

# CFP

CEDAR FOREST PRODUCTS

STRUCTURAL NOTES

STANDARDS

1. 2015 INTERNATIONAL BUILDING CODE
2. ASCE/SEI 7 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
3. ANSI/AWC NDS-2012 NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
4. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
5. AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS

BUILDING PROPERTIES

1. OCCUPANCY GROUP DESIGNATION = A-3
2. CONSTRUCTION TYPE = V-B

DESIGN LOADS

1. GROUND SNOW = 15 PSF
2. ROOF SNOW LOAD (UNHEATED) = 12.6 PSF
3. ROOF LIVE LOAD = 20 PSF
4. WIND LOAD BASED ON WIND VELOCITY OF V = 115 MPH
5. RISK CATEGORY II, EXPOSURE C
6. SEISMIC IMPORTANCE FACTOR I = 1
7.  $S_s = 0.172$
8.  $S_1 = 0.083$
9.  $S_{D5} = 0.184$
10.  $S_{D1} = 0.132$
11. SITE CLASS = D
12. DESIGN CATEGORY = B

STRUCTURAL STEEL

1. ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "SPECIFICATIONS FOR THE DESIGN FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS"

STRUCTURAL STEEL TO CONFORM TO:

1. STRUCTURAL STEEL PLATE = A-36
2. HOLLOW STRUCTURAL SECTIONS = A500 GRADE C
3. WIDE FLANGE SECTION = A992 GRADE 50
4. CHANNEL SECTIONS = A36
5. THESE MATERIAL SPECIFICATIONS SHALL BE USED UNLESS NOTED OTHERWISE.

HIGH STRENGTH BOLTING

1. HIGH STRENGTH BOLTS ARE A325 BOLTS WITH HEAVY HEX NUTS. THE BOLTS ARE TO BE INSTALLED UTILIZING THE "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" AS PREPARED BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS (RCSC) FOR THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC).
2. IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE PROPER TIGHTNESS.
3. ALL JOINTS MUST BE SNUG-TIGHTENED PRIOR TO PRETENSIONING.
4. ALL JOINTS MUST BE SNUG TIGHT UNLESS OTHERWISE SPECIFIED.

WELDING

1. ALL WELDING TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE - STEEL" D1.1 AND AS INDICATED ON THE STRUCTURAL DRAWINGS.
2. WELDING ELECTRODES, WELDING PROCESS, MINIMUM PREHEAT AND INTERPASS TEMPERATURES TO BE IN ACCORDANCE WITH THE AWS SPECIFICATIONS. ELECTRODES TO BE MIN 70KSI MATERIAL.

CONCRETE

1. ALL CONCRETE SHOULD HAVE STONE AGGREGATE (NORMAL WEIGHT). 28-DAY COMPRESSIVE STRENGTH ( $f_c$ ) SHOULD BE 3000PSI MINIMUM FOR CAST-IN-PLACE CONCRETE.
2. MAX AGGREGATE DIAMETER OF  $\frac{3}{4}$ "
3. REINFORCING BARS SHOULD BE MILD STEEL WITH A MINIMUM YIELD STRENGTH OF 60 KSI.
4. REINFORCING BAR PROTECTION:
  - 4.1. CONCRETE PLACED AGAINST EARTH - 3"
  - 4.2. CONCRETE PLACED IN FORMS -  $1\frac{1}{2}$ "
5. FIELD WELDING OF REINFORCING SHOULD NOT BE PERMITTED.
6. ALL REINFORCING BAR BENDS SHOULD BE MADE MECHANICALLY HEAT-BENDING

- SHOULD NOT BE PERMITTED.
7. NON-SHRINK GROUT = 5000 PSI
  8. ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF F1554 GRADE 36
  9. 4" to 6" SLAB SHALL BE REINFORCED WITH W4.5XW4.5 (6" X 6") WELDED WIRE FABRIC

FOUNDATIONS

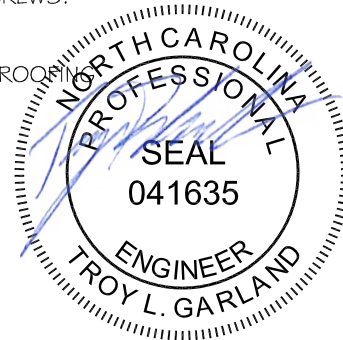
1. FOUNDATIONS DESIGNED BASED ON PRESUMPTIVE LOAD-BEARING VALUES GIVEN IN TABLE 1806.2 OF THE INTERNATIONAL BUILDING CODE.
  - 1.1. 1500 PSF VERTICAL FOUNDATION PRESSURE
  - 1.2. 100 PSF LATERAL BEARING PRESSURE
  - 1.3. FOUNDATION BACKFILL SHOULD CONSIST OF EXISTING SANDY FILL OR GRANULAR IMPORT MATERIAL. BACKFILL SHOULD BE PLACED IN THIN, LOOSE LIFTS, MOISTURE CONDITIONED TO WITHIN 2% OF OPTIMUM MOISTURE CONTENT, AND COMPACTED TO AT LEAST 95% OF MAX MODIFIED PROCTOR DRY DENSITY.
2. THE FOUNDATIONS HAVE BEEN DESIGN BASED ON THE ABOVE AND SHALL BE REVIEWED BY THE ENGINEER ONCE A FINAL GEOTECHNICAL REPORT IS COMPLETED. THE SUPPORT SOILS SHALL BE PREPARED PER THE REFERENCED GEOTECHNICAL REPORT PRIOR TO THE PLACEMENT OF ANY CONCRETE.

