



RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/10/2023 10:04:44

RE: Emerald Townhome-Roof 2x3 -

Site Information:

Project Customer: Clover & Hive Project Name: Emerald Townhomes

Lot/Block: 3 Subdivision: Oasge

Model: Emerald Townhomes

Address: 2022/2024/2026/2028 SW Holdbrooks Dr

City: Lee's Summit State: MO

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2018/TPI2014

Wind Code: ASCE 7-16 Wind Speed: 115 mph

Roof Load: 45.0 psf

Design Program: MiTek 20/20 8.6

Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16

Floor Load: N/A psf

Mean Roof Height (feet): 35

Exposure Category: C

No.	Seal#	Truss Name	Date
1	I56776182	A1	2/22/23
2	I56776183	A2	2/22/23
3	I56776184	A3	2/22/23
4	I56776185	A4	2/22/23
5	I56776186	B1	2/22/23
6	I56776187	B2	2/22/23
7	I56776188	C1	2/22/23
8	I56776189	C2	2/22/23
9	I56776190	C3	2/22/23
10	I56776191	C4	2/22/23
11	I56776192	D1	2/22/23
12	I56776193	D2	2/22/23
13	I56776194	D3	2/22/23
14	I56776195	E1	2/22/23
15	I56776196	E2	2/22/23
16	I56776197	G1	2/22/23
17	I56776198	G2	2/22/23
18	I56776199	V2	2/22/23
19	I56776200	V3	2/22/23
20	I56776201	V4	2/22/23
21	I56776202	V6	2/22/23
22	I56776203	V7	2/22/23

The truss drawing(s) referenced above have been prepared by
MiTek USA, Inc. under my direct supervision based on the parameters
provided by Premier Building Supply (Springhill, KS)20300 W 207th Street.

Truss Design Engineer's Name: Sevier, Scott

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

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.



February 22, 2023

Truss Type

Roof Special Structural Gable

Qty

Ply

1

1

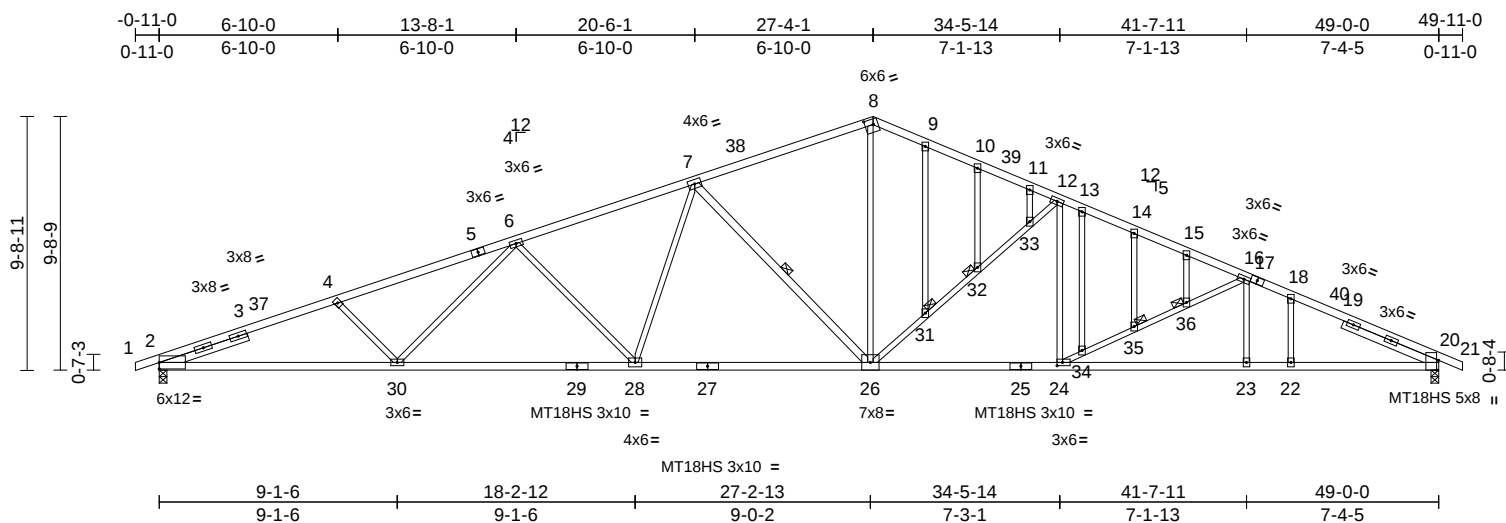
Job Reference (optional)

I56776182

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:16

Page: 1

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Scale = 1:88.2

Plate Offsets (X, Y): [8:0-3-12,0-2-8], [20:0-4-7,Edge], [24:0-2-8,0-1-8]

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	0.95	Vert(LL)	-0.44	28-30	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.87	26-28	>674	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.26	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH								
											Weight: 245 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 8-17:2x4 SP No.2, 1-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 27-25,29-27:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 26-7:2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-8, Right 2x4 SPF No.3 -- 3-11-8

BRACING

TOP CHORD Sheathed or 1-9-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-1-0 oc bracing.
WEBS 1 Row at midpt 7-26
JOINTS 1 Brace at Jt(s): 31, 32, 35, 36

REACTIONS

(size) 2=0-3-8, 20=0-3-8
Max Horiz 2=172 (LC 16)
Max Uplift 2=-407 (LC 8), 20=-313 (LC 13)
Max Grav 2=2269 (LC 1), 20=2269 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5438/1105, 4-6=-5150/1048, 6-7=-4254/927, 7-8=-3105/772, 8-9=-3060/782, 9-10=-3110/773, 10-11=-3144/753, 11-12=-3204/756, 12-13=-3765/853, 13-14=-3847/861, 14-15=-3873/840, 15-16=-3938/832, 16-18=-4323/922, 18-20=-4534/898, 20-21=0/0
BOT CHORD 2-30=-950/5016, 28-30=-786/4509, 26-28=-589/3716, 24-26=-576/3563, 23-24=-715/4014, 22-23=-715/4014, 20-22=-715/4014

WEBS

4-30=-298/211, 6-30=-57/525, 6-28=-809/284, 7-28=-103/819, 7-26=-1256/357, 8-26=-326/1702, 26-31=-999/311, 31-32=-990/306, 32-33=-952/287, 12-33=-1002/312, 12-24=0/448, 24-34=-561/197, 34-35=-592/214, 35-36=-567/201, 16-36=-566/202, 16-23=-3/142, 9-31=-12/16, 10-32=-63/35, 11-33=-41/76, 13-34=-43/67, 14-35=-60/30, 15-36=-8/3, 18-22=0/156

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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 49-11-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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 MT20 plates unless otherwise indicated.
- All plates are 3x4 MT20 unless otherwise indicated.
- 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 is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

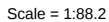


Plate Offsets (X, Y): [8:0-2-12,0-2-4], [13:0-4-7,Edge], [16:0-2-8,0-1-8]

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LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5,10-14:2x4
SP 2400F 2.0E

BOT CHORD 2x4 SP 2400F 2.0E *Except*
19-17,21-19:2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2 *Except* 18-7:2x4 SP No.2

SLIDER Left 2x4 SPF No.3 -- 3-6-8, Right 2x4 SP
No.2 -- 3-11-8

BRACING

TOP CHORD	Sheathed or 2-5-3 oc purlins.	
BOT CHORD	Rigid ceiling directly applied or 8-1-1 oc bracing.	
WEBS	1 Row at midpt	7-18, 9-18

WEBS	1 Row at midpt	7-18, 9-18
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REACTIONS

Max Horiz 2=172 (LC 16)
Max Uplift 2=-407 (LC 8), 13=-313 (LC 13)
Max Grav 2=2269 (LC 1), 13=2269 (LC 1)

FORCES

TOP CHORD	(T) Tension	(C) Compression	(M) Maximum
	1-2=0/0, 2-4=-5438/1105, 4-6=-5150/1048,		
	6-7=-4254/927, 7-8=-3104/772,		
	8-9=-3195/779, 9-11=-3946/860,		
	11-13=-4543/915, 13-14=0/0		
BOT CHORD	2-22=-950/5016, 20-22=-785/4508,		
	18-20=-590/3717, 16-18=-578/3567,		
	15-16=-719/4024, 13-15=-719/4024		
WEBS	4-22=-298/212, 6-22=-57/526,		
	6-20=-808/284, 7-20=-103/817,		
	7-18=-1261/359, 8-18=-321/1700,		
	9-18=-990/306, 9-16=-6/433,		
	11-16=-579/207, 11-15=0/269		

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0,
Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to
32-4-1, Interior (1) 32-4-1 to 49-11-0 zone; cantilever left
and right exposed ; end vertical left and right
exposed;C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) All plates are 3x6 MT20 unless otherwise indicated.
- 5) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 6) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023



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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

Truss Type

Roof Special

Qty

Ply

5

1

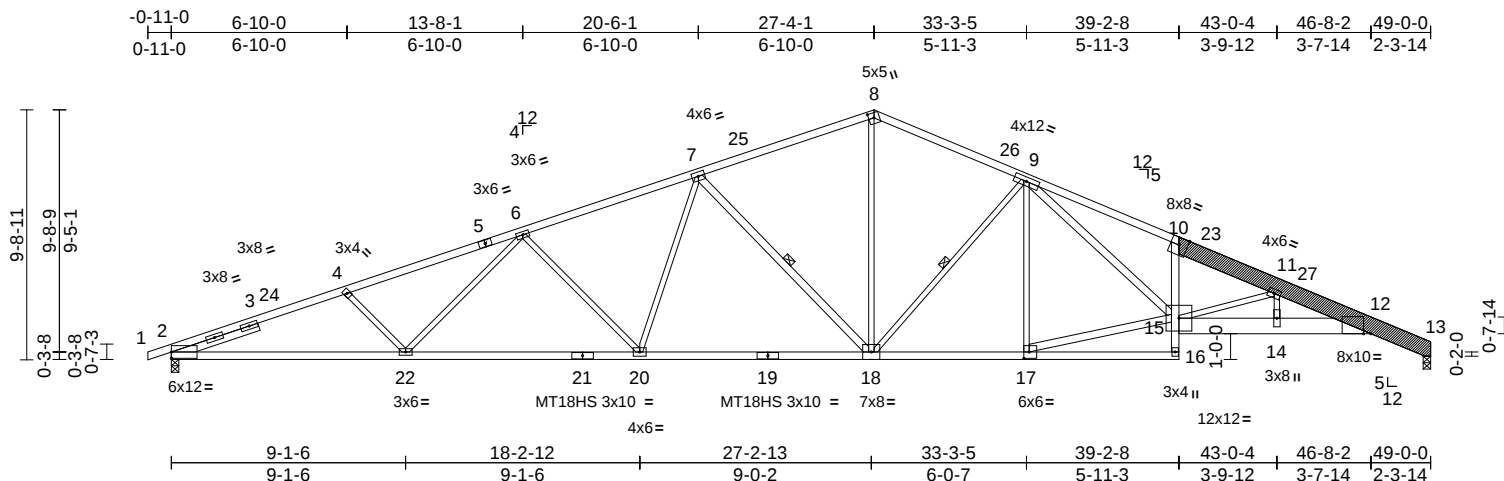
Job Reference (optional)

I56776184

Run: 8.63 E Nov 21 2022 Print: 8.630 E Nov 21 2022 MiTek Industries, Inc. Wed Feb 22 09:04:29

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Scale = 1:89.7

Plate Offsets (X, Y): [8:0-2-5,0-2-8], [12:0-3-7,Edge], [17:0-2-8,0-3-0]

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	0.88	Vert(LL)	-0.48	18-20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.96	18-20	>609	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.35	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH								
Weight: 299 lb											FT = 20%	

