



RE: P230146-01 - Roof - Osage Lot 4

Site Information:

Project Customer: Clover & Hive Project Name: Emerald Townhome

Lot/Block: 4 Subdivision: Osage

Model:

Address: 2012/2014/2016/2018 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	I57526613	A1	4/3/23
2	I57526614	A2	4/3/23
3	I57526615	A3	4/3/23
4	I57526616	A4	4/3/23
5	I57526617	B1	4/3/23
6	I57526618	B2	4/3/23
7	I57526619	C1	4/3/23
8	I57526620	C2	4/3/23
9	I57526621	C3	4/3/23
10	I57526622	C4	4/3/23
11	I57526623	D1	4/3/23
12	I57526624	D2	4/3/23
13	I57526625	D3	4/3/23
14	I57526626	E1	4/3/23
15	I57526627	E2	4/3/23
16	I57526628	G1	4/3/23
17	I57526629	G2	4/3/23
18	I57526630	V1	4/3/23
19	I57526631	V2	4/3/23
20	I57526632	V3	4/3/23
21	I57526633	V4	4/3/23
22	I57526634	V5	4/3/23
23	I57526635	V6	4/3/23
24	I57526636	V7	4/3/23

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.

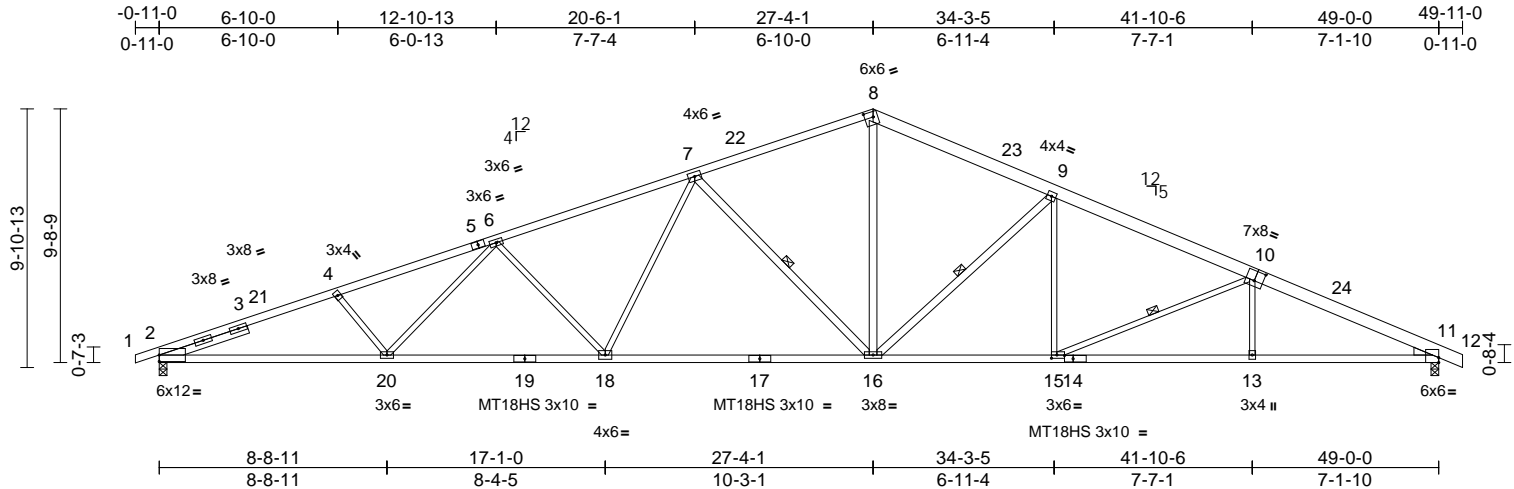


April 3, 2023

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special Structural Gable	1	1	Job Reference (optional)
I57526613			

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:04
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Page: 1



Scale = 1:88.2

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [10:0-4-0,0-4-8], [11:Edge,0-2-5], [14:0-3-15,0-1-8], [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	0.87	Vert(LL)	-0.41	18-20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.92	16-18	>640	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.26	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 240 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SPF No.2 *Except* 1-5:2x4 SP 2400F
2.0E, 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except*
14-17,17-19:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 16-8,16-9,16-7:2x4
SP No.2
WEDGE Right: 2x4 SP No.3
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD Sheathed or 2-6-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 7-11-11 oc
bracing.

WEBS 1 Row at midpt 9-16, 10-15, 7-16

REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=-174 (LC 17)
Max Uplift 2=-406 (LC 8), 11=-315 (LC 13)
Max Grav 2=2262 (LC 1), 11=2273 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum
Tension
TOP CHORD 1-2=0/0, 2-4=-5398/1091, 4-6=-5153/1058,
6-7=-4367/941, 7-8=-3084/765,
8-9=-3203/778, 9-11=-4619/925, 11-12=0/6
BOT CHORD 2-20=-933/4974, 18-20=-799/4581,
16-18=-588/3696, 15-16=-575/3552,
13-15=-732/4129, 11-13=-737/4121
WEBS 6-20=-57/449, 7-18=-109/863,
8-16=-328/1710, 9-16=-985/315,
9-15=-6/428, 4-20=-235/179, 10-13=0/311,
10-15=-682/221, 7-16=-1239/370,
6-18=-783/288

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) 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) 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.
- 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



April 3, 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

Roof Special

Qty

Ply

Roof - Osage Lot 4

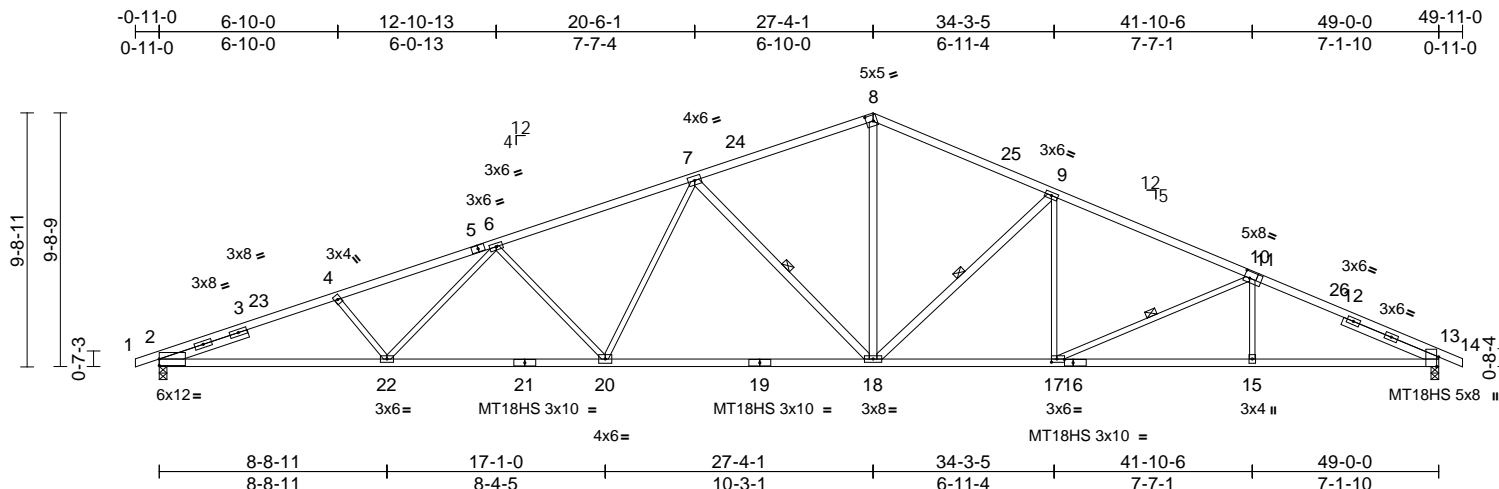
I57526614

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:06

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Scale = 1:88.2

Plate Offsets (X, Y): [8:0-3-3,0-2-12], [11:0-2-8,0-3-0], [13:0-4-7,Edge], [16:0-3-15,0-1-8], [17:0-2-8,0-1-8]

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	0.87	Vert(LL)	-0.42	20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.93	18-20	>632	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.76	Horz(CT)	0.26	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 238 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 2400F 2.0E *Except* 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 19-16,21-19:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 18-7,18-8,18-9:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9, Right 2x4 SP No.2 -- 3-11-8

BRACING

TOP CHORD Sheathed or 2-6-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 7-11-4 oc bracing.

WEBS 1 Row at midpt 7-18, 9-18, 10-17

REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=172 (LC 12)
Max Uplift 2=407 (LC 8), 13=313 (LC 13)
Max Grav 2=2269 (LC 1), 13=2269 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5416/1094, 4-6=-5172/1062, 6-7=-4388/945, 7-8=-3097/768, 8-9=-3204/781, 9-10=-3932/858, 10-13=-4553/914, 13-14=0/0
BOT CHORD 2-22=-939/4992, 20-22=-806/4600, 18-20=-598/3715, 17-18=-575/3549, 15-17=-721/4033, 13-15=-721/4033
WEBS 4-22=-235/180, 6-22=-57/449, 6-20=-781/288, 7-20=-108/862, 7-18=-1260/375, 8-18=-330/1725, 9-18=-979/312, 9-17=-7/415, 10-17=-604/211, 10-15=0/285

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) 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



April 3,2023

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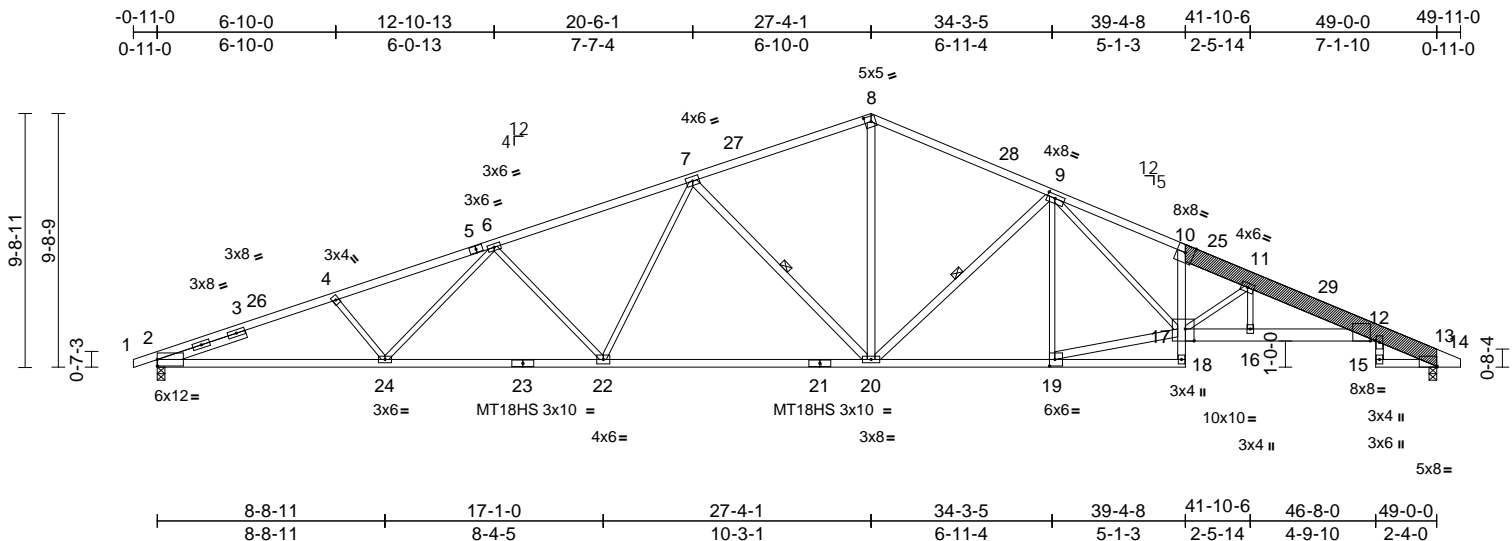