STRUCTURAL WOOD

1. WOOD FRAMING SHALL COMPLY WITH THE SOUTHERN PINE INSPECTION BUREAU, OR SHALL CONFORM TO SPECIFICATIONS AS PUBLISHED BY THE WESTERN WOODS PRODUCTS ASSOCIATION.
2. WOOD FRAMING 2" X 4" AND LARGER SHALL BE NO. 1 SOUTHERN YELLOW PINE (U.N.O)
3. WOOD COLUMNS 6" X 6" AND LARGER SHALL BE NO. 1 SOUTHERN YELLOW PINE (U.N.O)
4. MECHANICALLY LAMINATED POSTS SHALL HAVE CERTIFIED STRUCTURAL GLUED END JOINTS.
5. ALL MEMBERS IN CONTACT WITH CONCRETE OR GROUND SHALL BE PRESSURE TREATED.
6. FASTENERS USED IN PRESSURE TREATED WOOD SHALL BE GALVANIZED, MADE FROM STAINLESS STEEL OR HAVE A COATING RATED FOR USE IN TREATED WOOD.
7. GLUED-LAMINATED MEMBERS (U.N.O)
  - 7.1. BEAMS SHALL USE 24F-V5 SP/SP FOR BALANCED LAYUPS
  - 7.2. BEAMS SHALL USE 24F-V3 SP/SP FOR UNBALANCED LAYUPS WITH THE TOP CLEARLY MARKED FOR INSTALLATION
  - 7.3. COLUMNS SHALL USE 24F-V5 SP/SP OR 20F-V15 POC/POC BALANCED LAYUPS
  - 7.4. 1-3/8" ACTUAL LAMINATION THICKNESS
  - 7.5. ADHESIVE TO BE WATERPROOF GLUE
  - 7.6. APPEARANCE GRADE TO BE AITC ARCHITECTURAL
  - 7.7. PROTECTION WRAPPED
8. CONNECTORS NOT MANUFACTURED BY CFP SHALL BE AS MANUFACTURED BY THE SIMPSON CO. OR APPROVED EQUAL. CONNECTORS USED WITH PRESSURE TREATED LUMBER OR IN UNCONDITIONED SPACE, SHALL HAVE THE ZMAX (6185) COATING.
9. NAILING, UNLESS NOTED OTHERWISE, SHALL BE PER THE INTERNATIONAL BUILDING CODE.
10. BOLTS USED FOR WOOD CONNECTIONS SHALL MEET THE REQUIREMENT OF ANSI/ASME STANDARD B18.2.1.
  - 10.1. HOLES SHALL BE A MINIMUM OF  $\frac{1}{32}$ " TO  $\frac{1}{16}$ " LARGER THAN THE BOLT DIAMETER.
  - 10.2. A STANDARD CUT WASHER OR METAL PLATE OF EQUAL OR GREATER DIMENSIONS SHALL BE PROVIDED BETWEEN THE WOOD AND THE BOLT HEAD AND NUT.
11. LAG SCREWS SHALL BE INSTALLED PER THE REQUIREMENTS OF ANSI/ASME STANDARD B18.2.1
  - 11.1. LEAD HOLES FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60% TO 70% OF THE SHANK DIAMETER WITH A DEPTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.
12. EACH COURSE OF STACKED CEDAR TIMBER WALLS SHALL BE CONNECTED TO THE COURSE BELOW WITH #14 X 10" TIMBER SCREWS AT 36" ON CENTER. EACH PIECE OF TIMBER SHALL BE CONNECTED WITH AT LEAST TWO SCREWS.