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5:2x4 SP 2400F 2.0E, 10-13:2x8 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 16-10,21-19:2x4 SP 1650F 1.5E, 15-12:2x8 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 18-7,17-15,15-9:2x4 SP No.2
LBR SCAB 10-13 SP 2400F 2.0E one side
SLIDER Left 2x4 SPF No.3 -- 3-6-8
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-5-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-0-10 oc bracing.
WEBS 1 Row at midpt 7-18, 9-18
REACTIONS (lb/size) 2=2263/0-3-8, 13=2201/0-3-8
Max Horiz 2=179 (LC 12)
Max Uplift 2=-406 (LC 8), 13=-287 (LC 13)
FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-5422/1076, 3-24=-5334/1092, 4-24=-5317/1102, 4-5=-5133/1031, 5-6=-5010/1045, 6-7=-4236/924, 7-25=-3085/744, 8-25=-3002/768, 8-26=-3066/786, 9-26=-3152/762, 9-10=-5656/1267, 10-23=-5553/1173, 11-23=-5634/1156, 11-27=-6893/1410, 12-27=-6971/1396, 12-13=-819/200
BOT CHORD 2-22=-958/5001, 21-22=-793/4491, 20-21=-793/4491, 19-20=-603/3701, 18-19=-603/3701, 17-18=-547/3400, 16-17=-73/485, 10-15=-492/208, 14-15=-1251/6598, 12-14=-1251/6595

WEBS 4-22=-299/212, 6-22=-57/527, 6-20=-808/283, 7-20=-102/818, 7-18=-1261/360, 8-18=-340/1719, 9-18=-907/287, 9-17=-486/166, 15-17=-484/2973, 9-15=-532/2438, 11-15=-1503/348, 11-14=-21/415
NOTES
1) Attached 10-9-14 scab 10 to 13, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 6-11-13 from end at joint 10, nail 3 row(s) at 2" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 48-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
LOAD CASE(S) Standard



February 22,2023

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

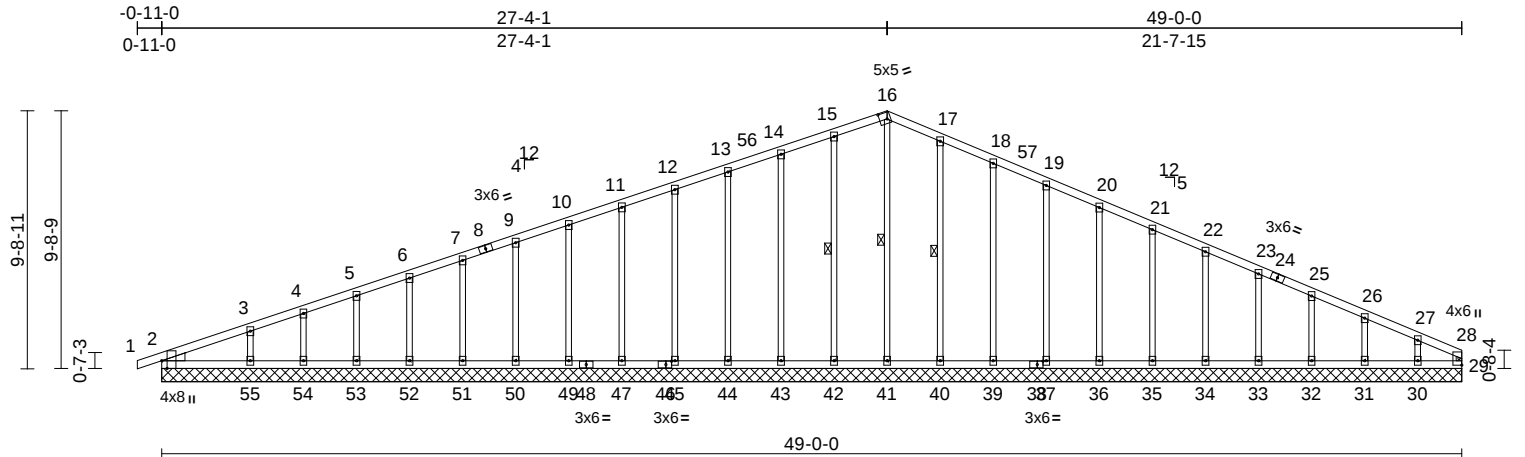
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:86.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [16:0-3-7,0-3-0], [38:0-2-10,0-1-8], [46:0-2-9,0-1-8]

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	0.14	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.23	Horz(CT)	0.01	29	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 245 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
WEDGE Left: 2x4 SPF No.3

BRACING

TOP CHORD Sheathed 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 16-41, 15-42, 17-40

REACTIONS (size) 2=49-0-0, 29=49-0-0, 30=49-0-0, 31=49-0-0, 32=49-0-0, 33=49-0-0, 34=49-0-0, 35=49-0-0, 36=49-0-0, 37=49-0-0, 39=49-0-0, 40=49-0-0, 41=49-0-0, 42=49-0-0, 43=49-0-0, 44=49-0-0, 45=49-0-0, 47=49-0-0, 49=49-0-0, 50=49-0-0, 51=49-0-0, 52=49-0-0, 53=49-0-0, 54=49-0-0, 55=49-0-0

Max Horiz 2=173 (LC 12)

Max Uplift 2=-26 (LC 13), 30=-98 (LC 13), 31=-42 (LC 13), 32=-53 (LC 13), 33=-51 (LC 13), 34=-51 (LC 13), 35=-51 (LC 13), 36=-51 (LC 13), 37=-50 (LC 13), 39=-56 (LC 13), 40=-44 (LC 13), 42=-41 (LC 12), 43=-49 (LC 8), 44=-45 (LC 12), 45=-46 (LC 8), 47=-46 (LC 8), 49=-46 (LC 12), 50=-46 (LC 8), 51=-46 (LC 12), 52=-45 (LC 8), 53=-48 (LC 12), 54=-37 (LC 8), 55=-93 (LC 12)

Max Grav 2=203 (LC 1), 29=88 (LC 22), 30=174 (LC 26), 31=182 (LC 1), 32=180 (LC 26), 33=180 (LC 1), 34=180 (LC 26), 35=180 (LC 1), 36=180 (LC 26), 37=180 (LC 1), 39=179 (LC 26), 40=188 (LC 26), 41=196 (LC 22), 42=188 (LC 25), 43=180 (LC 25), 44=180 (LC 1), 45=180 (LC 25), 47=180 (LC 1), 49=180 (LC 25), 50=180 (LC 1), 51=181 (LC 1), 52=178 (LC 25), 53=190 (LC 1), 54=139 (LC 25), 55=289 (LC 25)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-3=-206/90, 3-4=-147/91, 4-5=-123/101, 5-6=-102/115, 6-7=-81/132, 7-9=-66/149, 9-10=-57/166, 10-11=-68/183, 11-12=-80/208, 12-13=-91/236, 13-14=-102/264, 14-15=-114/293, 15-16=-125/317, 16-17=-128/313, 17-18=-114/254, 18-19=-99/212, 19-20=-84/176, 20-21=-70/140, 21-22=-55/104, 22-23=-41/68, 23-25=-42/43, 25-26=-63/27, 26-27=-87/29, 27-28=-130/45, 28-29=-64/0

BOT CHORD 2-55=-40/116, 54-55=-40/116, 53-54=-40/116, 52-53=-40/116, 51-52=-40/116, 50-51=-40/116, 49-50=-40/116, 47-49=-40/116, 45-47=-40/116, 44-45=-40/116, 43-44=-40/116, 42-43=-40/116, 41-42=-40/116, 40-41=-40/116, 39-40=-40/116, 37-39=-40/116, 36-37=-40/116, 35-36=-40/116, 34-35=-40/116, 33-34=-40/116, 32-33=-40/116, 31-32=-40/116, 30-31=-40/116, 29-30=-40/116

WEBS

16-41=-156/23, 15-42=-148/120, 14-43=-140/123, 13-44=-140/70, 12-45=-140/70, 11-47=-140/70, 10-49=-140/70, 9-50=-140/70, 7-51=-140/70, 6-52=-139/69, 5-53=-146/73, 4-54=-114/59, 3-55=-212/120, 17-40=-148/128, 18-39=-139/132, 19-37=-140/76, 20-36=-140/75, 21-35=-140/75, 22-34=-140/75, 23-33=-140/75, 25-32=-140/76, 26-31=-142/72, 27-30=-135/95

NOTES

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



February 22, 2023

Continued on page 2

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16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	I56776185
Roof Special Supported Gable	1	1	Job Reference (optional)

Emerald Townhome, A4
Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:19 Page: 2
ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0,
Exterior(2N) 4-1-0 to 27-4-1, Corner(3R) 27-4-1 to
32-4-1, Exterior(2N) 32-4-1 to 48-10-12 zone; cantilever
left and right exposed ; end vertical left and right
exposed;C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) 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.
- 4) All plates are 3x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 8) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

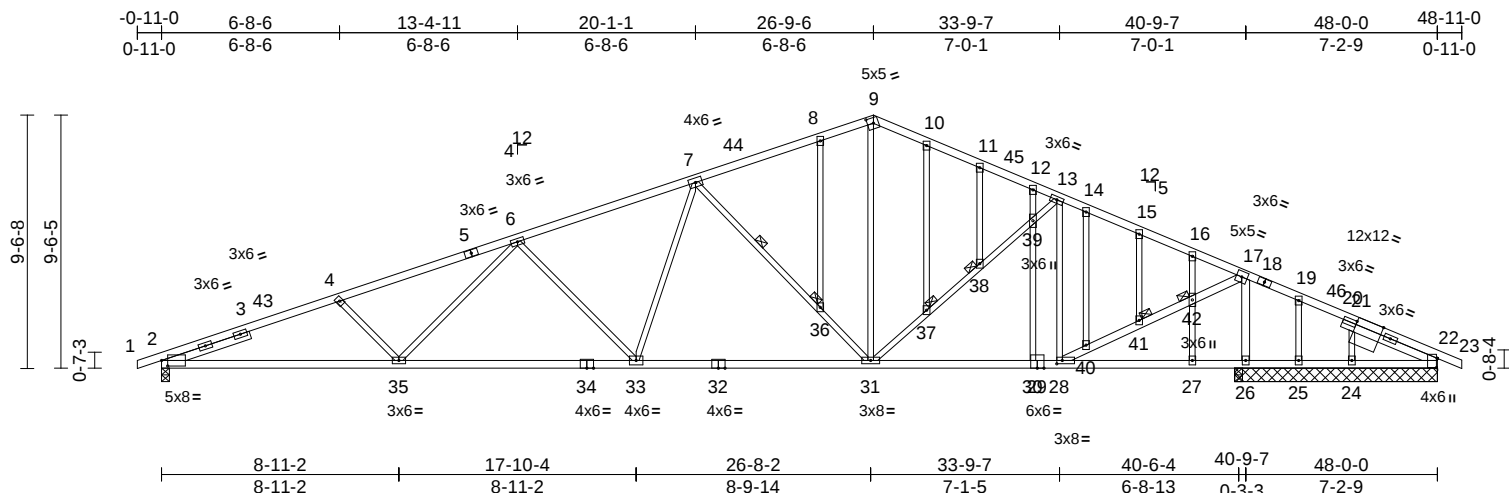
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Roof Special Structural Gable	4	1	I56776186

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:20 Page: 1
ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:86.7

Plate Offsets (X, Y): [2:0-2-12,0-2-8], [9:0-2-12,0-2-8], [21:2-3-11,Edge], [22:0-4-3,0-0-7], [22:3-3-13,0-1-8], [28:0-2-8,0-1-8]

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.29	33-35	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.58	33-35	>846	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.93	Horz(CT)	0.12	26	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH								
Weight: 252 lb											FT = 20%	

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 1-5:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 1650F 1.5E *Except* 29-22,32-29:2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 28-17,17-26:2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 3-5-10, Right 2x4 SPF No.3 -- 3-10-5

BRACING
TOP CHORD Sheathed or 2-3-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 4-6-4 oc bracing.
WEBS 1 Row at midpt 7-36
JOINTS 1 Brace at Jt(s): 36, 37, 38, 41, 42

