

# MAINE AIR NATIONAL GUARD BUILDING P8 HVAC RENOVATION

## SOUTH PORTLAND, MAINE



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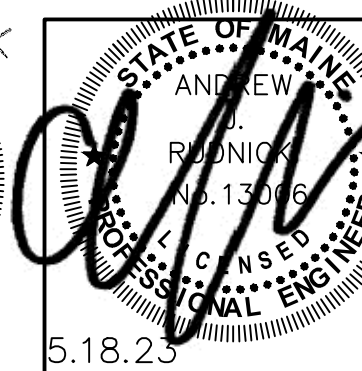
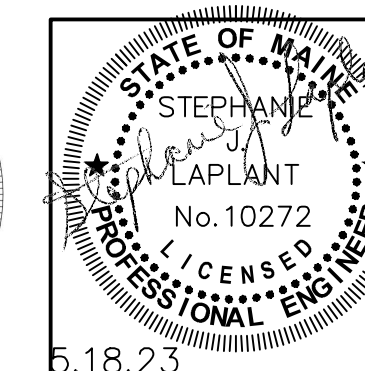
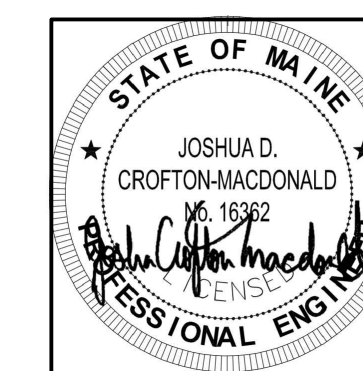
LOCATION MAP



MAINE AIR NATIONAL GUARD  
 50 WESTERN AVE  
 SOUTH PORTLAND, MAINE  
 Project No. - VWRK192271

SIGNATURE	DATE
OWNER:	
ARCHITECT:	
CONTRACTOR:	

REV.	DESCRIPTION	DATE
0	ISSUED FOR BID	05.18.2023



BANGOR, MAINE 04401  
 (207)947-4511  
 WBRCINC.COM

SHEET No.  
**GI001**

PROJECT No.  
**10057.002**



**STRUCTURAL NOTES:**

**GENERAL:**

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO:
  - 2015 INTERNATIONAL BUILDING CODE (IBC)
  - ANSI/ASCE 7-10
  - AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION
  - ACI 318-14 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"
  - ACI 301-10 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
  - ACI 530-13 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
- ANY DISCREPANCIES BETWEEN THE ABOVE LISTED CODES AND THE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH AFFECTED WORK.
- ALL WORK SHALL BE PERFORMED BY PERSONS QUALIFIED IN THEIR TRADE AND LICENSED TO PRACTICE SUCH TRADE IN THE STATE IN WHICH THE PROJECT IS LOCATED.
- THESE DRAWINGS SHALL BE USED IN CONJUNCTION WITH ANY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS IN ADDITION TO SPECIFICATIONS AND ANY SHOP DRAWINGS PROVIDED BY SUBCONTRACTORS AND SUPPLIERS.
- ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS SHALL BE VERIFIED IN THE FIELD BY THE GENERAL CONTRACTOR (G.C.) AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED PART OF WORK.