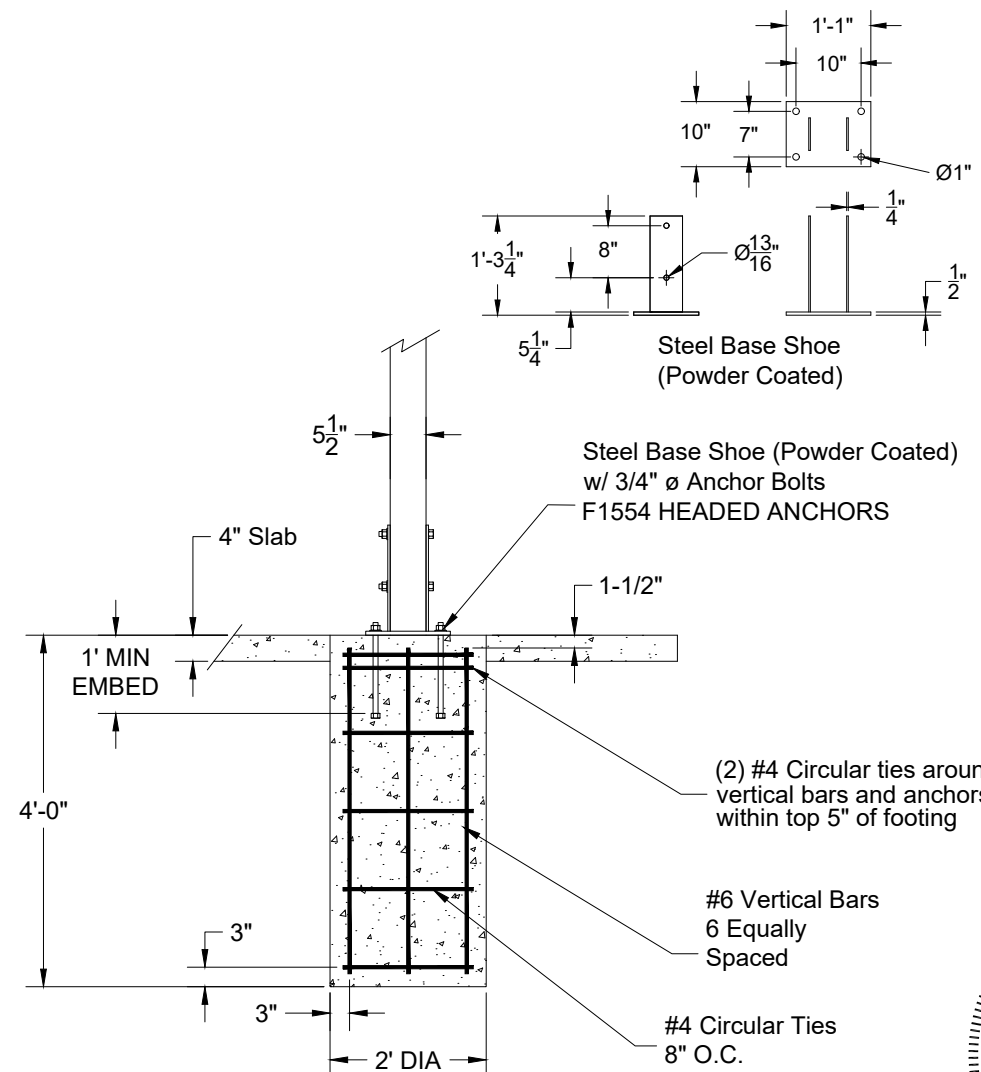
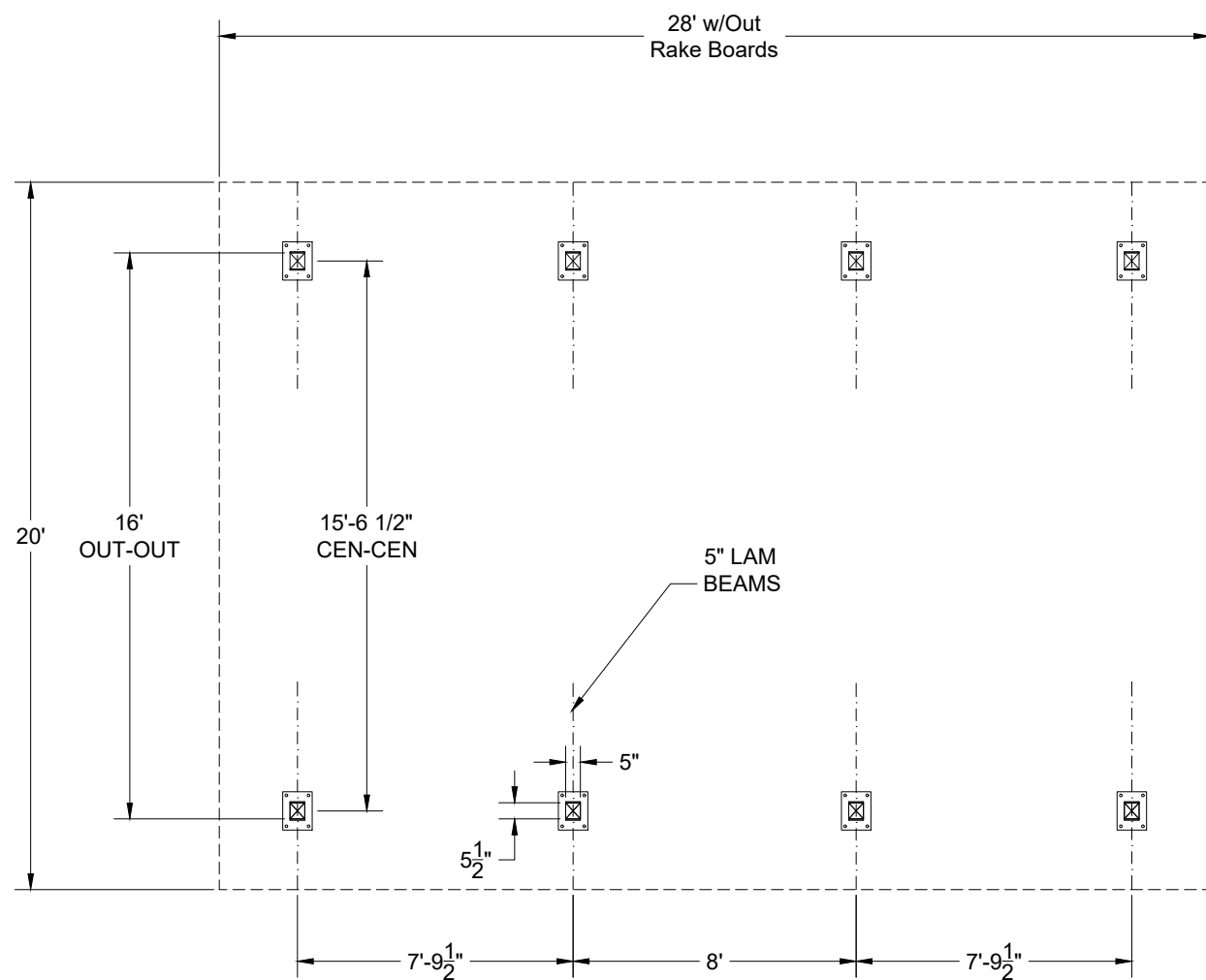
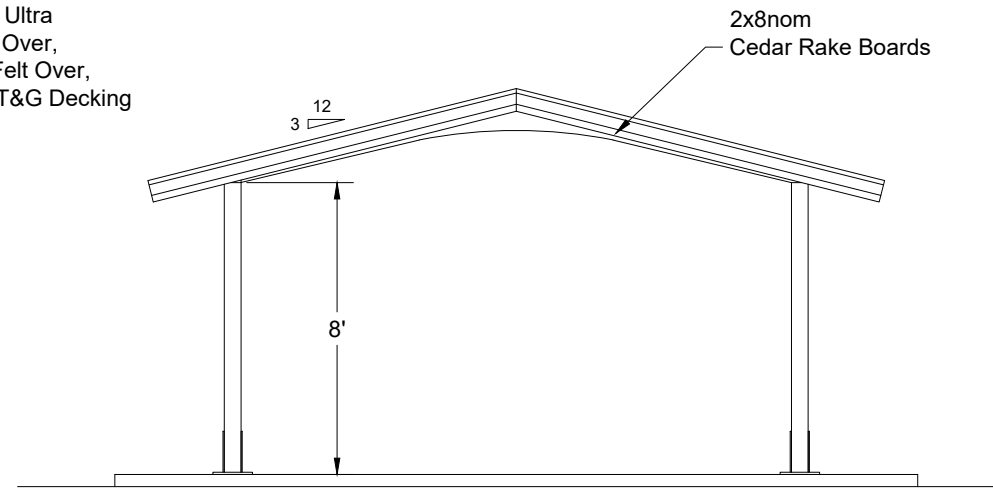
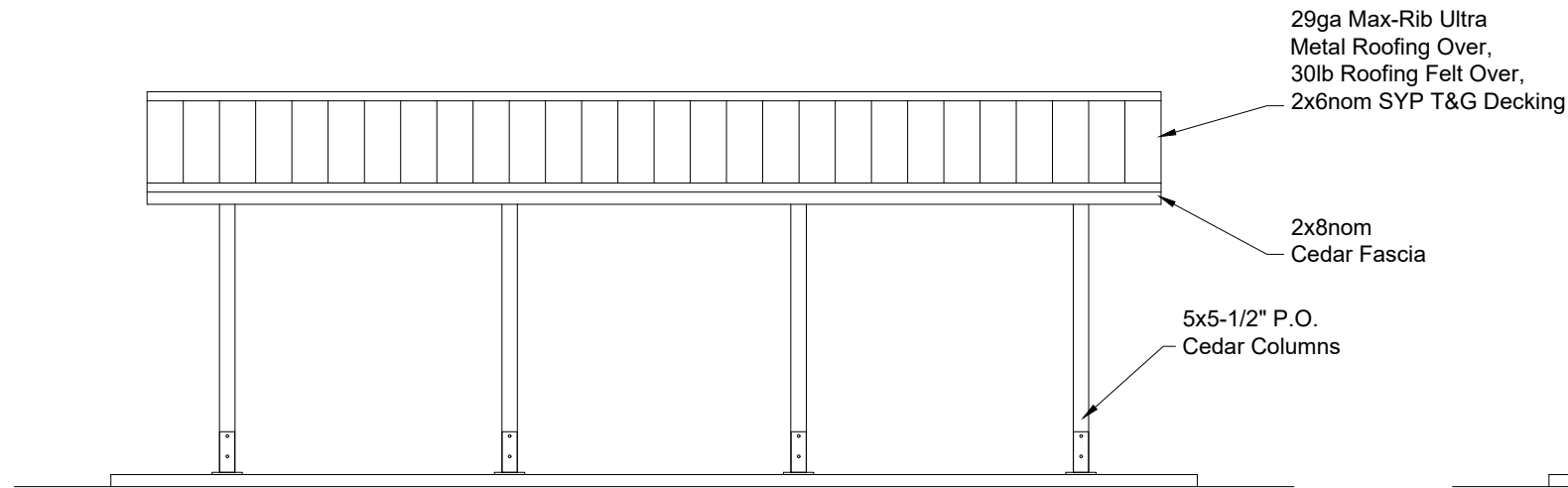
METAL ROOF