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special	5	1	Job Reference (optional)
I57526615			

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:07
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Page: 1



Scale = 1:88.2

Plate Offsets (X, Y): [8:0-2-15,0-2-8], [9:0-3-10,0-1-12], [12:0-2-8,Edge], [13:Edge,0-0-6], [17:0-4-0,Edge], [19:0-2-8,0-3-0]

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	0.87	Vert(LL)	-0.49	20-22	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-1.05	20-22	>558	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.41	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH								
											Weight: 304 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP 1650F 1.5E *Except* 1-5:2x4 SP 2400F 2.0E, 10-14:2x8 SP 2400F 2.0E
BOT CHORD	2x4 SP 2400F 2.0E *Except* 18-10,21-23:2x4 SP 1650F 1.5E, 17-12:2x6 SP 2400F 2.0E, 12-15,15-13:2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 20-8,20-7,20-9,19-17:2x4 SP No.2
LBR SCAB	10-13 SP 2400F 2.0E one side
SLIDER	Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-5-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 7-11-8 oc bracing.
WEBS	1 Row at midpt 7-20, 9-20

REACTIONS

(size)	2=0-3-8, 13=0-3-8
Max Horiz	2=172 (LC 16)
Max Uplift	2=-406 (LC 8), 13=-305 (LC 13)
Max Grav	2=2263 (LC 1), 13=2243 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/0, 2-4=-5399/1091, 4-6=-5154/1058, 6-7=-4368/942, 7-8=-3081/764, 8-9=-3182/776, 9-11=-5579/1203, 11-12=-6570/1303, 12-13=-1083/253, 13-14=0/0
BOT CHORD	2-24=-936/4976, 22-24=-803/4582, 20-22=-596/3697, 19-20=-566/3496, 18-19=-78/499, 17-18=0/99, 10-17=-142/102, 16-17=-1133/6252, 12-16=-1133/6249, 12-15=-1/72, 13-15=-1/15
WEBS	4-24=-235/180, 6-24=-57/451, 6-22=-782/287, 7-22=-110/859, 8-20=-321/1696, 7-20=-1258/376, 9-19=-566/174, 9-20=-931/305, 17-19=-500/3067, 9-17=-460/2259, 11-17=-1502/336, 11-16=-3/336

NOTES

- Attached 10-8-2 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 6-11-4 from end at joint 10, nail 2 row(s) at 2" o.c. for 2-0-0.
- 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 49-6-0 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
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- This truss 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



April 3,2023

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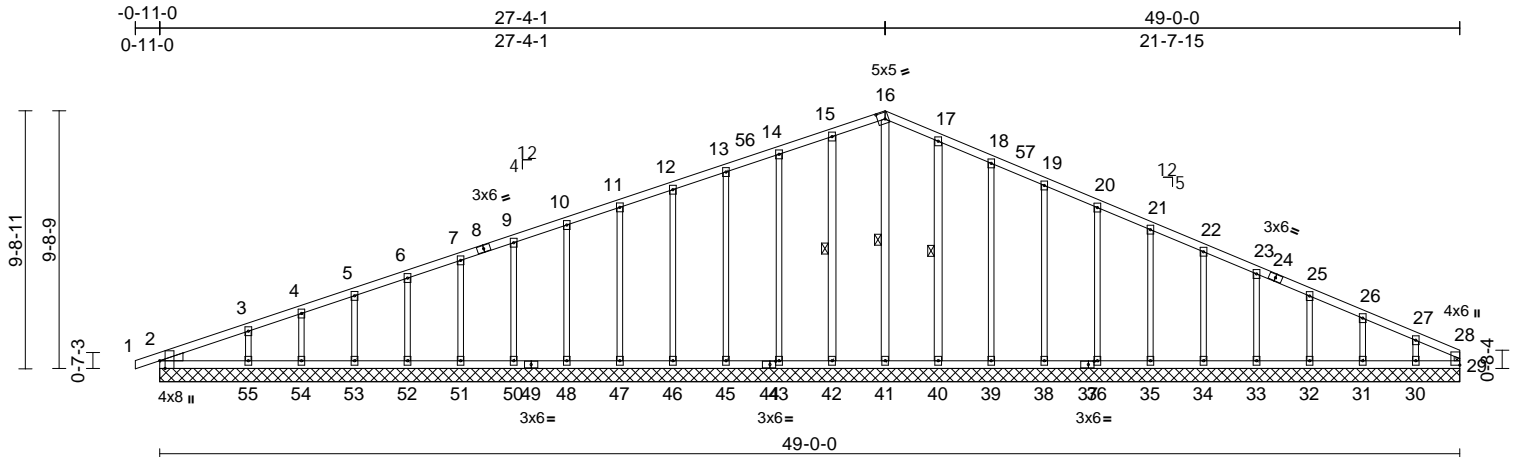
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526616
Roof Special Supported Gable	1	1	Job Reference (optional)	

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:07

Page: 1

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Scale = 1:86.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [16:0-3-7,0-3-0], [37:0-2-10,0-1-8], [44:0-2-10,0-1-8]

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	0.22	Horz(CT)	0.01	29	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 263 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 *Except*
41-16,42-15,40-17:2x4 SP 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, 38=49-0-0, 39=49-0-0, 40=49-0-0, 41=49-0-0, 42=49-0-0, 43=49-0-0, 45=49-0-0, 46=49-0-0, 47=49-0-0, 48=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=-27 (LC 13), 30=-97 (LC 13), 31=-43 (LC 13), 32=-53 (LC 13), 33=-51 (LC 13), 34=-51 (LC 13), 35=-51 (LC 13), 36=-51 (LC 13), 38=-51 (LC 13), 39=-53 (LC 13), 40=-48 (LC 13), 42=-44 (LC 12), 43=-47 (LC 8), 45=-46 (LC 12), 46=-46 (LC 8), 47=-46 (LC 8), 48=-46 (LC 12), 50=-46 (LC 8), 51=-46 (LC 12), 52=-45 (LC 8), 53=-48 (LC 12), 54=-37 (LC 8), 55=-92 (LC 12)

Max Grav 2=202 (LC 1), 29=86 (LC 22), 30=175 (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), 38=181 (LC 1), 39=177 (LC 26), 40=191 (LC 26), 41=199 (LC 22), 42=192 (LC 25), 43=177 (LC 25), 45=181 (LC 1), 46=180 (LC 25), 47=180 (LC 1), 48=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=-204/92, 3-4=-145/93, 4-5=-122/103, 5-6=-101/118, 6-7=-80/135, 7-9=-63/152, 9-10=-57/168, 10-11=-68/185, 11-12=-80/210, 12-13=-91/238, 13-14=-103/266, 14-15=-114/295, 15-16=-126/320, 16-17=-129/316, 17-18=-114/256, 18-19=-99/214, 19-20=-85/178, 20-21=-70/142, 21-22=-55/106, 22-23=-41/70, 23-25=-39/44, 25-26=-60/30, 26-27=-84/29, 27-28=-127/45, 28-29=-62/0

BOT CHORD 2-55=-40/113, 54-55=-40/113, 53-54=-40/113, 52-53=-40/113, 51-52=-40/113, 50-51=-40/113, 48-50=-40/113, 47-48=-40/113, 46-47=-40/113, 45-46=-40/113, 43-45=-40/113, 42-43=-40/113, 41-42=-40/113, 40-41=-40/113, 39-40=-40/113, 38-39=-40/113, 36-38=-40/113, 35-36=-40/113, 34-35=-40/113, 33-34=-40/113, 32-33=-40/113, 31-32=-40/113, 30-31=-40/113, 29-30=-40/113

WEBS

16-41=-159/26, 15-42=-152/125, 14-43=-137/119, 13-45=-141/72, 12-46=-140/70, 11-47=-140/70, 10-48=-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=-151/134, 18-39=-137/128, 19-38=-141/77, 20-36=-140/75, 21-35=-140/75, 22-34=-140/75, 23-33=-140/75, 25-32=-140/76, 26-31=-141/72, 27-30=-135/95

NOTES

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



April 3, 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	Roof - Osage Lot 4
Roof Special Supported Gable	1	1	I57526616
Job Reference (optional)			

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. Mon Apr 03 02:55:07

Page: 2

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- 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.

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type

Roof Special Structural Gable

Qty

Ply

Roof - Osage Lot 4

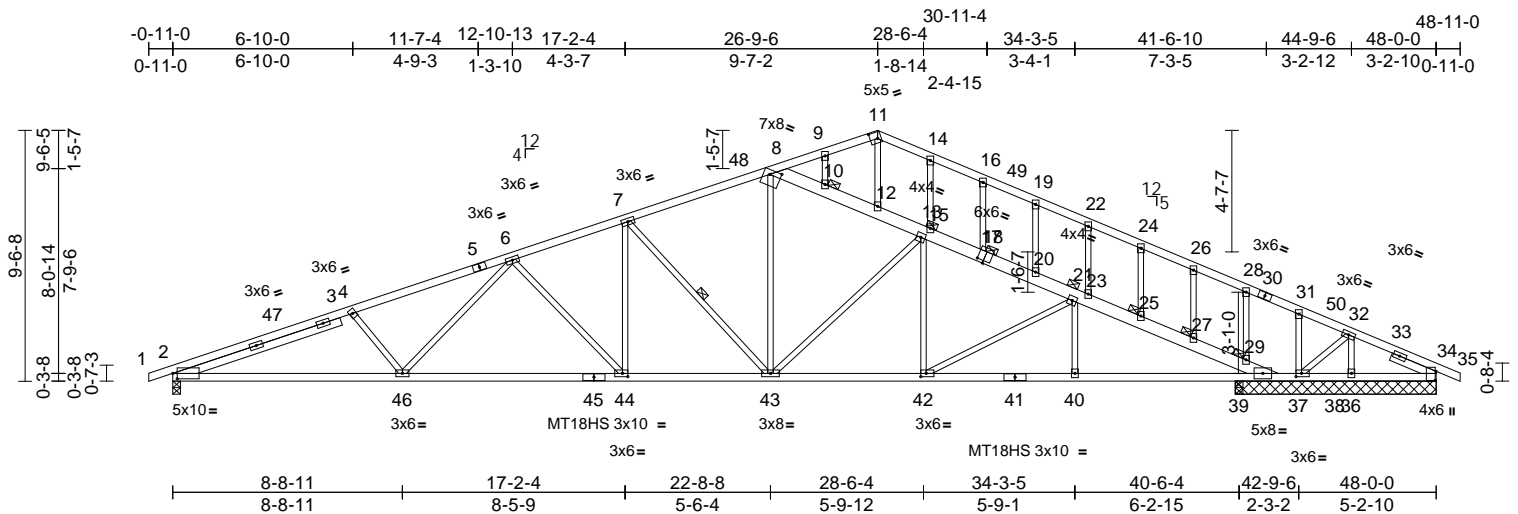
I57526617

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:08

Page: 1

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
04/26/2023 4:42:34

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special Structural Gable	4	1	I57526617
Job Reference (optional)			

