



MiTek USA, Inc.
MiTek USA, Inc.
400 Sunrise Avenue, Suite 270
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Re: 221839-R
Internet - Willis Pole Barn - 8542 Sanctuary Pine

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Foxworth Galbraith (Colorado Springs, CO4005 Interpark Drive, Bldg B.

Pages or sheets covered by this seal: R73856250 thru R73856251

My license renewal date for the state of Colorado is October 31, 2023.



December 12, 2022

Baxter, David

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.

Job	Truss	Truss Type	Qty	Ply	Internet - Willis Pole Barn - 8542 Sanctuary Pine
221839-R	T01E	COMMON SUPPORTED GAB	2	1	R73856250

Foxworth Galbraith Lbr Co (Colorado Springs, CO), Colorado Springs, CO - 80907, 8.630 s Nov 19 2022 MiTek Industries, Inc. Fri Dec 9 14:52:06 2022 Page 1
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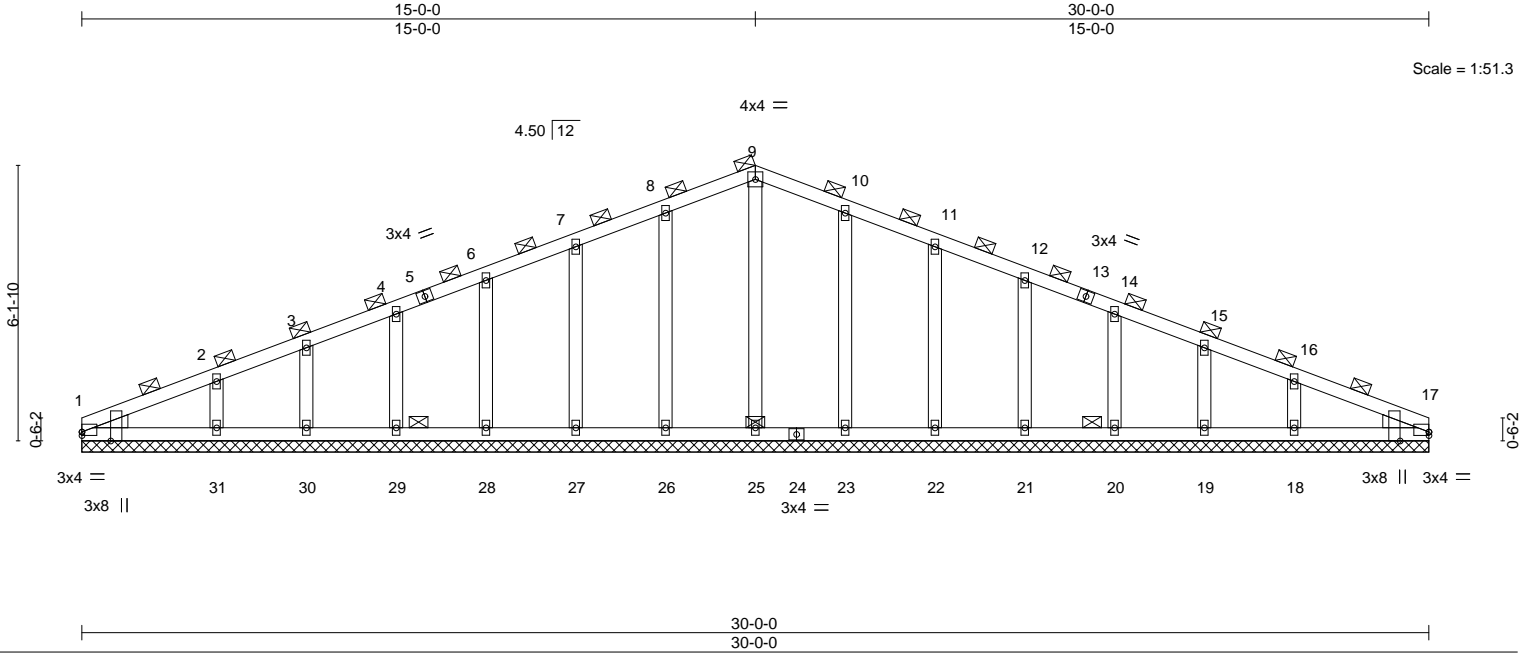


Plate Offsets (X,Y)-- [1:0-2-6,Edge], [1:0-0-0,0-0-15], [17:0-0-0,0-0-15], [17:0-2-6,Edge]

LOADING (psf)	SPACING-	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 40.0 (Roof Snow=40.0)	4-0-0 Plate Grip DOL 1.15	TC 0.28	Vert(LL)	n/a	-	n/a	MT20	169/123
TCDL 5.5	Lumber DOL 1.15	BC 0.10	Vert(CT)	n/a	-	n/a		
BCLL 0.0	Rep Stress Incr NO	WB 0.43	Horz(CT)	0.01	17	n/a		
BCDL 3.0	Code IBC2015/TPI2014	Matrix-S					Weight: 113 lb	FT = 12%

LUMBER-
 TOP CHORD 2x4 SPF No.2
 BOT CHORD 2x4 SPF No.2
 OTHERS 2x4 WW Stud/Std
 WEDGE
 Left: 2x4 WW Stud/Std , Right: 2x4 WW Stud/Std

BRACING-
 TOP CHORD 2-0-0 oc purlins (6-0-0 max.).
 BOT CHORD 10-0-0 oc bracing.