- UNLESS OTHERWISE NOTED, DETAILS, SECTIONS, AND NOTES SHOWN ON THESE DRAWINGS SHALL BE CONSIDERED TYPICAL FOR ALL SIMILAR DETAILS.
- ALL SHOP DRAWINGS PROVIDED BY OTHERS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE FABRICATION OF MATERIAL OR THE PURCHASE OF NON-RETURNABLE STOCK. DIMENSIONAL REVIEW IS THE CONTRACTOR'S RESPONSIBILITY.
- ANY AND ALL TEMPORARY BRACING OR SHORING WHICH IS NEEDED TO HOLD THE STRUCTURE IN A SAFE AND STABLE POSITION UNTIL IT IS COMPLETE, IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CONSULT INDEPENDENT ENGINEER IF DESIGN ASSISTANCE OR REVIEW IS NEEDED.
- THE BUILDING PERMIT APPLICANT (E.G. OWNER, CONTRACTOR) MUST PROVIDE SPECIAL INSPECTIONS PER THE REQUIREMENTS OF CHAPTER 17 OF THE 2015 IBC AND FURNISH INSPECTION REPORTS TO THE CODE OFFICIAL AND TO THE ENGINEER OF RECORD. THE TESTING/INSPECTION AGENCY(S) MUST BE APPROVED BY THE ENGINEER OF RECORD.
- THE ENGINEER, AT HIS OPTION, MAY PROVIDE THE CONTRACTOR WITH ELECTRONIC FILES FOR HIS/HER CONVENIENCE AND USE IN THE PREPARATION OF SHOP DRAWINGS. DATA CONTAINED ON THESE ELECTRONIC FILES ARE THE ENGINEER'S INSTRUMENT OF SERVICE AND MAY NOT BE ELECTRONICALLY COPIED FOR REUSE AS SHOP DRAWINGS. FURTHERMORE, THESE ELECTRONIC FILES ARE NOT CONSTRUCTION DOCUMENTS AND THEREBY, THE CONTRACTOR IS NOT RELIEVED OF HIS/HER DUTY TO FULLY COMPLY WITH THE CONTRACT DOCUMENTS, INCLUDING, WITHOUT LIMITATION, THE NEED TO CHECK, CONFIRM AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS AND COORDINATE THE CONTRACTOR'S WORK WITH THAT OF OTHER CONTRACTORS FOR THE PROJECT. THE CONTRACTOR MAY NOT MANUALLY ALTER THE HARD COPIES OF THE CONSTRUCTION DOCUMENTS AND REUSE THEM AS SHOP DRAWINGS.

