



RELEASE FOR CONSTRUCTION  
AS NOTED ON PLANS REVIEW  
DEVELOPMENT SERVICES  
LEE'S SUMMIT, MISSOURI  
02/04/2022 4:25:12

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

Re: B220012  
Lot 142 CB

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: I49723899 thru I49723921

My license renewal date for the state of Missouri is December 31, 2022.

Missouri COA: Engineering 001193



January 17, 2022

Garcia, Juan ,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.

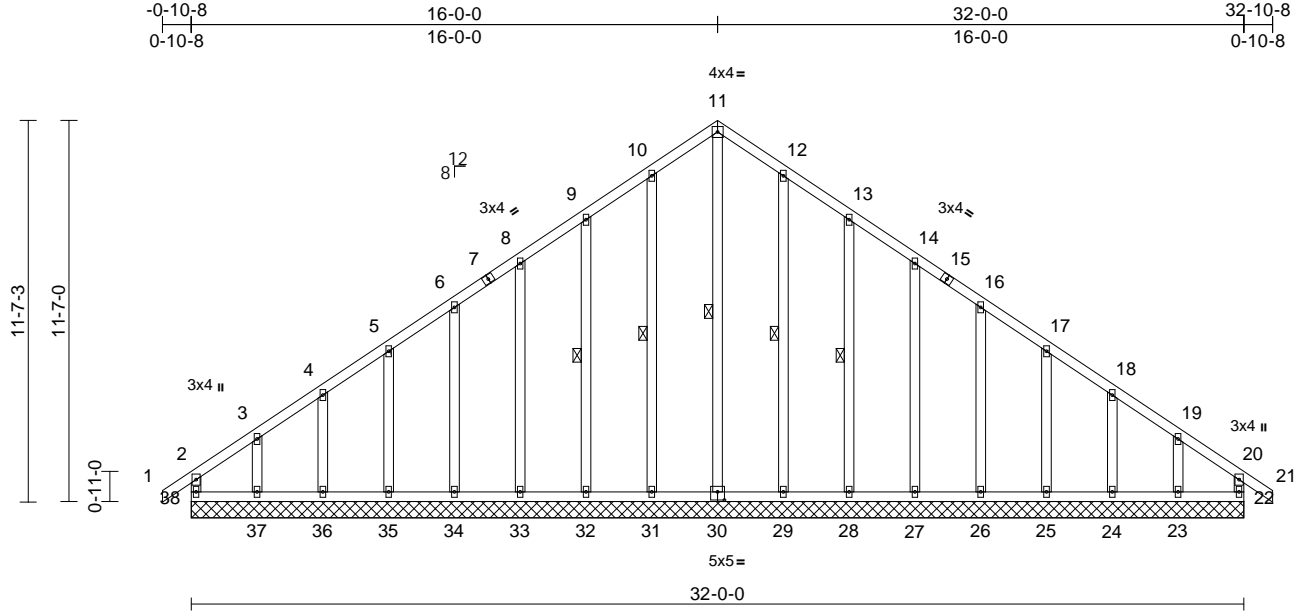
Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	A1	Common Supported Gable	1	1	Job Reference (optional)	I49723899

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:04

Page: 1

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Scale = 1:70

Plate Offsets (X, Y): [30:0-2-8,0-3-0]

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	0.11	Vert(LL)	n/a	-	n/a	999	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.01	22	n/a	n/a	
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-R							
Weight: 188 lb FT = 10%											

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 11-30, 10-31, 9-32, 12-29, 13-28

REACTIONS (lb/size)	22=166/32-0-0, 23=162/32-0-0, 24=184/32-0-0, 25=179/32-0-0, 26=180/32-0-0, 27=180/32-0-0, 28=179/32-0-0, 29=187/32-0-0, 30=162/32-0-0, 31=187/32-0-0, 32=179/32-0-0, 33=180/32-0-0, 34=180/32-0-0, 35=179/32-0-0, 36=184/32-0-0, 37=162/32-0-0, 38=166/32-0-0
Max Horiz	38=320 (LC 7)
Max Uplift	22=79 (LC 5), 23=156 (LC 9), 24=50 (LC 9), 25=75 (LC 9), 26=69 (LC 9), 27=69 (LC 9), 28=77 (LC 9), 29=56 (LC 9), 31=58 (LC 8), 32=76 (LC 8), 33=69 (LC 8), 34=69 (LC 8), 35=76 (LC 8), 36=46 (LC 8), 37=173 (LC 8), 38=140 (LC 4)

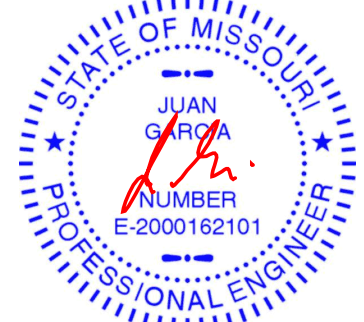
#### FORCES

TOP CHORD	(lb) - Maximum Compression/Maximum Tension 2-38=-210/118, 1-2=0/40, 2-3=-244/223, 3-4=-180/171, 4-5=-168/167, 5-6=-148/178, 6-8=-130/215, 8-9=-112/251, 9-10=-96/292, 10-11=-83/320, 11-12=-70/308, 12-13=-49/255, 13-14=-60/215, 14-16=-74/179, 16-17=-87/141, 17-18=-102/104, 18-19=-114/106, 19-20=-178/148, 20-21=0/40, 20-22=-172/69
BOT CHORD	37-38=-135/164, 36-37=-135/164, 35-36=-135/164, 34-35=-135/164, 33-34=-135/164, 32-33=-135/164, 31-32=-135/164, 29-31=-135/164, 28-29=-135/164, 27-28=-135/164, 26-27=-135/164, 25-26=-135/164, 24-25=-135/164, 23-24=-135/164, 22-23=-135/164
WEBS	11-30=-287/16, 10-31=-156/82, 9-32=-145/100, 8-33=-147/93, 6-34=-146/93, 5-35=-148/97, 4-36=-144/82, 3-37=-176/149, 12-29=-153/80, 13-28=-147/101, 14-27=-147/93, 16-26=-147/94, 17-25=-148/96, 18-24=-144/84, 19-23=-162/139

#### NOTES

- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.



January 17, 2022

Continued on page 2

**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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB
B220012	A1	Common Supported Gable	1	1	I49723899
					Job Reference (optional)

10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 38, 79 lb uplift at joint 22, 58 lb uplift at joint 31, 76 lb uplift at joint 32, 69 lb uplift at joint 33, 69 lb uplift at joint 34, 76 lb uplift at joint 35, 46 lb uplift at joint 36, 173 lb uplift at joint 37, 56 lb uplift at joint 29, 77 lb uplift at joint 28, 69 lb uplift at joint 27, 69 lb uplift at joint 26, 75 lb uplift at joint 25, 50 lb uplift at joint 24 and 156 lb uplift at joint 23.

**LOAD CASE(S)**    Standard

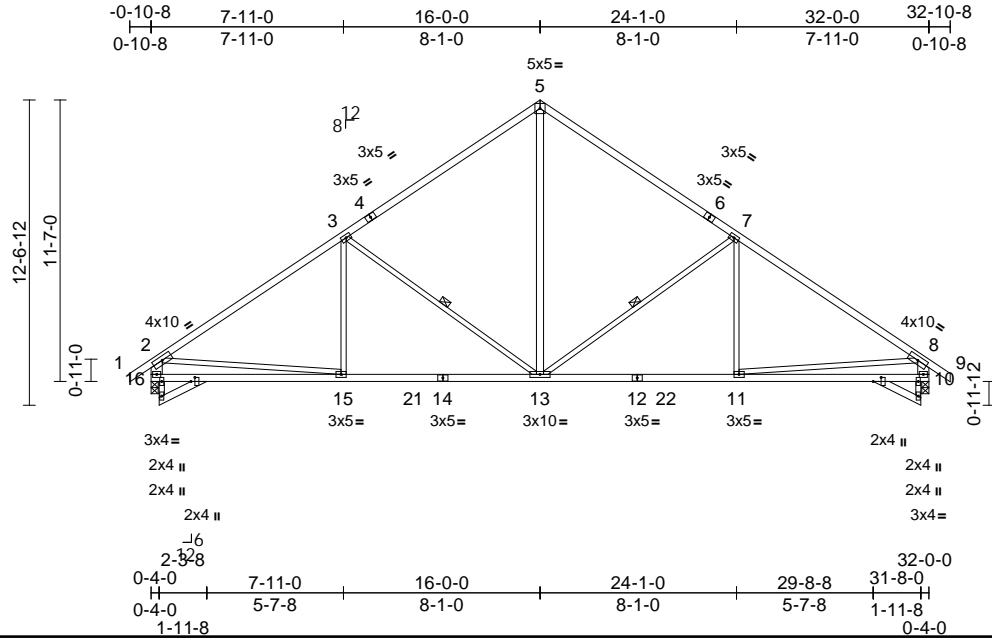
Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	A2	Common	6	1	Job Reference (optional)	I49723900

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:06

Page: 1

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Scale = 1:94.8

Plate Offsets (X, Y): [18:0-2-0,0-1-15], [19:0-2-0,0-3-15]

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	0.90	Vert(LL)	-0.11	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(TL)	-0.28	13-15	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.61	Horiz(TL)	0.06	10	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.05	13-15	>999	240	Weight: 141 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
 BOT CHORD 2x4 SPF No.2  
 WEBS 2x3 SPF No.2 \*Except\* 13-5:2x4 SPF No.2,  
 16-2,10-8:2x6 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 7-13, 3-13

REACTIONS (lb/size) 10=1497/0-3-8, 16=1497/0-3-8  
 Max Horiz 16=-322 (LC 6)  
 Max Uplift 10=-186 (LC 9), 16=-186 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-1925/229, 3-5=-1394/279,  
 5-7=-1394/279, 7-8=-1925/229, 8-9=0/43,  
 2-16=-1423/228, 8-10=-1423/227

BOT CHORD 15-16=-341/694, 13-15=-229/1630,  
 11-13=-56/1482, 10-11=-176/477

WEBS 5-13=-110/857, 7-13=-682/283, 7-11=0/260,  
 3-13=-682/284, 3-15=0/260, 2-15=0/1058,  
 8-11=0/1070

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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 3x5 MT20 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 16 and 186 lb uplift at joint 10.