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. Mon Apr 03 02:55:08

Page: 2

ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f

- 9) 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

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

Roof Special

Qty

Ply

Roof - Osage Lot 4

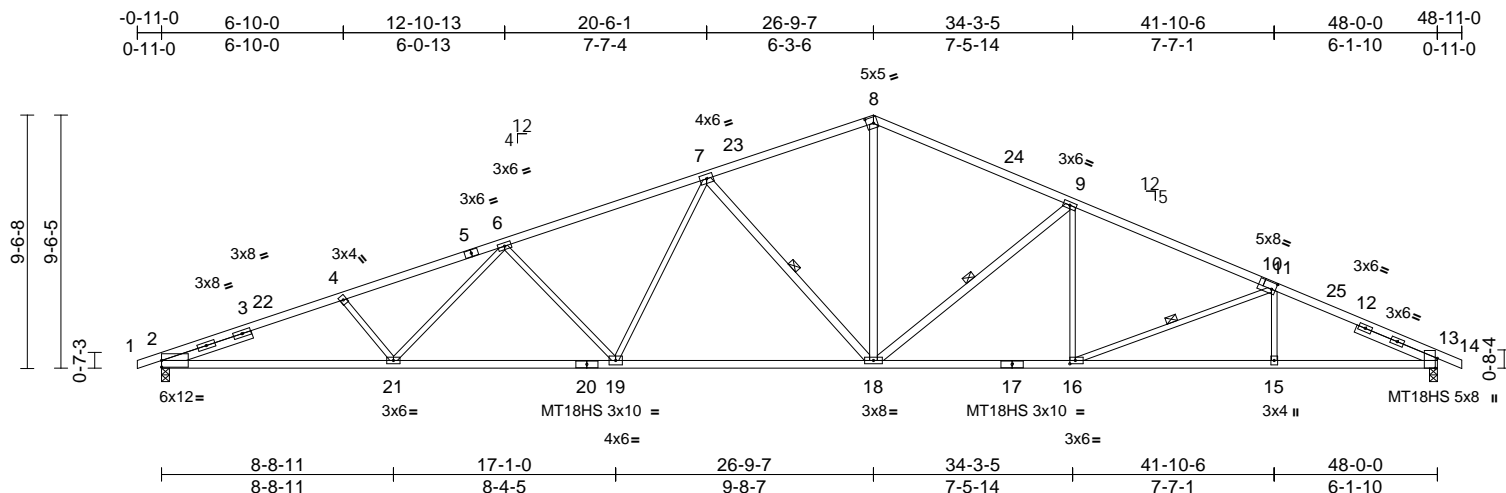
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Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:09

Page: 1

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Truss Type

Roof Special Structural Gable

Qty

Ply

Roof - Osage Lot 4

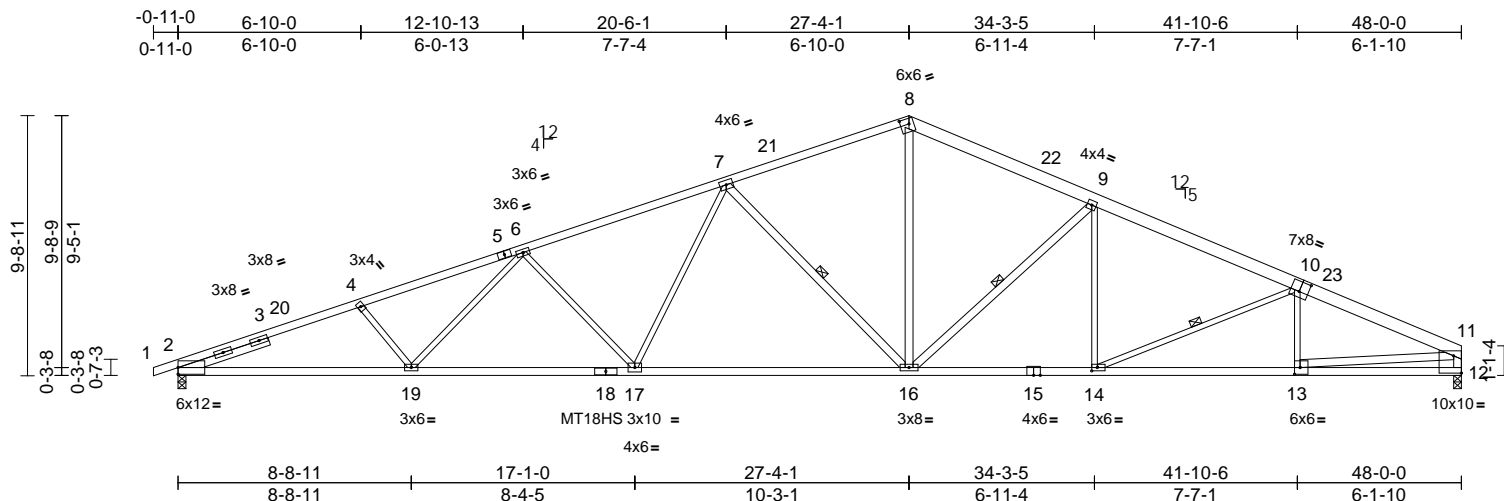
I57526619

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:09

Page: 1

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Scale = 1:86.2

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [10:0-4-0,0-4-8], [12:Edge,0-7-12], [13:0-2-8,0-3-0], [14:0-2-8,0-1-8]

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	0.89	Vert(LL)	-0.36	17-19	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.77	16-17	>745	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.19	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 243 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SPF 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*
16-7,16-8,16-9,13-11:2x4 SP No.2, 12-11:2x4
SPF No.3
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD Sheathed or 2-7-12 oc purlins, except end
verticals.
BOT CHORD Rigid ceiling directly applied or 8-7-7 oc
bracing.
WEBS 1 Row at midpt 7-16, 9-16, 10-14

REACTIONS

(size) 2=0-3-8, 12=0-3-8
Max Horiz 2=174 (LC 12)
Max Uplift 2=402 (LC 8), 12=277 (LC 13)
Max Grav 2=2218 (LC 1), 12=2153 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum
Tension
TOP CHORD 1-2=0/0, 2-4=-5276/1068, 4-6=-5028/1035,
6-7=-4235/916, 7-8=-2948/739,
8-9=-3064/759, 9-11=-3905/823,
11-12=-2083/496
BOT CHORD 2-19=-933/4860, 17-19=-821/4457,
16-17=-619/3569, 14-16=-566/3322,
13-14=-693/3517, 12-13=-104/380
WEBS 4-19=-239/180, 6-19=-58/454,
6-17=-785/289, 7-17=-109/865,
7-16=-1242/370, 8-16=-312/1617,
9-16=-874/297, 9-14=0/329, 10-14=-338/160,
10-13=-285/174, 11-13=-602/3177

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) 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.
- 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



April 3, 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

Qty

Ply

Roof - Osage Lot 4

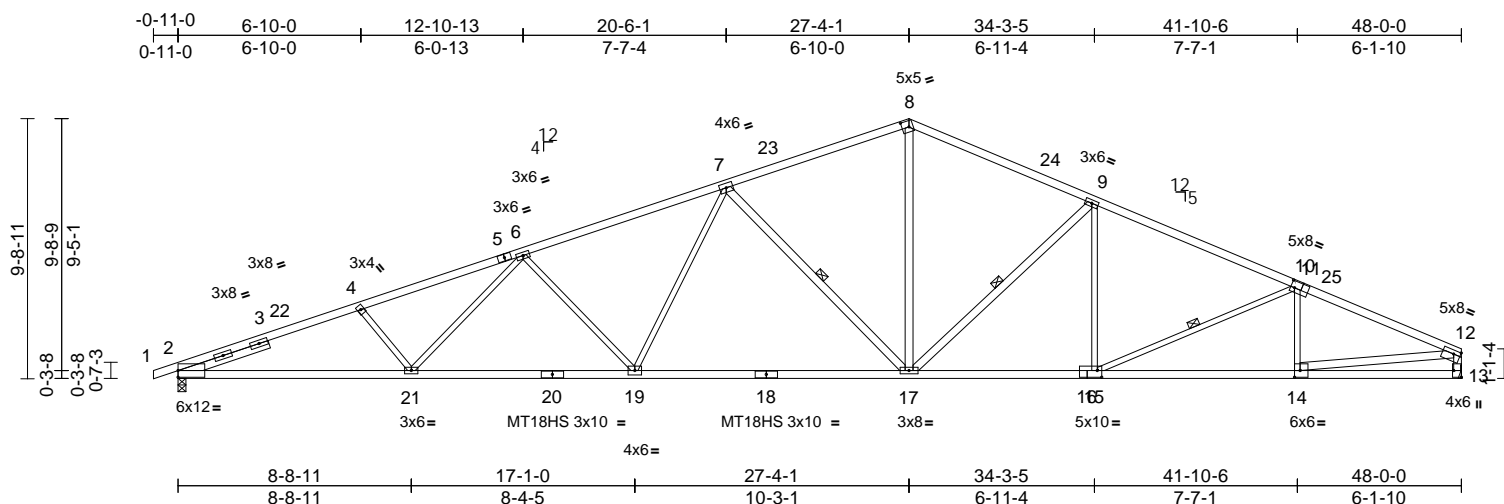
I57526620

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:10

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Scale = 1:86.2

Plate Offsets (X, Y): [8:0-3-3,0-2-12], [11:0-1-12,0-3-0], [12:0-3-0,0-1-12], [13:Edge,0-3-8], [14:0-2-8,0-3-0], [16:0-2-0,0-3-0]

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	0.83	Vert(LL)	-0.39	19-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.89	17-19	>647	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.79	Horz(CT)	0.22	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 237 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*

16-18,18-20:2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2 *Except*

17-7,17-8,17-9,14-12:2x4 SP No.2,

13-12:2x4 SPF No.3

SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD Sheathed or 2-7-11 oc purlins, except end

verticals.

BOT CHORD Rigid ceiling directly applied or 7-10-1 oc

bracing.