**DESIGN LOADS:**

- THE NEW STRUCTURAL ELEMENTS FOR THE BUILDING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE 2015 IBC AND 2010 EDITION OF ASCE-7, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES TO CARRY ALL THE DEAD LOADS OF THE VARIOUS STRUCTURAL AND ARCHITECTURAL SYSTEMS AND THE FOLLOWING LIVE LOADS:

**DEAD LOAD:**  
ROOF DL = 40 PSF BALLAST

**SNOW**  
BASIC GROUND SNOW LOAD = 50 PSF  
P/F = 35 PSF, C/E = 1.0, C/T = 1.0, I/S = 1.0

**WIND**  
WIND SPEED,  $V_u = 112$  MPH  
EXPOSURE "B"  
RISK CATEGORY II

**SEISMIC**  
RISK CATEGORY = II  
SITE CLASS "D" (ASSUMED)  
I/E = 1.0, SS = 0.241G, S/1 = 0.078G  
SITE COEFFICIENT F/A = 1.6, F/V = 2.4  
SEISMIC DESIGN CATEGORY = B  
BASIC SEISMIC-FORCE-RESISTING SYSTEM: R = 3, C/D = 3  
ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

**STRUCTURAL STEEL:**

- STRUCTURAL STEEL WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2015 IBC.
- STRUCTURAL STEEL WORK SHALL CONFORM TO "SPECIFICATIONS FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC CURRENT EDITION)", "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS (AISC CURRENT EDITION)", AND "STRUCTURAL WELDING CODE (AWS D1.1-04)".
- STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO THE FOLLOWING:
  - ROLLED SHAPES AND PLATES - ASTM A36 (EXCEPT AS NOTED BELOW)
  - WIDE FLANGE SHAPES - ASTM A992 OR ASTM A572, 50 KSI
  - STRUCTURAL TUBES - ASTM A500, GRADE B
  - ANCHOR RODS - HEADED RODS CONFORMING TO ASTM F1554, GRADE 36
- ALL BOLTED CONNECTIONS SHALL USE NEW BOLTS. ALL BOLTS SHALL BE INSTALLED AS BEARING TO A 'SNUG- TIGHTENED' CONDITION, UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL BOLTED CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND INSTALLED IN COMPLIANCE WITH RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- VOIDS BENEATH COLUMN BASE PLATES SHALL BE DRY PACKED WITH NON-SHRINK CONSTRUCTION GROUT BEFORE APPLICATION OF LOADS.