REACTIONS (size) 2=0-3-8, 22=7-7-8, 24=7-7-8, 25=7-7-8, 26=7-7-8
Max Horiz 2=163 (LC 12)
Max Uplift 2=334 (LC 8), 22=481 (LC 25), 24=92 (LC 13), 25=45 (LC 1), 26=332 (LC 8)
Max Grav 2=1732 (LC 1), 22=106 (LC 12), 24=375 (LC 1), 25=6 (LC 13), 26=2680 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-3973/825, 4-6=-3697/766, 6-7=-2760/635, 7-8=-1653/478, 8-9=-1556/489, 9-10=-1586/490, 10-11=-1639/482, 11-12=-1676/464, 12-13=-1677/433, 13-14=-1113/346, 14-15=-1216/353, 15-16=-1247/330, 16-17=-1255/292, 17-19=-203/1354, 19-21=-230/1340, 21-22=-303/1404, 22-23=0/0

BOT CHORD 2-35=-742/3656, 33-35=-560/3088, 31-33=-341/2308, 30-31=-112/1110, 28-30=-112/1110, 27-28=-1203/300, 26-27=-1203/300, 25-26=-1203/300, 24-25=-1203/300, 22-24=-1202/299
WEBS 4-35=-322/205, 6-35=-60/544, 6-33=-792/276, 7-33=-101/795, 7-36=-1195/334, 31-36=-1208/342, 9-31=-139/696, 31-37=-106/640, 37-38=-102/621, 38-39=-110/635, 13-39=-101/629, 13-28=-924/172, 28-40=-462/2612, 40-41=-442/2549, 41-42=-458/2578, 17-42=-447/2562, 17-26=-2330/443, 8-36=-18/13, 10-37=-7/28, 11-38=-53/30, 12-39=-67/76, 30-39=-146/123, 14-40=-45/145, 15-41=-77/44, 16-42=-116/81, 27-42=-154/107, 19-25=-98/57, 21-24=-280/151

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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 48-11-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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 3x4 MT20 unless otherwise indicated.
- 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 is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

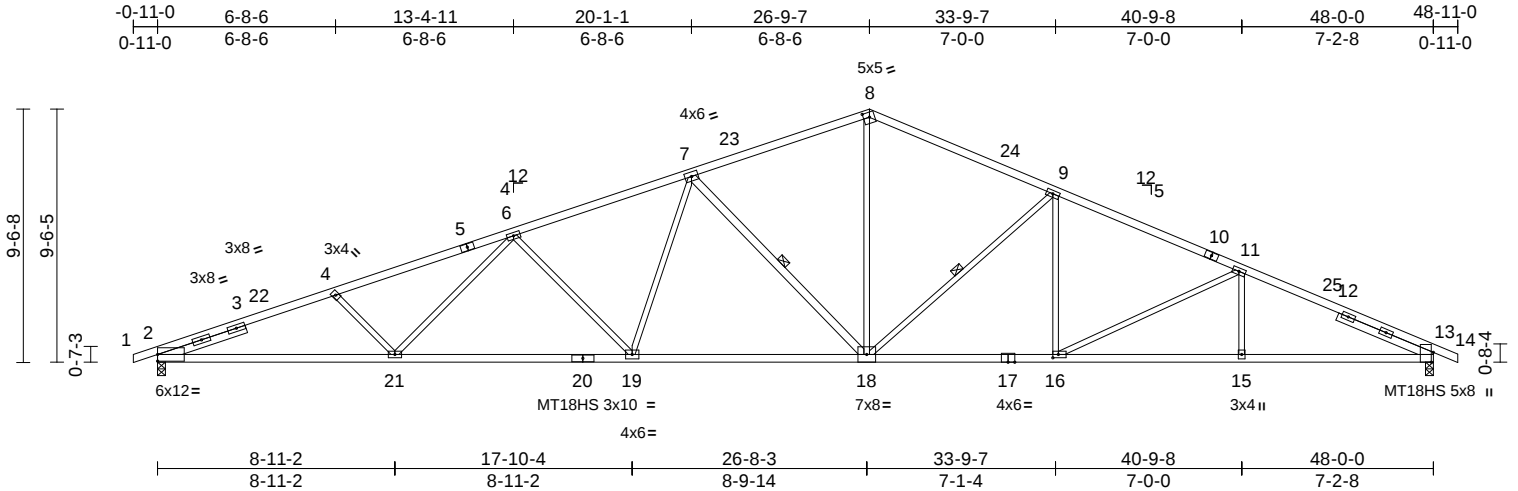
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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

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

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:86.7

Plate Offsets (X, Y): [8:0-2-12,0-2-4], [13:0-4-7,Edge], [16:0-2-8,0-1-8]

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	0.85	Vert(LL)	-0.40	19-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.76	18-19	>758	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.22	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 220 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5,10-14:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 18-7:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-5-10, Right 2x4 SPF No.3 -- 3-10-9

BRACING

TOP CHORD Sheathed or 2-6-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-7-7 oc bracing.

WEBS 1 Row at midpt 7-18, 9-18

REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=169 (LC 12)
Max Uplift 2=399 (LC 8), 13=308 (LC 13)
Max Grav 2=2224 (LC 1), 13=2224 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5312/1082, 4-6=-5032/1027, 6-7=-4164/909, 7-8=-3038/757, 8-9=-3126/765, 9-11=-3860/844, 11-13=-4439/896, 13-14=0/0
BOT CHORD 2-21=-930/4898, 19-21=-769/4411, 18-19=-578/3638, 16-18=-567/3490, 15-16=-703/3930, 13-15=-703/3930
WEBS 4-21=-287/206, 6-21=-55/508, 6-19=-789/278, 7-19=-100/801, 7-18=-1235/351, 8-18=-316/1664, 9-18=-968/300, 9-16=-6/422, 11-16=-561/201, 11-15=0/263

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-7, Exterior(2R) 26-9-7 to 31-9-7, Interior (1) 31-9-7 to 48-11-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) All plates are 3x6 MT20 unless otherwise indicated.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

Truss Type

Roof Special Structural Gable

Qty

Ply

1

1

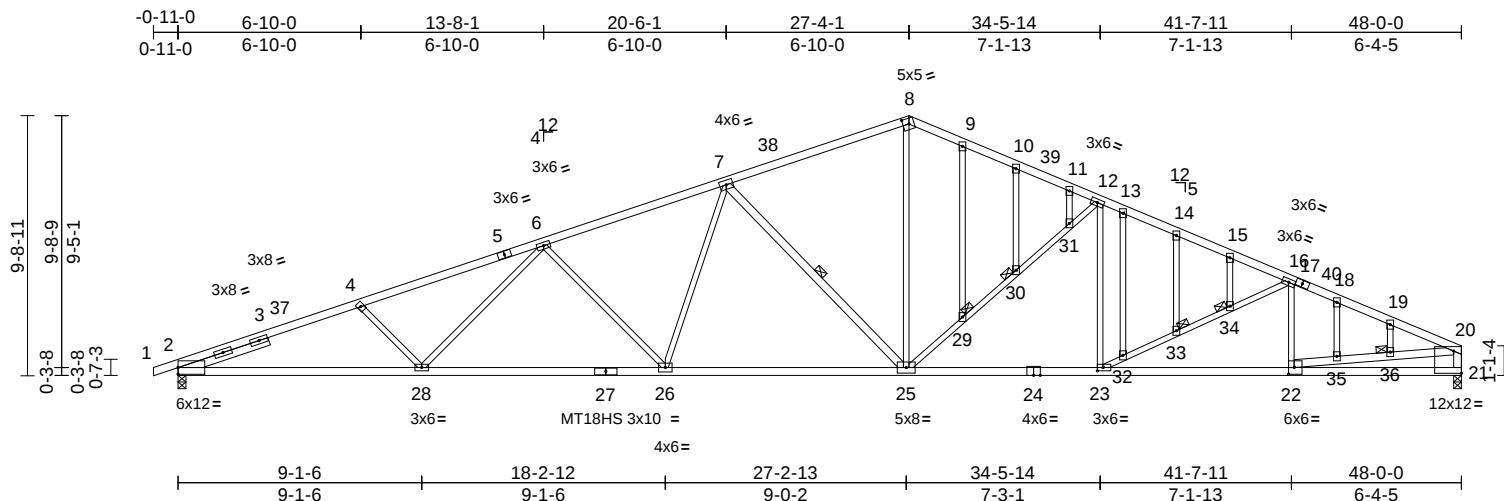
Job Reference (optional)

I56776188

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:21

Page: 1

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Scale = 1:86.2

Plate Offsets (X, Y): [8:0-2-12,0-2-8], [21:Edge,0-10-0], [22:0-2-8,0-3-0], [23:0-2-8,0-1-8]

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	1.00	Vert(LL)	-0.39	26-28	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.76	26-28	>758	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.96	Horz(CT)	0.19	21	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 246 lb	FT = 20%

LUMBER		
TOP CHORD	2x4 SP No.2 *Except* 5-8:2x4 SP 1650F	
	1.5E, 1-5:2x4 SP 2400F 2.0E	
BOT CHORD	2x4 SP 2400F 2.0E	
WEBS	2x3 SPF No.2 *Except* 25-7,21-20:2x4 SP	
	No.2, 22-20:2x4 SP 1650F 1.5E	
OTHERS	2x3 SPF No.2	
SLIDER	Left 2x4 SPF No.3 -- 3-6-8	
BRACING		
TOP CHORD	Sheathed, except end verticals.	
BOT CHORD	Rigid ceiling directly applied or 8-6-5 oc	
	bracing.	
WEBS	1 Row at midpt 7-25	
JOINTS	1 Brace at Jt(s): 29,	
	30, 33, 34, 36	
REACTIONS (size) 2=0-3-8, 21=0-3-8		
	Max Horiz 2=175 (LC 12)	
	Max Uplift 2=-401 (LC 8), 21=-277 (LC 13)	
	Max Grav 2=2218 (LC 1), 21=2153 (LC 1)	
FORCES (lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/0, 2-4=-5297/1078, 4-6=-5005/1021,	
	6-7=-4101/898, 7-8=-2950/743,	
	8-9=-2899/757, 9-10=-2950/748,	
	10-11=-2980/728, 11-12=-3040/730,	
	12-13=-3469/810, 13-14=-3553/818,	
	14-15=-3576/796, 15-16=-3652/791,	
	16-18=-3652/794, 18-19=-3803/805,	
	19-20=-3851/776, 20-21=-2072/497	
BOT CHORD	2-28=-950/4884, 26-28=-808/4366,	
	25-26=-616/3570, 23-25=-561/3282,	
	22-23=-674/3468, 21-22=-146/465	

WEBS	
4-28=	303/212, 6-28=58/530,
6-26=	811/285, 7-26=103/821,
7-25=	1258/357, 8-25=304/1585,
25-29=	852/289, 29-30=845/284,
30-31=	807/266, 12-31=852/289,
12-23=	0/341, 23-32=303/141,
32-33=	337/159, 33-34=310/146,
16-34=	318/148, 16-22=478/189,
22-35=	534/3055, 35-36=530/3018,
20-36=	535/3026, 9-29=10/18,
10-30=	62/35, 11-31=38/68, 13-32=45/74,
14-33=	65/31, 15-34=9/21, 18-35=52/267,
19-36=	70/53

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) All plates are MT20 plates unless otherwise indicated.
- 5) All plates are 3x4 MT20 unless otherwise indicated.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22,2023