REACTIONS. All bearings 30-0-0.
 (lb) - Max Horz 1=156(LC 9)
 Max Uplift All uplift 100 lb or less at joint(s) 17, 30, 19, 1 except 26=-126(LC 9),
 27=-127(LC 9), 28=-123(LC 9), 29=-131(LC 9), 31=-209(LC 9), 23=-124(LC 10),
 22=-128(LC 10), 21=-123(LC 10), 20=-131(LC 10), 18=-205(LC 10)
 Max Grav All reactions 250 lb or less at joint(s) except 17=252(LC 1), 25=331(LC 1),
 26=606(LC 13), 27=566(LC 13), 28=565(LC 13), 29=445(LC 13), 30=314(LC 1),
 31=597(LC 13), 23=606(LC 14), 22=566(LC 14), 21=565(LC 14), 20=445(LC 14),
 19=314(LC 1), 18=597(LC 14), 1=252(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 8-9=-141/278, 9-10=-141/269
 WEBS 9-25=-307/0, 8-26=-582/140, 7-27=-541/141, 6-28=-542/138, 4-29=-417/145,
 3-30=-305/116, 2-31=-534/219, 10-23=-582/138, 11-22=-541/142, 12-21=-542/137,
 14-20=-417/145, 15-19=-305/116, 16-18=-534/215

- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=3.3psf; BCDL=1.8psf; h=25ft; Cat. I; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 3) TCLL: ASCE 7-10; Pf=40.0 psf (flat roof snow); Category I; Exp C; Fully Exp.; Ct=1.20
 - 4) Unbalanced snow loads have been considered for this design.
 - 5) The bottom chord dead load shown is sufficient only to cover the truss weight itself and does not allow for any additional load to be added to the bottom chord.
 - 6) All plates are 2x4 MT20 unless otherwise indicated.
 - 7) Gable requires continuous bottom chord bearing.
 - 8) Gable studs spaced at 2-0-0 oc.
 - 9) n/a
 - 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 12, 2022

Job 221839-R	Truss T01	Truss Type COMMON	Qty 11	Ply 1	Internet - Willis Pole Barn - 8542 Sanctuary Pine R73856251
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Foxworth Galbraith Lbr Co (Colorado Springs, CO), Colorado Springs, CO - 80907, 8.630 s Nov 19 2022 MiTek Industries, Inc. Fri Dec 9 14:52:05 2022 Page 1
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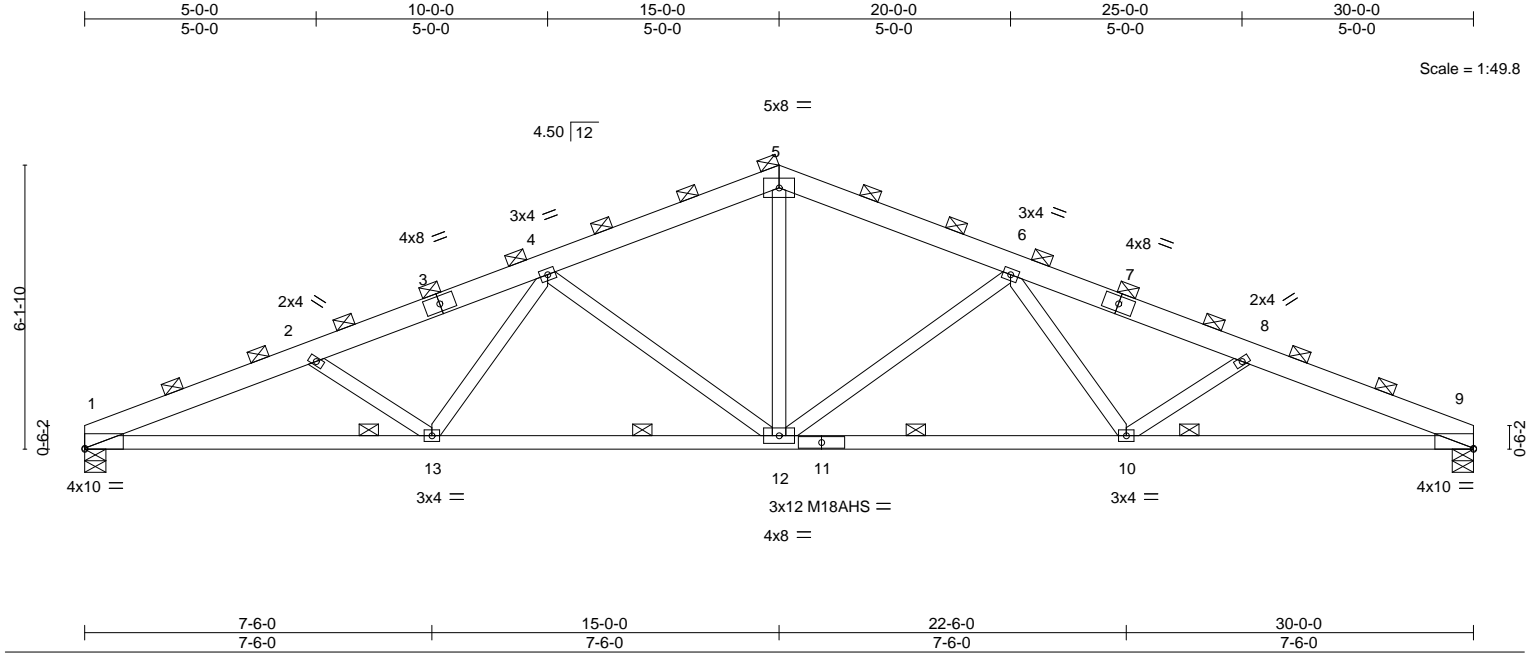