LOAD CASE(S) Standard



January 17, 2022

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ANSI/TPI Quality Criteria, DSB-89 and BCSI Building Component

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16023 Swingley Ridge Rd  
 Chesterfield, MO 63017

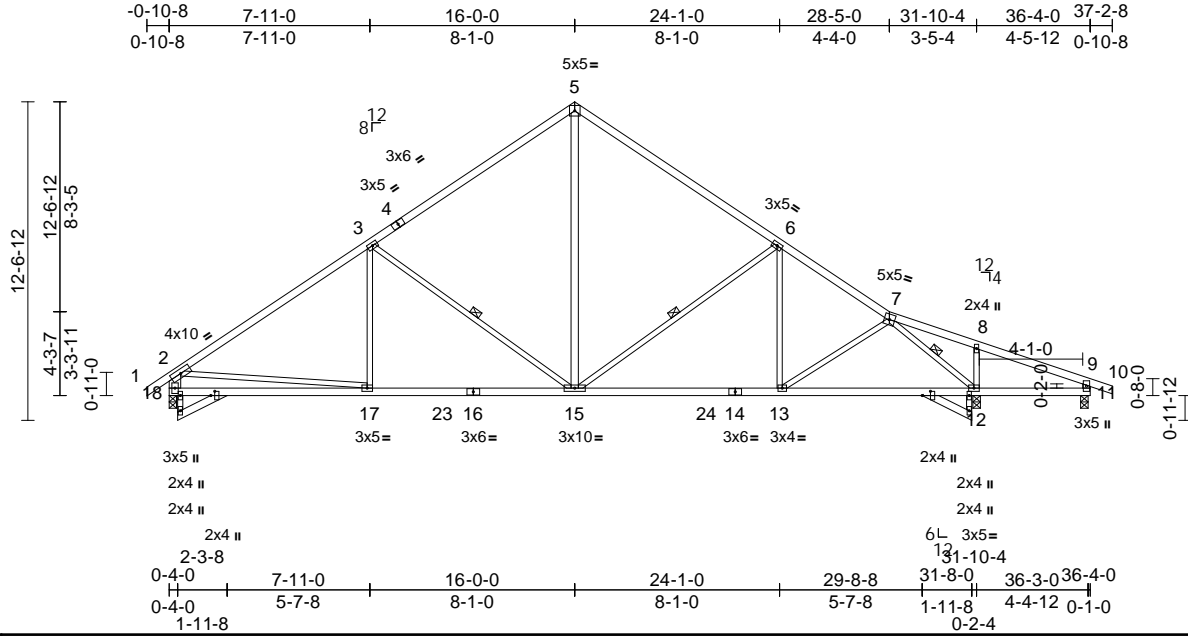
Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	A3	Roof Special	3	1	Job Reference (optional)	I49723901

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:07

Page: 1

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Scale = 1:90.9

Plate Offsets (X, Y): [20:0-2-0,0-1-15], [21:0-2-0,0-3-15]

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	0.98	Vert(LL)	-0.11	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(TL)	-0.28	13-15	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.62	Horiz(TL)	0.07	12	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.06	13-15	>999	240	Weight: 152 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
 BOT CHORD 2x4 SPF No.2  
 WEBS 2x3 SPF No.2 \*Except\* 15-5,11-9:2x4 SPF No.2, 18-2:2x6 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 3-15, 6-15, 7-12

**REACTIONS** (lb/size) 11=113/0-3-8, 12=1792/0-3-8, 18=1480/0-3-8  
 Max Horiz 18=330 (LC 6)  
 Max Uplift 11=127 (LC 5), 12=196 (LC 9), 18=187 (LC 8)  
 Max Grav 11=145 (LC 20), 12=1792 (LC 1), 18=1480 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-1898/230, 3-5=-1366/280, 5-6=-1363/278, 6-7=-1705/243, 7-8=0/318, 8-9=-6/327, 9-10=0/23, 2-18=-1406/229, 9-11=-136/142

BOT CHORD 17-18=-347/698, 15-17=-235/1612, 13-15=-59/1403, 12-13=-111/1226, 11-12=-246/27

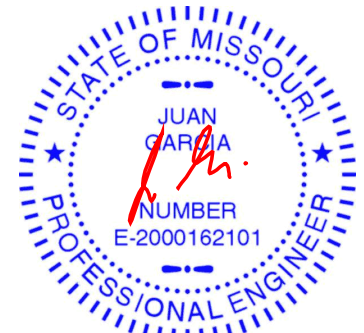
WEBS 3-17=0/262, 3-15=-683/283, 5-15=-109/819, 6-15=-576/277, 6-13=0/203, 8-12=-370/158, 2-17=0/1028, 7-13=0/274, 7-12=-1919/171

#### NOTES

1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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 3-06-00 tall by 2-00-00 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 187 lb uplift at joint 18, 196 lb uplift at joint 12 and 127 lb uplift at joint 11.

**LOAD CASE(S)** Standard



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



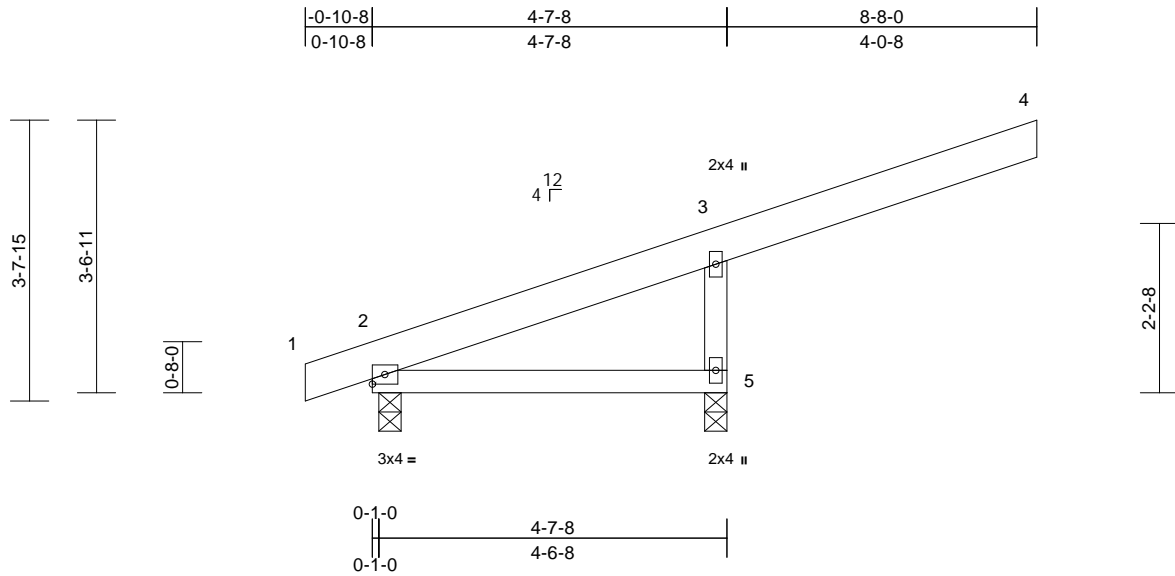
16023 Swingley Ridge Rd  
 Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	A4	Monopitch Structural Gable	1	1	Job Reference (optional)	149723902

Wheeler Lumber, Waverly, KS - 66871,

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Page: 1



Scale = 1:30

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	0.57	Vert(LL)	-0.02	2-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	-0.05	2-5	>984	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-P							Weight: 25 lb	FT = 10%

#### LUMBER

TOP CHORD 2x6 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or  
4-7-8 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc  
bracing.

**REACTIONS** (lb/size) 2=133/0-3-8, 5=621/0-3-8  
Max Horiz 2=137 (LC 5)  
Max Uplift 2=-4 (LC 4), 5=-239 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum  
Tension

TOP CHORD 1-2=0/1, 2-3=-139/108, 3-4=-93/0,  
3-5=-578/265

BOT CHORD 2-5=-25/19

#### NOTES

- 1) Wind: ASCE 7-10; Vult=115mph (3-second gust) V  
(IRC2012)=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
- 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) Gable studs spaced at 2-0-0 oc.
- 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.
- 6) Provide mechanical connection (by others) of truss to  
bearing plate capable of withstanding 239 lb uplift at  
joint 5 and 4 lb uplift at joint 2.

**LOAD CASE(S)** Standard



January 17, 2022

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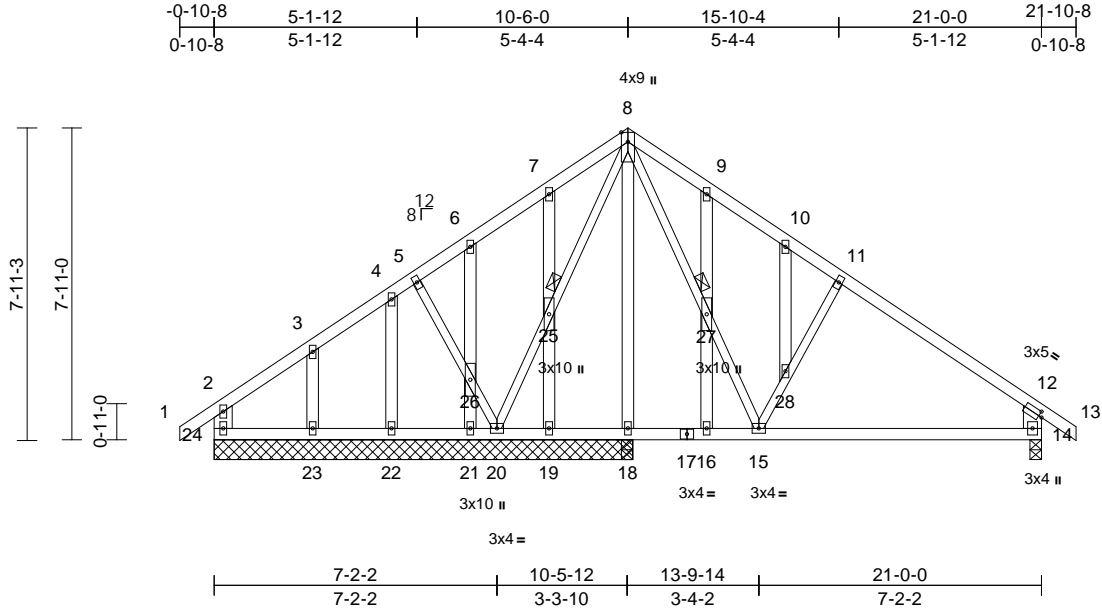


Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	149723903
B220012	B1	Common Structural Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:07  
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Page: 1



Scale = 1:58.5

Plate Offsets (X, Y): [12:0-1-0,0-1-8]

