



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

Re: 210346
Lot 18 W1

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: I46939772 thru I46939773

My license renewal date for the state of Missouri is December 31, 2021.

Missouri COA: Engineering 001193



July 12, 2021

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	Lot 18 W1	Units: 1.0	146939772
210346	A7	HIP	1	1		Eng: TH	

Wheeler Lumber, Waverly, KS - 66871,

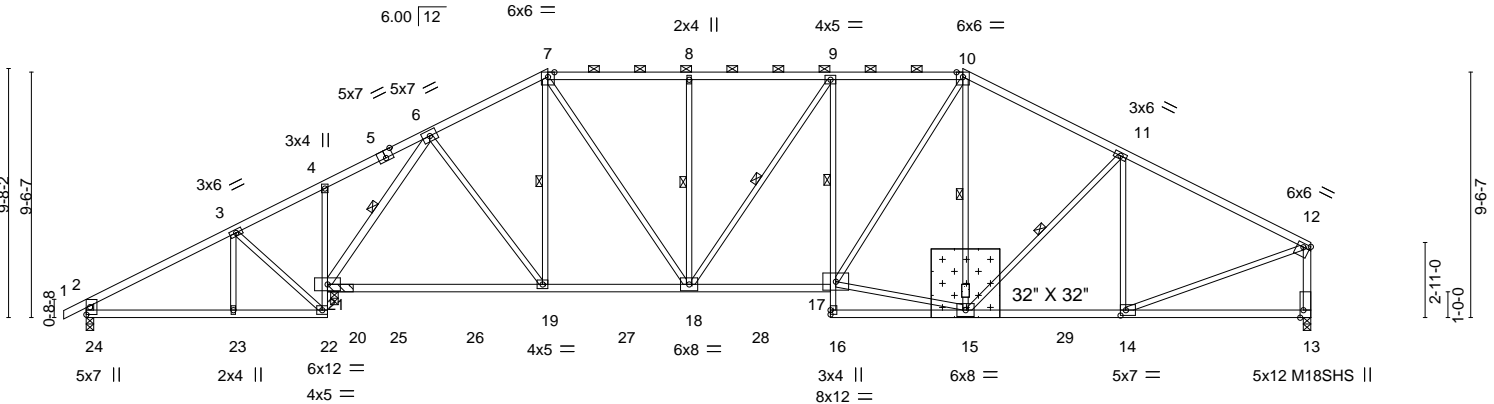
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Scale = 1:89.5

REPAIR: REPLACED 6" SECTION OF VERTICAL 10-15.



INSTALL 2 X 4 SPF/DF/SP NO.2 CUT TO FIT TIGHT.



ATTACH 7/16" OSB GUSSET (7/16" RATED SHEATHING 24/16 EXP 1) TO EACH FACE OF TRUSS WITH (0.131" X 2.5" MIN.) NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 X 3'S - 2 ROWS, 2 X 4'S - 3 ROWS, 2 X 6'S AND LARGER - 4 ROWS: SPACED @ 4" O.C. NAILS TO BE DRIVEN FROM BOTH FACES. STAGGER SPACING FROM FRONT TO BACK FACE FOR A NET 2" O.C. SPACING IN EACH COVERED TRUSS MEMBER. USE 2" MEMBER END DISTANCE.

<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> <div>5-8-105-8-109-4-83-7-159-6-00-1-817-11-48-5-423-5-25-5-1428-11-05-5-1434-0-125-1-1240-3-86-2-1247-7-07-3-9</div>												
Plate Offsets (X,Y)-- [5:0-3-8,Edge], [12:Edge,0-1-12], [13:0-3-8,Edge], [14:0-2-8,0-2-8]												
LOADING (psf)		SPACING- 2-0-0		CSI.		DEFL. in (loc) l/defl L/d				PLATES GRIP		
TCLL	25.0	Plate Grip DOL 1.15		TC	0.54	Vert(LL)	-0.22	19-21	>999	360	MT20	197/144
TCDL	20.0	Lumber DOL 1.15		BC	0.86	Vert(CT)	-0.39	19-21	>999	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr YES		WB	0.75	Horz(CT)	0.09	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.08	17-18	>999	240	Weight: 215 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except*
10-12: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except*
4-22,9-16: 2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except*
6-21,2-24,12-13: 2x4 SPF No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied or 3-10-6 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-11 max.): 7-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
1 Row at midpt 9-17
WEBS 1 Row at midpt 6-21, 7-19, 8-18, 9-18, 10-15, 11-15

REACTIONS.