- WELDED CONNECTIONS SHALL BE MADE BY AWS QUALIFIED WELDERS USING FILLER MATERIAL CONFORMING TO E70XX, LOW HYDROGEN.
- PROVIDE TEMPORARY ERECTION BRACING TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN PLACE. MAINTAIN BRACING UNTIL FLOOR AND ROOF DECKS AND PERMANENT LATERAL BRACING ARE FULLY INSTALLED. TEMPORARY BRACING REQUIREMENTS ARE NOT PROVIDED BY THE E.O.R.
- STRUCTURAL STEEL SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.
- ALL BOLTS AND FIELD WELDING MUST BE COMPLETED PRIOR TO RELEASING HOISTING CABLES.
- FIELD CUTTING OF STRUCTURAL STEEL OR ANY MODIFICATIONS SHALL NOT BE MADE WITHOUT APPROVAL BY ENGINEER.
- ALL STRUCTURAL STEEL SHALL RECEIVE ONE (1) SHOP COAT OF RUST INHIBITIVE PRIMER.
- THE STEEL FABRICATOR SHALL BE AISC CERTIFIED, OR BE ABLE TO DEMONSTRATE TO THE ENGINEER'S SATISFACTION THAT ALL AISC PROCEDURES FOR FABRICATION, QUALITY CONTROL, AND RECORD KEEPING ARE STRICTLY ADHERED TO. THE ENGINEER SHALL DETERMINE IF FABRICATOR QUALIFICATIONS ARE ACCEPTABLE.
- SHOP DRAWINGS SHALL BE PREPARED BY FABRICATOR. PHOTO COPIES OF STRUCTURAL DRAWINGS ARE NOT ACCEPTABLE.

**STEEL DECKING:**

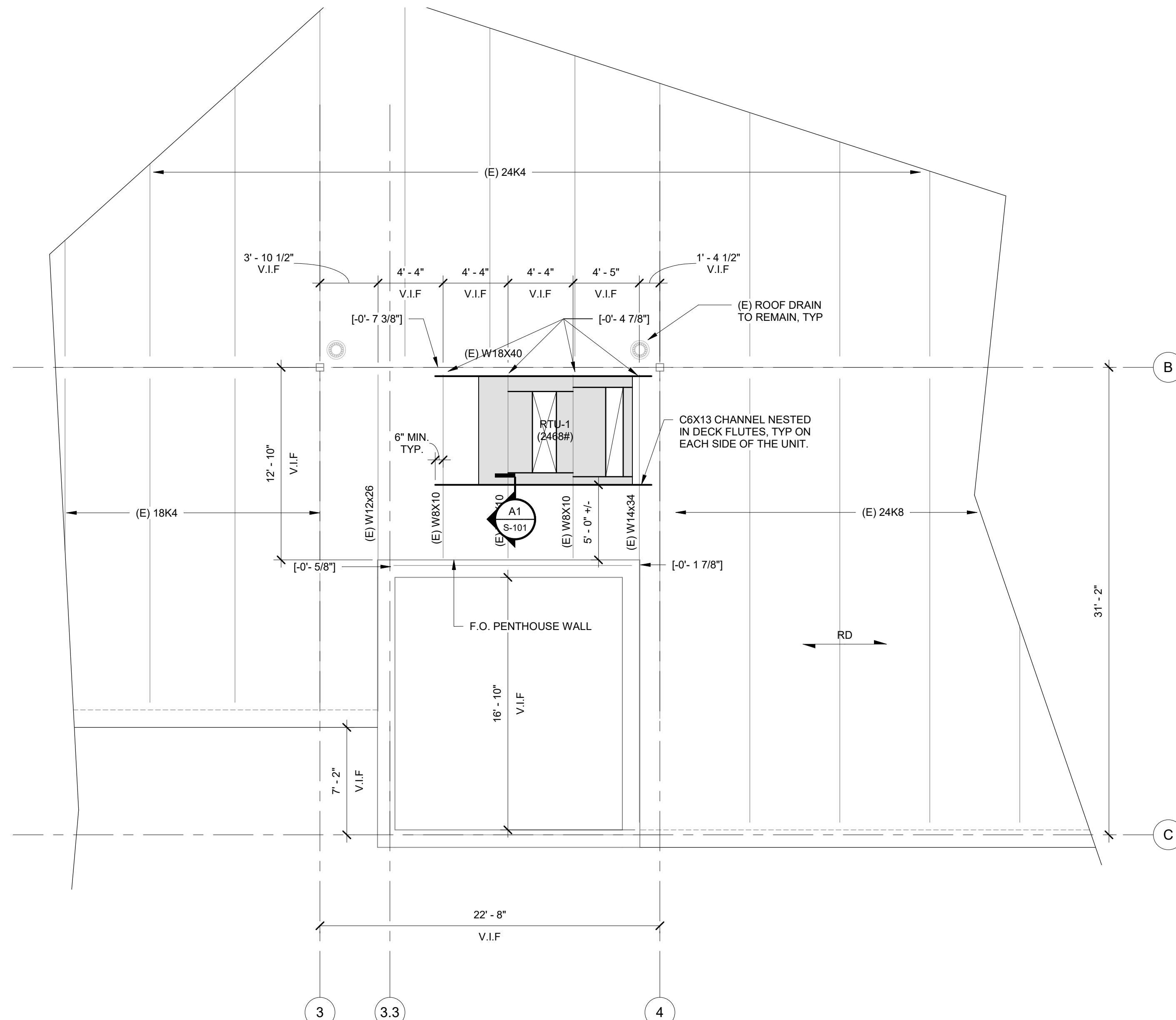
- UNLESS OTHERWISE NOTED ON THE DRAWINGS, STEEL ROOF DECK SHALL BE 1.5820 AS MANUFACTURED BY MARINO-WARE OR APPROVED EQUAL. UNLESS OTHERWISE NOTED, FASTEN ROOF DECK TO EACH SUPPORT USING 5/8" PUDDLE WELDS IN A 36/5 PATTERN. USE TWO (2) #10 TEK SCREWS PER SPAN FOR SIDELAP FASTENING.
- SHEET STEEL FOR DECK DECKS MUST CONFORM TO ASTM A653-94 "STRUCTURAL QUALITY", GRADE 33 OR HIGHER.
- ROOF DECKS MUST SPAN OVER FOUR (4) OR MORE SUPPORTS (I.E. 3-SPAN CONDITION).
- DECKING FOR PATCHED OPENINGS AND EXTENDING EXISTING DECK SHALL BE 1.5822 AS MANUFACTURED BY MARINO-WARE OR APPROVED EQUAL.