1. ROOF PANELS SHALL BE 29GA MAX-RIB ULTRA METAL ROOFING
2. YIELD STRENGTH = 50 KSI
3. SUBSTRATE = 2X6 NOM SYP T&G DECKING
4. FINISH SHALL BE KYNAR 500

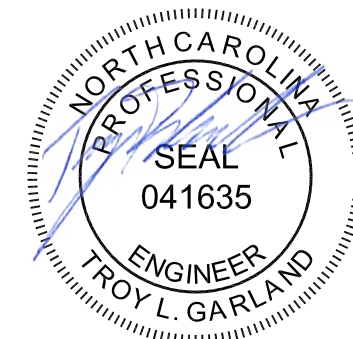


\*\*Structure Erection: Installation of this structure is to be done with a competent supervisor in the construction trades. This supervisor must be capable of reading the drawing(s) & following Cedar Forest Products' installation instructions using good construction practices and procedures. The contractor will be required to shim, cut and make adjustments of fitting for proper building erection.

MODEL NUMBER:	LB2028-M	REVISION DATES	DRAWN BY:	DATE:
DESCRIPTION:	20x28 Lam Beam Gable Shelter	REV:	JES	6-27-23
Project Details:	Project Name: NW Harnett Elementary Sales Rep: Carolina Rec Site Location: 736 Rollins Road, Fuquay-Varina, NC 27526	REV:	PRJ #: 4208	
		REV:	1 of 6	



