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MiTek USA, Inc.  
16023 Swingley Ridge Rd  
Chesterfield, MO 63017  
314-434-1200

Re: 2889809  
Summit/55 Woodside

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Builders FirstSource (Valley Center).

Pages or sheets covered by this seal: I53295760 thru I53295760

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

Missouri COA: Engineering 001193



July 27, 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.

Job	Truss	Truss Type	Qty	Ply	Summit/55 Woodside	153295760
2889809	D2	Hip Girder	1	1	Job Reference (optional)	

Builders FirstSource (Valley Center),
Valley Center, KS - 67147,

8.430 s Aug 16 2021 MiTek Industries, Inc.
Mon Jul 25 15:59:23 2022
Page 1
ID:UOuO859\_0naEM6EiNHbM8DzPWBV-aH5yK6LWuhJVbLa53gjJtzslEEExhzZsn5B?hQyuTrl

0-10-8  
0-10-8

3-11-4  
3-11-4

8-0-8  
4-1-4

12-3-8  
4-3-0

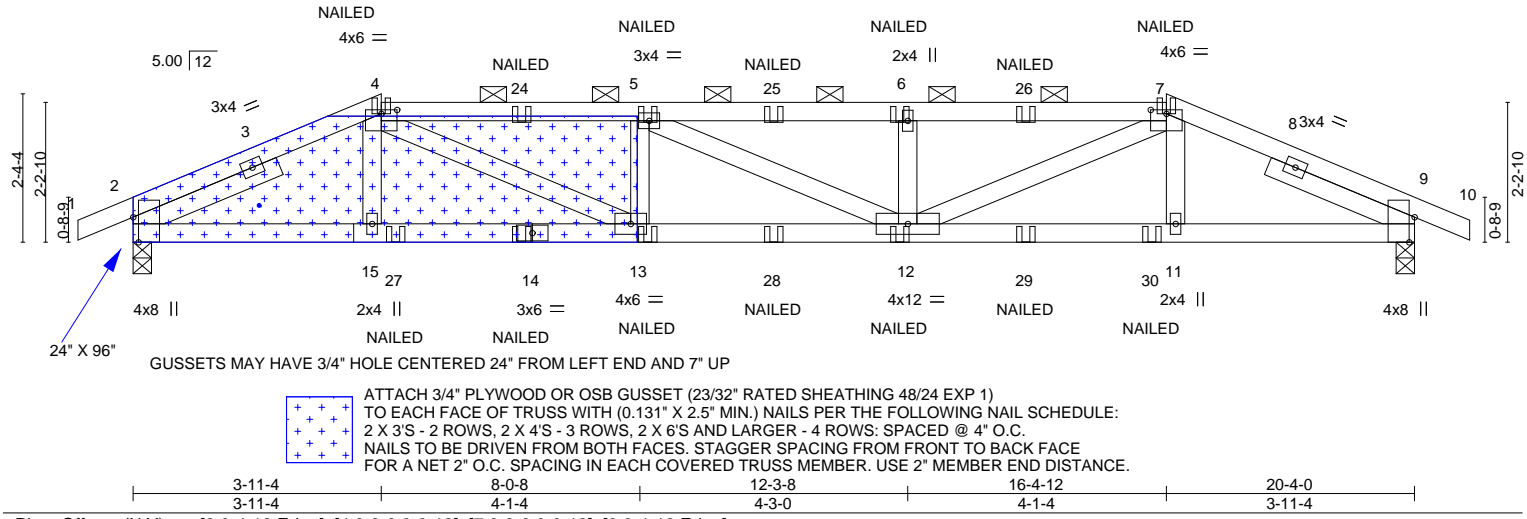
16-4-12  
4-1-4

20-4-0  
3-11-4

21-2-8  
0-10-8

REPAIR: BOTTOM CHORD BROKEN 3-6-0 FROM LEFT END

Scale = 1:36.6



LOADING (psf)		SPACING-		CSI.		DEFL.		PLATES		GRIP	
TCLL	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.17 12-13 >999 240	MT20		197/144	
TCDL	10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.32 12-13 >772 180				
BCLL	0.0	Rep Stress Incr	NO	WB	0.36	Horz(CT)	0.06 9 n/a n/a				
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS							
								Weight: 78 lb		FT = 20%	

<b>LUMBER-</b>		<b>BRACING-</b>	
TOP CHORD	2x4 SPF No.2	TOP CHORD	Structural wood sheathing directly applied or 3-4-2 oc purlins, except
BOT CHORD	2x4 SPF No.2	BOT CHORD	2-0-0 oc purlins (2-9-3 max.): 4-7.
WEBS	2x4 SPF No.2		Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
SLIDER	Left 2x4 SPF No.2 2-6-0, Right 2x4 SPF No.2 2-6-0		7-7-10 oc bracing: 12-13.