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	0.31	Vert(LL)	-0.06	14-15	>999	360	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(TL)	-0.14	14-15	>869	240	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.43	Horiz(TL)	0.00	14	n/a	n/a	
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.01	16	>999	240	Weight: 115 lb FT = 10%

<b>LUMBER</b>		
TOP CHORD	2x4 SPF No.2	
BOT CHORD	2x4 SPF No.2	
WEBS	2x3 SPF No.2 *Except* 24-2,14-12:2x6 SPF No.2	
OTHERS	2x4 SPF No.2	
<b>BRACING</b>		
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing, Except:	
	10-0-0 oc bracing: 14-15.	
JOINTS	1 Brace at Jt(s): 25, 27	
<b>REACTIONS</b>	(lb/size)	14=498/0-3-8, 18=609/10-7-8, 19=123/10-7-8, 20=210/10-7-8, 21=117/10-7-8, 22=87/10-7-8, 23=224/10-7-8, 24=135/10-7-8
	Max Horiz	24=224 (LC 6)
	Max Uplift	14=128 (LC 9), 19=55 (LC 8), 20=39 (LC 9), 21=36 (LC 8), 22=13 (LC 4), 23=122 (LC 8), 24=35 (LC 4)
	Max Grav	14=499 (LC 20), 18=609 (LC 1), 19=172 (LC 19), 20=210 (LC 1), 21=143 (LC 19), 22=127 (LC 19), 23=264 (LC 15), 24=170 (LC 19)
<b>FORCES</b>		
	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/43, 2-3=-69/131, 3-4=-36/101, 4-5=-35/115, 5-6=-27/155, 6-7=-20/184, 7-8=0/189, 8-9=-245/249, 9-10=-230/202, 10-11=-258/172, 11-12=-409/151, 12-13=0/43, 2-24=-150/46, 12-14=-434/170	

<b>BOT CHORD</b>	23-24=-155/149, 22-23=-155/149, 21-22=-155/149, 20-21=-155/149, 19-20=-103/114, 18-19=-103/114, 16-18=-109/113, 15-16=-109/113, 14-15=-31/254
	8-27=-147/486, 15-27=-151/518, 20-25=-136/56, 8-25=-142/58, 15-28=-284/195, 11-28=-246/168, 5-26=-119/83, 20-26=-133/92, 8-18=-451/0, 7-25=-159/94, 19-25=-161/90, 6-26=-119/67, 21-26=-113/56, 4-22=-87/31, 3-23=-198/133, 9-27=-135/62, 16-27=-169/67, 10-28=-45/30
<b>WEBS</b>	8-27=-147/486, 15-27=-151/518, 20-25=-136/56, 8-25=-142/58, 15-28=-284/195, 11-28=-246/168, 5-26=-119/83, 20-26=-133/92, 8-18=-451/0, 7-25=-159/94, 19-25=-161/90, 6-26=-119/67, 21-26=-113/56, 4-22=-87/31, 3-23=-198/133, 9-27=-135/62, 16-27=-169/67, 10-28=-45/30

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 14, 39 lb uplift at joint 20, 35 lb uplift at joint 24, 55 lb uplift at joint 19, 36 lb uplift at joint 21, 13 lb uplift at joint 22 and 122 lb uplift at joint 23.

**LOAD CASE(S)** Standard

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



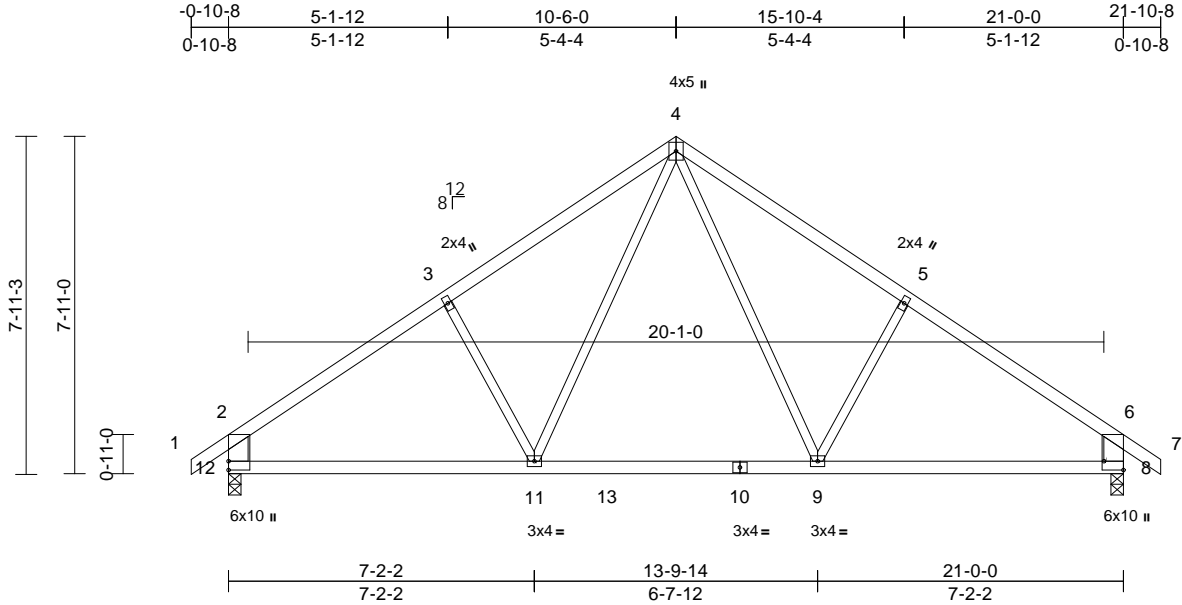
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job B220012	Truss B2	Truss Type Common	Qty 6	Ply 1	Lot 142 CB Job Reference (optional)	I49723904
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Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:08  
ID:fh5rZ\_PXubbUwnLLjXQU9mzvy1K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:54.1

Plate Offsets (X, Y): [8:Edge,0-5-8]												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.20	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(TL)	-0.37	9-11	>669	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.08	9-11	>999	240	Weight: 78 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 12-2,8-6:2x6 SPF No.2

5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 12 and 129 lb uplift at joint 8.

**LOAD CASE(S)** Standard

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 2-2-1 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 8=1002/0-3-8, 12=1002/0-3-8  
Max Horiz 12=227 (LC 6)  
Max Uplift 8=129 (LC 9), 12=129 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/43, 2-3=-1173/157, 3-4=-1006/216, 4-5=-1006/216, 5-6=-1173/158, 6-7=0/43, 2-12=-908/167, 6-8=-908/167  
BOT CHORD 11-12=-149/955, 9-11=0/675, 8-9=-41/856  
WEBS 4-9=-121/416, 5-9=-245/221, 4-11=-121/418, 3-11=-245/221

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
  - 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd  
Chesterfield, MO 63017

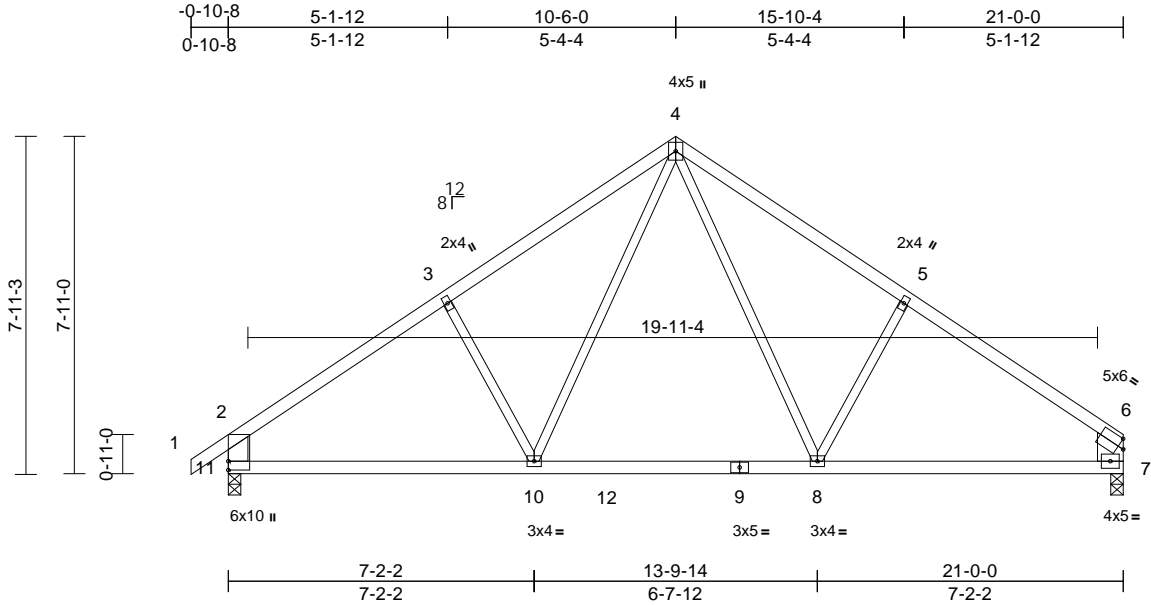


Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	B3	Common	4	1	Job Reference (optional)	I49723905

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:08  
ID:fh5rZ\_PXubbUwnLLjXQU9mzvY1K-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.23	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(TL)	-0.44	8-10	>562	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.10	8-10	>999	240	Weight: 77 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 11-2:2x6 SPF No.2,  
7-6:2x8 SP DSS

#### LOAD CASE(S) Standard

#### BRACING

TOP CHORD Structural wood sheathing directly applied or  
2-2-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc  
bracing.

**REACTIONS** (lb/size) 7=919/0-3-8, 11=1000/0-3-8  
Max Horiz 11=221 (LC 7)  
Max Uplift 7=-103 (LC 9), 11=-129 (LC 8)

**FORCES** (lb) - Maximum Compression/Maximum  
Tension  
TOP CHORD 1-2=0/43, 2-3=-1173/157, 3-4=-1006/216,  
4-5=-994/214, 5-6=-1157/155,  
2-11=-908/167, 6-7=-807/137  
BOT CHORD 10-11=-162/945, 8-10=-10/661, 7-8=-68/853  
WEBS 4-8=-118/400, 5-8=-257/222, 4-10=-122/427,  
3-10=-244/221

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 11 and 103 lb uplift at joint 7.