Column/Footing Detail  
Concrete Pier By Others

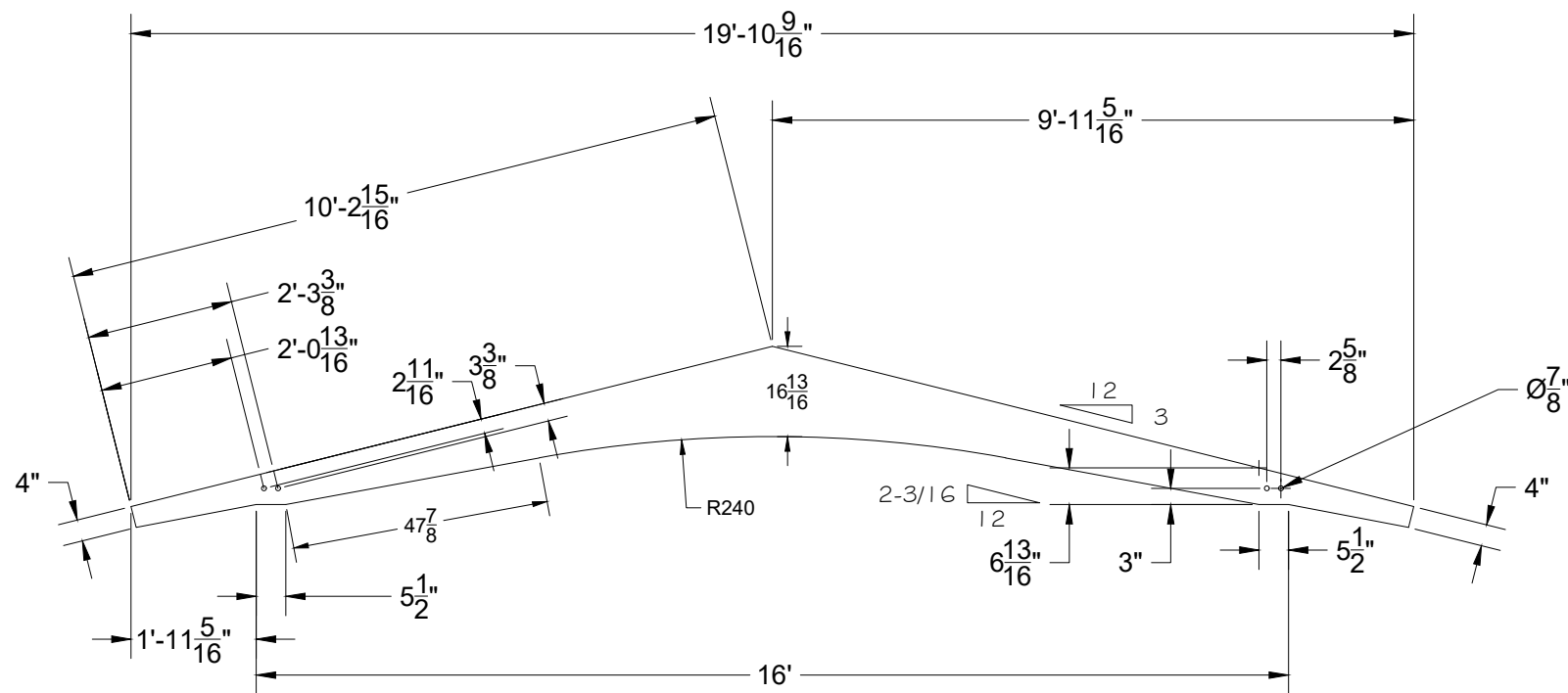


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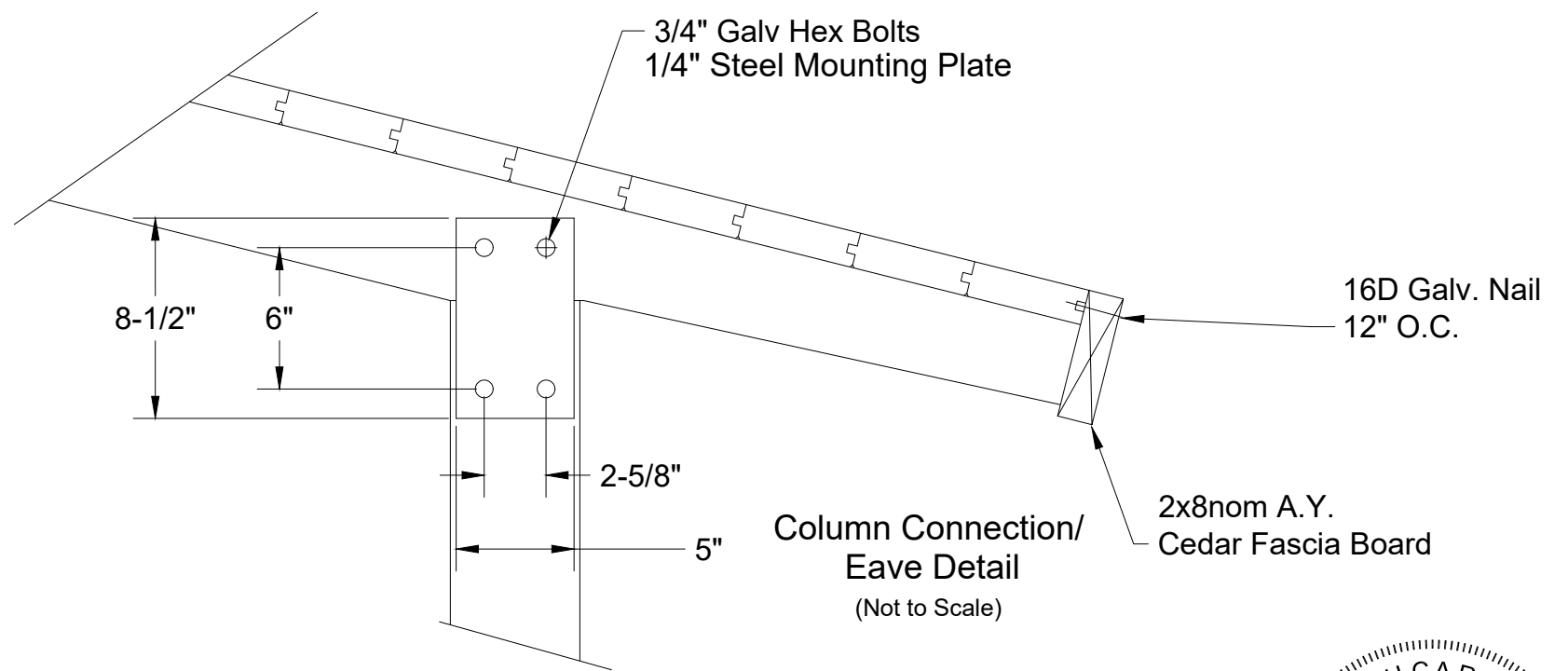
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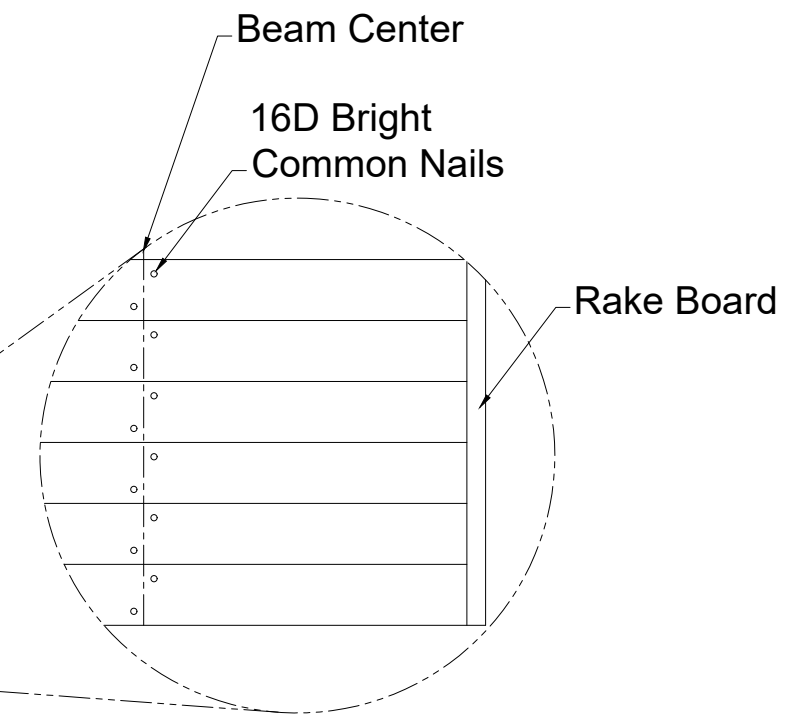
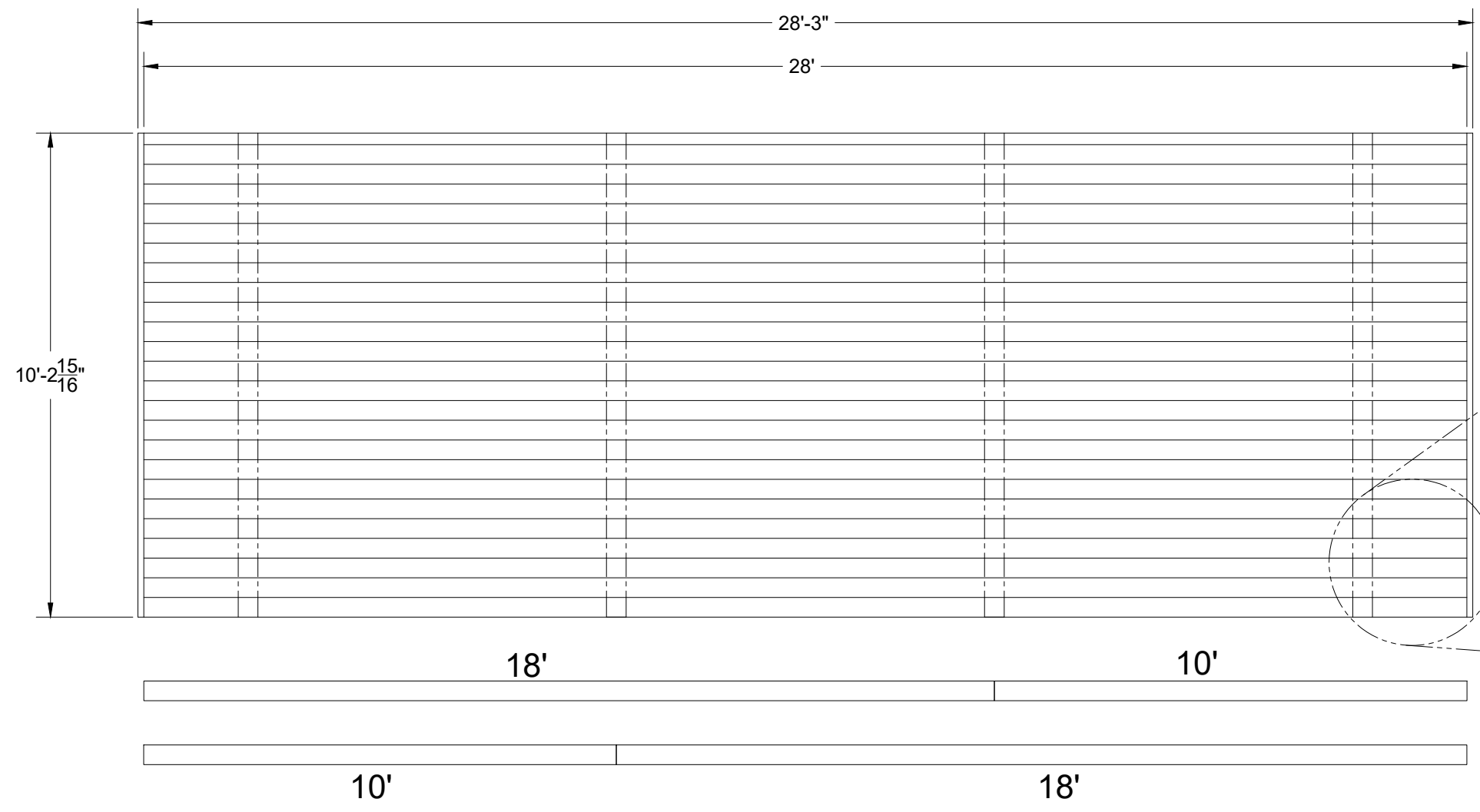
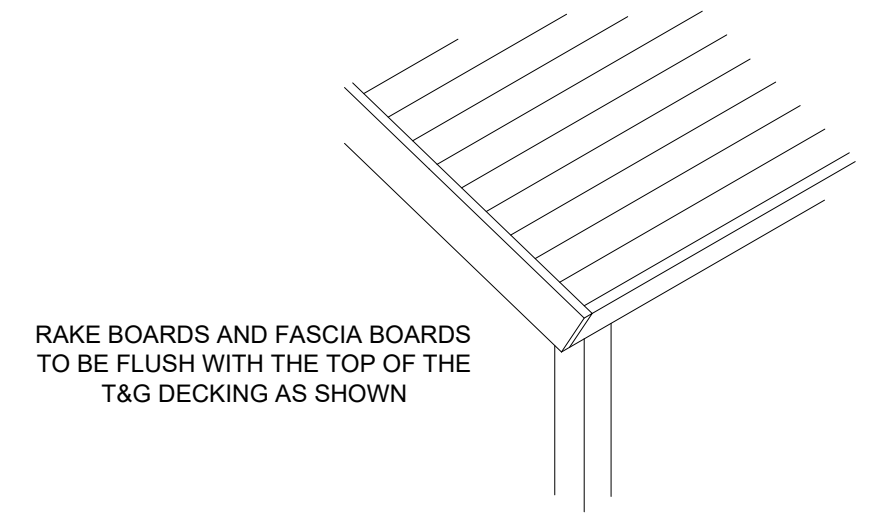