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

Truss Type

Qty

Ply

I56776189

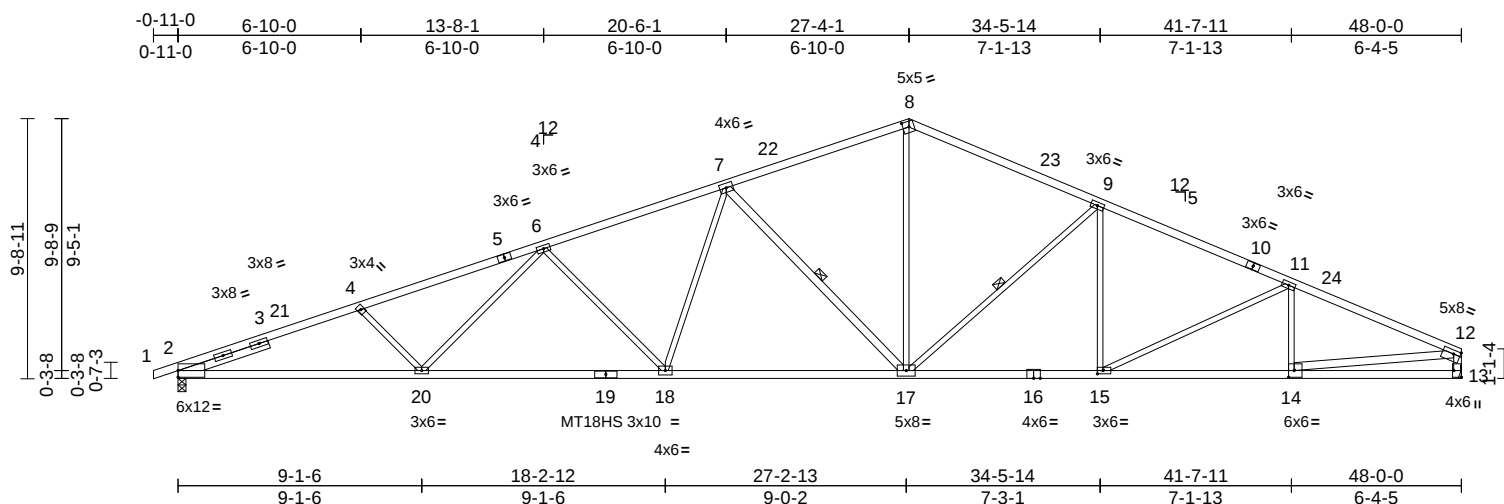
Roof Special

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:22

Page: 1

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Scale = 1:86.2

Plate Offsets (X, Y): [8:0-2-12,0-2-8], [12:0-3-0,0-1-12], [13:Edge,0-3-8], [14:0-2-8,0-3-0], [15:0-2-8,0-1-8]

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	0.84	Vert(LL)	-0.39	18-20	>999	240	MT20 244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.74	18-20	>771	180	MT18HS 244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.19	13	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 225 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 17-7,14-12:2x4 SP No.2, 13-12:2x4 SPF No.3
SLIDER Left 2x4 SPF No.3 -- 3-6-8

BRACING

TOP CHORD Sheathed or 2-7-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-6-4 oc bracing.
WEBS 1 Row at midpt 7-17, 9-17

REACTIONS

(size) 2=0-3-8, 13= Mechanical
Max Horiz 2=175 (LC 16)
Max Uplift 2=-401 (LC 8), 13=-277 (LC 13)
Max Grav 2=2218 (LC 1), 13=2153 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5297/1078, 4-6=-5005/1021, 6-7=-4101/898, 7-8=-2948/742, 8-9=-3034/754, 9-11=-3653/816, 11-12=-3818/803, 12-13=-2080/499
BOT CHORD 2-20=-950/4884, 18-20=-808/4365, 17-18=-616/3571, 15-17=-562/3288, 14-15=-679/3452, 13-14=-107/281
WEBS 4-20=-303/212, 6-20=-58/531, 6-18=-810/284, 7-18=-102/820, 7-17=-1263/359, 8-17=-303/1584, 9-17=-846/284, 9-15=0/337, 11-15=-305/153, 11-14=-324/172, 12-14=-578/3202

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) Refer to girder(s) for truss to truss connections.
- 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

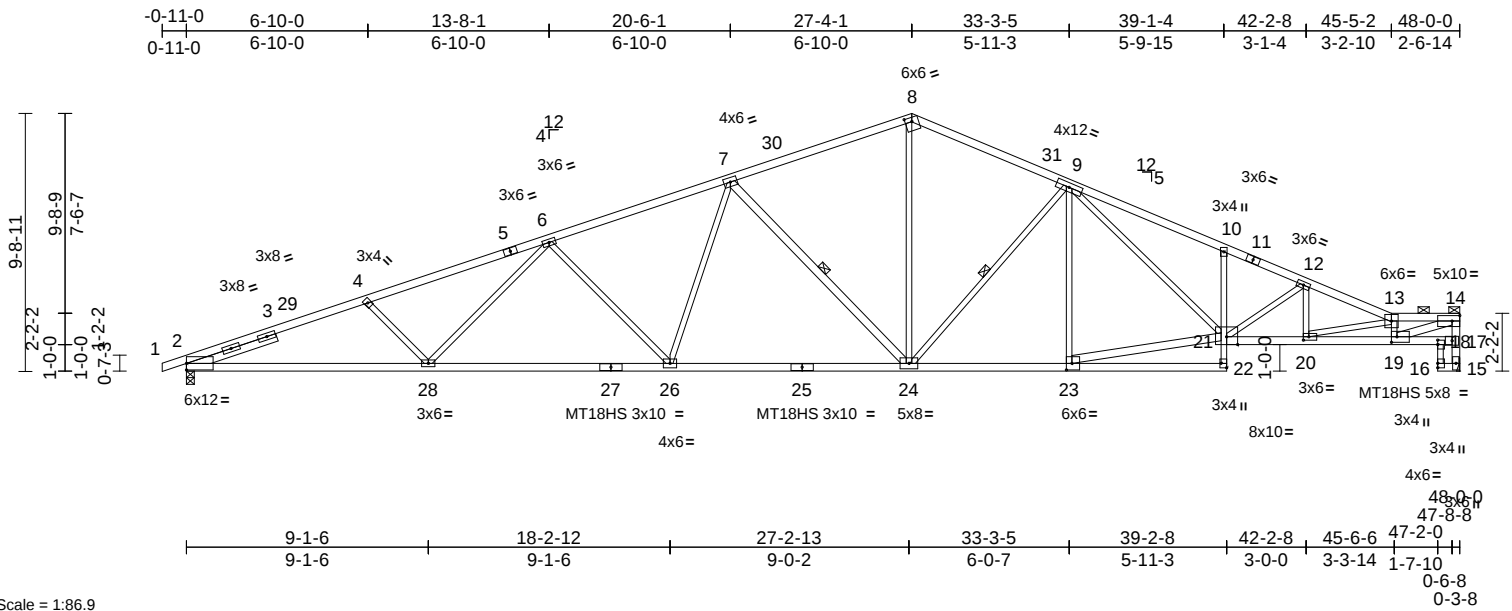
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:86.9

Plate Offsets (X, Y): [8:0-3-0,0-1-14], [18:0-2-0,Edge], [19:0-2-8,0-2-8], [20:0-2-8,0-1-8], [22:Edge,0-2-8], [23:0-2-8,0-3-0]

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	1.00	Vert(LL)	-0.45	24-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.91	24-26	>634	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.36	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 239 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-8:2x4 SP 1650F 1.5E, 1-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 22-10,18-16:2x3 SPF No.2, 16-15:2x4 SP No.2, 27-25:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 14-15,24-7,23-21:2x4 SP No.2, 19-14:2x4 SP 1650F 1.5E
SLIDER Left 2x4 SPF No.3 -- 3-6-8
BRACING
TOP CHORD Sheathed, except end verticals, and 2-0-0 oc purlins (2-3-9 max.): 13-14.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 7-24, 9-24
REACTIONS (size) 2=0-3-8, 15= Mechanical
Max Horiz 2=178 (LC 12)
Max Uplift 2=401 (LC 8), 15=279 (LC 13)
Max Grav 2=2218 (LC 1), 15=2153 (LC 1)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5298/1078, 4-6=-5005/1020, 6-7=-4100/898, 7-8=-2947/741, 8-9=-3011/742, 9-10=-4801/1066, 10-12=-4781/979, 12-13=-5307/1035, 13-14=-5021/959, 15-17=-2058/402, 14-17=-1910/381
BOT CHORD 2-28=-1020/4885, 26-28=-877/4364, 24-26=-686/3571, 23-24=-588/3186, 22-23=-31/236, 21-22=0/112, 10-21=-299/167, 20-21=-959/4882, 19-20=-1043/5261, 18-19=-105/383, 17-18=-112/434, 16-18=-83/27, 15-16=-51/14

WEBS 4-28=-303/212, 6-28=-58/532, 6-26=-810/284, 7-26=-102/819, 7-24=-1263/360, 8-24=-321/1623, 9-24=-801/264, 9-23=-404/167, 21-23=-565/2994, 9-21=-381/1686, 13-19=-2040/437, 14-19=-950/4964, 12-21=-615/130, 12-20=-8/319, 13-20=-393/96
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Refer to girder(s) for truss to truss connections.
7) 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.
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



February 22,2023

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

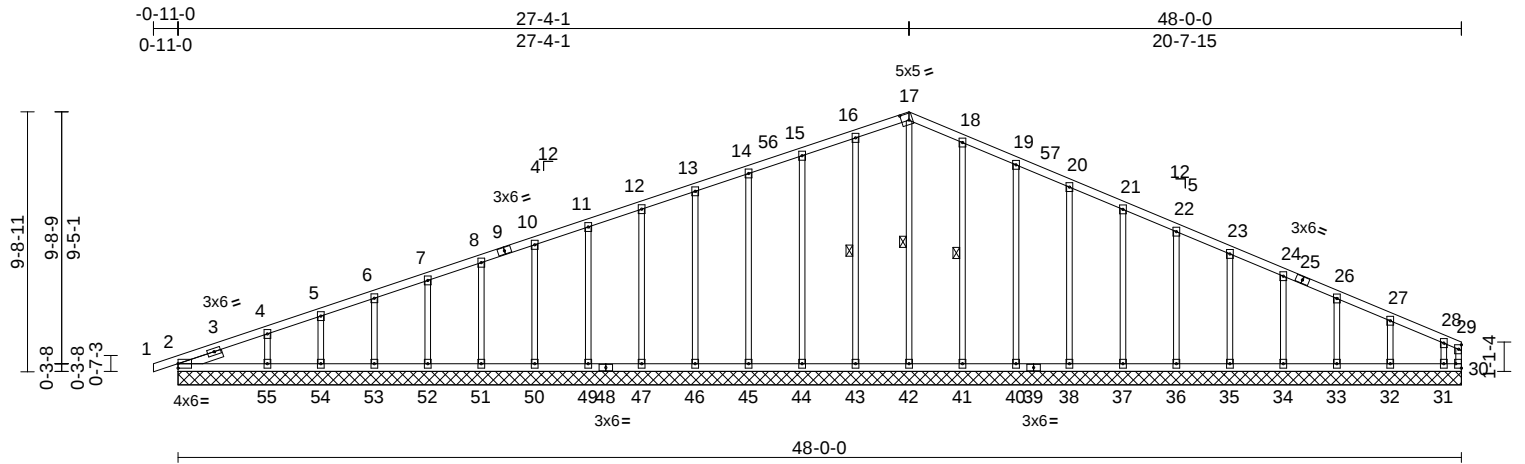
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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



Scale = 1:86.2

Plate Offsets (X, Y): [17'-0-3-7-0-3-0], [30'-Edge,0-2-8]

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	0.15	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.23	Horz(CT)	0.01	30	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 243 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 1-8-7

BRACING

TOP CHORD Sheathed 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 17-42, 16-43, 18-41

REACTIONS (size) 2=48-0-0, 30=48-0-0, 31=48-0-0, 32=48-0-0, 33=48-0-0, 34=48-0-0, 35=48-0-0, 36=48-0-0, 37=48-0-0, 38=48-0-0, 40=48-0-0, 41=48-0-0, 42=48-0-0, 43=48-0-0, 44=48-0-0, 45=48-0-0, 46=48-0-0, 47=48-0-0, 49=48-0-0, 50=48-0-0, 51=48-0-0, 52=48-0-0, 53=48-0-0, 54=48-0-0, 55=48-0-0

Max Horiz 2=175 (LC 12)