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



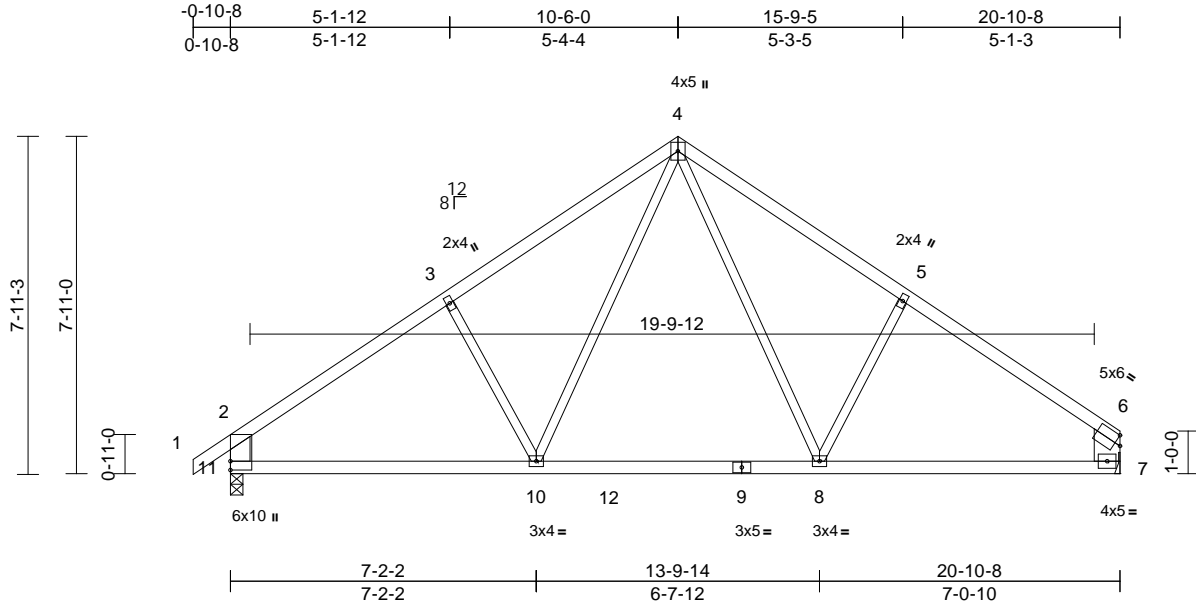
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	B4	Common	3	1	Job Reference (optional)	I49723906

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:08  
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Page: 1



Scale = 1:54.1

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)	-0.24	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(TL)	-0.46	8-10	>529	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.11	8-10	>999	240	Weight: 77 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 11-2:2x6 SPF No.2,  
7-6:2x8 SP DSS

6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 11 and 101 lb uplift at joint 7.

LOAD CASE(S) Standard

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 7=913/ Mechanical, 11=995/0-3-8  
Max Horiz 11=222 (LC 5)  
Max Uplift 7=-101 (LC 9), 11=-128 (LC 8)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/43, 2-3=-1165/157, 3-4=-999/215,  
4-5=-949/213, 5-6=-1128/151,  
2-11=-903/166, 6-7=-797/135  
BOT CHORD 10-11=-162/939, 8-10=-10/654, 7-8=-66/824  
WEBS 4-8=-118/379, 5-8=-244/219, 4-10=-122/430,  
3-10=-244/221

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.



January 17, 2022

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



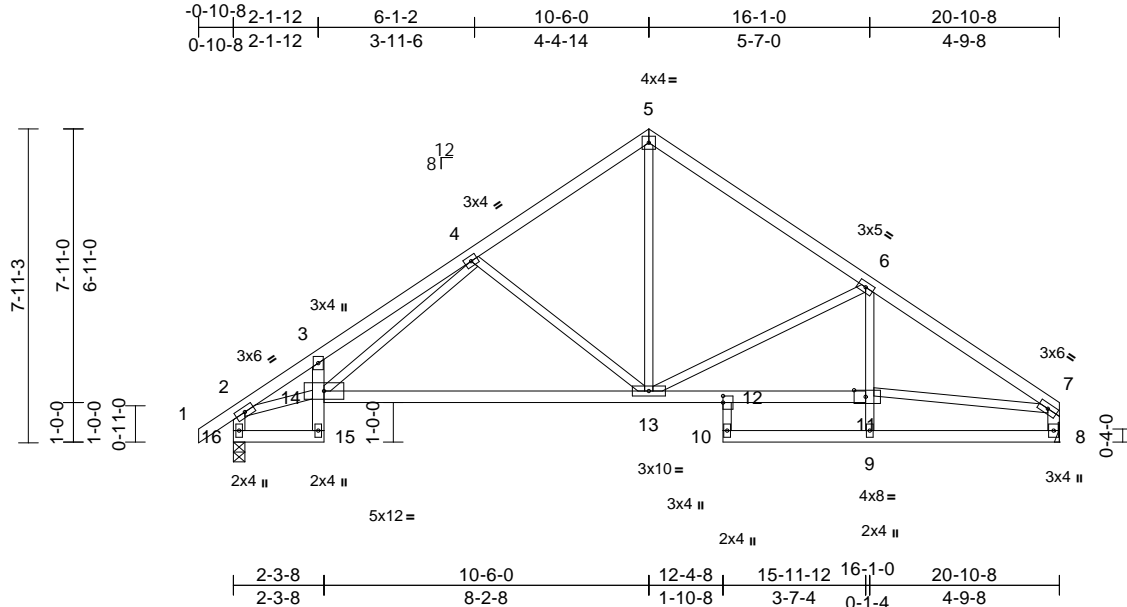
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	B5	Roof Special	1	1	Job Reference (optional)	I49723907

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:08  
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Page: 1



Scale = 1:58.2

Plate Offsets (X, Y): [11:0-3-8,0-2-0], [12:0-2-0,Edge]

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	0.36	Vert(LL)	-0.15	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(TL)	-0.41	13-14	>605	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.48	Horiz(TL)	0.11	8	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.06	13-14	>999	240	Weight: 89 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2 \*Except\* 12-10:2x3 SPF No.2  
WEBS 2x3 SPF No.2 \*Except\* 16-2,8-7:2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-11-14 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 8=924/ Mechanical, 16=999/0-3-8  
Max Horiz 16=220 (LC 5)  
Max Uplift 8=103 (LC 9), 16=128 (LC 8)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/40, 2-3=-1811/259, 3-4=-1963/380, 4-5=-997/163, 5-6=-1021/176, 6-7=-1478/164, 2-16=-970/155, 7-8=-867/129  
BOT CHORD 15-16=-95/165, 14-15=-21/52, 3-14=-243/140, 13-14=-178/1100, 12-13=-83/1175, 11-12=-67/1058, 10-12=0/74, 9-10=-16/117, 8-9=-16/137  
WEBS 4-14=-187/819, 4-13=-462/229, 5-13=-79/675, 6-13=-498/215, 9-11=0/160, 6-11=0/181, 2-14=-218/1360, 7-11=-67/1031

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 128 lb uplift at joint 16 and 103 lb uplift at joint 8.

**LOAD CASE(S)** Standard



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

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16023 Swingley Ridge Rd  
Chesterfield, MO 63017

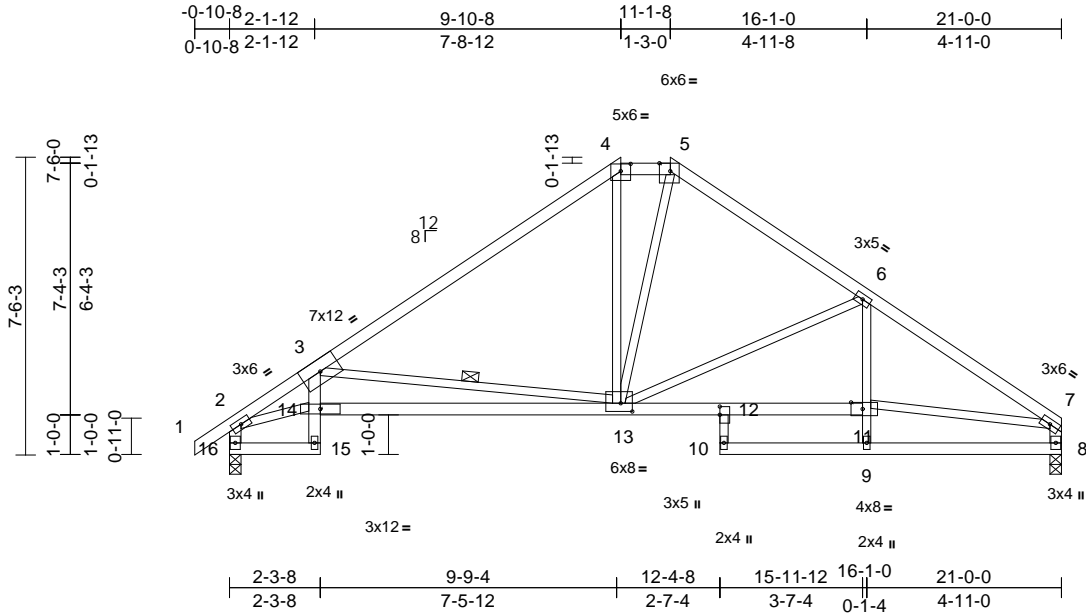
Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	B6	Hip	1	1	Job Reference (optional)	I49723908

Wheeler Lumber, Waverly, KS - 66671,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:09

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Scale = 1:58.2									
Plate Offsets (X, Y): [4:0-3-0,0-2-3], [5:0-3-5,Edge], [11:0-3-8,0-2-0], [12:0-2-8,Edge], [13:0-3-8,0-2-8]									
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in (loc)	l/defl	L/d
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.12 13-14	>999	360
TCDL	10.0	Lumber DOL	1.15	BC	0.68	Vert(TL)	-0.33 13-14	>748	240
BCLL	0.0*	Rep Stress Incr	YES	WB	0.67	Horiz(TL)	0.14 8	n/a	n/a
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.07 13-14	>999	240
							<b>PLATES</b>	<b>GRIP</b>	
							MT20	197/144	
							Weight: 91 lb	FT = 10%	