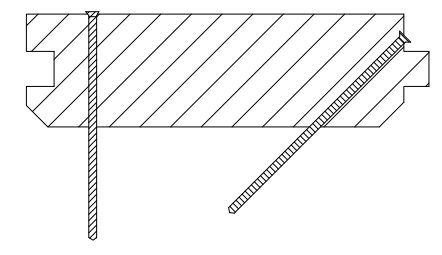
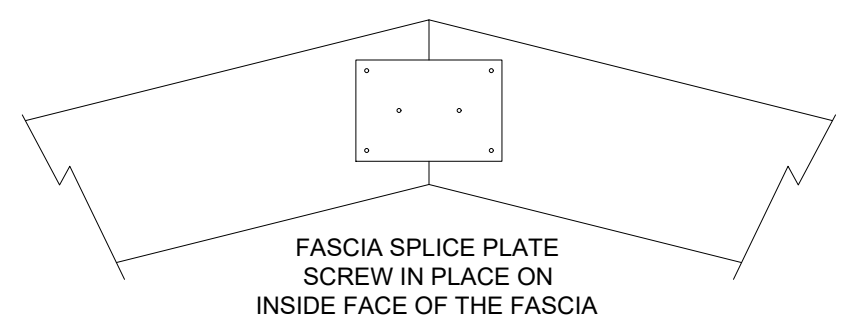
MODEL NUMBER:	LB2028-M	SHOWN WITH SELECTED OPTIONS	REVISION DATES	DRAWN BY:	DATE:
DESCRIPTION:	20x28 Lam Beam Gable Shelter		REV:	JES	6-27-23
Project Details:	Project Name: NW Harnett Elementary Sales Rep: Carolina Rec Site Location: 736 Rollins Road, Fuquay-Varina, NC 27526		REV:		PRJ #: 4208
			REV:		PG: 2 OF 6