**ROOF FRAMING PLAN NOTES:**

- REFER TO GENERAL NOTES FOR DESIGN INFORMATION AND NOTES PERTAINING TO STRUCTURAL STEEL AND OFS DECK. ALL NEW EXTERIOR STEEL TO BE HOT-DIPPED GALVANIZED.
- TOP OF (E) ROOF STEEL ELEVATION = UNDERSIDE OF DECK = 179' - 4 1/2", TYPICAL U.N.O.
- ROOF DECK OPENINGS MAY NOT ALL BE SHOWN ON STRUCTURAL DRAWINGS. CONTRACTOR TO REFER TO MEP DRAWINGS FOR SIZE, LOCATION AND QUANTITIES. REFER TO TYPICAL STEEL SUPPORT FRAMING AT ROOF OPENINGS.
- DIMENSIONS SHOWN AT MECHANICAL UNITS ARE TO BE COORDINATED WITH APPROVED MECHANICAL EQUIPMENT SUBMITTAL. CENTER UNIT ON CENTERLINE OF CHANNELS.
- PROVIDE SLOPED CURB AS REQUIRED. VERIFY ALL ELEVATIONS AND ROOF SLOPE PRIOR TO CURB FABRICATION.

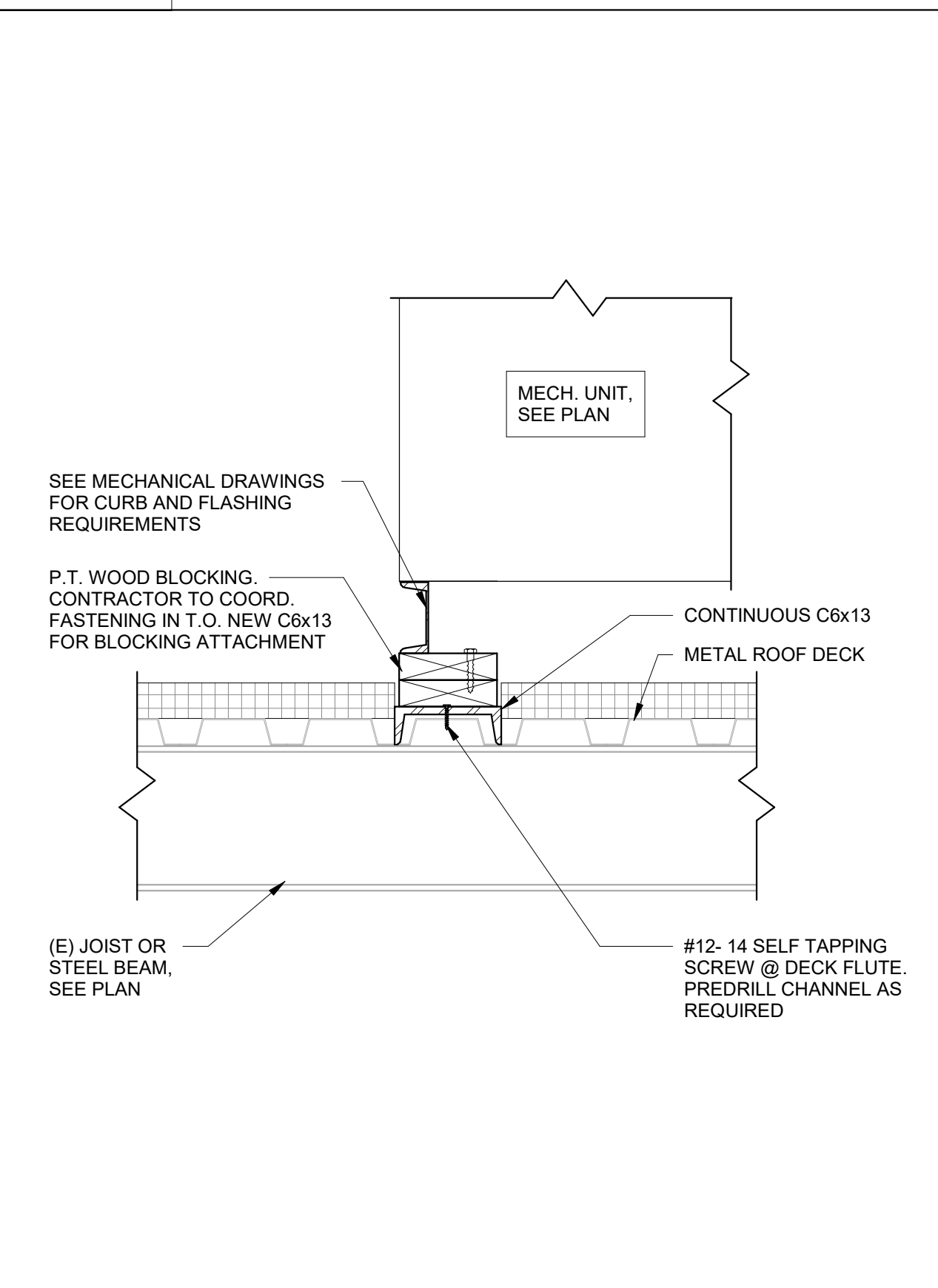
**LEGEND:**

- RD → INDICATES SPAN DIRECTION OF METAL ROOF DECK. MATCH EXISTING
- [X-XX] INDICATES TOP OF STEEL BEAM ELEVATION OTHER THAN TYPICAL
- ⊠ INDICATES STEEL CHANNEL SUPPORT FRAMING AT FLOOR OPENINGS



**G1 GENERAL NOTES**

1 1/2" = 1'-0"