WEBS 1 Row at midpt 7-17, 9-17, 10-15

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=-5276/1068, 4-6=-5028/1034,

6-7=-4235/916, 7-8=-2941/739,

8-9=-3042/755, 9-10=-3646/814,

10-12=-3810/801, 12-13=-2084/496

BOT CHORD 2-21=-938/4860, 19-21=-827/4457,

17-19=-624/3569, 15-17=-559/3275,

14-15=-681/3451, 13-14=-99/255

WEBS 7-17=-1262/375, 4-21=-240/180,

7-19=-108/863, 8-17=-311/1607, 9-15=0/323,

10-14=-336/181, 6-21=-58/455,

9-17=-836/288, 10-15=-321/159,

6-19=-783/288, 12-14=-588/3229

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



April 3, 2023

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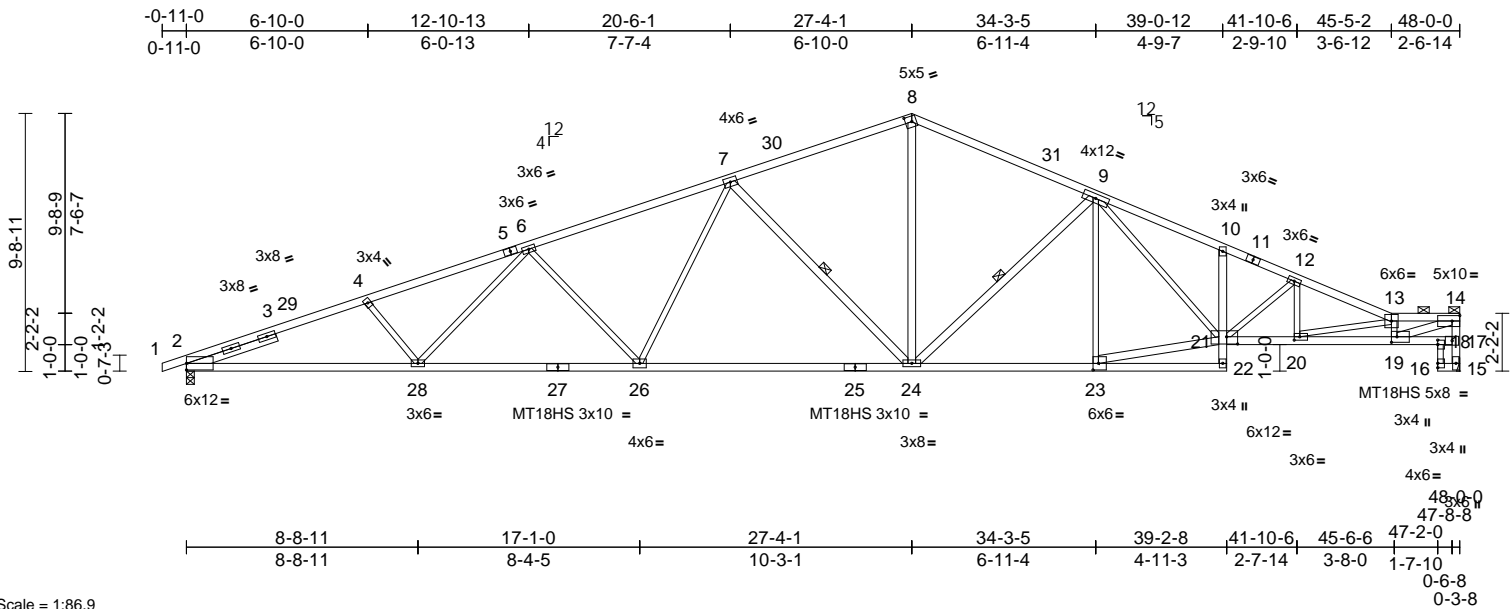


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526621
Roof Special	5	1	Job Reference (optional)	

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Page: 1



Scale = 1:86.9

Plate Offsets (X, Y): [8:0-2-15,0-2-8], [18:0-2-0,Edge], [19:0-2-8,0-2-8], [20:0-2-8,0-1-8], [21:0-5-0,0-3-4], [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	0.93	Vert(LL)	-0.44	24-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.98	24-26	>588	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.36	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 251 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP 1650F 1.5E *Except* 13-14,11-13:2x4 SP No.2, 1-5:2x4 SP 2400F 2.0E
BOT CHORD	2x4 SP 2400F 2.0E *Except* 22-10,16-15:2x4 SP No.2, 18-16:2x3 SPF No.2, 27-25:2x4 SP 1650F 1.5E
WEBS	2x3 SPF No.2 *Except* 14-15,24-7,24-8,24-9,23-21:2x4 SP No.2, 19-14:2x4 SP 1650F 1.5E
SLIDER	Left 2x4 SPF No.3 -- 3-6-9
BRACING	
TOP CHORD	Sheathed or 1-7-12 oc purlins, except end verticals, and 2-0-0 oc purlins (2-3-11 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=-5276/1067, 4-6=-5029/1034, 6-7=-4234/916, 7-8=-2944/737, 8-9=-3041/734, 9-10=-4693/1026, 10-12=-4758/974, 12-13=-5262/1030, 13-14=-5034/959, 15-17=-2058/402, 14-17=-1914/380
BOT CHORD	2-28=-1008/4860, 26-28=-896/4457, 24-26=-693/3569, 23-24=-611/3259, 22-23=-56/337, 21-22=0/94, 10-21=-173/104, 20-21=-952/4837, 19-20=-1044/5273, 18-19=-105/380, 17-18=-113/431, 16-18=-83/27, 15-16=-51/14

- WEBS**
- 4-28=-240/180, 6-28=-57/456, 6-26=-784/287, 7-26=-110/860, 7-24=-1259/376, 8-24=-300/1597, 9-24=-811/279, 9-23=-521/182, 21-23=-567/2985, 9-21=-341/1598, 13-19=-2031/439, 14-19=-950/4981, 12-21=-633/145, 12-20=-9/330, 13-20=-449/104
- 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



April 3, 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/TPI Quality Criteria, DSB-89 and BCSI Building Component

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

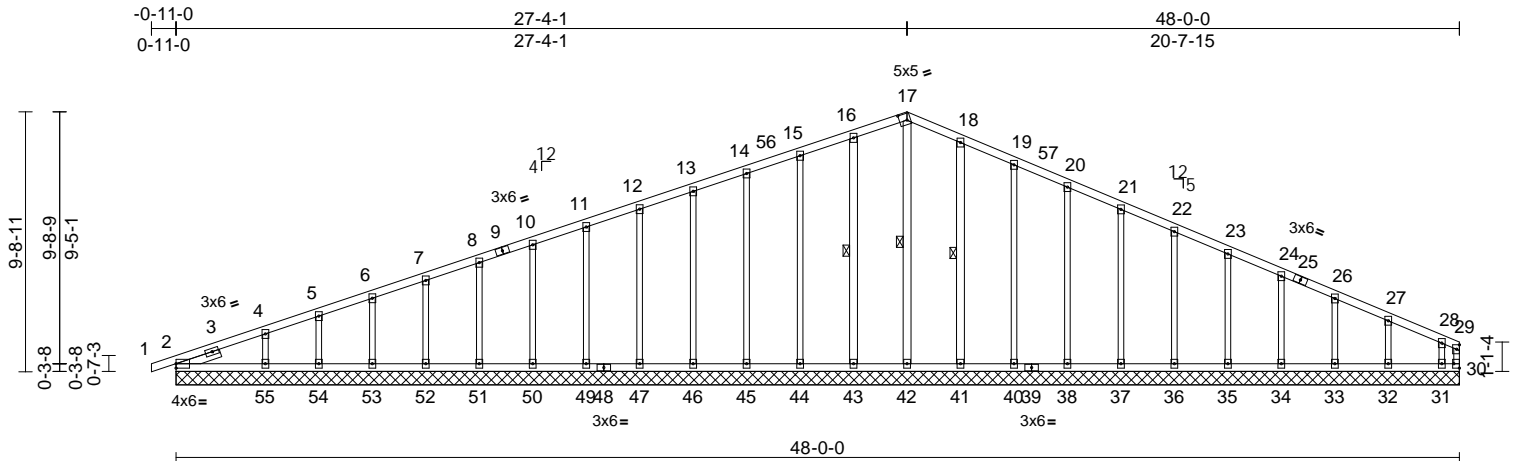


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special Supported Gable	1	1	Job Reference (optional)
			I57526622

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:11
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Page: 1



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	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999	
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	30	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 261 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 *Except*
42-17,43-16,41-18:2x4 SP 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 16)
Max Uplift 2=-36 (LC 13), 30=-3 (LC 26),
31=171 (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=-51 (LC 13),
40=-54 (LC 13), 41=-47 (LC 13),
43=-44 (LC 12), 44=-47 (LC 8),
45=-46 (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)

Max Grav 2=205 (LC 1), 30=165 (LC 13),
31=140 (LC 26), 32=187 (LC 1),
33=178 (LC 26), 34=180 (LC 1),
35=180 (LC 26), 36=180 (LC 1),
37=180 (LC 26), 38=181 (LC 1),
40=177 (LC 1), 41=191 (LC 26),
42=203 (LC 22), 43=191 (LC 25),
44=177 (LC 25), 45=181 (LC 1),
46=180 (LC 25), 47=180 (LC 1),
49=180 (LC 25), 50=180 (LC 1),
51=180 (LC 25), 52=178 (LC 1),
53=189 (LC 25), 54=145 (LC 1),
55=282 (LC 25)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-188/102, 4-5=-139/103,
5-6=-121/119, 6-7=-99/136, 7-8=-79/153,
8-10=-63/170, 10-11=-71/187,
11-12=-82/209, 12-13=-93/237,
13-14=-105/265, 14-15=-116/293,
15-16=-128/322, 16-17=-139/347,
17-18=-143/344, 18-19=-128/283,
19-20=-113/225, 20-21=-99/188,
21-22=-84/152, 22-23=-69/116,
23-24=-55/80, 24-26=-40/54, 26-27=-53/32,
27-28=-72/27, 28-29=-116/41, 29-30=-99/31
BOT CHORD 2-55=-33/85, 54-55=-33/85, 53-54=-33/85,
52-53=-33/85, 51-52=-33/85, 50-51=-33/85,
49-50=-33/85, 47-49=-33/85, 46-47=-33/85,
45-46=-33/85, 44-45=-33/85, 43-44=-33/85,
42-43=-33/85, 41-42=-33/85, 40-41=-33/85,
38-40=-33/85, 37-38=-33/85, 36-37=-33/85,
35-36=-33/85, 34-35=-33/85, 33-34=-33/85,
32-33=-33/85, 31-32=-33/85, 30-31=-33/85

WEBS

17-42=-163/33, 16-43=-151/125,
15-44=-137/119, 14-45=-141/72,
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=-151/133, 19-40=-137/128,
20-38=-141/77, 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=-110/120

NOTES

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



April 3, 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.

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

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

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special Supported Gable	1	1	I57526622
Job Reference (optional)			

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. Mon Apr 03 02:55:11
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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 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

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

Roof Special

Qty

Ply

Roof - Osage Lot 4

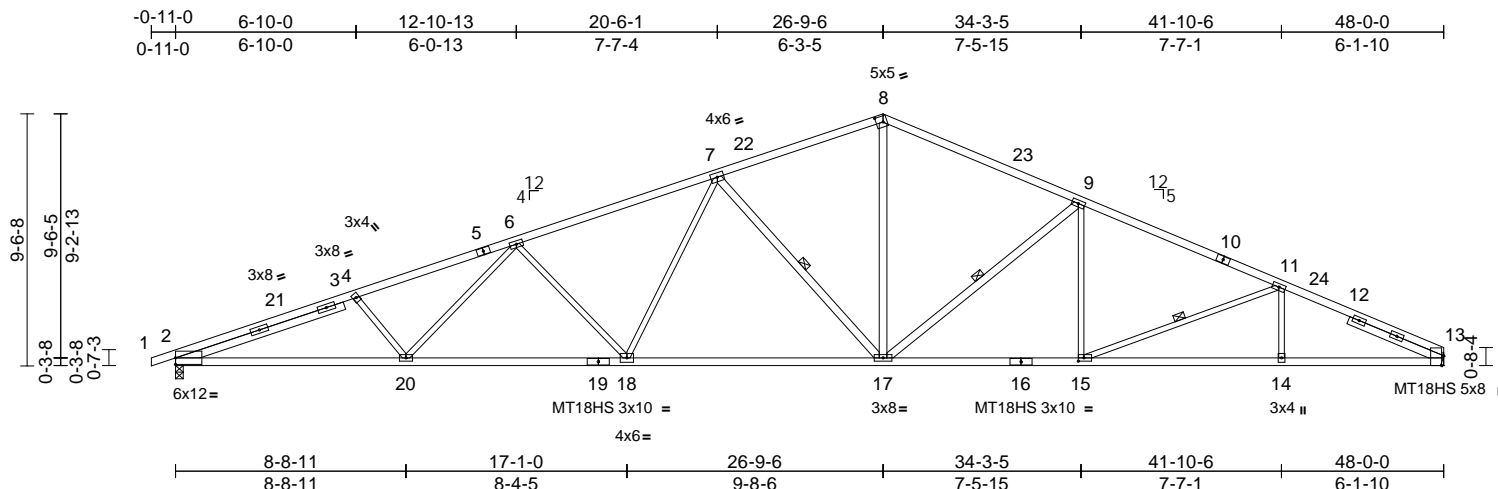
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Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:11