<b>LUMBER</b>		
TOP CHORD	2x4 SPF No.2	
BOT CHORD	2x4 SPF No.2 *Except* 12-10:2x3 SPF No.2	
WEBS	2x3 SPF No.2 *Except* 16-2,8-7:2x4 SPF No.2	
<b>BRACING</b>		
TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-10-11 max.): 4-5.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 14-15 8-1-12 oc bracing: 13-14.	
WEBS	1 Row at midpt 3-13	
<b>REACTIONS</b> (lb/size) 8=930/0-3-8, 16=1005/0-3-8 Max Horiz 16=206 (LC 5) Max Uplift 8=102 (LC 9), 16=125 (LC 8)		
<b>FORCES</b> (lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/40, 2-3=-1919/314, 3-4=-1152/132, 4-5=-831/179, 5-6=-1009/161, 6-7=-1508/153, 2-16=-954/139, 7-8=-874/129	
BOT CHORD	15-16=-93/174, 14-15=-26/38, 3-14=0/317, 13-14=-513/2009, 12-13=-68/1197, 11-12=-49/1066, 10-12=0/67, 9-10=-19/131, 8-9=20/156	
WEBS	3-13=-1228/499, 4-13=-22/286, 5-13=-129/428, 6-13=-504/195, 9-11=0/174, 6-11=0/217, 2-14=-280/1470, 7-11=-48/1031	

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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

- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 16 and 102 lb uplift at joint 8.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



January 17, 2022

**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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



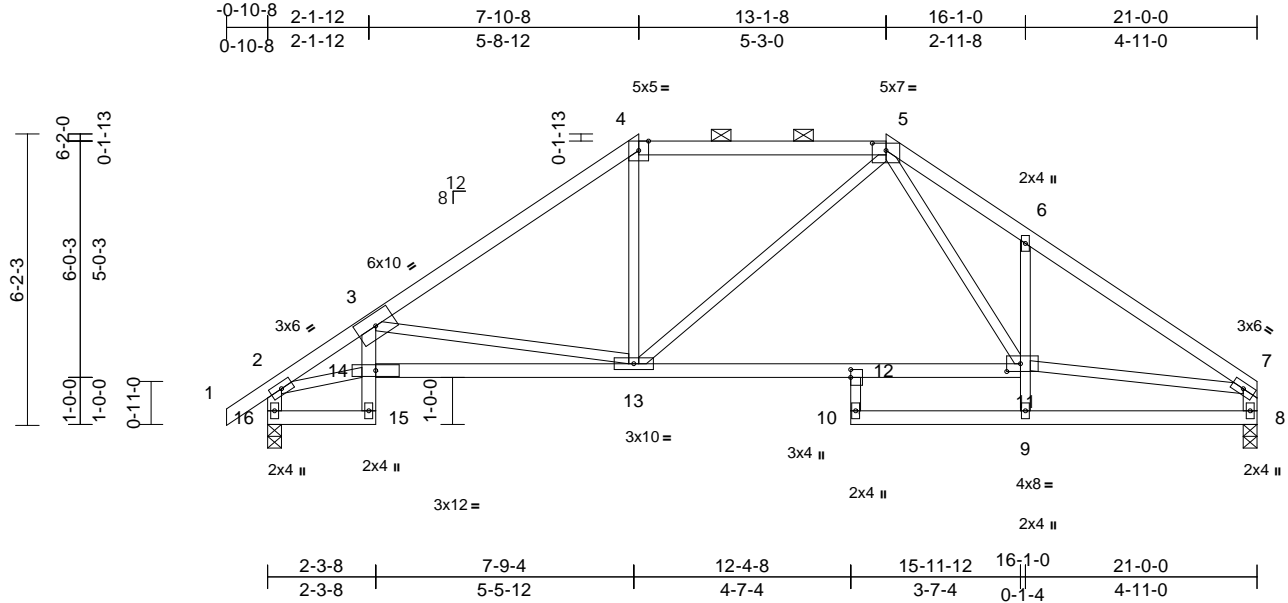
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	B7	Hip	1	1	Job Reference (optional)	I49723909

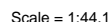
Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:09  
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Page: 1





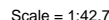
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**WARNING:** - verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE MMF/473 Rev. 3/19/2020 BEFORE USE.

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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

16023 Swingley Ridge Rd  
Chesterfield, MO 63017



Page: 1

**WARNING -** Velly design parameters and READ NOTES ON THIS AND INCLUDED WITHIN KEY EXERCISE 1 AGE MH-475 (Rev. 3/19/2020) 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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

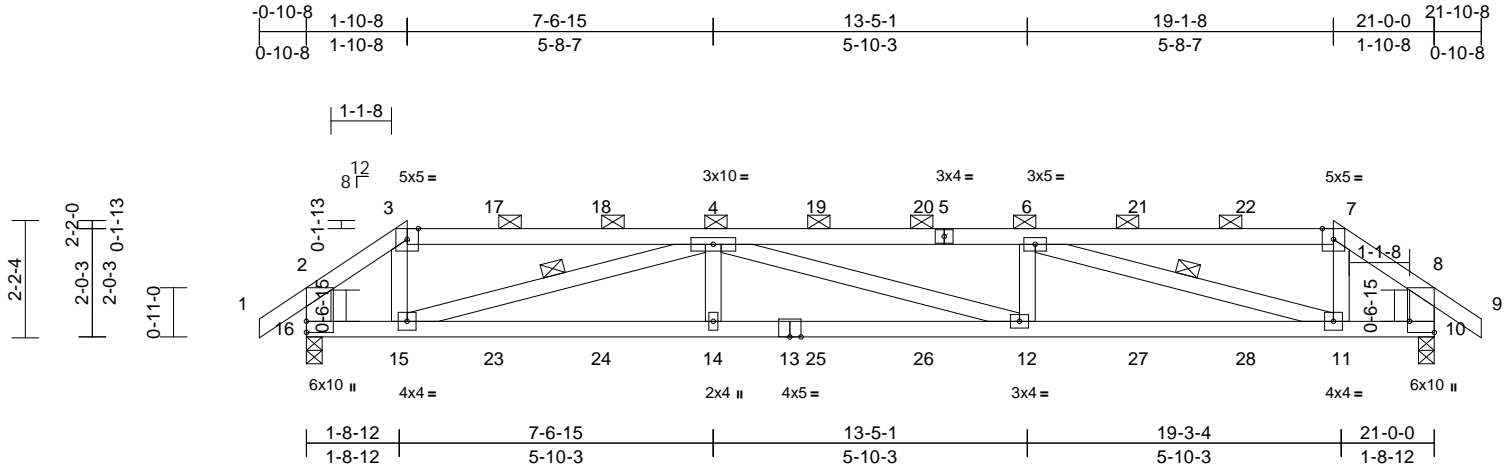
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	I49723912
B220012	B10	Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:10  
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Scale = 1:42.9

Plate Offsets (X, Y): [10:Edge,0-5-8]

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	0.72	Vert(LL)	-0.20	12-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(TL)	-0.46	12-14	>540	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.40	Horiz(TL)	0.10	10	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S		Wind(LL)	0.21	12-14	>999	240	Weight: 80 lb	FT = 10%

**LUMBER**  
TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2 \*Except\* 16-2,10-8:2x6 SPF No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 4-6-1 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-8 max.): 3-7.  
BOT CHORD Rigid ceiling directly applied or 6-6-5 oc bracing.  
WEBS 1 Row at midpt 4-15, 6-11

**REACTIONS** (lb/size) 10=994/0-3-8, 16=994/0-3-8  
Max Horiz 16=75 (LC 7)  
Max Uplift 10=261 (LC 4), 16=264 (LC 5)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/43, 2-3=-1016/306, 3-4=-723/245, 4-6=-2613/820, 6-7=-723/243, 7-8=-1016/304, 8-9=0/43, 2-16=-785/201, 8-10=-785/199  
BOT CHORD 15-16=-260/755, 14-15=-825/2613, 12-14=-825/2613, 11-12=-815/2613, 10-11=-227/756  
WEBS 3-15=-78/436, 4-15=-1975/616, 4-14=0/243, 4-12=-14/11, 6-12=0/243, 6-11=-1975/621, 7-11=-81/437

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 264 lb uplift at joint 16 and 261 lb uplift at joint 10.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 74 lb down and 52 lb up at 1-10-8, 65 lb down and 26 lb up at 3-6-0, 65 lb down and 26 lb up at 5-6-0, 65 lb down and 26 lb up at 7-6-0, 65 lb down and 26 lb up at 9-6-0, 65 lb down and 26 lb up at 11-6-0, 65 lb down and 26 lb up at 13-6-0, 65 lb down and 26 lb up at 15-6-0, and 65 lb down and 26 lb up at 17-6-0, and 57 lb down and 28 lb up at 19-1-8 on top chord, and 17 lb down and 13 lb up at 1-10-8, 11 lb down and 13 lb up at 3-6-0, 11 lb down and 13 lb up at 5-6-0, 11 lb down and 13 lb up at 7-6-0, 11 lb down and 13 lb up at 9-6-0, 11 lb down and 13 lb up at 11-6-0, 11 lb down and 13 lb up at 13-6-0, 11 lb down and 13 lb up at 15-6-0, and 11 lb down and 13 lb up at 17-6-0, and 17 lb down and 13 lb up at 19-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-2=-70, 2-3=-70, 3-7=-70, 7-8=-70, 8-9=-70, 10-16=-20  
Concentrated Loads (lb)

Vert: 15=3 (B), 14=1 (B), 12=1 (B), 11=3 (B), 23=1 (B), 24=1 (B), 25=1 (B), 26=1 (B), 27=1 (B), 28=1 (B)



January 17, 2022

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



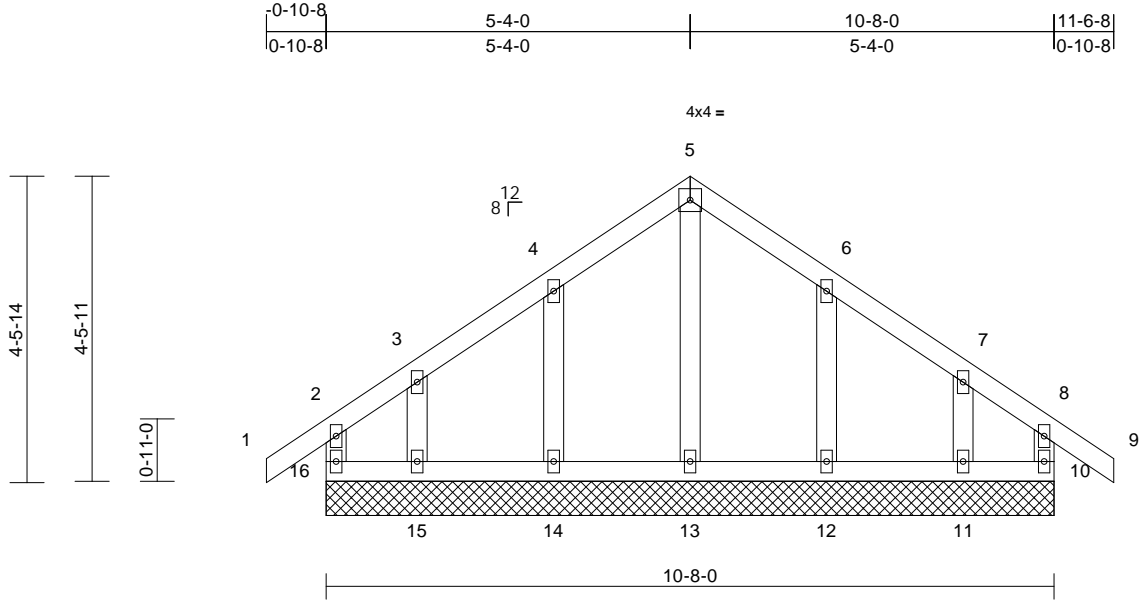
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	149723913
B220012	C1	Common Supported Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:11  
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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	0.07	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	10	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-R						Weight: 44 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x4 SPF No.2