<b>REACTIONS.</b>	
(size)	2=0-3-8, 9=0-3-8
Max Horz	2=30(LC 29)
Max Uplift	2=-229(LC 8), 9=-229(LC 9)
Max Grav	2=1214(LC 1), 9=1215(LC 1)

<b>FORCES.</b>	
(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.	
TOP CHORD	2-4=-2088/403, 4-5=-3159/647, 5-6=-3154/645, 6-7=-3157/646, 7-9=-2090/403
BOT CHORD	2-15=-343/1894, 13-15=-347/1893, 12-13=-603/3156, 11-12=-334/1894, 9-11=-329/1895
WEBS	4-13=-297/1450, 5-13=-475/179, 6-12=-462/179, 7-12=-296/1447

- NOTES-**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
  - Provide adequate drainage to prevent water ponding.
  - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 229 lb uplift at joint 2 and 229 lb uplift at joint 9.
  - 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.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
  - In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

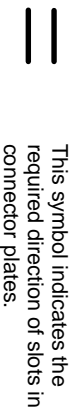
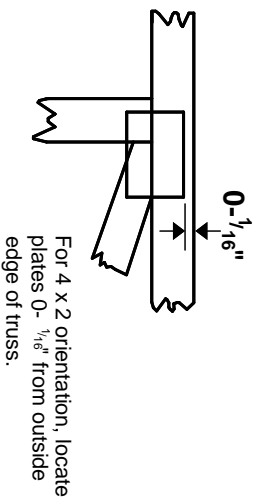
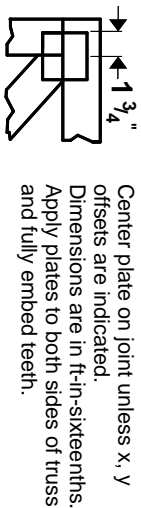
<b>LOAD CASE(S)</b> Standard	
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15	
Uniform Loads (plf)	
Vert:	1-4=-70, 4-7=-70, 7-10=-70, 16-20=-20
Concentrated Loads (lb)	
Vert:	4=-44(F) 7=-44(F) 14=-24(F) 13=-24(F) 5=-44(F) 6=-44(F) 12=-24(F) 24=-44(F) 25=-44(F) 26=-44(F) 27=-24(F) 28=-24(F) 29=-24(F) 30=-24(F)



July 27,2022

## Symbols

### PLATE LOCATION AND ORIENTATION



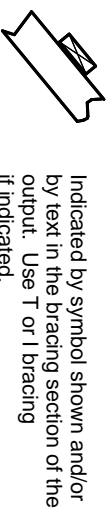
\* Plate location details available in **MiTek 20/20** software or upon request.

### PLATE SIZE

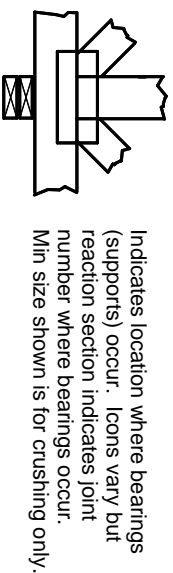
**4 X 4**

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

### LATERAL BRACING LOCATION

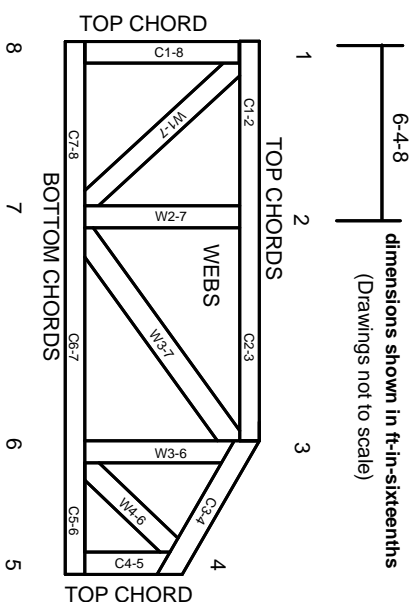


### BEARING



**Industry Standards:**  
ANSI/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.  
DSB-89: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

## Numbering System



**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/TP1 1 section 6.3 These truss designs rely on lumber values established by others.

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MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020



## 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 Tor 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/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 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/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.