Page: 1

ID:kkw6VMCTKypIjEPYbt576Oz_rGt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC7f



Scale = 1:87.2

Plate Offsets (X, Y): [8:0-3-3,0-2-12], [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	0.99	Vert(LL)	-0.39	17-18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.81	17-18	>712	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.22	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH								
Weight: 234 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 10-13:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 17-17,17-8,17-9:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 6-8-4, Right 2x4 SPF No.3 -- 3-10-9

BRACING

TOP CHORD Sheathed.
BOT CHORD Rigid ceiling directly applied or 8-7-10 oc bracing.
WEBS 1 Row at midpt 7-17, 9-17, 11-15

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=-5327/1076, 4-6=-5107/1042, 6-7=-4248/922, 7-8=-3029/757, 8-9=-3149/769, 9-11=-3934/861, 11-13=-4482/931
BOT CHORD 2-20=-921/4928, 18-20=-785/4475, 17-18=-573/3585, 15-17=-585/3552, 14-15=-747/3973, 13-14=-747/3973
WEBS 4-20=-258/181, 6-20=-60/503, 6-18=-792/290, 7-18=-115/856, 7-17=-1213/361, 8-17=-326/1681, 9-17=-999/315, 9-15=0/408, 11-15=-533/197, 11-14=0/260

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



April 3,2023

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

Qty

Ply

Roof - Osage Lot 4

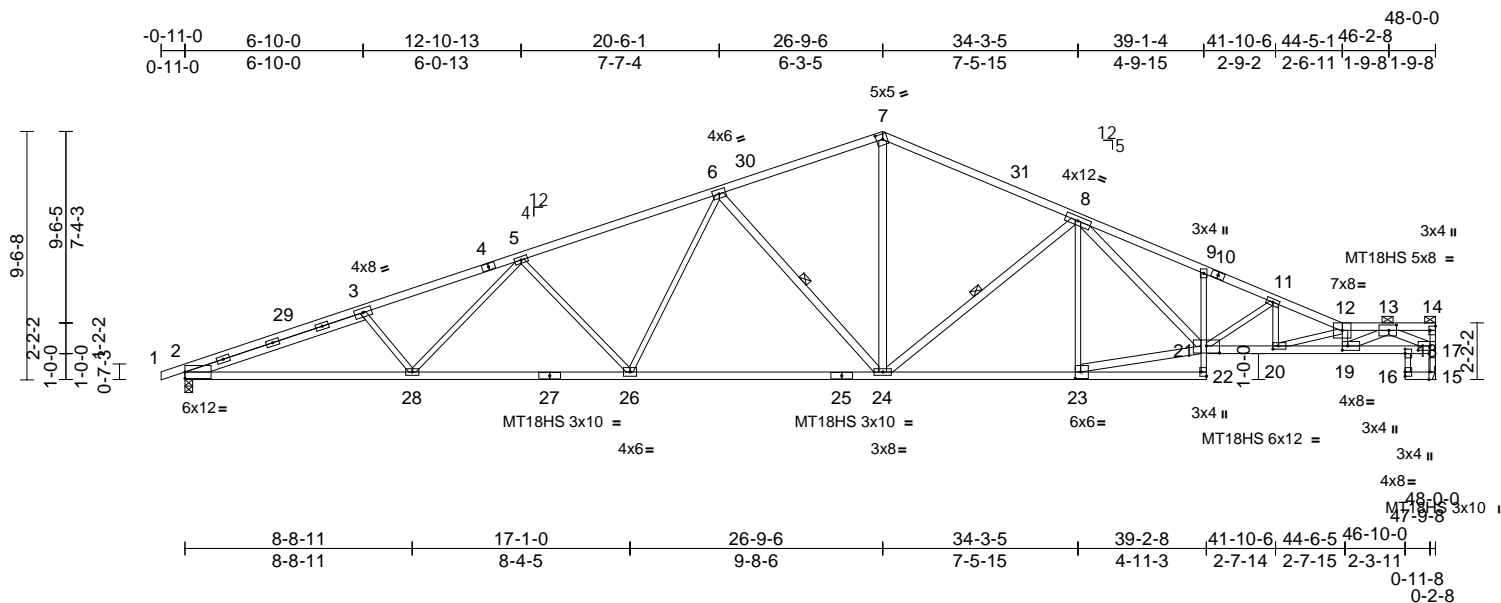
I57526624

Job Reference (optional)

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Mon Apr 03 02:55:12

Page: 1

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Scale = 1:88.4

[7:0-2-15,0-2-8], [13:0-3-8,0-2-8], [14:Edge,0-2-8], [15:0-3-8,Edge], [17:0-5-8,0-2-0], [18:0-2-0,Edge], [19:0-2-8,0-2-0], [20:0-2-8,0-1-8], [21:0-6-0,0-3-4],

Plate Offsets (X, Y): [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	0.99	Vert(LL)	-0.49	24-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-1.01	24-26	>571	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.41	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 256 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 7-10:2x4 SP 2400F 2.0E, 10-12:2x4 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 22-9,18-16:2x3 SP No.2, 16-15:2x4 SP No.2, 27-25:2x4 SP 1650F 1.5E
WEBS 2x3 SP No.2 *Except*
24-6,24-7,24-8,23-21,21-8,19-13,13-17:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 7-2-8
BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-0-11 max.): 12-14.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-24, 8-24
REACTIONS (size) 2=0-3-8, 15= Mechanical
Max Horiz 2=175 (LC 12)
Max Uplift 2=398 (LC 8), 15=286 (LC 13)
Max Grav 2=2220 (LC 1), 15=2155 (LC 1)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-3=5328/1073, 3-5=5104/1042, 5-6=4232/919, 6-7=3018/752, 7-8=3133/744, 8-9=5388/1148, 9-11=5431/1092, 11-12=6370/1240, 12-13=7248/1380, 13-14=181/33, 15-17=2126/416, 14-17=108/31
BOT CHORD 2-28=1022/4930, 26-28=900/4459, 24-26=693/3572, 23-24=665/3502, 22-23=37216, 21-22=0/85, 9-21=172/103, 20-21=1158/5880, 19-20=1462/7480, 18-19=777/3808, 17-18=775/3814, 16-18=10/13, 15-16=10/8

WEBS
3-28=269/185, 5-28=63/518, 5-26=791/289, 6-26=117/852, 6-24=1209/362, 7-24=308/1658, 8-24=955/302, 8-23=576/206, 21-23=641/3356, 8-21=437/2107, 12-19=1968/415, 11-21=1108/233, 11-20=97/743, 12-20=1691/322, 13-19=718/3886, 13-17=4096/814

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) All plates are 3x6 MT20 unless otherwise indicated.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) Refer to girder(s) for truss to truss connections.
- 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.
- 9) 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



April 3,2023

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

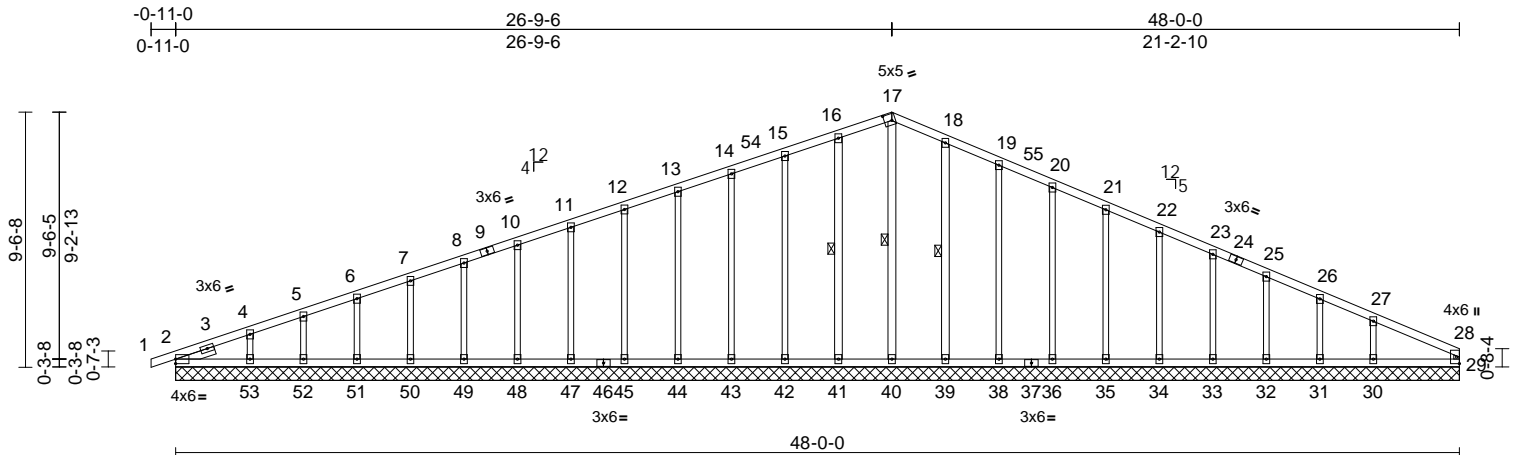
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:86.1

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	Vert(LL)	n/a	-	n/a	999	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999	
BCLL	0.0	Rep Stress Incr	NO	WB	0.21	Horz(CT)	0.01	29	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
Weight: 256 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 *Except*
40-17,41-16,39-18:2x4 SP 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 12)
Max Uplift 2=34 (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=51 (LC 13),
38=53 (LC 13), 39=48 (LC 13),
41=44 (LC 12), 42=47 (LC 8),
43=46 (LC 12), 44=46 (LC 8),
45=46 (LC 12), 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)

Max Grav 2=193 (LC 1), 29=130 (LC 1),
30=281 (LC 26), 31=144 (LC 1),
32=189 (LC 26), 33=178 (LC 1),
34=180 (LC 26), 35=180 (LC 26),
36=181 (LC 1), 38=177 (LC 1),
39=191 (LC 26), 40=193 (LC 22),
41=191 (LC 25), 42=177 (LC 1),
43=181 (LC 1), 44=180 (LC 25),
45=180 (LC 1), 47=180 (LC 25),
48=180 (LC 1), 49=180 (LC 25),
50=179 (LC 1), 51=184 (LC 25),
52=164 (LC 1), 53=234 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-193/93, 4-5=-147/95,
5-6=-128/109, 6-7=-108/126, 7-8=-92/143,
8-10=-77/160, 10-11=-70/177,
11-12=-81/194, 12-13=-93/218,
13-14=-104/246, 14-15=-115/274,
15-16=-127/303, 16-17=-138/328,
17-18=-142/324, 18-19=-127/264,
19-20=-112/220, 20-21=-98/184,
21-22=-83/148, 22-23=-68/112,
23-25=-55/77, 25-26=-53/45, 26-27=-71/26,
27-28=-106/29, 28-29=-106/13
BOT CHORD 2-53=-26/99, 52-53=-26/99, 51-52=-26/99,
50-51=-26/99, 49-50=-26/99, 48-49=-26/99,
47-48=-26/99, 45-47=-26/99, 44-45=-26/99,
43-44=-26/99, 42-43=-26/99, 41-42=-26/99,
40-41=-26/99, 39-40=-26/99, 38-39=-26/99,
36-38=-26/99, 35-36=-26/99, 34-35=-26/99,
33-34=-26/99, 32-33=-26/99, 31-32=-26/99,
30-31=-26/99, 29-30=-26/99

WEBS 17-40=-153/32, 16-41=-151/125,
15-42=-137/119, 14-43=-141/72,
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=-151/134, 19-38=-137/128,
20-36=-141/77, 21-35=-140/75,
22-34=-140/75, 23-33=-139/74,
25-32=-146/79, 26-31=-114/57,
27-30=-214/127

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



April 3, 2023

Continued on page 2

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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

Truss Type	Qty	Ply	Roof - Osage Lot 4
Roof Special Supported Gable	2	1	I57526625
Job Reference (optional)			

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. Mon Apr 03 02:55:12

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 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.

