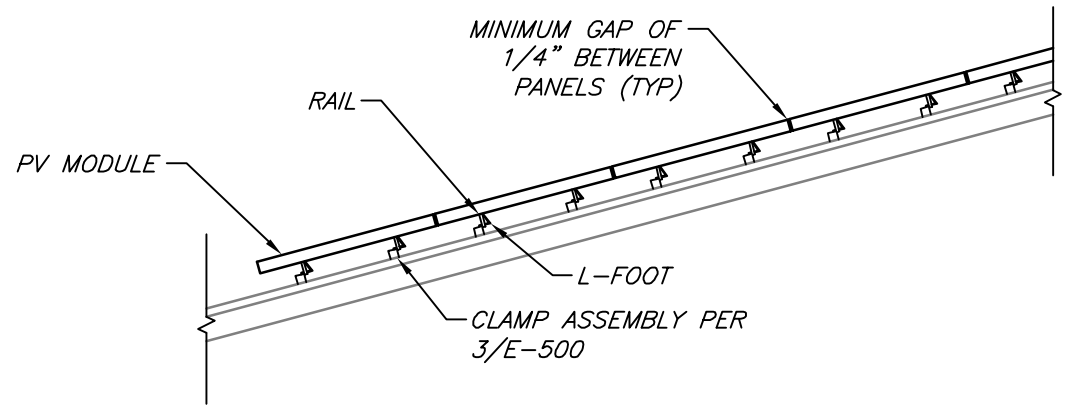


1 ROOF POWER PLAN  
3/32" = 1'-0"

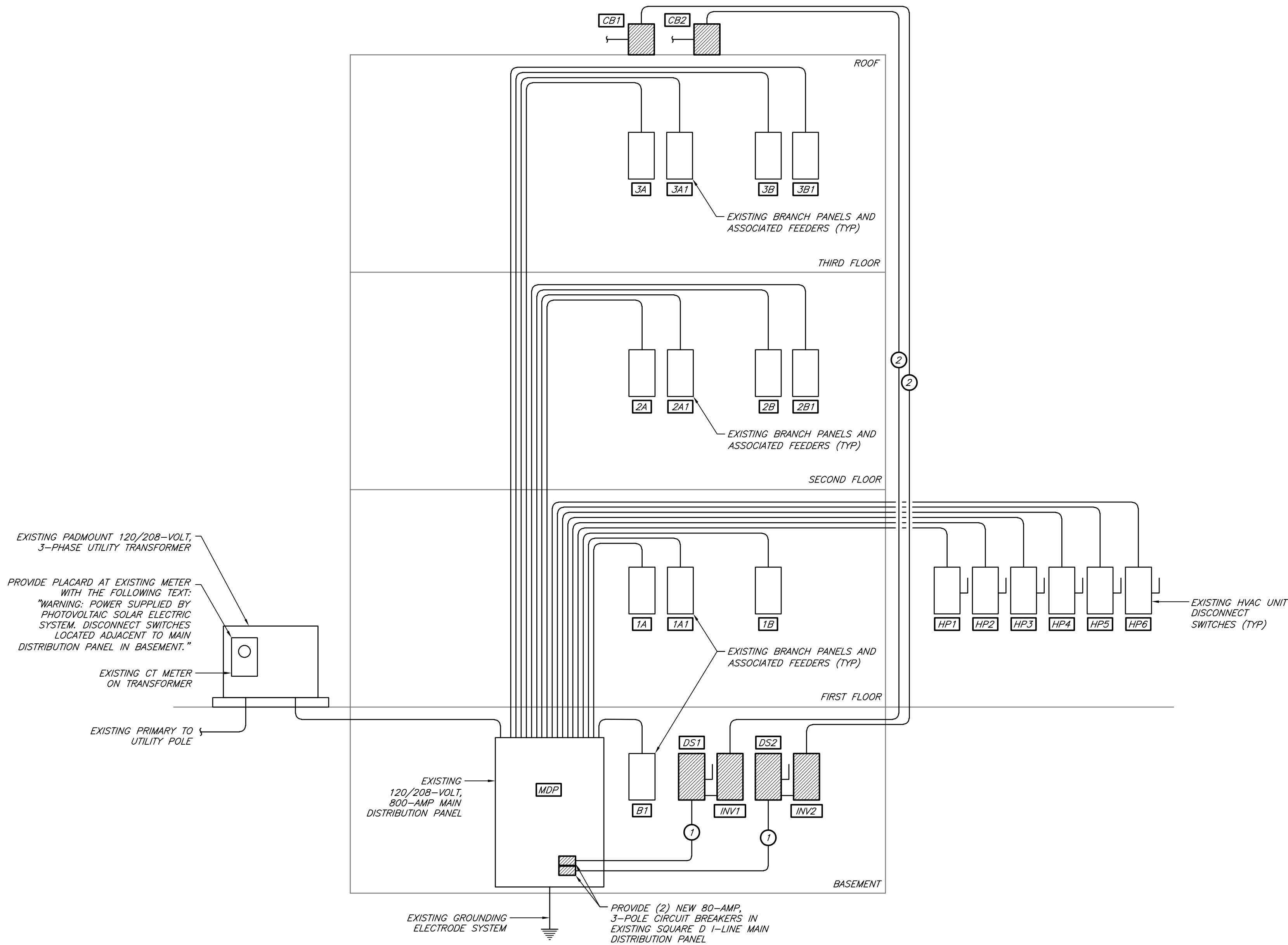




3 ROOF CLAMP DETAIL  
NO SCALE



2 PV MODULE INSTALLATION DETAIL  
NO SCALE



1 ELECTRICAL RISER DIAGRAM  
NO SCALE

## CONDUIT & CONDUCTOR SCHEDULE:

- (3) #4s AND (1) #8 GROUND IN 1" CONDUIT.
- (2) #4s AND (1) #4 GROUND IN 1" CONDUIT.

STATE OF MISSOURI  
MICHAEL L. KEHOE,  
GOVERNOR



RYAN S. JONES - ENGINEER

PROFESSIONAL SEAL

Missouri State Certificate of Authority #2005026903  
Specialty: Electrical Engineering  
Specialty: Mechanical Engineering  
Specialty: Civil Engineering  
Specialty: Chemical Engineering  
Specialty: Industrial Engineering  
Specialty: Environmental Engineering  
Specialty: Agricultural Engineering  
Specialty: Marine Engineering  
Specialty: Aeronautical Engineering  
Specialty: Astronautical Engineering  
Specialty: Biomedical Engineering  
Specialty: Biotechnology Engineering  
Specialty: Food Engineering  
Specialty: Textile Engineering  
Specialty: Paper Engineering  
Specialty: Glass Engineering  
Specialty: Rubber Engineering  
Specialty: Plastic Engineering  
Specialty: Ceramic Engineering  
Specialty: Metallurgical Engineering  
Specialty: Materials Engineering  
Specialty: Manufacturing Engineering  
Specialty: Packaging Engineering  
Specialty: Transportation Engineering  
Specialty: Aerospace Engineering  
Specialty: Space Engineering  
Specialty: Nuclear Engineering  
Specialty: Environmental Engineering  