(size) 24=0-3-8, 21=(0-3-8 + bearing block) (req. 0-4-9), 13=0-3-8
Max Horz 24=205(LC 7)
Max Uplift 24=80(LC 8), 21=201(LC 8), 13=175(LC 9)
Max Grav 24=512(LC 21), 21=2912(LC 2), 13=2184(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD 2-3=-407/109, 3-4=-61/348, 4-6=-36/366, 6-7=-2020/247, 7-8=-2375/319, 8-9=-2372/317, 9-10=-2596/337, 10-11=-2420/289, 11-12=-2478/208, 2-24=-470/118, 12-13=-2068/212
BOT CHORD 23-24=-143/260, 22-23=-143/260, 21-22=-82/416, 4-21=-309/116, 19-21=-148/1177, 18-19=-158/1749, 17-18=-210/2601, 9-17=-339/180, 14-15=-141/2118
WEBS 3-22=-586/144, 6-21=-2491/185, 6-19=-14/982, 7-19=-537/106, 7-18=-166/1176, 8-18=-561/176, 9-18=-438/53, 15-17=-109/2075, 10-17=-180/1053, 10-15=-340/149, 11-14=-583/130, 12-14=-113/2170

NOTES-

- 2x4 SPF No.2 bearing block 12" long at jt. 21 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be SPF No.2.
- 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=6.0psf; h=25ft; 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.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 80 lb uplift at joint 24, 201 lb uplift at joint 21 and 175 lb uplift at joint 13.
- 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.



July 12,2021

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



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Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 18 W1	Units: 1.0	146939773
210346	B1	Hip	1	1		Eng: TH	
Job Reference (optional)							

Wheeler Lumber, Waverly, KS - 66871,

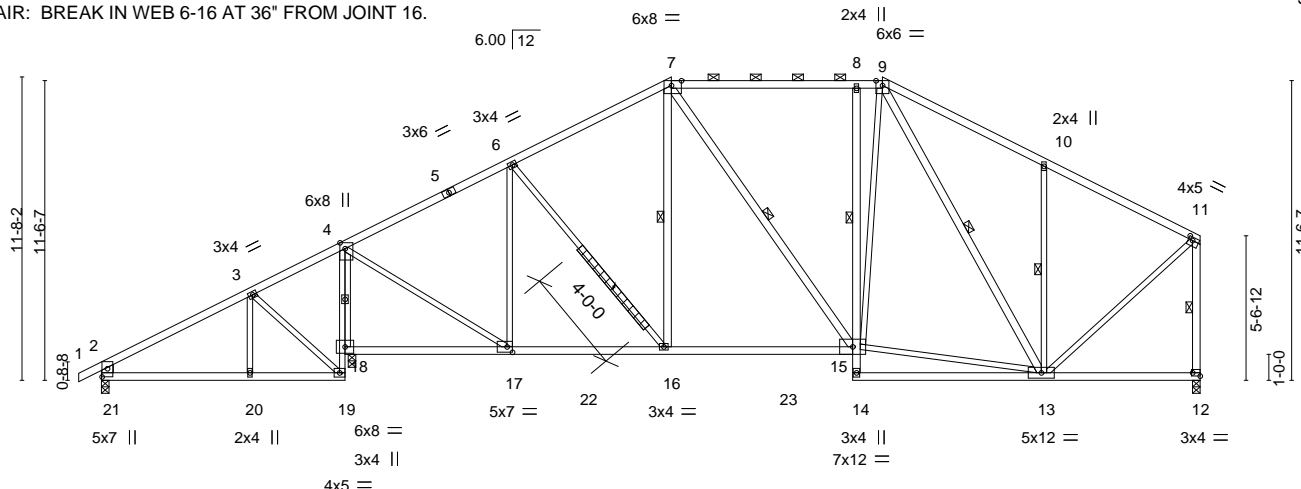
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-0-10-8	5-8-10	9-4-8	15-8-9	21-11-4	28-11-0	30-0-12	36-3-6	42-3-8
0-10-8	5-8-10	3-7-15	6-4-1	6-2-11	6-11-12	1-1-12	6-2-10	6-0-2

REPAIR: BREAK IN WEB 6-16 AT 36" FROM JOINT 16.