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

<b>REACTIONS</b> (lb/size)	10=128/10-8-0, 11=125/10-8-0, 12=198/10-8-0, 13=176/10-8-0, 14=198/10-8-0, 15=125/10-8-0, 16=128/10-8-0
Max Horiz	16=135 (LC 6)
Max Uplift	10=40 (LC 5), 11=82 (LC 9), 12=73 (LC 9), 14=72 (LC 8), 15=86 (LC 8), 16=58 (LC 4)
Max Grav	10=133 (LC 20), 11=161 (LC 16), 12=202 (LC 16), 13=176 (LC 1), 14=202 (LC 15), 15=170 (LC 15), 16=142 (LC 16)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-16=-121/46, 1-2=0/40, 2-3=-75/77, 3-4=-53/82, 4-5=-45/114, 5-6=-37/108, 6-7=-39/77, 7-8=-54/59, 8-9=0/40, 8-10=-121/32
BOT CHORD	15-16=-64/66, 14-15=-64/66, 13-14=-64/66, 12-13=-64/66, 11-12=-64/66, 10-11=-64/66
WEBS	5-13=-137/0, 4-14=-162/99, 3-15=-120/90, 6-12=-163/100, 7-11=-116/88

#### NOTES

- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 16, 40 lb uplift at joint 10, 72 lb uplift at joint 14, 86 lb uplift at joint 15, 73 lb uplift at joint 12 and 82 lb uplift at joint 11.

**LOAD CASE(S)** Standard



January 17, 2022

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**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



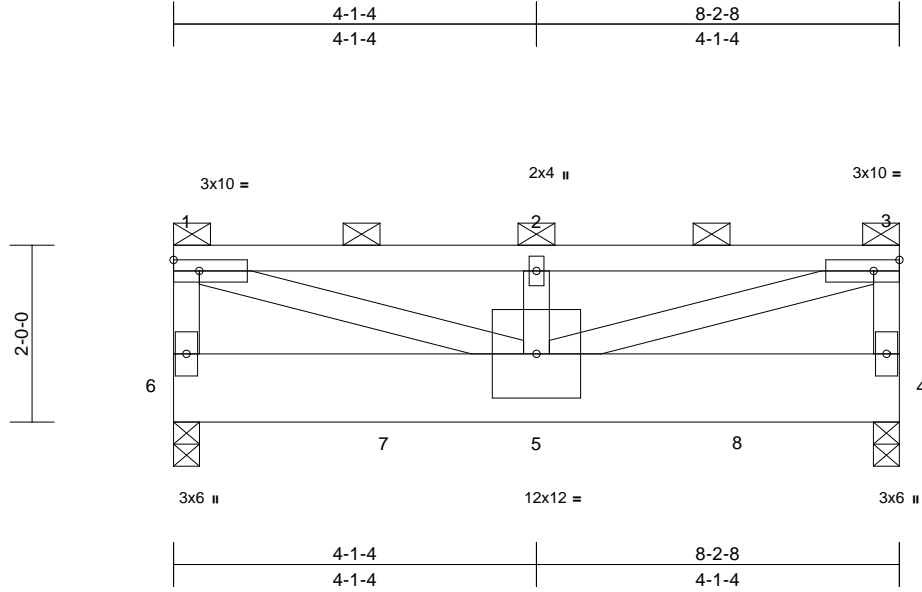
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	G1	Flat Girder	1	1	Job Reference (optional)	I49723914

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:11  
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Page: 1



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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	0.42	Vert(LL)	-0.05	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(TL)	-0.10	5	>908	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.57	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-P		Wind(LL)	0.03	5	>999	240	Weight: 53 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x10 SP DSS  
WEBS 2x4 SPF No.2

#### BRACING

TOP CHORD 2-0-0 oc purlins (3-7-13 max.): 1-3, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 4=1758/0-3-8, 6=2547/0-3-8  
Max Horiz 6=56 (LC 5)  
Max Uplift 4=249 (LC 5), 6=344 (LC 4)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-6=-927/161, 1-2=-2171/299,  
2-3=-2171/299, 3-4=-927/161

BOT CHORD 5-6=-49/44, 4-5=-21/16

WEBS 1-5=-332/2316, 2-5=-311/156, 3-5=-332/2316

#### NOTES

- 1) Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 2) Provide adequate drainage to prevent water ponding.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 344 lb uplift at joint 6 and 249 lb uplift at joint 4.
- 6) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

- 7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 912 lb down and 111 lb up at 0-1-12, 893 lb down and 113 lb up at 2-4-8, and 893 lb down and 113 lb up at 4-4-8, and 893 lb down and 113 lb up at 6-4-8 on bottom chord. The design/selection of such connection device (s) is the responsibility of others.
- 8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-70, 4-6=-20  
Concentrated Loads (lb)  
Vert: 6=-912 (F), 5=-893 (F), 7=-893 (F), 8=-893 (F)



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

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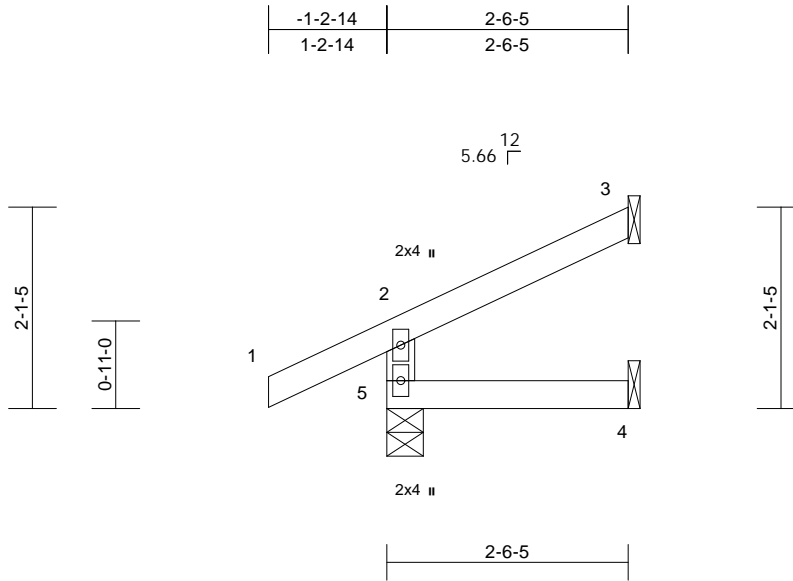
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	J1	Diagonal Hip Girder	2	1	Job Reference (optional)	I49723915

Wheeler Lumber, Waverly, KS - 66871,

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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	0.15	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 8 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or  
2-6-5 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc  
bracing.

**REACTIONS** (lb/size) 3=57/ Mechanical, 4=18/  
Mechanical, 5=230/0-4-9  
Max Horiz 5=58 (LC 8)  
Max Uplift 3=40 (LC 8), 5=35 (LC 8)  
Max Grav 3=57 (LC 1), 4=42 (LC 3), 5=230  
(LC 1)

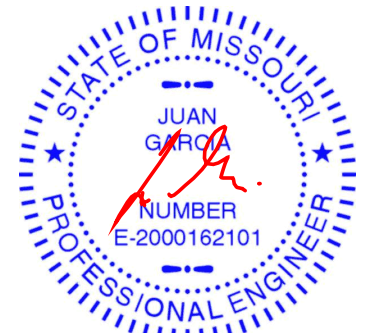
**FORCES** (lb) - Maximum Compression/Maximum  
Tension

TOP CHORD 2-5=202/59, 1-2=0/41, 2-3=47/18  
BOT CHORD 4-5=0/0

#### NOTES

- 1) Wind: ASCE 7-10; Vult=115mph (3-second gust) V  
(IRC2012)=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
- 2) This truss has been designed for a 10.0 psf bottom  
chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to  
bearing plate capable of withstanding 35 lb uplift at joint  
5 and 40 lb uplift at joint 3.

**LOAD CASE(S)** Standard



January 17, 2022

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16023 Swingley Ridge Rd  
Chesterfield, MO 63017



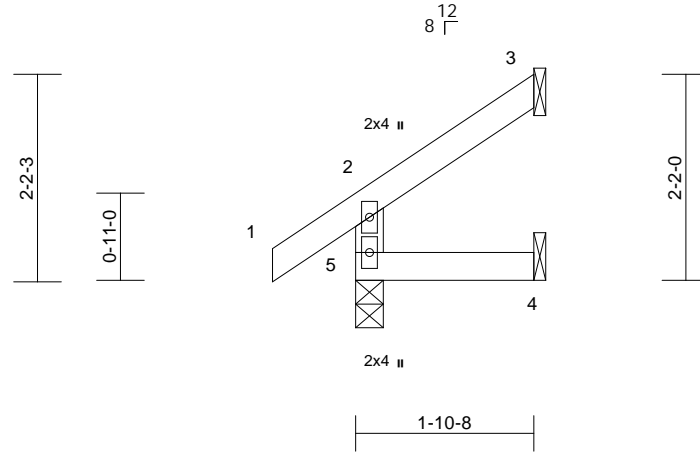
Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	J2	Jack-Open	10	1	Job Reference (optional)	I49723916

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:11  
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Page: 1

-0-10-8	1-10-8
0-10-8	1-10-8



Scale = 1:24.2

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	0.07	Vert(LL)	0.00	4-5	>999	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	0.00	4-5	>999	240	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-R							Weight: 7 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
WEBS 2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 1-10-8 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 3=42/ Mechanical, 4=14/ Mechanical, 5=170/0-3-8  
Max Horiz 5=61 (LC 8)  
Max Uplift 3=-41 (LC 8), 4=-4 (LC 8), 5=-7 (LC 8)  
Max Grav 3=50 (LC 15), 4=31 (LC 3), 5=170 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-149/32, 1-2=0/40, 2-3=-49/22  
BOT CHORD 4-5=0/0

#### NOTES

- 1) Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) \* 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.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 5, 4 lb uplift at joint 4 and 41 lb uplift at joint 3.