Plate Offsets (X,Y)-- [1:0-0-0,0-0-4], [9:0-0-0,0-0-4]

LOADING (psf)	SPACING-	CSI.	DEFL.	PLATES	GRIP
TCLL 40.0 (Roof Snow=40.0)	4-0-0 Plate Grip DOL 1.15	TC 0.57	in (loc) l/defl L/d	MT20	169/123
TCDL 5.5	Lumber DOL 1.15	BC 0.76	Vert(LL) -0.42 12-13 >839 240	M18AHS	142/136
BCLL 0.0	Rep Stress Incr NO	WB 0.95	Vert(CT) -0.53 12-13 >672 180		
BCDL 3.0	Code IBC2015/TPI2014	Matrix-S	Horz(CT) 0.20 9 n/a n/a		
				Weight: 126 lb	FT = 12%

LUMBER-	BRACING-
TOP CHORD 2x6 SPF 1650F 1.3E	TOP CHORD 2-0-0 oc purlins (2-11-1 max.).
BOT CHORD 2x4 SPF 2100F 1.8E	BOT CHORD 6-0-0 oc bracing.
WEBS 2x4 WW Stud/Std *Except*	
5-12: 2x4 SPF No.2, 6-12,4-12: 2x4 SPF 1650F 1.5E	

REACTIONS. (size) 1=0-5-8, 9=0-5-8
 Max Horz 1=-153(LC 10)
 Max Uplift 1=-657(LC 9), 9=-657(LC 10)
 Max Grav 1=2866(LC 1), 9=2866(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
 TOP CHORD 1-2=-6433/1461, 2-4=-5756/1321, 4-5=-4160/992, 5-6=-4160/992, 6-8=-5756/1322, 8-9=-6433/1462
 BOT CHORD 1-13=-1420/5825, 12-13=-1071/4931, 10-12=-960/4931, 9-10=-1277/5825
 WEBS 5-12=-463/1956, 6-12=-2034/533, 6-10=-152/587, 8-10=-714/326, 4-12=-2034/533, 4-13=-151/587, 2-13=-714/325

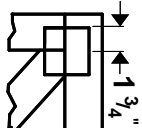
- NOTES-**
- 1) Wind: ASCE 7-10; Vult=130mph Vasd=103mph; TCDL=3.3psf; BCDL=1.8psf; h=25ft; Cat. I; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) TCLL: ASCE 7-10; Pf=40.0 psf (flat roof snow); Category I; Exp C; Fully Exp.; Ct=1.20
 - 3) Unbalanced snow loads have been considered for this design.
 - 4) The bottom chord dead load shown is sufficient only to cover the truss weight itself and does not allow for any additional load to be added to the bottom chord.
 - 5) All plates are MT20 plates unless otherwise indicated.
 - 6) Two H2.5T Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 9. This connection is for uplift only and does not consider lateral forces.
 - 7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



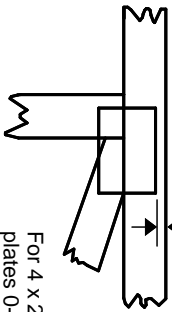
December 12, 2022

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.



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

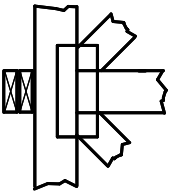
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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



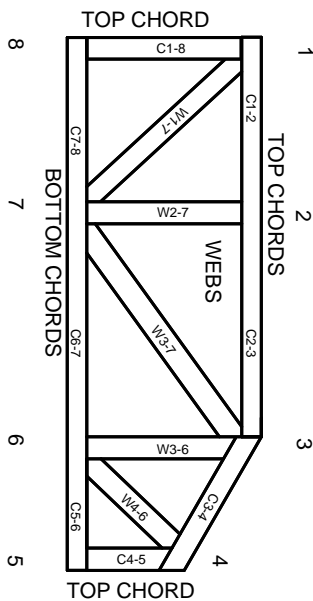
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing, 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)



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.



MITek Engineering Reference Sheet: Mill-7473 rev. 5/19/2020