Scale = 1:88.7



APPLY 2 X 4 X 4' SPF/DF/SP NO.2 SCAB TO ONE FACE OF TRUSS CENTERED ON DAMAGE/SPLICE OR AS SHOWN. ATTACH WITH (0.131" X 3") NAILS PER THE FOLLOWING NAIL SCHEDULE: 2 x 3'S - 1 ROW, 2 x 4'S - 2 ROWS, 2 x 6'S AND LARGER - 3 ROWS: SPACED @ 2" O.C. USE 2" MEMBER END DISTANCE.

5-8-10	9-4-8	9-6-0	15-8-9	21-11-4	28-11-0	36-0-14	42-3-8
5-8-10	3-7-15	0-1-8	6-2-9	6-2-11	6-11-12	7-1-14	6-2-10

Plate Offsets (X,Y)-- [4:0-2-12,Edge], [7:0-4-10,Edge], [11:0-2-0,0-1-8], [12:Edge,0-1-8], [17:0-2-8,0-2-8], [21:0-3-13,0-2-8]

LOADING (psf)	SPACING-	2-0-0	CSI.	DEFL.	in (loc)	l/defl	L/d	PLATES	GRIP
TCLL 25.0	Plate Grip DOL	1.15	TC 0.88	Vert(LL)	-0.16 15-16	>999	360	MT20	197/144
TCDL 20.0	Lumber DOL	1.15	BC 0.73	Vert(CT)	-0.31 15-16	>999	240		
BCLL 0.0 *	Rep Stress Incr	YES	WB 0.92	Horz(CT)	0.05 12	n/a	n/a		
BCDL 10.0	Code IRC2018/TPI2014		Matrix-S	Wind(LL)	0.04 15-16	>999	240	Weight: 220 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 "Except"
4-19: 2x3 SPF No.2
WEBS 2x3 SPF No.2 "Except"
7-16,7-15,9-13,11-12: 2x4 SPF No.2, 2-21: 2x6 SPF No.2

REACTIONS.

(size) 21=0-3-8, 18=0-3-8 (req. 0-3-15), 12=0-3-8
Max Horz 21=306(LC 5)
Max Uplift 21=59(LC 8), 18=261(LC 8), 12=148(LC 9)
Max Grav 21=567(LC 16), 18=2497(LC 2), 12=1874(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD 2-3=-554/103, 4-6=-1650/180, 6-7=-1748/218, 7-8=-1493/212, 8-9=-1478/211,
9-10=-1396/262, 10-11=-1379/121, 2-21=-511/100, 11-12=-1789/171
BOT CHORD 20-21=-148/342, 19-20=-148/342, 18-19=-77/391, 4-18=-2006/220, 16-17=-142/1378,
15-16=-131/1464, 8-15=-629/233
WEBS 3-19=-530/136, 4-17=-61/1712, 6-17=-713/107, 7-16=-44/286, 13-15=-84/1320,
9-15=-187/976, 9-13=-564/101, 10-13=-600/269, 11-13=-93/1529

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=6.0psf; h=25ft; 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.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- WARNING: Required bearing size at joint(s) 18 greater than input bearing size.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 21, 261 lb uplift at joint 18 and 148 lb uplift at joint 12.
- 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.



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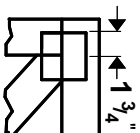
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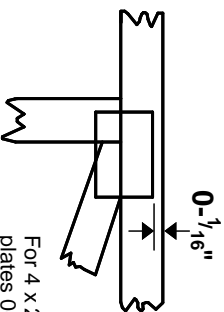
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Symbols

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- $\frac{1}{16}$ " 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

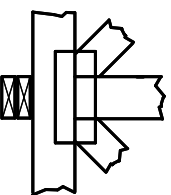
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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/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
BCSI: Connected Wood Trusses.

Numbering System

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