**LOAD CASE(S)** Standard



January 17, 2022

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

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd  
Chesterfield, MO 63017

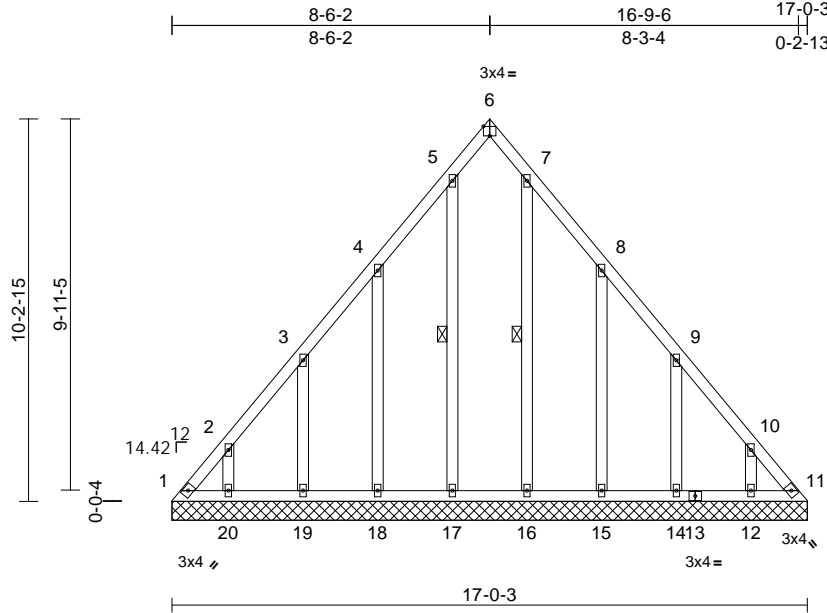


Job B220012	Truss LAY1	Truss Type Lay-In Gable	Qty 1	Ply 1	Lot 142 CB Job Reference (optional)	I49723917
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Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:12  
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Page: 1



Scale = 1:61.7

Plate Offsets (X, Y): [6:Edge,0-3-1]												
<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S							Weight: 93 lb	FT = 10%

<b>LUMBER</b>		
TOP CHORD	2x4 SPF No.2	
BOT CHORD	2x4 SPF No.2	
OTHERS	2x4 SPF No.2	
<b>BRACING</b>		
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	
WEBS	1 Row at midpt	5-17, 7-16
<b>REACTIONS</b> (lb/size)		
	1=57/17-0-3, 11=57/17-0-3,	
	12=162/17-0-3, 14=183/17-0-3,	
	15=184/17-0-3, 16=153/17-0-3,	
	17=153/17-0-3, 18=184/17-0-3,	
	19=183/17-0-3, 20=162/17-0-3	
Max Horiz	1=-272 (LC 4)	
Max Uplift	1=-158 (LC 6), 11=-140 (LC 7),	
	12=-137 (LC 9), 14=-150 (LC 9),	
	15=-177 (LC 9), 16=-33 (LC 9),	
	17=-48 (LC 8), 18=-174 (LC 8),	
	19=-150 (LC 8), 20=-137 (LC 8)	
Max Grav	1=377 (LC 8), 11=366 (LC 9),	
	12=193 (LC 16), 14=218 (LC 16),	
	15=224 (LC 16), 16=167 (LC 16),	
	17=184 (LC 15), 18=220 (LC 15),	
	19=218 (LC 15), 20=193 (LC 15)	
<b>FORCES</b> (lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=-499/245, 2-3=-370/195, 3-4=-217/132,	
	4-5=-119/69, 5-6=-67/53, 6-7=-66/47,	
	7-8=-99/43, 8-9=-202/109, 9-10=-355/171,	
	10-11=-484/221	
BOT CHORD	1-20=-142/328, 19-20=-142/328,	
	18-19=-142/328, 17-18=-142/328,	
	16-17=-142/328, 15-16=-142/328,	
	14-15=-142/328, 12-14=-142/328,	
	11-12=-142/328	

**WEBS** 2-20=-154/153, 3-19=-178/176,  
4-18=-180/197, 5-17=-144/72, 7-16=-127/57,  
8-15=-184/201, 9-14=-177/175,  
10-12=-154/153

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- N/A
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 158 lb uplift at joint 1, 140 lb uplift at joint 11, 137 lb uplift at joint 20, 150 lb uplift at joint 19, 174 lb uplift at joint 18, 48 lb uplift at joint 17, 33 lb uplift at joint 16, 177 lb uplift at joint 15, 150 lb uplift at joint 14 and 137 lb uplift at joint 12.

**LOAD CASE(S)** Standard



January 17, 2022

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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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



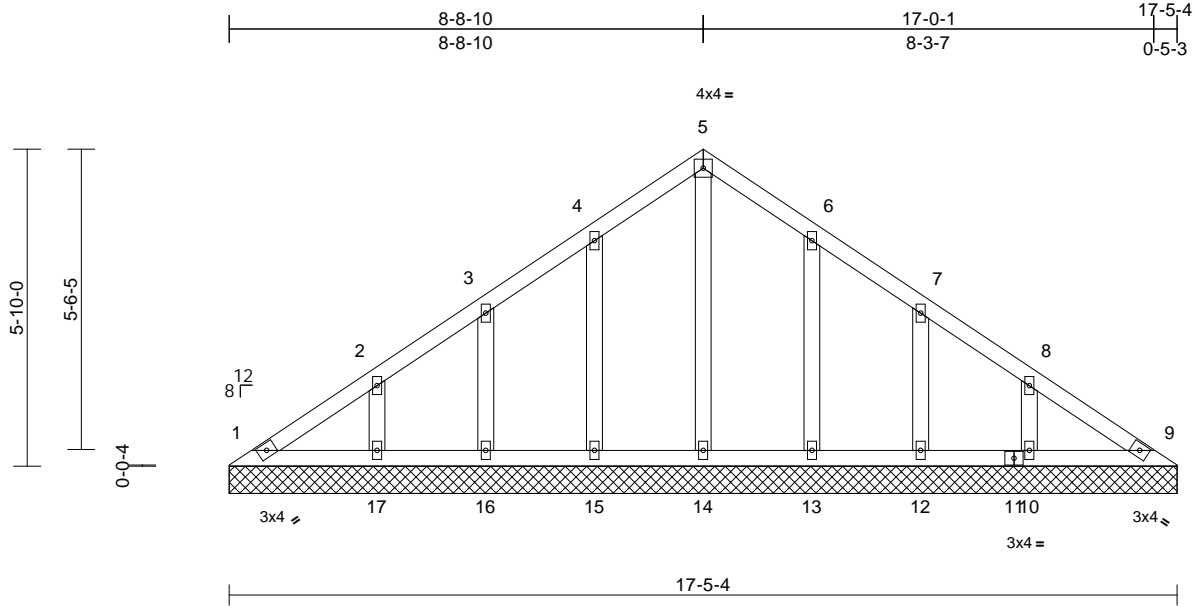
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	149723918
B220012	V1	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:12  
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Page: 1



Scale = 1:42.4

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	9	n/a	n/a	
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S							Weight: 66 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
OTHERS 2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(lb/size) 1=93/17-5-4, 9=93/17-5-4,  
10=222/17-5-4, 12=166/17-5-4,  
13=191/17-5-4, 14=143/17-5-4,  
15=191/17-5-4, 16=166/17-5-4,  
17=222/17-5-4  
Max Horiz 1=-144 (LC 4)  
Max Uplift 1=-21 (LC 4), 10=-86 (LC 9),  
12=-66 (LC 9), 13=-73 (LC 9),  
15=-74 (LC 8), 16=-66 (LC 8),  
17=-86 (LC 8)  
Max Grav 1=114 (LC 16), 9=93 (LC 1),  
10=231 (LC 16), 12=173 (LC 16),  
13=199 (LC 16), 14=167 (LC 18),  
15=200 (LC 15), 16=172 (LC 15),  
17=231 (LC 15)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-132/114, 2-3=-110/82, 3-4=-93/99,  
4-5=-82/134, 5-6=-69/123, 6-7=-58/63,  
7-8=-71/31, 8-9=-97/64  
BOT CHORD 1-17=-49/102, 16-17=-49/102,  
15-16=-49/102, 14-15=-49/102,  
13-14=-49/102, 12-13=-49/102,  
10-12=-49/102, 9-10=-49/102  
WEBS 5-14=-128/1, 4-15=-159/98, 3-16=-137/90,  
2-17=-175/110, 6-13=-158/97, 7-12=-137/90,  
8-10=-175/109

#### NOTES

1) Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 74 lb uplift at joint 15, 66 lb uplift at joint 16, 86 lb uplift at joint 17, 73 lb uplift at joint 13, 66 lb uplift at joint 12 and 86 lb uplift at joint 10.