Specialty: Civil Engineering  
Specialty: Mechanical Engineering  
Specialty: Electrical Engineering  
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Specialty: Metallurgical Engineering  
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Specialty: Packaging Engineering  
Specialty: Transportation Engineering  
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ISSUE DATE: 07/02/2025

CAD DWG FILE: E-500.DWG  
DRAWN BY: QCJ  
CHECKED BY: RSJ  
DESIGNED BY: QCJ

SHEET TITLE:

ELECTRICAL  
DETAILS

SHEET NUMBER:

E-500

9 OF 10 SHEETS  
JULY 2, 2025



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ISSUE DATE: 07/02/2025

SHEET TITLE:

**ELECTRICAL  
SCHEDULES**

E-600

10 OF 10 SHEETS  
JULY 2, 2025

COMBINER BOX SCHEDULE							
MARK	MANUFACTURER	SERIES / MODEL #	MAX DC VOLTAGE	MAX INPUT (AMPS)	OUTPUT (AMPS)	INPUT STRINGS	NOTES
CB1	SUNWAY	SW-PV10	1000	15	96	10	1
CB2	SUNWAY	SW-PV10	1000	15	96	10	1

NOTES:  
 1. PRIOR TO ANY INSTALLATION, EXACT BOX LOCATIONS SHALL BE CONFIRMED WITH ARCHITECT/OWNER. LOCATIONS SHOWN ON POWER PLANS ARE APPROXIMATE.

INVERTER SCHEDULE										
MARK	MANUFACTURER	MODEL	DC INPUT			AC OUTPUT			NEMA ENCLOSURE	NOTES
			KW	MAX VOLTAGE	CURRENT (A)	V/PH/Hz	CURRENT (A)	MOCp		
INV1	YASKAWA	PVI-25TL-208	25	1000	96	208/3/60	69.5	80	4X	1,2,3,4,5
INV2	YASKAWA	PVI-25TL-208	25	1000	96	208/3/60	69.5	80	4X	1,2,3,4,5
<b>NOTES:</b> 1. INTEGRAL DISCONNECT SWITCH 2. OUTPUT TRIP ALARM. 3. INTERNAL MAINTENANCE BYPASS SWITCH.										