20'-0" LOW PITCH BEAM  
 BEAM IS 5" WIDE

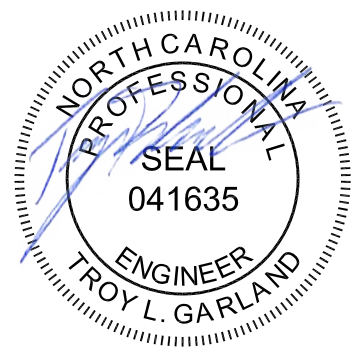
1. LUMBER TO BE SOUTHERN YELLOW PINE 24 F - V 3
2. 1 3/8" ACTUAL LAMINATIONS
3. ADHESIVE TO BE WATERPROOF GLUE.
4. APPEARANCE GRADE TO BE AITC.
5. PROTECTION WRAPPED

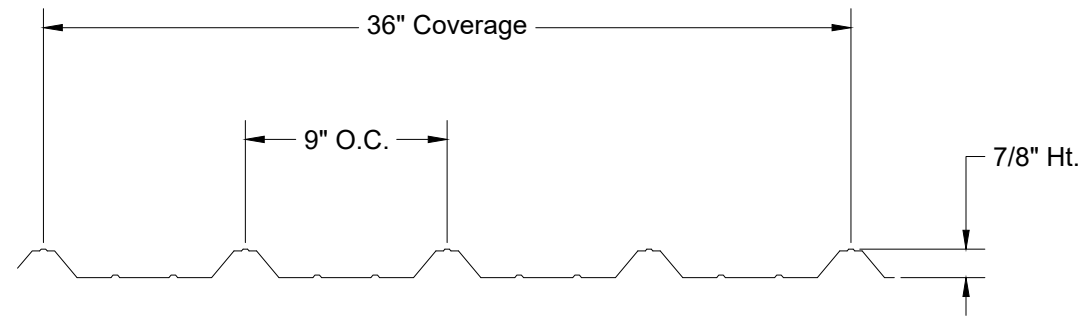




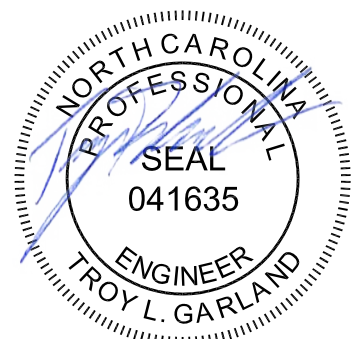
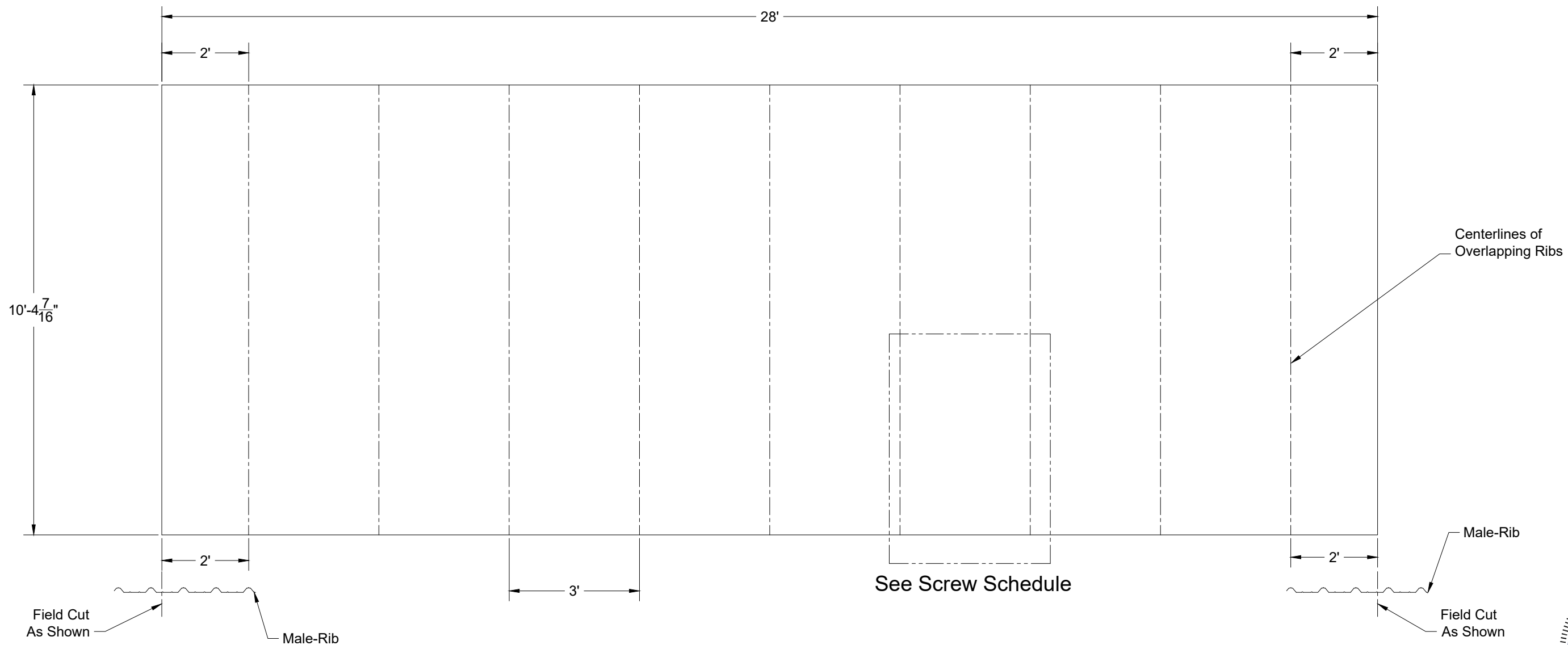
Attach T&G Deck to Lam Beam w/  
16D Nails, 2 per Board every time  
the T&G Crosses a Lam Beam  
(Stagger Nails as shown)

T&G Layout  
Stagger Rows as shown  
2x6nom SYP T&G Boards





29ga Max-Rib Ultra Profile





### GABLE METAL ROOFING OVER WOOD DECKING

Once roof decking is installed per decking sequence lay 30# felt over decking (per manufactures suggestions).