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

Roof Special Supported Gable

Qty

Ply

Roof - Osage Lot 4

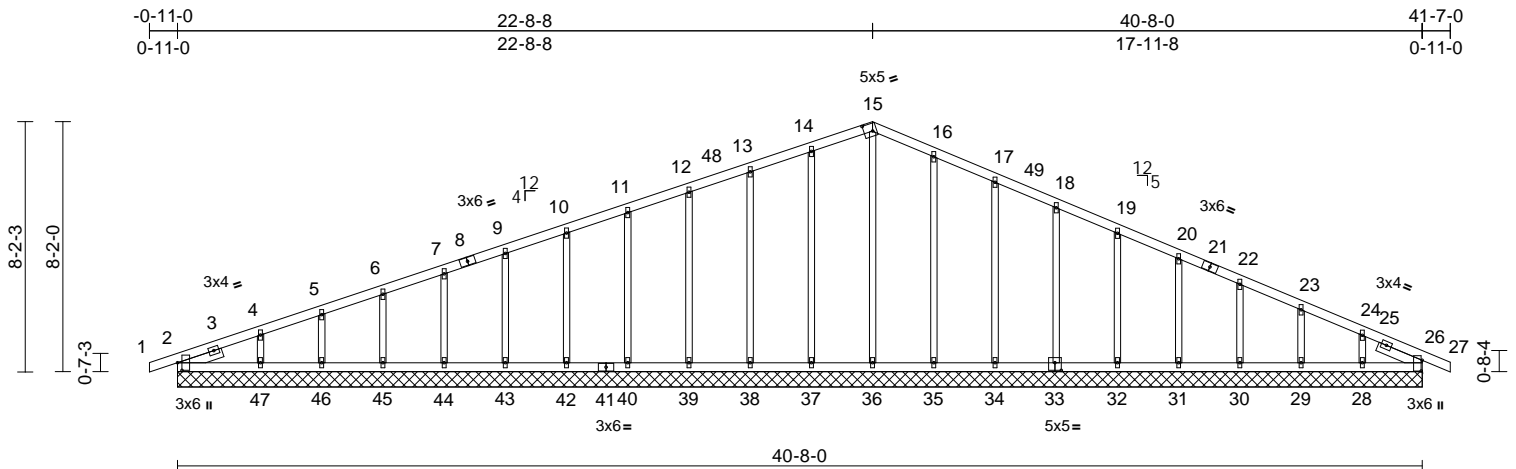
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Job Reference (optional)

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Scale = 1:75.3

Plate Offsets (X, Y): [2:0-3-0,0-1-12], [15:0-3-7,0-0-3-0], [26:0-4-3,0-0-6], [33:0-2-8,0-3-0]

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, 40=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=-50 (LC 13), 32=-49 (LC 13), 33=-49 (LC 13), 34=-53 (LC 13), 35=-46 (LC 13), 37=-42 (LC 12), 38=-47 (LC 8), 39=-44 (LC 12), 40=-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=175 (LC 26), 33=174 (LC 1), 34=173 (LC 26), 35=183 (LC 26), 36=172 (LC 22), 37=183 (LC 25), 38=174 (LC 25), 39=174 (LC 1), 40=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=-96/80, 6-7=-78/95, 7-9=-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=-72/160, 18-19=-59/126, 19-20=-44/92, 20-22=-44/57, 22-23=-50/29, 23-24=-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, 40-42=-33/119, 39-40=-33/119, 38-39=-33/119, 37-38=-33/119, 36-37=-33/119, 35-36=-33/119, 34-35=-33/119, 32-34=-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, 11-40=-136/68, 10-42=-136/68, 9-43=-136/68, 7-44=-135/67, 6-45=-138/70, 5-46=-128/60, 4-47=-167/103, 16-35=-144/128, 17-34=-135/126, 18-33=-135/73, 19-32=-136/73, 20-31=-136/73, 22-30=-135/73, 23-29=-138/72, 24-28=-128/93

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 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
- 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



April 3, 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/TPI Quality Criteria, DSB-89 and BCSI Building Component



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type

Qty

Ply

Roof - Osage Lot 4

I57526627

Roof Special

8

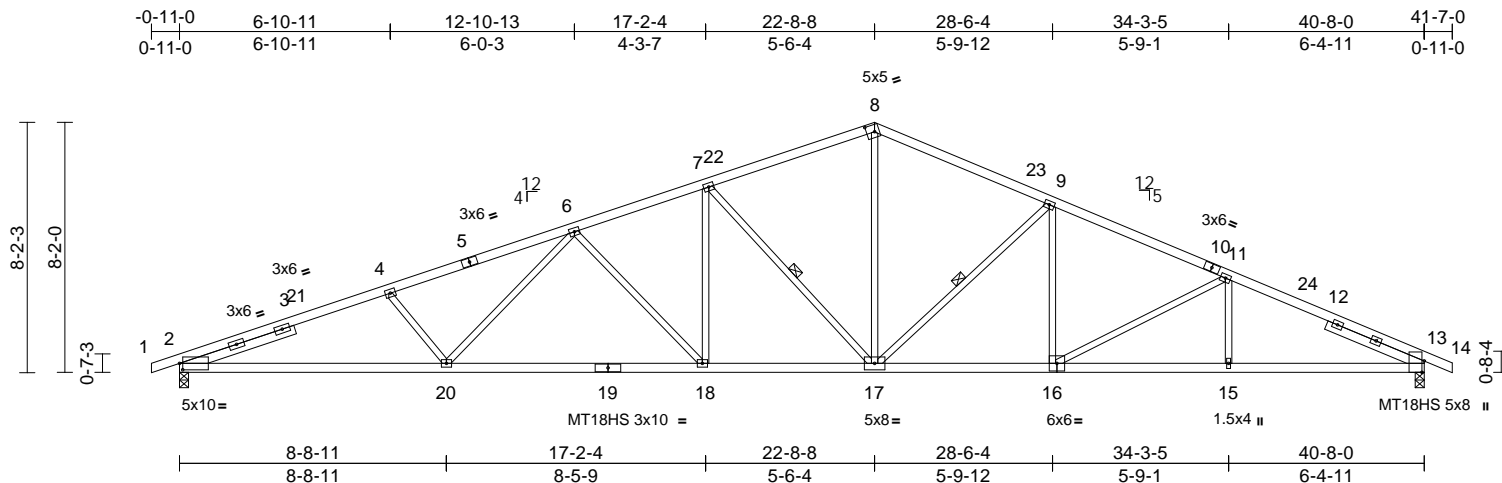
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Job Reference (optional)

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Scale = 1:75.3

Plate Offsets (X, Y): [2:0-1-4,0-2-8], [8:0-3-3,0-2-12], [13:0-4-7,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	0.82	Vert(LL)	-0.34	18-20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.69	18-20	>708	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.21	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 184 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 8-10:2x4 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 -- 3-5-4

BRACING

TOP CHORD Sheathed or 2-5-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-2-2 oc bracing.

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

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-4382/909, 4-6=-4145/871,
6-7=-3259/745, 7-8=-2538/651,
8-9=-2632/662, 9-11=-3203/721,
11-13=-3674/761, 13-14=0/0

BOT CHORD 2-20=-767/4042, 18-20=-609/3519,
17-18=-477/3043, 15-17=-587/3234,
13-15=-587/3234

WEBS 11-16=-432/165, 11-15=0/217,
4-20=-311/204, 6-20=-75/566,
6-18=-706/228, 7-18=-81/662, 9-16=-5/357,
8-17=-274/1390, 9-17=-802/244,
7-17=-1050/269

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 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) All plates are 3x4 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



April 3, 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

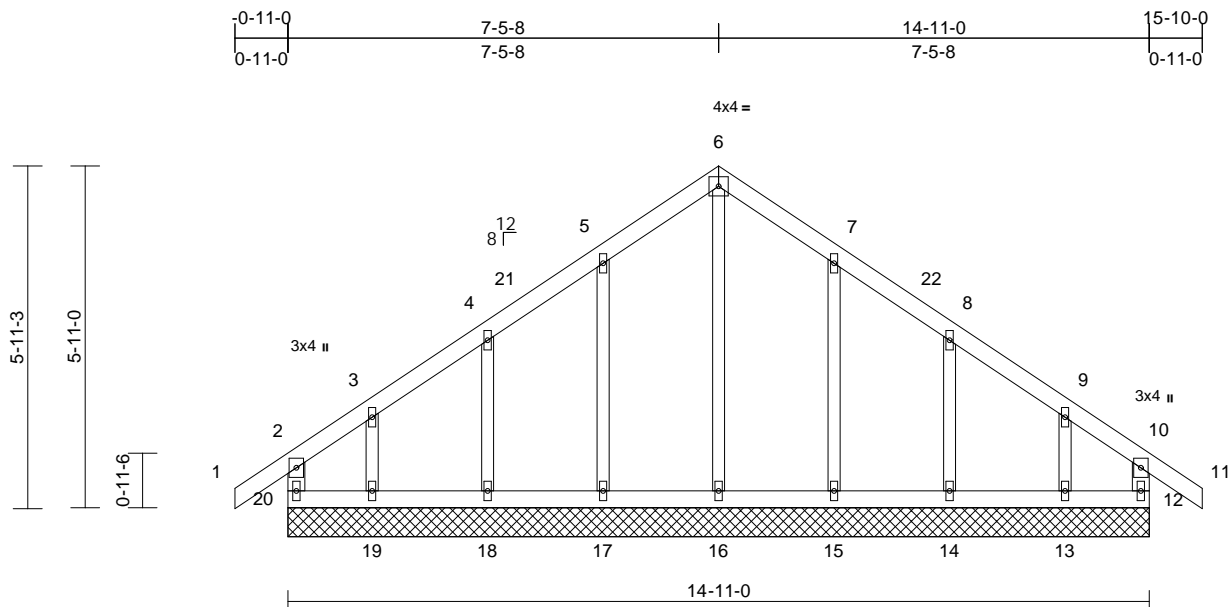


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526628
Common Supported Gable	3	1	Job Reference (optional)	

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Scale = 1:39.9

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	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.14	Horz(CT)	0.00	12	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R						Weight: 71 lb	FT = 20%

LUMBER

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

- 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 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
- 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.
- 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 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