LOAD CASE(S) Standard



January 17, 2022

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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



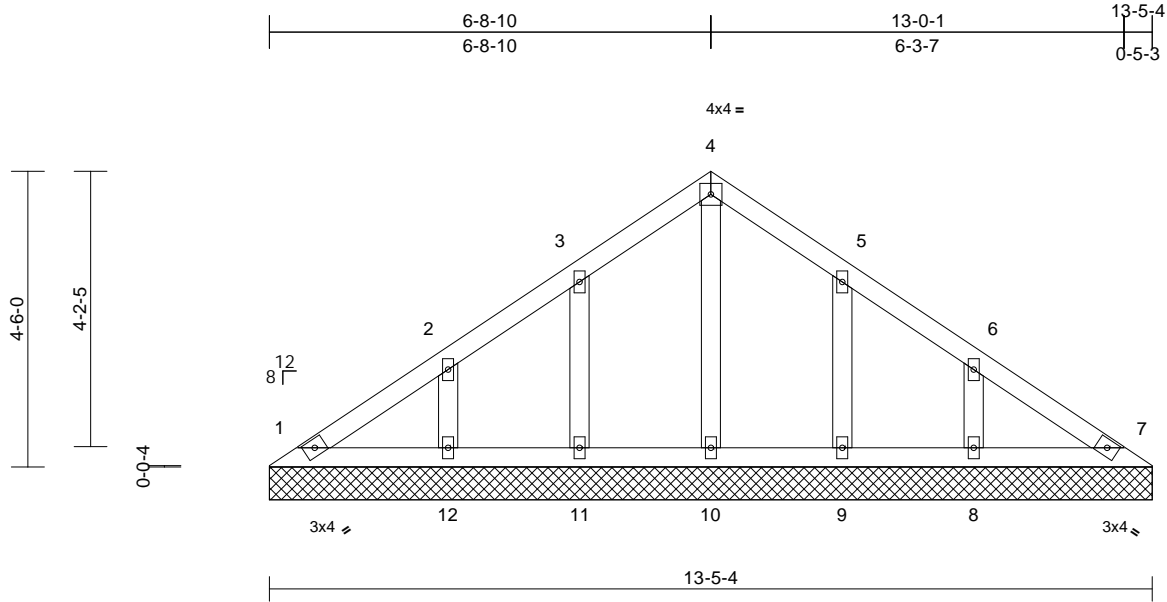
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	V2	Valley	1	1	Job Reference (optional)	I49723919

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:12  
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Page: 1



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S							Weight: 46 lb	FT = 10%

#### LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
OTHERS	2x4 SPF No.2

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(lb/size)	1=94/13-5-4, 7=94/13-5-4, 8=220/13-5-4, 9=175/13-5-4, 10=149/13-5-4, 11=175/13-5-4, 12=220/13-5-4
Max Horiz	1=109 (LC 5)
Max Uplift	1=-10 (LC 4), 8=-86 (LC 9), 9=-70 (LC 9), 11=-70 (LC 8), 12=-85 (LC 8)
Max Grav	1=103 (LC 16), 7=94 (LC 1), 8=228 (LC 16), 9=184 (LC 16), 10=153 (LC 18), 11=184 (LC 15), 12=228 (LC 15)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

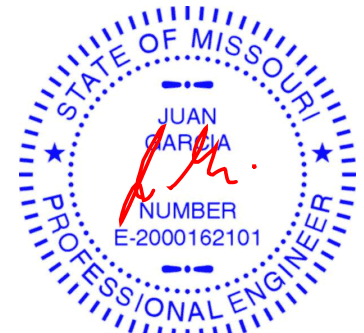
TOP CHORD	1-2=-96/85, 2-3=-91/67, 3-4=-76/102, 4-5=-63/90, 5-6=-63/40, 6-7=-74/52
BOT CHORD	1-12=-35/75, 11-12=-35/75, 10-11=-35/75, 9-10=-35/75, 8-9=-35/75, 7-8=-35/75
WEBS	4-10=-111/0, 3-11=-149/94, 2-12=-173/109, 5-9=-148/94, 6-8=-173/109

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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

- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 1, 70 lb uplift at joint 11, 85 lb uplift at joint 12, 70 lb uplift at joint 9 and 86 lb uplift at joint 8.

**LOAD CASE(S)** Standard



January 17, 2022

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**ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



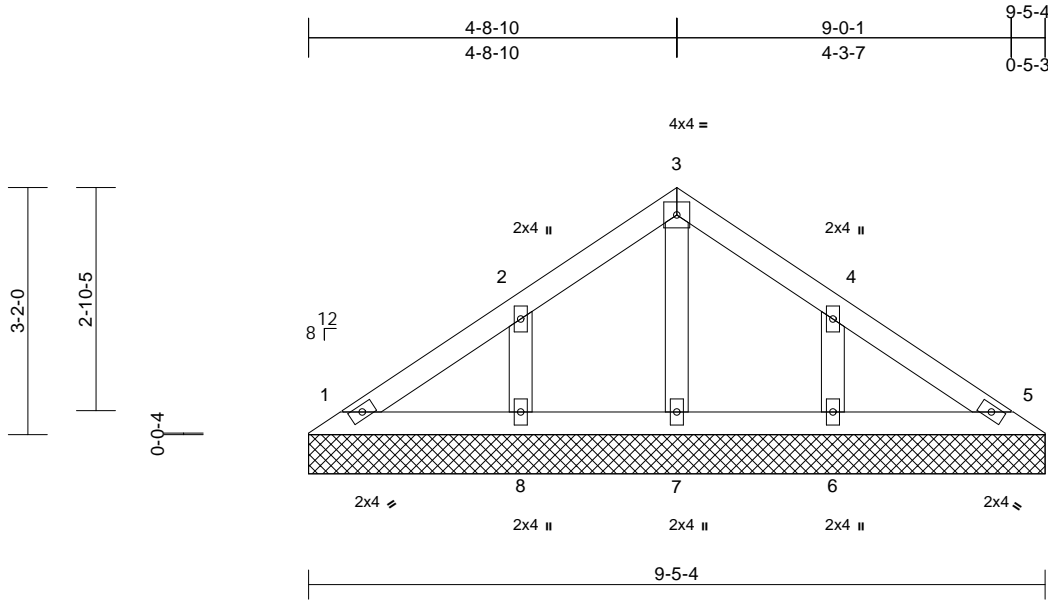
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	149723920
B220012	V3	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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Page: 1



Scale = 1:29.5

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	0.06	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	n/a		
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-S						Weight: 28 lb	FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
OTHERS 2x4 SPF No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=91/9-5-4, 5=91/9-5-4, 6=231/9-5-4, 7=125/9-5-4, 8=231/9-5-4  
Max Horiz 1=-74 (LC 4)  
Max Uplift 1=-9 (LC 9), 6=-91 (LC 9), 8=-91 (LC 8)  
Max Grav 1=91 (LC 1), 5=91 (LC 1), 6=240 (LC 16), 7=125 (LC 1), 8=241 (LC 15)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-74/63, 2-3=-71/69, 3-4=-64/58, 4-5=-56/43

BOT CHORD 1-8=-23/50, 7-8=-23/50, 6-7=-23/50, 5-6=-23/50

WEBS 3-7=-94/0, 2-8=-185/115, 4-6=-184/115

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- Gable requires continuous bottom chord bearing.

- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 1, 91 lb uplift at joint 8 and 91 lb uplift at joint 6.

**LOAD CASE(S)** Standard



January 17, 2022

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**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



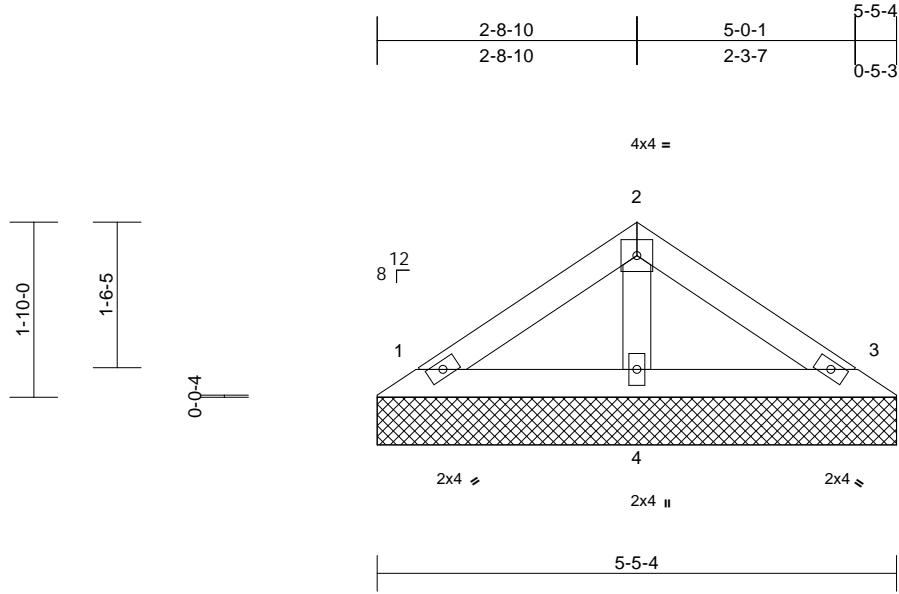
16023 Swingley Ridge Rd  
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 142 CB	
B220012	V4	Valley	1	1	Job Reference (optional)	I49723921

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Fri Jan 14 15:47:12  
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Page: 1



Scale = 1:24.1

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2012/TPI2007	Matrix-P							Weight: 14 lb FT = 10%

#### LUMBER

TOP CHORD 2x4 SPF No.2  
BOT CHORD 2x4 SPF No.2  
OTHERS 2x4 SPF No.2

- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1 and 30 lb uplift at joint 3.

**LOAD CASE(S)** Standard

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-6-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (lb/size) 1=111/5-5-4, 3=111/5-5-4, 4=187/5-5-4  
Max Horiz 1=-39 (LC 4)  
Max Uplift 1=-24 (LC 8), 3=-30 (LC 9)

**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-65/35, 2-3=-61/25  
BOT CHORD 1-4=-8/28, 3-4=-8/28  
WEBS 2-4=-131/33

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-10; Vult=115mph (3-second gust) V (IRC2012)=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
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.



January 17, 2022

**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/TPI1 Quality Criteria, DSB-89 and BCSI Building Component**

**Safety Information** available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

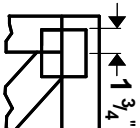


16023 Swingley Ridge Rd  
Chesterfield, MO 63017

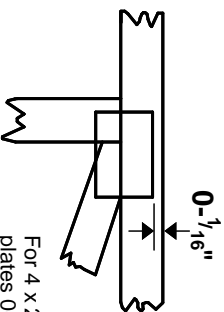


# Symbols

## 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.



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.

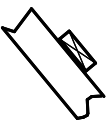
\* Plate location details available in **MiTek 20/20** software or upon request.

## PLATE SIZE

4 X 4

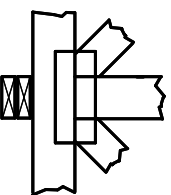
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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



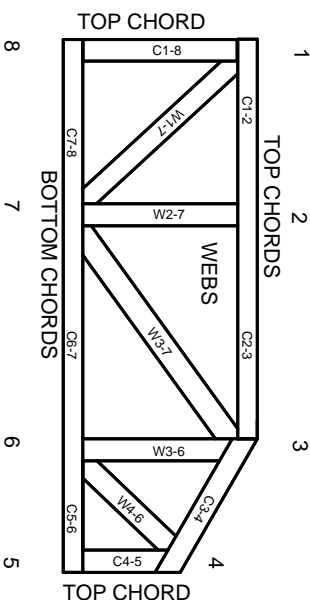
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

## Industry Standards:

ANSI/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

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/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.