Max Uplift 2=-35 (LC 13), 30=-1 (LC 3), 31=-174 (LC 13), 32=-50 (LC 13), 33=-51 (LC 13), 34=-51 (LC 13), 35=-51 (LC 13), 36=-51 (LC 13), 37=-51 (LC 13), 38=-50 (LC 13), 40=-56 (LC 13), 41=-43 (LC 13), 43=-40 (LC 12), 44=-50 (LC 8), 45=-45 (LC 12), 46=-46 (LC 8), 47=-46 (LC 8), 49=-46 (LC 12), 50=-46 (LC 8), 51=-46 (LC 12), 52=-45 (LC 8), 53=-50 (LC 12), 54=-31 (LC 8), 55=-100 (LC 12)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-190/100, 4-5=-140/100, 5-6=-122/117, 6-7=-100/134, 7-8=-81/151, 8-10=-65/168, 10-11=-71/185, 11-12=-82/207, 12-13=-93/235, 13-14=-105/263, 14-15=-116/291, 15-16=-128/320, 16-17=-139/344, 17-18=-142/340, 18-19=-128/282, 19-20=-113/222, 20-21=-98/186, 21-22=-84/150, 22-23=-69/114, 23-24=-55/78, 24-26=-40/53, 26-27=-55/31, 27-28=-75/27, 28-29=-119/41, 29-30=-102/31
BOT CHORD 2-55=-33/87, 54-55=-33/87, 53-54=-33/87, 52-53=-33/87, 51-52=-33/87, 50-51=-33/87, 49-50=-33/87, 47-49=-33/87, 46-47=-33/87, 45-46=-33/87, 44-45=-33/87, 43-44=-33/87, 42-43=-33/87, 41-42=-33/87, 40-41=-33/87, 38-40=-33/87, 37-38=-33/87, 36-37=-33/87, 35-36=-33/87, 34-35=-33/87, 33-34=-33/87, 32-33=-33/87, 31-32=-33/87, 30-31=-33/87

WEBS

17-42=-161/30, 16-43=-148/119, 15-44=-140/123, 14-45=-140/70, 13-46=-140/70, 12-47=-140/70, 11-49=-140/70, 10-50=-140/70, 8-51=-140/70, 7-52=-139/69, 6-53=-145/74, 5-54=-117/56, 4-55=-210/123, 18-41=-148/126, 19-40=-139/132, 20-38=-140/75, 21-37=-140/75, 22-36=-140/75, 23-35=-140/75, 24-34=-140/75, 26-33=-139/74, 27-32=-145/78, 28-31=-109/122

NOTES

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



February 22, 2023

Continued on page 2

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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

Truss Type	Qty	Ply	I56776191
Roof Special Supported Gable	1	1	Job Reference (optional)

Emerald Townhome, LLC
Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083, Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:23 Page: 2
ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0,
Exterior(2N) 4-1-0 to 27-4-1, Corner(3R) 27-4-1 to
32-4-1, Exterior(2N) 32-4-1 to 47-10-12 zone; cantilever
left and right exposed ; end vertical left and right
exposed;C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) 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.
- 4) All plates are 3x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 8) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.

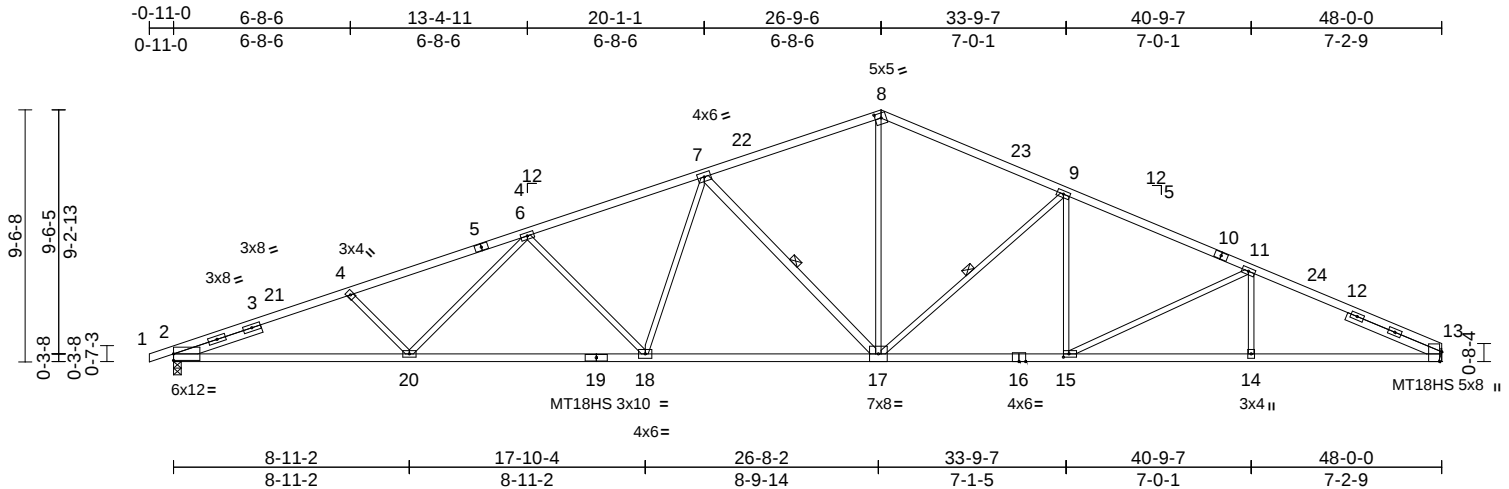
LOAD CASE(S) Standard

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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



Scale = 1:87.2

Plate Offsets (X, Y): [8:0-2-12,0-2-4], [13:0-4-7,Edge], [15:0-2-8,0-1-8]

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	0.85	Vert(LL)	-0.40	18-20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.76	17-18	>758	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.22	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 218 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5,10-13:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 17-7:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-5-10, Right 2x4 SPF No.3 -- 3-10-9

BRACING

TOP CHORD Sheathed or 2-6-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-7-7 oc bracing.

WEBS 1 Row at midpt 7-17, 9-17

REACTIONS (size) 2=0-3-8, 13= Mechanical
Max Horiz 2=169 (LC 16)
Max Uplift 2=399 (LC 8), 13=285 (LC 13)
Max Grav 2=2225 (LC 1), 13=2159 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-5314/1083, 4-6=-5034/1028, 6-7=-4166/910, 7-8=-3041/758, 8-9=-3129/771, 9-11=-3865/856, 11-13=-4450/923

BOT CHORD 2-20=-931/4900, 18-20=-770/4413, 17-18=-579/3640, 15-17=-568/3493, 14-15=-727/3941, 13-14=-727/3941

WEBS 4-20=-287/206, 6-20=-55/508, 6-18=-789/278, 7-18=-100/801, 7-17=-1235/351, 8-17=-320/1666, 9-17=-970/301, 9-15=-6/423, 11-15=-569/204, 11-14=0/264

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 48-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) All plates are 3x6 MT20 unless otherwise indicated.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) Refer to girder(s) for truss to truss connections.
- 7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

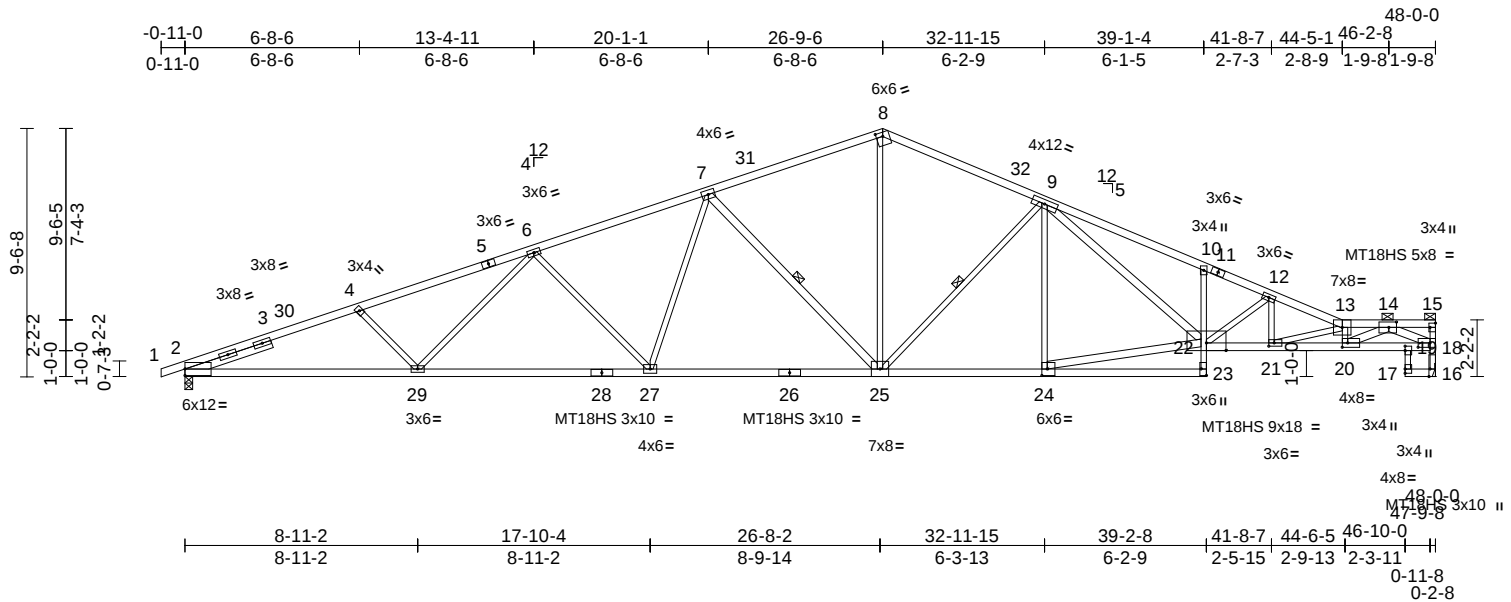
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Roof Special	10	1	I56776193

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:24 Page: 1
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Scale = 1:88.4

[8:0-3-0,0-1-14], [14:0-3-8,0-2-8], [15:Edge,0-2-8], [16:0-3-8,Edge], [18:0-5-8,0-2-0], [19:0-2-0,Edge], [20:0-2-8,0-2-0], [21:0-2-8,0-1-8], [23:Edge,0-2-8],

Plate Offsets (X, Y): [24:0-2-8,0-3-0]

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	0.97	Vert(LL)	-0.51	24-25	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.98	25-27	>584	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.42	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 243 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except*
23-10,19-17:2x3 SPF No.2, 17-16:2x4 SP No.2, 28-26:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except*
25-7,24-22,22-9,20-14,14-18:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-5-10

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-3-10 oc purlins, except end verticals, and 2-0-0 oc purlins (2-0-12 max.): 13-15.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 7-25, 9-25

REACTIONS (size) 2=0-3-8, 16= Mechanical
Max Horiz 2=175 (LC 16)
Max Uplift 2=398 (LC 8), 16=286 (LC 13)
Max Grav 2=2220 (LC 1), 16=2155 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5302/1079, 4-6=-5021/1024, 6-7=-4151/907, 7-8=-3026/754, 8-9=-3099/753, 9-10=-5462/1188, 10-12=-5433/1099, 12-13=-6305/1226, 13-14=-7244/1380, 14-15=-183/34, 16-18=-2126/416, 15-18=-108/32
BOT CHORD 2-29=-1022/4888, 27-29=-886/4399, 25-27=-700/3626, 24-25=-631/3380, 23-24=-35/270, 22-23=0/117, 10-22=-302/171, 21-22=-1141/5814, 20-21=-1462/7476, 19-20=-776/3805, 18-19=-774/3812, 17-19=-10/14, 16-17=-10/8