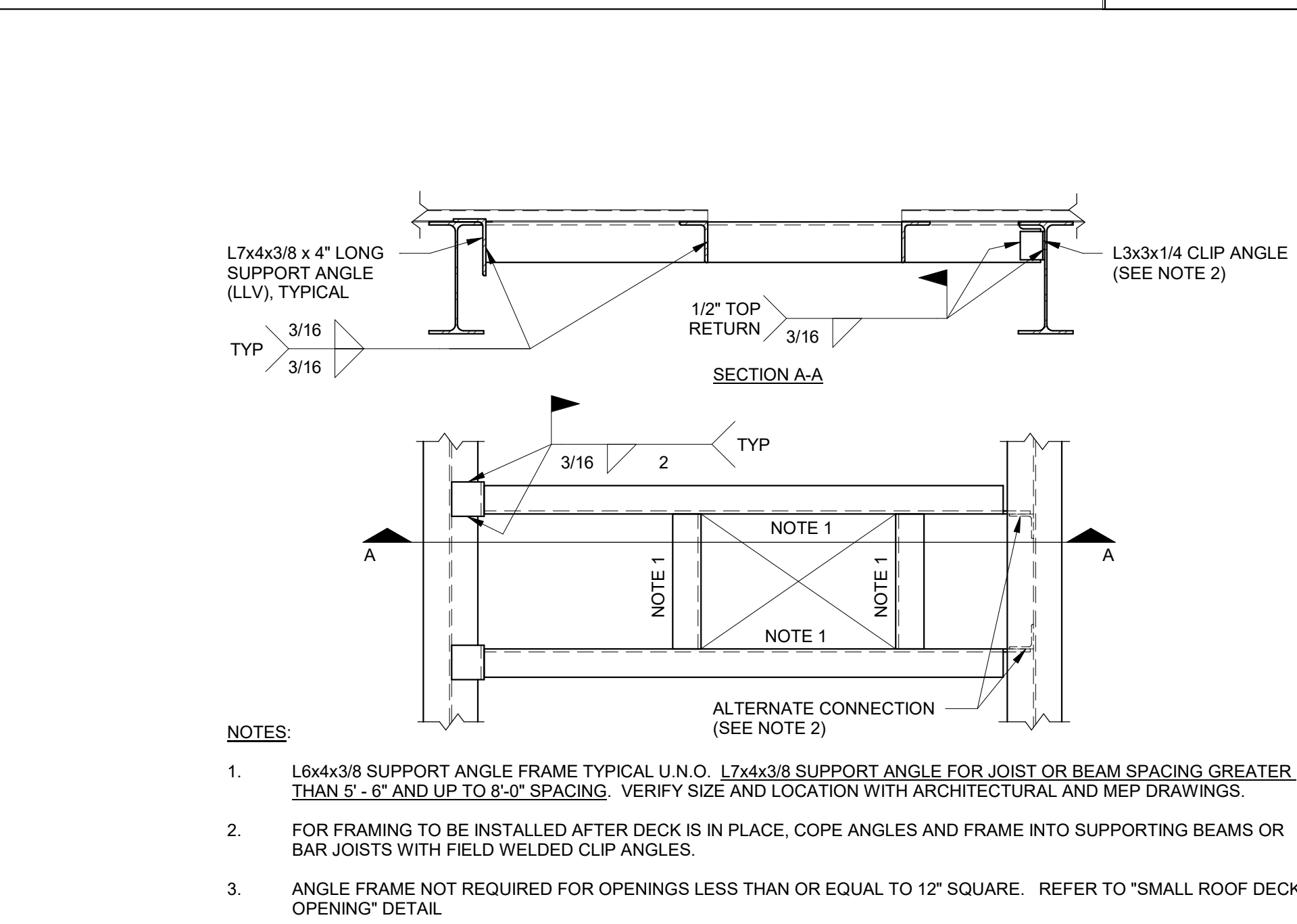


**A1 MECHANICAL UNIT SUPPORT CHANNEL**

1 1/2" = 1'-0"

