Re: 220004
Lot 2 OS

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Wheeler - Waverly.

Pages or sheets covered by this seal: I55084279 thru I55084279

My license renewal date for the state of Missouri is December 31, 2023.

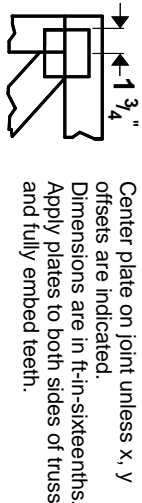Missouri COA: Engineering 001193

November 4,2022

Sevier, Scott ,Engineer

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.
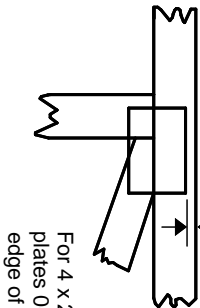
Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Jan 6 2022 Print: 8.430 S Jan 6 2022 MiTek Industries, Inc. Thu Nov 03 14:17:13 Page: 1
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REPAIR:
DAMAGED PLATE AT JOINT 15
DAMAGED PLATE AT JOINT 17

APPLY 2 X 4 X 10' SPF/DF/SP NO.2 SCAB(S) TO EACH FACE OF TRUSS CENTERED ON DAMAGE/SPLICE OR AS SHOWN. ATTACH WITH MiTek Pro Series WS/WSWH45 WOOD SCREWS PER THE FOLLOWING SCHEDULE: 2 x 4'S - 2 ROWS, 2 x 6'S AND LARGER - 3 ROWS: SPACED @ 4" O.C. USE 4" MEMBER END DISTANCE AND 1-1/4" EDGE DISTANCE. SCABS ARE TO BE TIGHT AGAINST TRUSS WITH NO GAPS. SCREWS MAY BE DRIVEN FROM EITHER FACE, MAINTAINING 4" SPACING IN THE TRUSS.

Scale = 1:87.6

Plate Offsets (X, Y): [2:Edge,0-2-5], [5:0-3-0,Edge], [7:0-3-12,0-2-8], [9:0-3-0,Edge], [11:0-4-11,0-3-0], [14:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.51	19-21	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.94	19-21	>618	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.76	Horz(CT)	0.24	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.31	19-21	>999	240	Weight: 196 lb	FT = 10%

LUMBER
TOP CHORD   2x4 SPF 2100F 1.8E *Except* 7-9,9-12:2x4 SPF No.2
BOT CHORD   2x4 SPF 2100F 1.8E *Except* 15-13,17-15:2x4 SPF No.2
WEBS   2x3 SPF No.2 *Except* 18-6,14-11,19-4:2x4 SPF No.2, 13-11:2x6 SPF No.2
WEDGE   Left: 2x4 SP No.3

BRACING
TOP CHORD   Structural wood sheathing directly applied, except end verticals.
BOT CHORD   Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS   1 Row at midpt   6-18, 8-18, 10-16, 4-19

REACTIONS (size)   2=0-3-8, (req. 0-3-11), 13=0-3-8, (req. 0-3-11)
Max Horiz   2=171 (LC 8)
Max Uplift   2=-379 (LC 4), 13=-268 (LC 9)
Max Grav   2=2333 (LC 2), 13=2350 (LC 2)

FORCES   (lb) - Maximum Compression/Maximum Tension
TOP CHORD   1-2=0/6, 2-3=-5793/834, 3-4=-5265/775, 4-6=-4134/611, 6-7=-3052/481, 7-8=-3109/503, 8-10=-3568/462, 10-11=-3622/382, 11-12=0/30, 11-13=-2233/304
BOT CHORD   2-22=-855/5370, 21-22=-855/5370, 19-21=-728/4953, 18-19=-461/3847, 16-18=-253/3220, 14-16=-283/3270, 13-14=-78/243
WEBS   6-18=-1469/344, 7-18=-213/1789, 8-18=-724/237, 8-16=0/348, 10-16=-230/142, 10-14=-426/140, 11-14=-241/3088, 3-22=0/225, 3-21=-479/144, 4-21=0/446, 4-19=-1234/297, 6-19=-23/870

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) WARNING: Required bearing size at joint(s) 2, 13 greater than input bearing size.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 379 lb uplift at joint 2 and 268 lb uplift at joint 13.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)   Standard

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

November 4,2022

MiTek®
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION

Center plate on joint unless x, y offsets are indicated.
Dimensions are in ft-in-sixteenths.
Apply plates to both sides of truss and fully embed teeth.

↑ 1 ¾"

0- ¹⁄₁₆"

For 4 x 2 orientation, locate plates 0- ¹⁄₁₆" from outside edge of truss.

=

This symbol indicates the required direction of slots in connector plates.

* Plate location details available in MiTek 20/20 software or upon request.
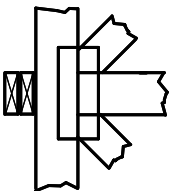
PLATE SIZE

4 X 4

The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION

Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur.
Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1:   National Design Specification for Metal
             Plate Connected Wood Truss Construction.
DSB-89:   Design Standard for Bracing.
BCSI: Building Component Safety Information,
             Guide to Good Practice for Handling,
             Installing & Bracing of Metal Plate
             Connected Wood Trusses.

Numbering System

6-4-8   **dimensions shown in ft-in-sixteenths**
        (Drawings not to scale)

TOP CHORD

1   2   3   TOP CHORDS

C1-8   C1-2   W1-7   W2-7   WEBS   C2-3   W3-7

C7-8   BOTTOM CHORDS   C6-7   W3-6   C3-4   W4-6

C5-6   C4-5   8   7   6   5   4

TOP CHORD
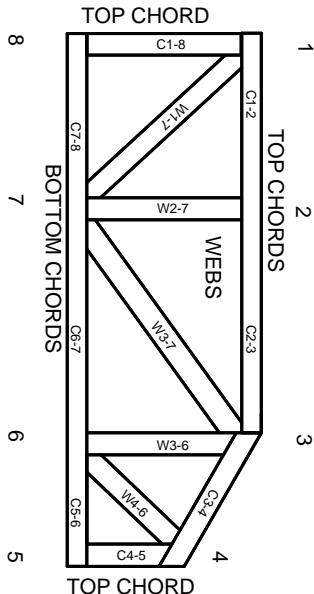
JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

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⚠ General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.

2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative T or I bracing should be considered.

3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.

4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.

5. Cut members to bear tightly against each other.

6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.

7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.

8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.

9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.

10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.

11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.

12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.

13. Top chords must be sheathed or purlins provided at spacing indicated on design.

14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.

15. Connections not shown are the responsibility of others.

16. Do not cut or alter truss member or plate without prior approval of an engineer.

17. Install and load vertically unless indicated otherwise.

18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.

19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.

20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

21. The design does not take into account any dynamic or other loads other than those expressly stated.