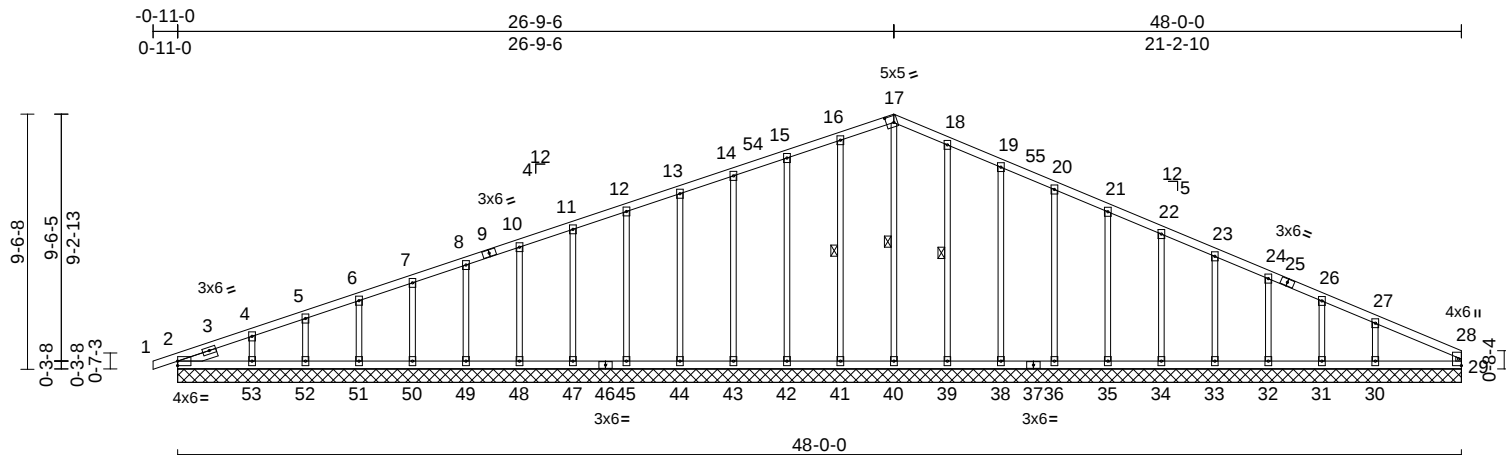
WEBS 4-29=-287/206, 6-29=-55/509, 6-27=-790/277, 7-27=-100/800, 7-25=-1233/352, 8-25=-327/1676, 9-25=-912/281, 9-24=-401/175, 22-24=-604/3151, 9-22=-478/2171, 13-20=-1972/418, 12-22=-1036/203, 12-21=-103/759, 13-21=-1747/338, 14-20=-720/3885, 14-18=-4091/811

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 47-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Refer to girder(s) for truss to truss connections.
7) 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.
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



February 22,2023



Scale = 1:86.1

Plate Offsets (X, Y): [17:0-3-7:0-3-0]

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	0.14	Ver(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Ver(CT)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	29	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 239 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 1-6-0

BRACING

TOP CHORD Sheathed 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 17-40, 16-41, 18-39

REACTIONS (size) 2=48-0-0, 29=48-0-0, 30=48-0-0, 31=48-0-0, 32=48-0-0, 33=48-0-0, 34=48-0-0, 35=48-0-0, 36=48-0-0, 38=48-0-0, 39=48-0-0, 40=48-0-0, 41=48-0-0, 42=48-0-0, 43=48-0-0, 44=48-0-0, 45=48-0-0, 47=48-0-0, 48=48-0-0, 49=48-0-0, 50=48-0-0, 51=48-0-0, 52=48-0-0, 53=48-0-0
Max Horiz 2=170 (LC 16)
Max Uplift 2=-33 (LC 13), 30=-108 (LC 13), 31=-30 (LC 13), 32=-56 (LC 13), 33=-50 (LC 13), 34=-51 (LC 13), 35=-51 (LC 13), 36=-50 (LC 13), 38=-56 (LC 13), 39=-43 (LC 13), 41=-41 (LC 12), 42=-49 (LC 8), 43=-45 (LC 12), 44=-46 (LC 8), 45=-46 (LC 8), 47=-46 (LC 12), 48=-46 (LC 8), 49=-46 (LC 12), 50=-45 (LC 8), 51=-49 (LC 12), 52=-36 (LC 8), 53=-91 (LC 12)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-195/90, 4-5=-148/93, 5-6=-129/107, 6-7=-111/124, 7-8=-95/141, 8-10=-79/157, 10-11=-70/174, 11-12=-81/191, 12-13=-92/216, 13-14=-104/244, 14-15=-115/271, 15-16=-127/301, 16-17=-138/325, 17-18=-141/321, 18-19=-127/262, 19-20=-112/218, 20-21=-97/183, 21-22=-83/146, 22-23=-68/110, 23-24=-58/75, 24-26=-55/43, 26-27=-74/24, 27-28=-109/29, 28-29=-107/13
BOT CHORD 2-53=-26/101, 52-53=-26/101, 51-52=-26/101, 50-51=-26/101, 49-50=-26/101, 48-49=-26/101, 47-48=-26/101, 45-47=-26/101, 44-45=-26/101, 43-44=-26/101, 42-43=-26/101, 41-42=-26/101, 40-41=-26/101, 39-40=-26/101, 38-39=-26/101, 36-38=-26/101, 35-36=-26/101, 34-35=-26/101, 33-34=-26/101, 32-33=-26/101, 31-32=-26/101, 30-31=-26/101, 29-30=-26/101

WEBS

17-40=-151/29, 16-41=-148/120, 15-42=-140/123, 14-43=-140/70, 13-44=-140/70, 12-45=-140/70, 11-47=-140/70, 10-48=-140/70, 8-49=-140/70, 7-50=-140/69, 6-51=-142/72, 5-52=-131/61, 4-53=-176/111, 18-39=-148/128, 19-38=-140/132, 20-36=-140/76, 21-35=-140/75, 22-34=-140/75, 23-33=-139/74, 24-32=-146/79, 26-31=-114/57, 27-30=-214/127

NOTES

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



February 22, 2023

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.

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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

Truss Type	Qty	Ply	I56776194
Roof Special Supported Gable	2	1	Job Reference (optional)

Emerald Townhome, OS
Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:24
ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 2

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0,
Exterior(2N) 4-1-0 to 26-9-6, Corner(3R) 26-9-6 to
31-9-6, Exterior(2N) 31-9-6 to 47-10-12 zone; cantilever
left and right exposed ; end vertical left and right
exposed;C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) 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.
- 4) All plates are 3x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 8) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

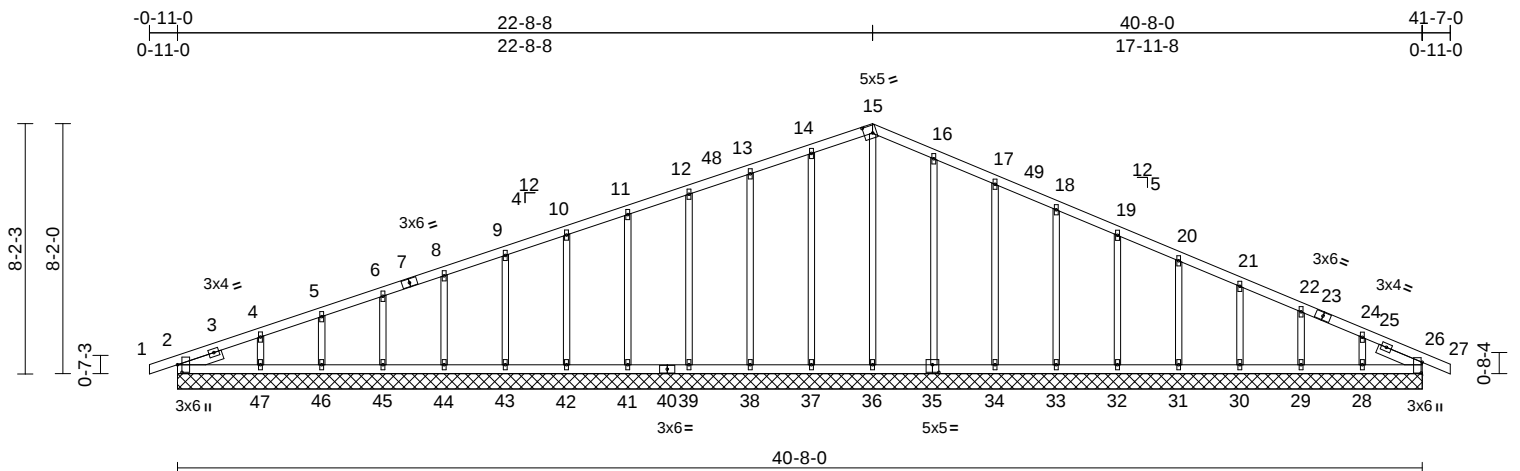


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Roof Special Supported Gable	4	1	I56776195

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:25
ID:kkw6VMCTKypJlEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCdoi7J4zJC?f

Page: 1



Scale = 1:75.3

Plate Offsets (X, Y): [2:0-3-0,0-1-12], [15:0-3-7,0-3-0], [26:0-4-3,0-0-6], [35:0-2-8,0-3-0]

Loading	(psf)	Spacing	1-11-4	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	0.05	Vert(CT)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.20	Horz(CT)	0.01	26	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 195 lb FT = 20%											

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 1-6-0, Right 2x4 SPF No.3 -- 1-6-10

BRACING
TOP CHORD Sheathed or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)
2=40-8-0, 26=40-8-0, 28=40-8-0,
29=40-8-0, 30=40-8-0, 31=40-8-0,
32=40-8-0, 33=40-8-0, 34=40-8-0,
35=40-8-0, 36=40-8-0, 37=40-8-0,
38=40-8-0, 39=40-8-0, 41=40-8-0,
42=40-8-0, 43=40-8-0, 44=40-8-0,
45=40-8-0, 46=40-8-0, 47=40-8-0
Max Horiz 2=139 (LC 12)
Max Uplift 2=-21 (LC 13), 26=-6 (LC 9),
28=-73 (LC 13), 29=-48 (LC 13),
30=-50 (LC 13), 31=-49 (LC 13),
32=-50 (LC 13), 33=-49 (LC 13),
34=-52 (LC 13), 35=-46 (LC 13),
37=-42 (LC 12), 38=-47 (LC 8),
39=-44 (LC 12), 41=-44 (LC 8),
42=-44 (LC 8), 43=-45 (LC 12),
44=-44 (LC 8), 45=-47 (LC 12),
46=-37 (LC 8), 47=-83 (LC 12)
Max Grav 2=180 (LC 1), 26=159 (LC 1),
28=167 (LC 26), 29=177 (LC 1),
30=174 (LC 26), 31=174 (LC 1),
32=174 (LC 26), 33=174 (LC 1),
34=174 (LC 26), 35=183 (LC 26),
36=172 (LC 22), 37=183 (LC 25),
38=174 (LC 25), 39=174 (LC 1),
41=174 (LC 25), 42=174 (LC 1),
43=175 (LC 25), 44=174 (LC 1),
45=178 (LC 25), 46=161 (LC 1),
47=222 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-164/68, 4-5=-118/71,
5-6=-95/80, 6-8=-78/95, 8-9=-63/111,
9-10=-48/127, 10-11=-54/144,
11-12=-65/170, 12-13=-76/197,
13-14=-87/225, 14-15=-98/250,
15-16=-101/244, 16-17=-87/197,
17-18=-73/161, 18-19=-59/126,
19-20=-44/91, 20-21=-43/56, 21-22=-50/29,
22-24=-69/19, 24-26=-113/31, 26-27=0/0
BOT CHORD 2-47=-33/119, 46-47=-33/119, 45-46=-33/119,
44-45=-33/119, 43-44=-33/119,
42-43=-33/119, 41-42=-33/119,
39-41=-33/119, 38-39=-33/119,
37-38=-33/119, 36-37=-33/119,
34-36=-33/119, 33-34=-33/119,
32-33=-33/119, 31-32=-33/119,
30-31=-33/119, 29-30=-33/119,
28-29=-33/119, 26-28=-33/119
WEBS 15-36=-134/9, 14-37=-144/120,
13-38=-135/118, 12-39=-136/68,
11-41=-136/68, 10-42=-136/68,
9-43=-136/68, 8-44=-135/67, 6-45=-138/70,
5-46=-128/60, 4-47=-167/103,
16-35=-144/128, 17-34=-135/126,
18-33=-136/73, 19-32=-136/73,
20-31=-136/73, 21-30=-135/73,
22-29=-138/72, 24-28=-128/93

NOTES
1) 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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 22-8-8, Corner(3R) 22-8-8 to 27-8-8, Exterior(2N) 27-8-8 to 41-7-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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 1.5x4 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 is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023