April 3, 2023

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



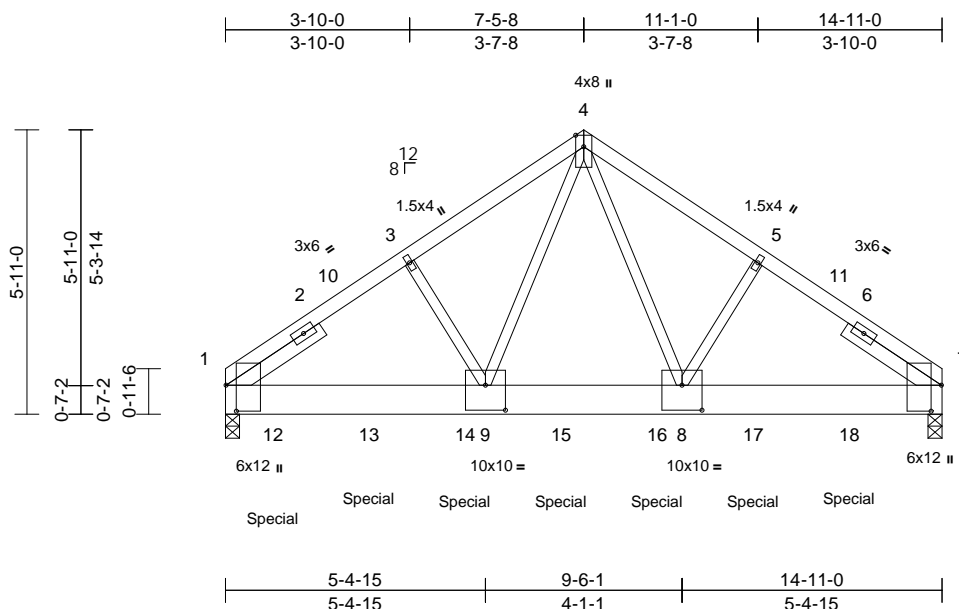
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4
Common Girder	3	3	Job Reference (optional)

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Page: 1



Scale = 1:48

Plate Offsets (X, Y): [1:0-6-8,0-2-9], [7:0-6-8,0-2-9], [8:0-5-0,0-6-4], [9:0-5-0,0-6-4]

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	0.79	Vert(LL)	-0.06	8-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.11	8-9	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.57	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	2x8 SPF No.2
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 5-6-9 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	1=0-3-8, (req. 0-4-8), 7=0-3-8, (req. 0-4-0)
Max Horiz	1=-147 (LC 31)
Max Uplift	1=-1188 (LC 12), 7=-1058 (LC 13)
Max Grav	1=8604 (LC 1), 7=7666 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-8922/1314, 3-4=-8806/1344, 4-5=-8758/1337, 5-7=-8881/1308
BOT CHORD	1-9=-1028/7140, 8-9=-725/5574, 7-8=-972/7089
WEBS	4-8=-736/4890, 5-8=-130/550, 4-9=-751/4999, 3-9=-127/526

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: 2x8 - 4 rows staggered at 0-6-0 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) 0-1-12 to 5-1-12,
Interior (1) 5-1-12 to 7-5-8, Exterior(2R) 7-5-8 to 12-5-8,
Interior (1) 12-5-8 to 14-9-4 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
- 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) 2141
lb down and 296 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)

- 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: 12=-2141 (B), 13=-2135 (B), 14=-2135 (B),
15=-2135 (B), 16=-2135 (B), 17=-2135 (B),
18=-2139 (B)

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE,
OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED
SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING
BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS
MANUFACTURER OR THE BUILDING DESIGNER.



April 3, 2023

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

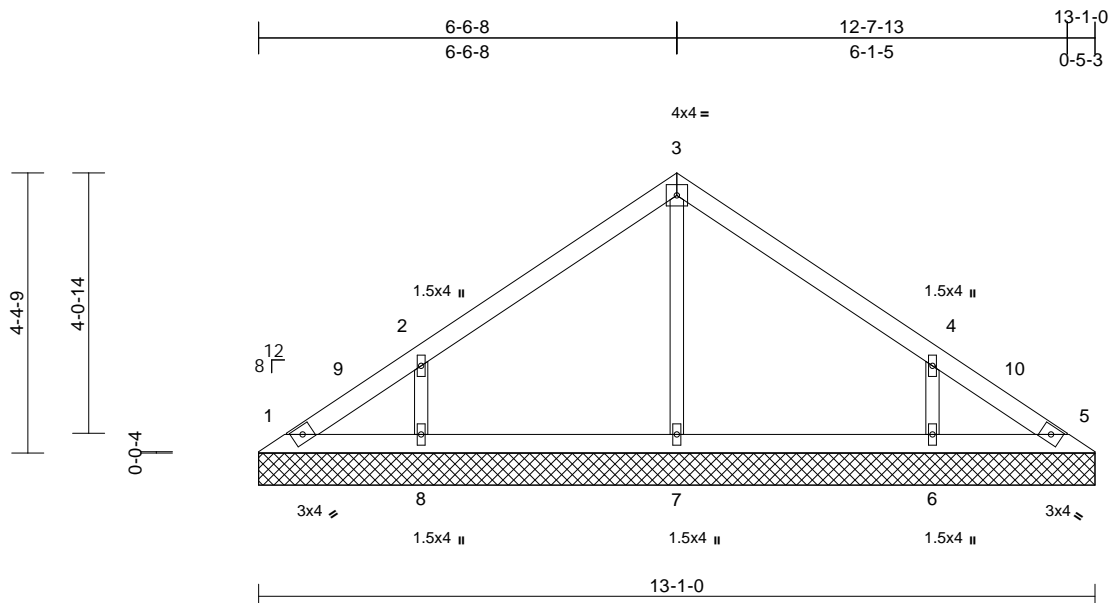
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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/TPI 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 = 1:36

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	0.23	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							
										Weight: 46 lb	FT = 20%

LUMBER

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

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=13-1-0, 5=13-1-0, 6=13-1-0, 7=13-1-0, 8=13-1-0
 Max Horiz 1=110 (LC 9)
 Max Uplift 1=-23 (LC 8), 5=-2 (LC 9), 6=-147 (LC 13), 8=-147 (LC 12)
 Max Grav 1=94 (LC 20), 5=79 (LC 19), 6=351 (LC 20), 7=285 (LC 1), 8=351 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-115/85, 2-3=-145/103, 3-4=-140/99, 4-5=-89/47
 BOT CHORD 1-8=-27/74, 7-8=-27/74, 6-7=-27/74, 5-6=-27/74
 WEBS 3-7=-200/25, 2-8=-285/197, 4-6=-285/197

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) 0-5-12 to 5-5-12, Interior (1) 5-5-12 to 6-6-14, Exterior(2R) 6-6-14 to 11-6-14, Interior (1) 11-6-14 to 12-8-0 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.

- 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.
- 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



April 3, 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

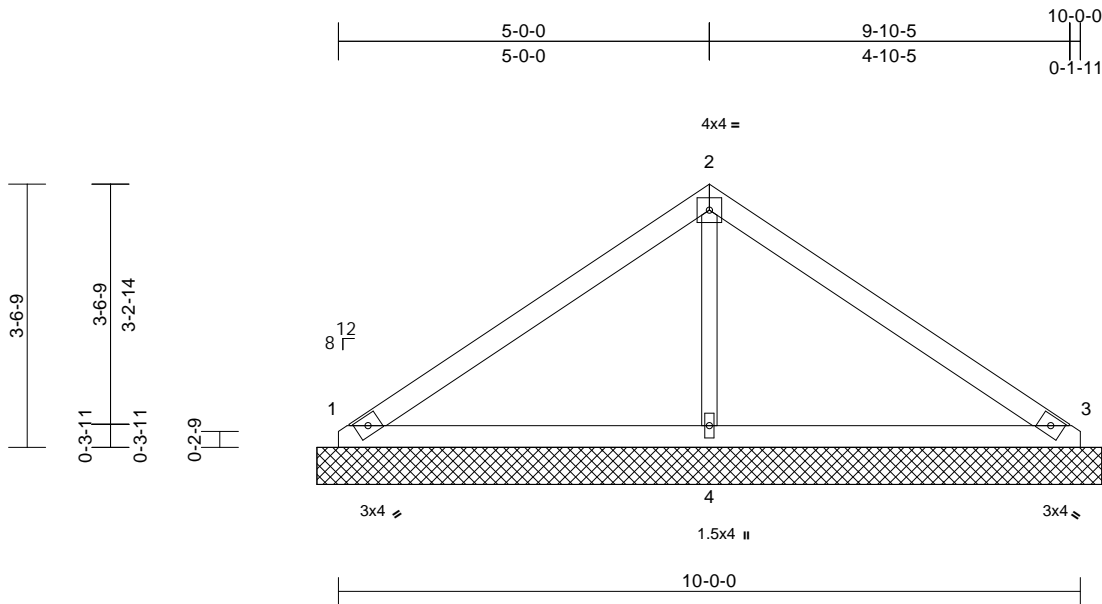


16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526631
Valley	2	1	Job Reference (optional)	

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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	0.40	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

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=-165/80
BOT CHORD 1-4=-16/73, 3-4=-16/73
WEBS 2-4=-262/104

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.

- 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



April 3, 2023

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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



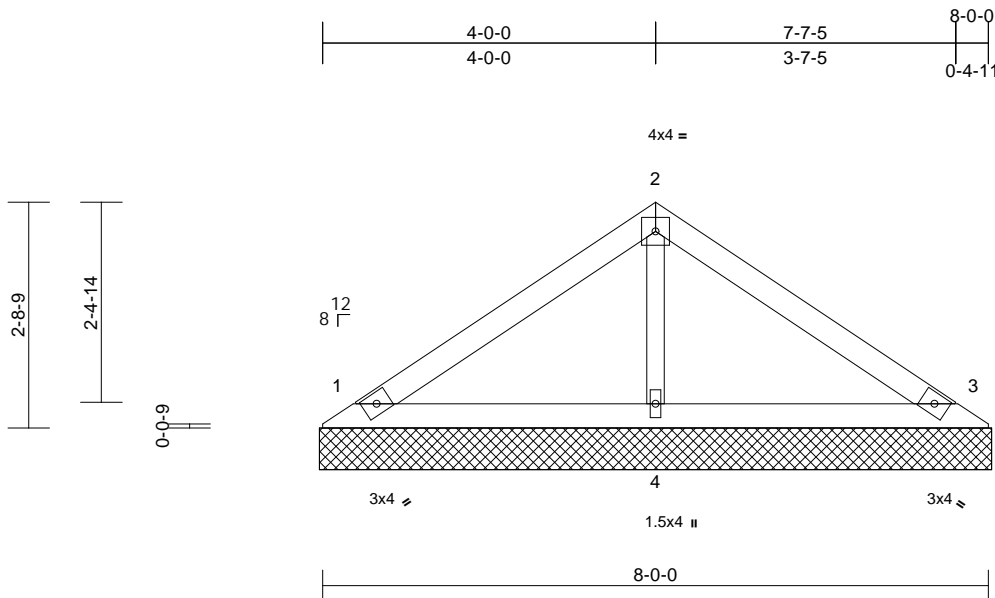
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526632
Valley	2	1	Job Reference (optional)	

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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	0.33	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: 26 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=-193/96

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.