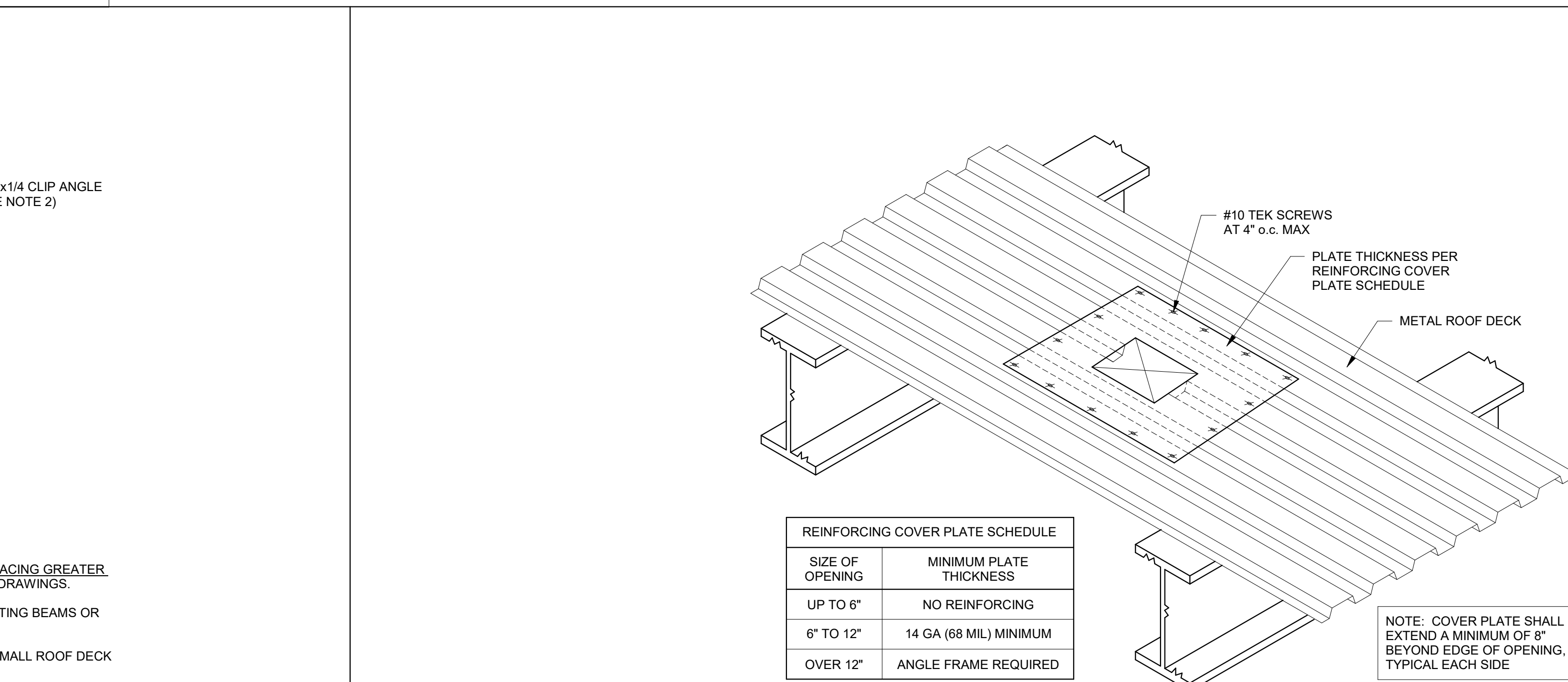
**A4 STEEL SUPPORT FRAME AT ROOF PENETRATION**

3/4" = 1'-0"



**G11 PARTIAL ROOF FRAMING PLAN**

3/16" = 1'-0"



**A11 SMALL ROOF DECK OPENING DETAIL**

3" = 1'-0"



REVISIONS			
REV.	DATE	DESCRIPTION	INIT.
05.18.23		ISSUED FOR BID	

COORDINATION	
CONTRACTING OFFICER	
USING AGENCY PM	
REAL PROPERTY ADMIN.	
MAINTENANCE	
BASE COMMANDER	
BASE CIVIL ENGINEER	
CHIEF ENGINEER	
ENVIRONMENTAL MANAGER	



MAINE AIR NATIONAL GUARD  
50 WESTERN AVE  
SOUTH PORTLAND, MAINE  
Project No. - VVRK192271

date	18 MAY 2023	detailed	NER
designed	JCM	checked	JCM



WBRC.COM  
BANGOR, MAINE 207-947-4511

MAINE AIR NATIONAL GUARD  
BLDG P8 HVAC RENOVATION

STRUCTURAL PLAN  
AND DETAILS

project	10057.002	contract	
drawing		rev.	
SHEET #	S-101		
sheet	2	of	12 sheets
file			