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

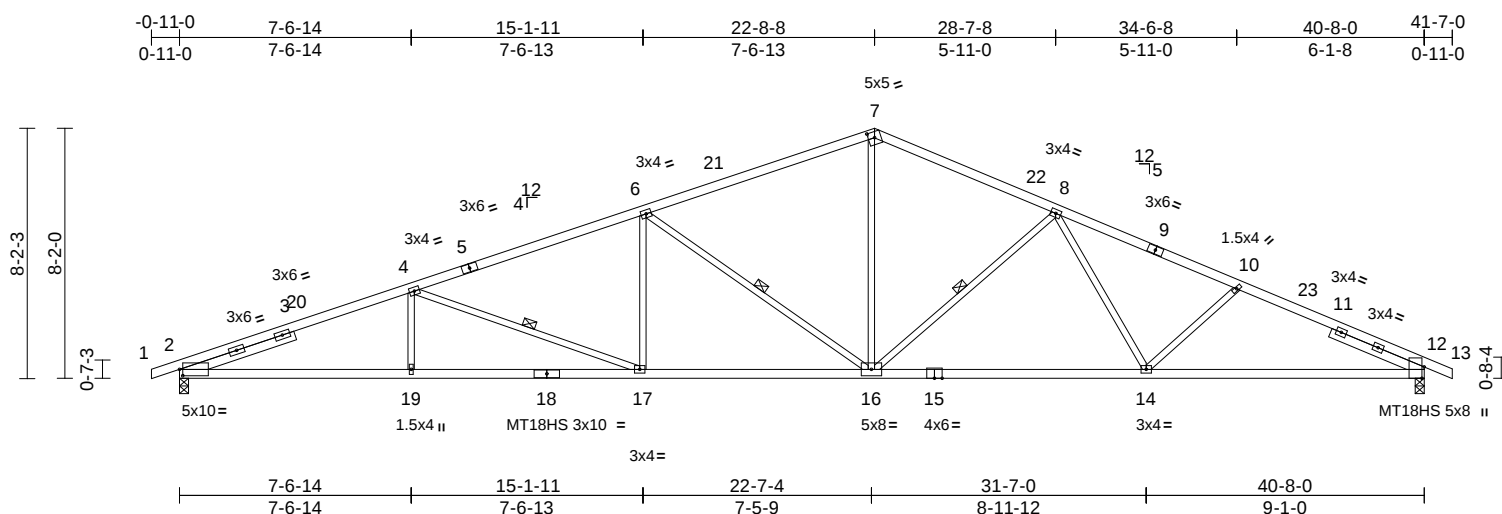
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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

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

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:75.3

Plate Offsets (X, Y): [2:0-1-4,0-2-8], [7:0-2-8,0-2-5], [12:0-4-7,Edge]

[illegible]

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 7-9:2x4 SP
No.2

BOT CHORD 2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2

SLIDER Left 2x4 SPF No.3 -- 3-11-3, Right 2x4 SPF
No.3 -- 3-3-8

BRACING

TOP CHORD	Sheathed.
BOT CHORD	Rigid ceiling directly applied or 8-3-12 oc bracing.

WEBS	1 Row at midpt	4-17, 6-16, 8-16
------	----------------	------------------

REACTIONS

(size)	2=0-3-8, 12=0-3-8
Max Horiz	2=144 (LC 16)
Max Uplift	2=-344 (LC 8), 12=-264 (LC 13)
Max Grav	2=1894 (LC 1), 12=1894 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-4386/887, 4-6=-3593/780,
6-7=-2596/642, 7-8=-2638/656,
8-10=-3379/741, 10-12=-3660/788,
12-13=0/0

BOT CHORD 2-19=-741/4047, 17-19=-741/4047,
16-17=-555/3340, 14-16=-496/2900,
12-14=-613/3225

WEBS 4-19=0/291, 4-17=-799/228, 6-17=0/476,
6-16=-1210/332, 7-16=-244/1354,
8-16=-772/271, 8-14=-25/417,
10-14=-259/196

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0,
Interior (1) 4-1-0 to 22-8-8, Exterior(2R) 22-8-8 to
27-8-8, Interior (1) 27-8-8 to 41-7-0 zone; cantilever left
and right exposed ; end vertical left and right
exposed;C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) All plates are MT20 plates unless otherwise indicated.
- 4) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 5) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1

LOAD CASE(S) Standard



February 22, 2023



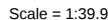
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Chesterfield, MO 63017

[illegible]

TOP CHORD	2x4 SP No.2	
BOT CHORD	2x4 SP No.2	
WEBS	2x4 SPF No.3	
OTHERS	2x3 SPF No.2	
BRACING		
TOP CHORD	Sheathed or 6-0-0 oc purlins, except end verticals.	
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.	
REACTIONS	(size)	12=14-11-0, 13=14-11-0, 14=14-11-0, 15=14-11-0, 16=14-11-0, 17=14-11-0, 18=14-11-0, 19=14-11-0, 20=14-11-0
	Max Horiz	20=179 (LC 11)
	Max Uplift	12=-56 (LC 9), 13=-104 (LC 13), 14=-72 (LC 13), 15=-74 (LC 13), 17=-75 (LC 12), 18=-71 (LC 12), 19=-111 (LC 12), 20=-81 (LC 8)
	Max Grav	12=155 (LC 19), 13=177 (LC 20), 14=189 (LC 20), 15=197 (LC 20), 16=195 (LC 22), 17=198 (LC 19), 18=187 (LC 19), 19=189 (LC 19), 20=175 (LC 20)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-20=-143/91, 1-2=0/41, 2-3=-109/106, 3-4=-79/85, 4-5=-81/165, 5-6=-121/243, 6-7=-121/243, 7-8=-81/165, 8-9=-59/79, 9-10=-80/77, 10-11=0/41, 10-12=-132/92
BOT CHORD	19-20=-83/90, 18-19=-83/90, 17-18=-83/90, 16-17=-83/90, 15-16=-83/90, 14-15=-83/90, 13-14=-83/90, 12-13=-83/90
WEBS	6-16=-182/34, 5-17=-157/118, 4-18=-149/154, 3-19=-132/126, 7-15=-156/118, 8-14=-151/154, 9-13=-126/125

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner(3E) 0-11-0 to 4-1-0,
Exterior(2N) 4-1-0 to 7-5-8, Corner(3R) 7-5-8 to 12-5-8,
Exterior(2N) 12-5-8 to 15-10-0 zone; cantilever left and
right exposed ; end vertical left and right exposed; C-C
for members and forces & MWFRS for reactions shown;
Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) All plates are 1.5x4 MT20 unless otherwise indicated.
- 5) Gable requires continuous bottom chord bearing.
- 6) Truss to be fully sheathed from one face or securely
braced against lateral movement (i.e. diagonal web).
- 7) Gable studs spaced at 2-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 9) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



February 22, 2023



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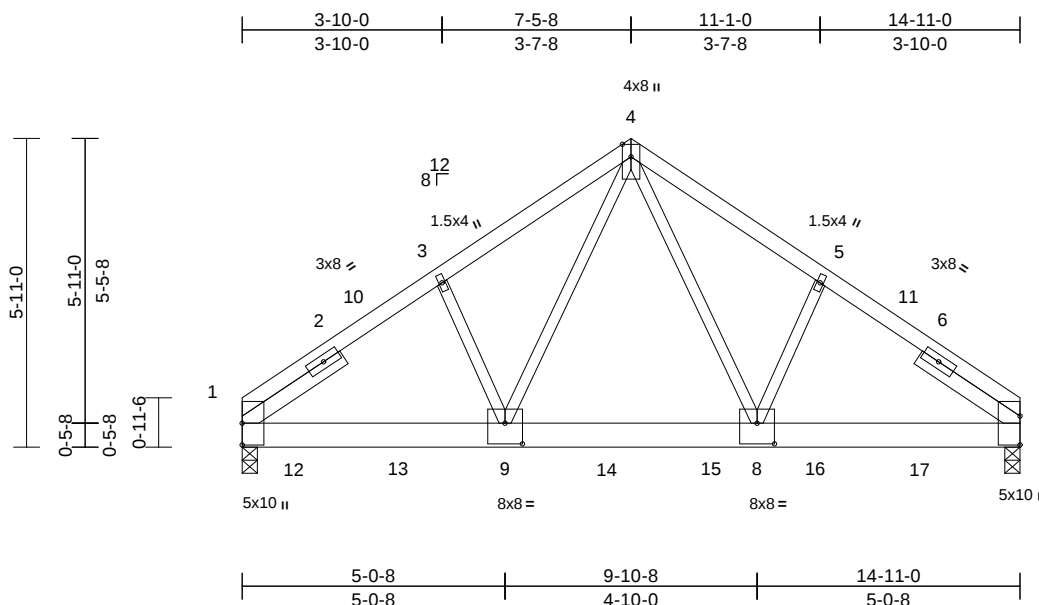


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Common Girder	3	3	

Run: 8.63 E Nov 21 2022 Print: 8.630 E Nov 21 2022 MiTek Industries, Inc. Wed Feb 22 09:05:20
ID:kkw6VMCTKypIjEPYbt576Oz_rGt-xxYwOgMASjSLqqXMZdF81YFW?OAnkwxuLF?yQYtZidrD

Page: 1



Scale = 1:44.2

Plate Offsets (X, Y): [8:0-4-0,0-4-12], [9:0-4-0,0-4-12]

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)	-0.08	8-9	>999	240	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.15	8-9	>999	180	
BCLL	0.0	Rep Stress Incr	NO	WB	0.62	Horz(CT)	0.03	7	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 244 lb FT = 20%											

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP 2400F 2.0E
WEBS	2x3 SPF No.2
SLIDER	Left 2x4 SPF No.3 -- 2-3-15, Right 2x4 SPF No.3 -- 2-3-15

BRACING

TOP CHORD	Sheathed or 4-8-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(lb/size)	1=8601/0-3-8, (req. 0-4-8), 7=7694/0-3-8, (req. 0-4-0)
Max Horiz	1=-149 (LC 10)
Max Uplift	1=-1189 (LC 12), 7=-1062 (LC 13)

FORCES

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.	
TOP CHORD	1-2=-9557/1364, 2-10=-9533/1385, 3-10=-9507/1398, 3-4=-9373/1435, 4-5=-9299/1424, 5-11=-9440/1388, 6-11=-9466/1375, 6-7=-9497/1355
BOT CHORD	1-12=-1095/7645, 12-13=-1095/7645, 9-13=-1095/7645, 9-14=-733/5628, 14-15=-733/5628, 8-15=-733/5628, 8-16=-1035/7571, 16-17=-1035/7571, 7-17=-1035/7571
WEBS	4-8=-805/5304, 5-8=-140/612, 4-9=-826/5451, 3-9=-135/573

NOTES

- 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-5-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.

- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.

- 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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 7-5-8, Exterior(2R) 7-5-8 to 12-5-8, Interior (1) 12-5-8 to 14-11-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.

- WARNING: Required bearing size at joint(s) 1, 7 greater than input bearing size.

- 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.

- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 2139 lb down and 297 lb up at 1-0-0, 2135 lb down and 298 lb up at 3-0-0, 2135 lb down and 298 lb up at 5-0-0, 2135 lb down and 298 lb up at 7-0-0, 2135 lb down and 298 lb up at 9-0-0, and 2135 lb down and 298 lb up at 11-0-0, and 2139 lb down and 297 lb up at 13-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 4-7=-70, 1-7=-20
Concentrated Loads (lb)

Vert: 9=-2135 (B), 12=-2139 (B), 13=-2135 (B),
14=-2135 (B), 15=-2135 (B), 16=-2135 (B),
17=-2139 (B)



February 22, 2023

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

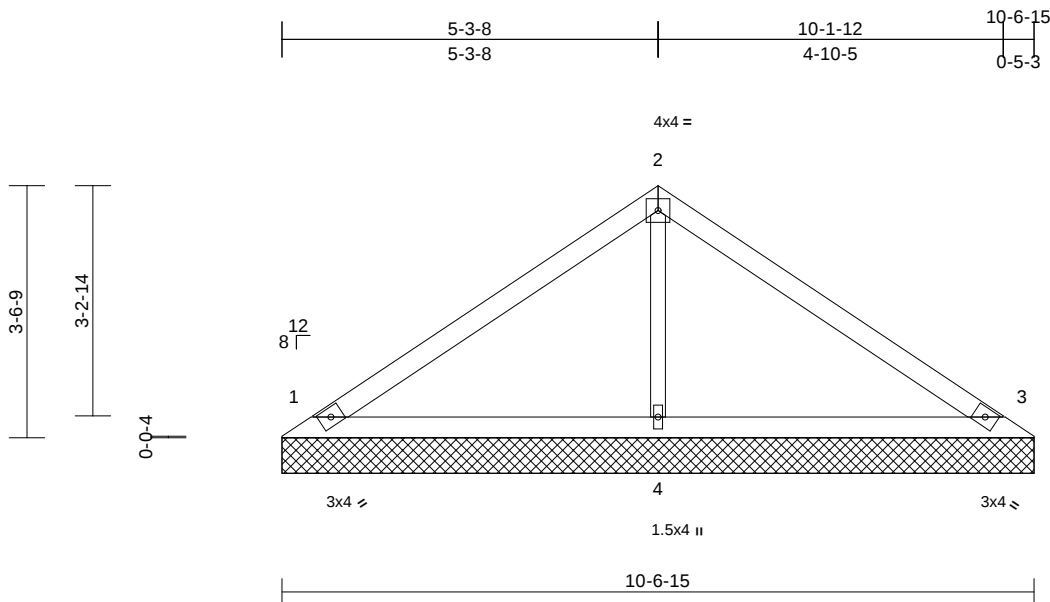
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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



Scale = 1:32.4

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	0.40	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.08	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 35 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

BRACING

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

REACTIONS

(size) 1=10-6-15, 3=10-6-15, 4=10-6-15
Max Horiz 1=87 (LC 9)
Max Uplift 1=-41 (LC 12), 3=-52 (LC 13),
4=-30 (LC 12)
Max Grav 1=218 (LC 1), 3=218 (LC 1), 4=435 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-166/80, 2-3=-165/78
BOT CHORD 1-4=-16/73, 3-4=-16/73
WEBS 2-4=-262/100

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



February 22, 2023

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

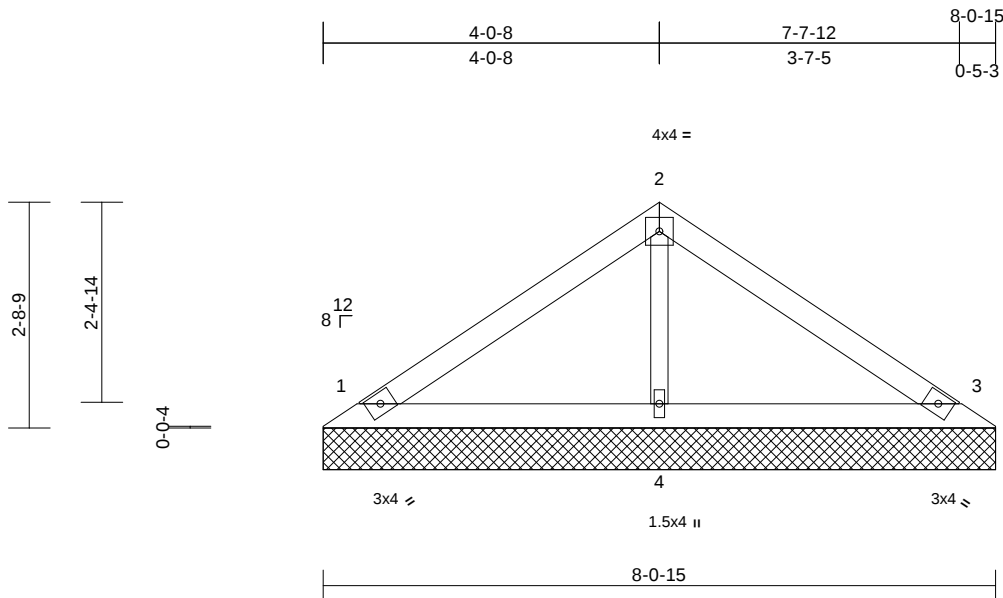
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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

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16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:27.7

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	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 27 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

BRACING

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

REACTIONS

(size) 1=8-0-15, 3=8-0-15, 4=8-0-15
Max Horiz 1=-65 (LC 8)
Max Uplift 1=-43 (LC 12), 3=-51 (LC 13)
Max Grav 1=182 (LC 1), 3=182 (LC 1), 4=283 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-113/65, 2-3=-108/65
BOT CHORD 1-4=-13/53, 3-4=-13/53
WEBS 2-4=-193/95

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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



February 22, 2023

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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

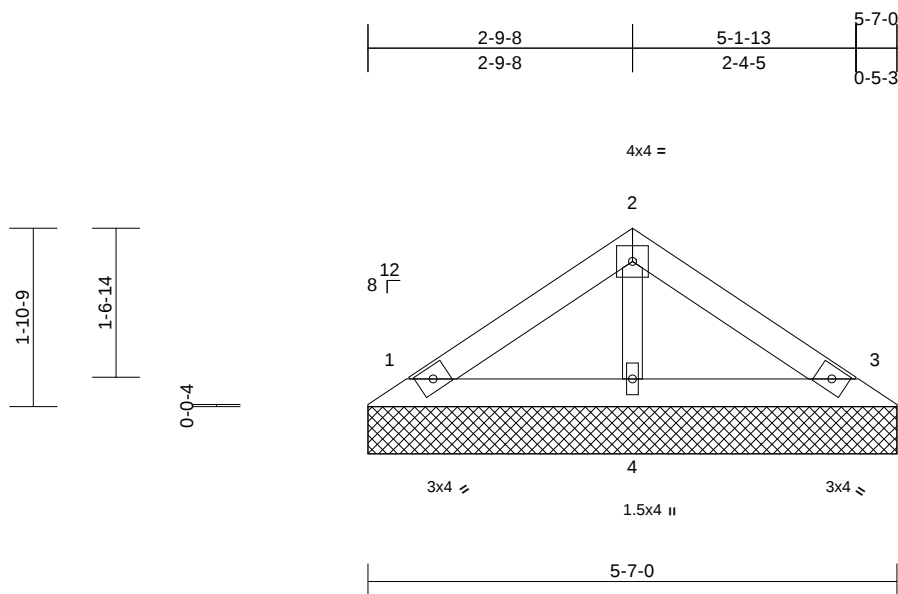


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Valley	2	1	I56776201

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Tue Feb 21 17:22:27
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Page: 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	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 18 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

BRACING

TOP CHORD Sheathed or 5-7-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=5-7-0, 3=5-7-0, 4=5-7-0
Max Horiz 1=-42 (LC 8)
Max Uplift 1=-28 (LC 12), 3=-33 (LC 13)
Max Grav 1=119 (LC 1), 3=119 (LC 1), 4=184 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-74/50, 2-3=-71/50
BOT CHORD 1-4=-9/35, 3-4=-9/35
WEBS 2-4=-126/77

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=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; 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.



February 22, 2023

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

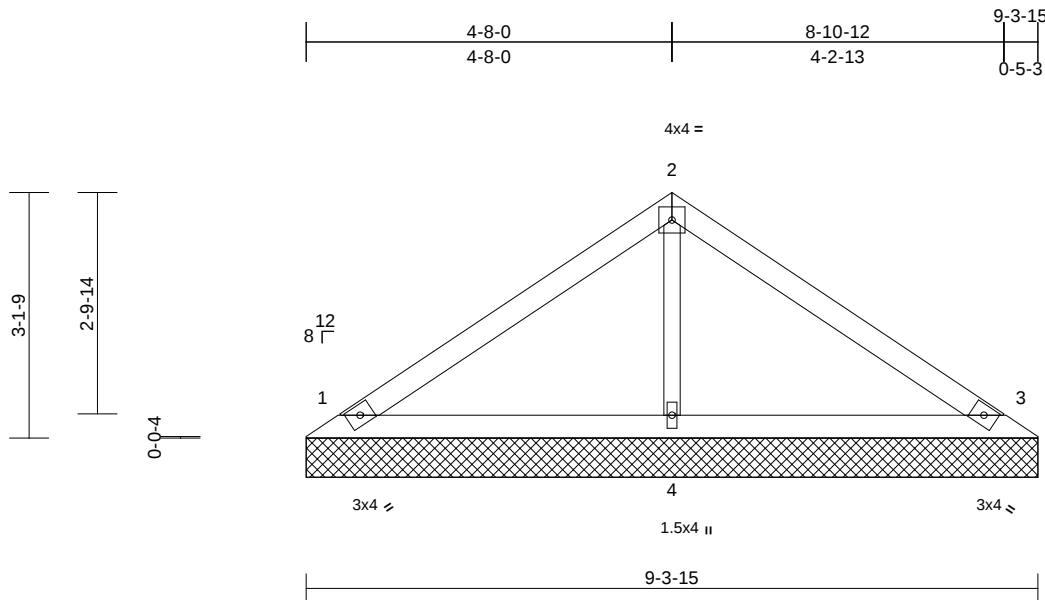
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Job Reference (optional)
Valley	1	1	I56776202

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Scale = 1:29.4

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	0.30	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.06	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 31 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

BRACING

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

REACTIONS

(size) 1=9-3-15, 3=9-3-15, 4=9-3-15
Max Horiz 1=-76 (LC 8)
Max Uplift 1=-36 (LC 12), 3=-46 (LC 13),
4=-26 (LC 12)
Max Grav 1=190 (LC 1), 3=190 (LC 1), 4=379 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-144/72, 2-3=-144/72
BOT CHORD 1-4=-14/64, 3-4=-14/64
WEBS 2-4=-228/95

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) 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.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 4-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



February 22, 2023

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16023 Swingley Ridge Rd
Chesterfield, MO 63017



LUMBER

7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

BRACING

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

REACTIONS

(size) 1=6-9-15, 3=6-9-15, 4=6-9-15
 Max Horiz 1=-53 (LC 10)
 Max Uplift 1=-35 (LC 12), 3=-42 (LC 13)
 Max Grav 1=150 (LC 1), 3=150 (LC 1), 4=233 (LC 1)

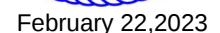
FORCES

(Ib) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-94/58, 2-3=-90/58
BOT CHORD	1-4=-11/44, 3-4=-11/44
WEBS	2-4=-159/88

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) zone; cantilever left
and right exposed ; end vertical left and right
exposed; C-C for members and forces & MWFRS for
reactions shown; Lumber DOL=1.60 plate grip
DOL=1.60
- 3) 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/ITPI 1.
- 4) Gable requires continuous bottom chord bearing.
- 5) Gable studs spaced at 2-0-0 oc.
- 6) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.



WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE MH-7473 (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 personnel 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 Code**

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

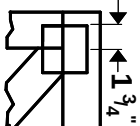
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



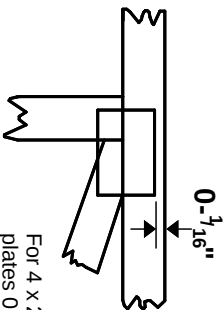
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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- $\frac{1}{16}$ " from outside edge of truss.

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

* Plate location details available in **MiTek 20120** software or upon request.

PLATE SIZE

4 X 4

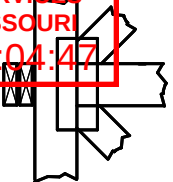
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING



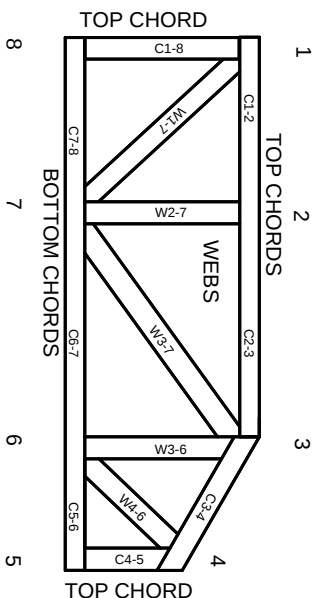
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI 1: National Design Specification for Metal Plate Connected Wood Truss Construction.
BCS: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

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



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.