April 3, 2023

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

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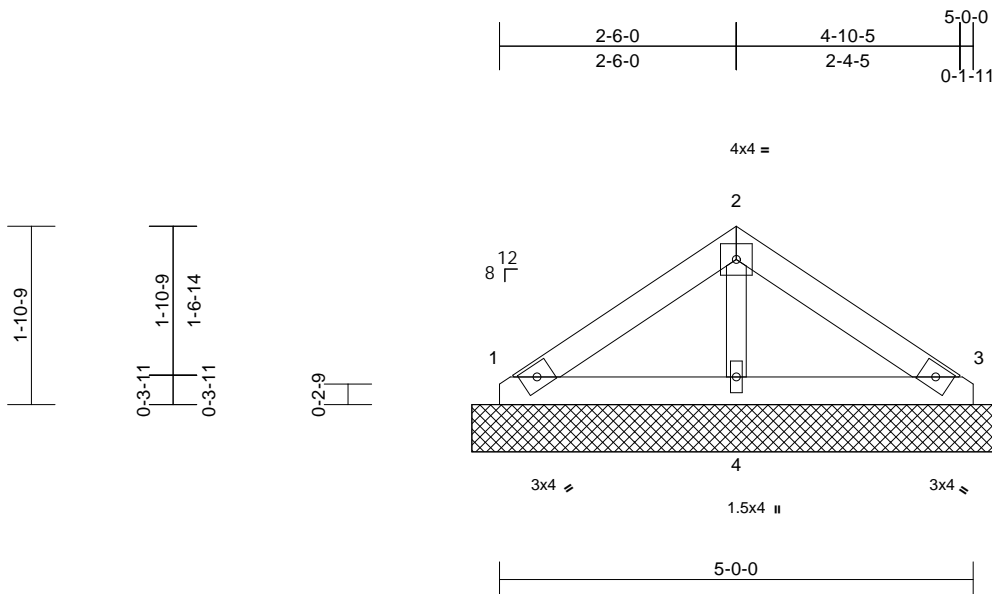


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526633
Valley	2	1	Job Reference (optional)	

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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	0.13	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: 17 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=-74/51, 2-3=-71/51
BOT CHORD 1-4=-9/35, 3-4=-9/35
WEBS 2-4=-126/79

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.



April 3, 2023

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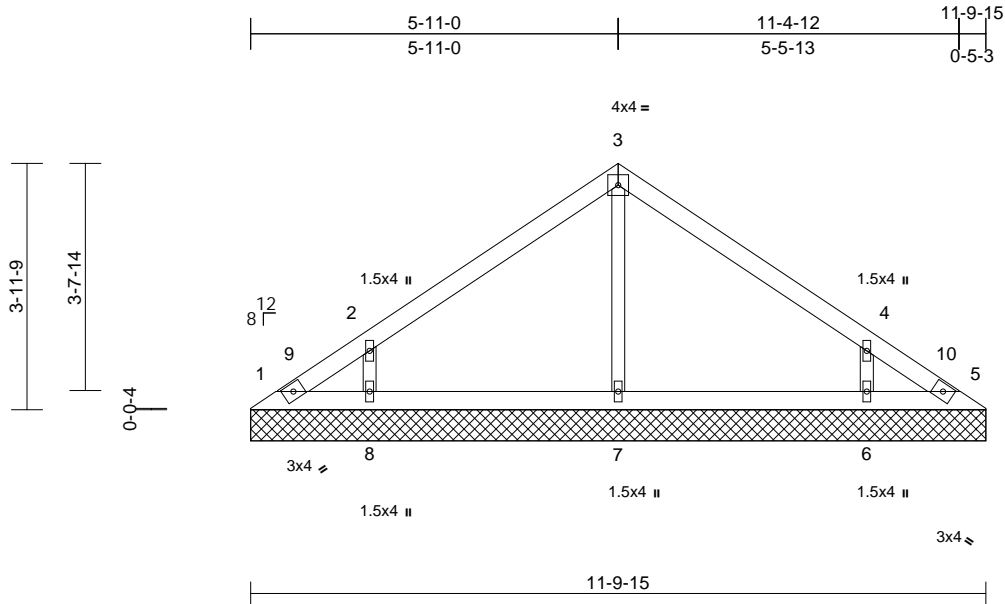


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526634
Valley	1	1	Job Reference (optional)	

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Page: 1



Scale = 1:37.1

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	0.24	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	0.07	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 41 lb	FT = 20%

LUMBER

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

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=11-9-15, 5=11-9-15, 6=11-9-15, 7=11-9-15, 8=11-9-15
Max Horiz 1=98 (LC 11)
Max Uplift 1=-41 (LC 10), 5=-22 (LC 11), 6=-147 (LC 13), 8=-147 (LC 12)
Max Grav 1=60 (LC 9), 5=46 (LC 22), 6=345 (LC 20), 7=285 (LC 1), 8=345 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-101/85, 2-3=-144/96, 3-4=-141/93, 4-5=-82/51

BOT CHORD 1-8=-23/69, 7-8=-23/69, 6-7=-23/69, 5-6=-23/69

WEBS 3-7=-198/38, 2-8=-290/213, 4-6=-290/213

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) 0-5-12 to 5-5-12, Interior (1) 5-5-12 to 5-11-6, Exterior(2R) 5-11-6 to 10-11-6, Interior (1) 10-11-6 to 11-4-15 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.
- 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



April 3, 2023

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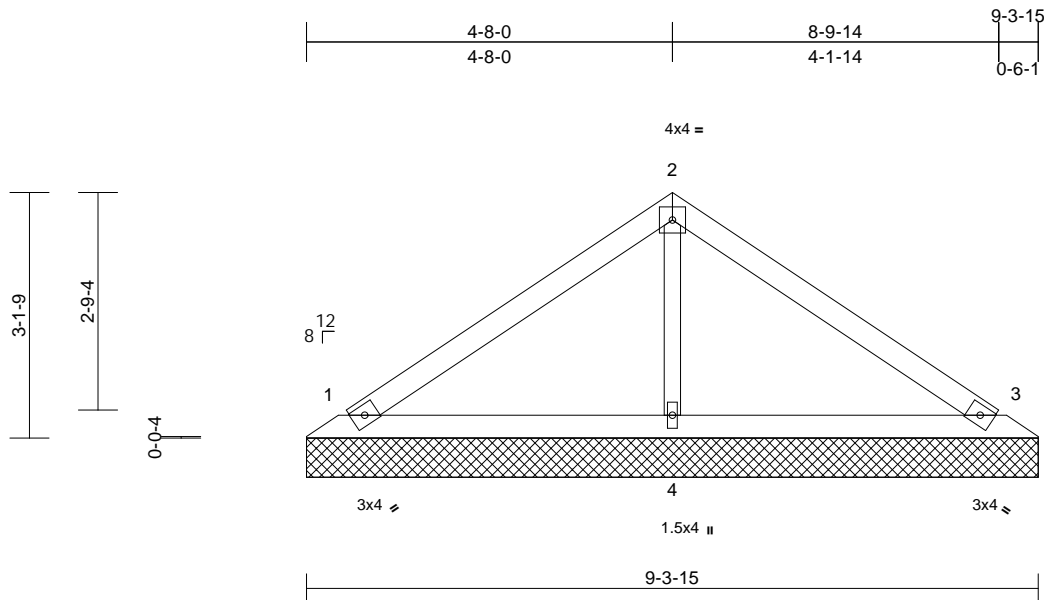
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526635
Valley	1	1	Job Reference (optional)	

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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	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.05	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 9)
Max Uplift 1=-35 (LC 12), 3=-45 (LC 13),
4=-25 (LC 12)
Max Grav 1=187 (LC 1), 3=187 (LC 1), 4=367 (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=-220/91

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.



April 3, 2023

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

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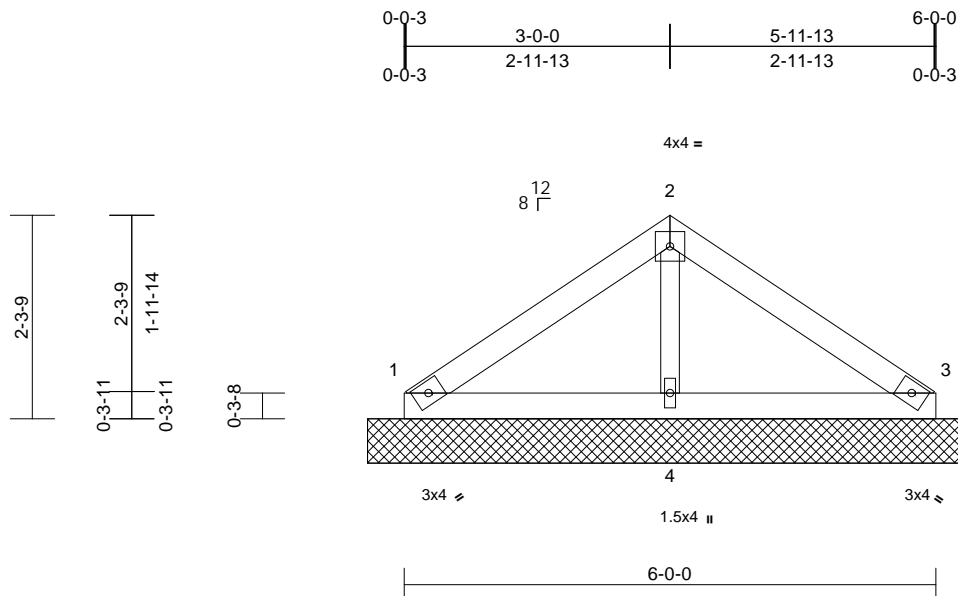


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof - Osage Lot 4	I57526636
Valley	1	1	Job Reference (optional)	

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Page: 1



Scale = 1:26

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	0.20	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a		
BCLL	0.0	Rep Stress Incr	NO	WB	0.03	Horiz(TL)	0.00	3	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P						Weight: 21 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" oc purlins.
BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

REACTIONS

(size) 1=6-9-15, 3=6-9-15, 4=6-9-15
Max Horiz 1=-53 (LC 8)
Max Uplift 1=-34 (LC 12), 3=-41 (LC 13)
Max Grav 1=146 (LC 1), 3=146 (LC 1), 4=221 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-93/61, 2-3=-89/61
BOT CHORD 1-4=-11/44, 3-4=-11/44
WEBS 2-4=-150/88

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" oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



April 3, 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

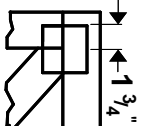
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



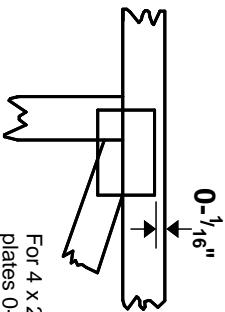
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless X, Y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- $\frac{1}{16}$ " from outside edge of truss.

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

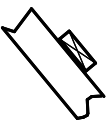
* Plate location details available in **MiTek 20/20** software or upon request.

PLATE SIZE

4 X 4

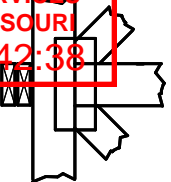
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING



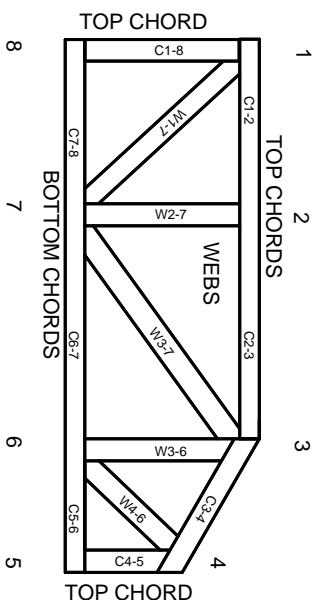
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.