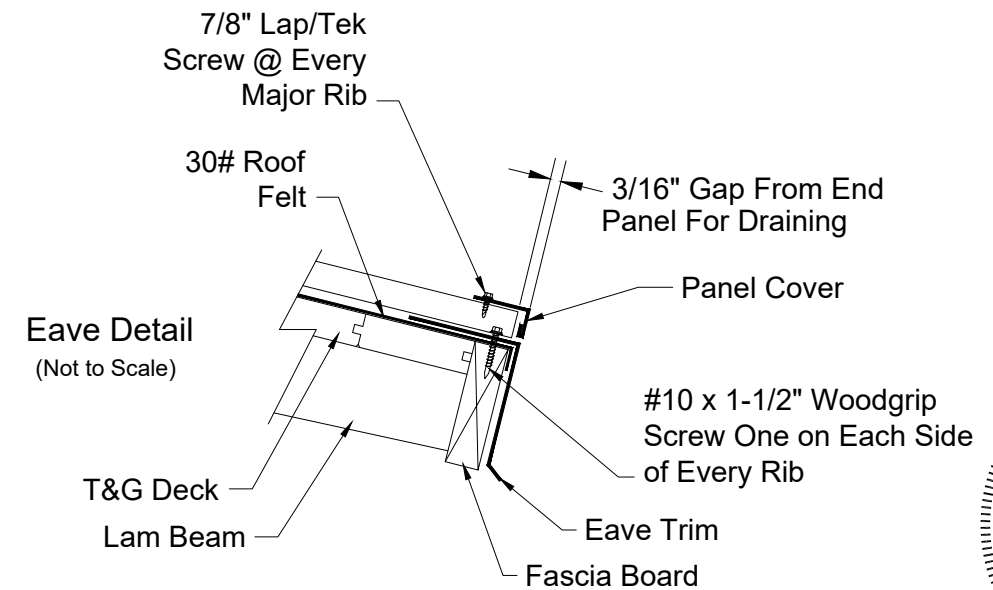
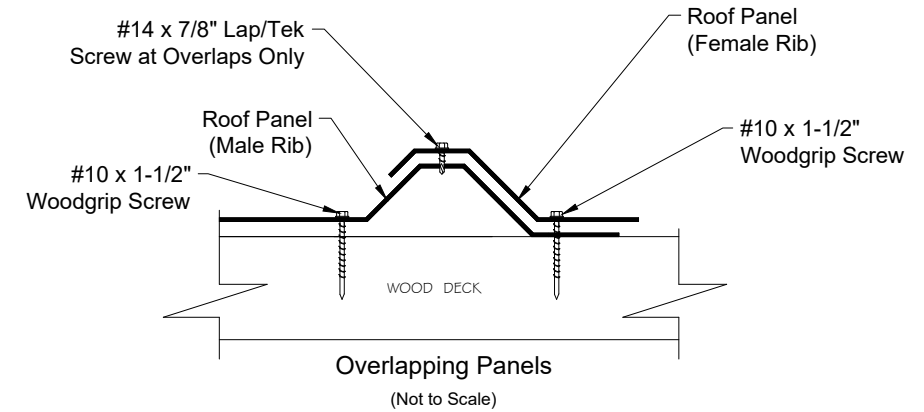
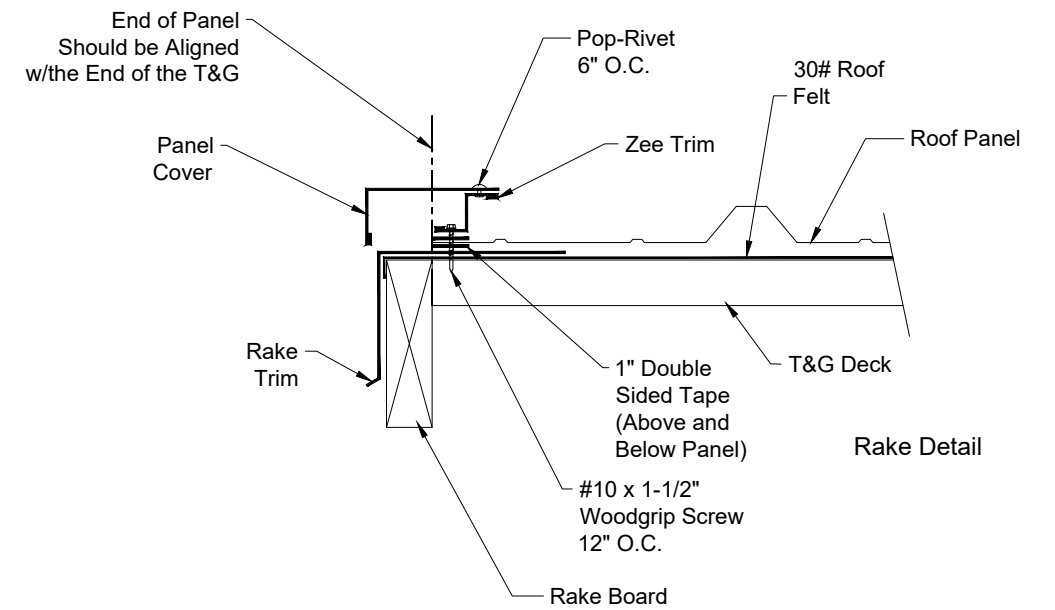
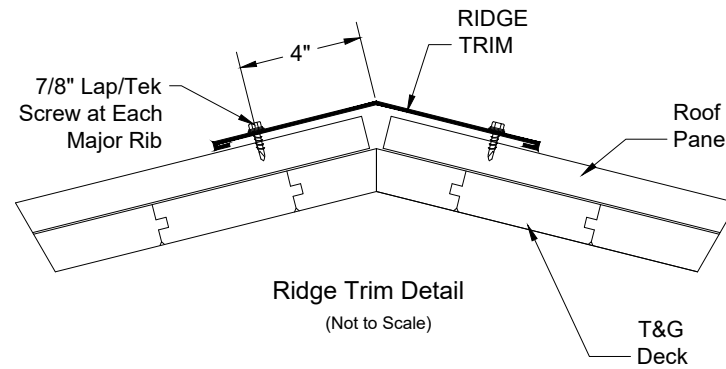
Then temporarily attach the eave/rake trim to decking using tape, not provided. Now it's time to start installing metal roof panels.

NOTE: BEFORE PERMANTLY ATTACHING METAL PANELS, CHECK FOR SQUARENESS OF PANELS IN RELATIONSHIP TO THE SHELTER.

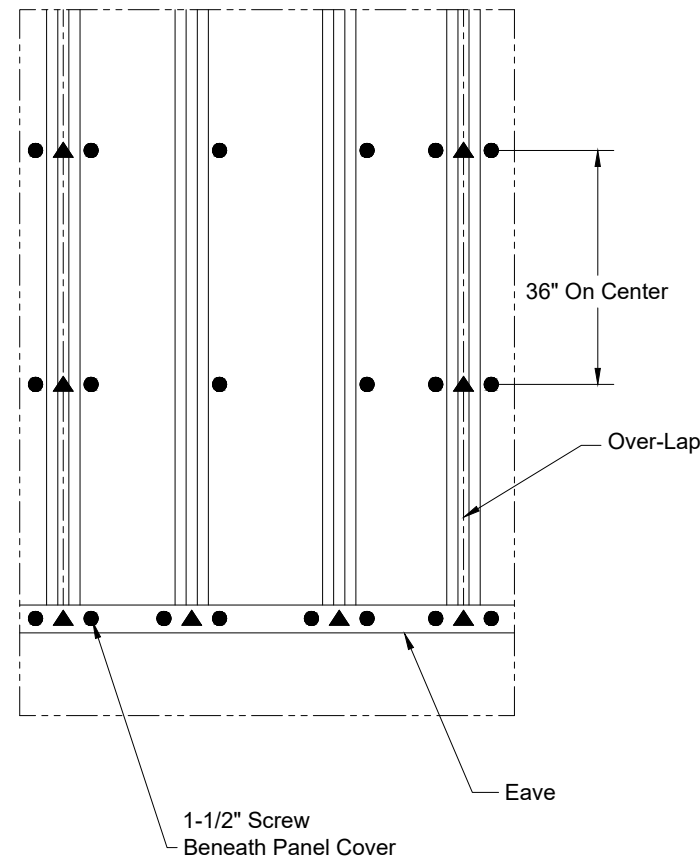
Start in left corner, place first panel, see panel layout, male rib should be to the right. (Female rib on the left may need to be removed for proper attachment of Zee trim, see details) Panel should be in line with the fascia board and the end of the T&G decking. Attach the panel per the screw schedule. Overlap the next panel, female rib over the male rib. Attach per the screw schedule. Repeat until all panels are installed.

Attach Zee Trim to Rakes, see details.  
 Attach the Panel cover along the eave lines, see details.  
 Attach the Panel cover along the rake lines, see details.  
 Install Ridge Trim at the peak, see details.

DO NOT USE IMPACT TOOLS ON WOOD SCREWS (SCREW GUN IS RECOMMENDED)



### Screw Schedule



### PROPER SCREW ENGAGEMENT

