



RE: P230374-01 - Roof

Site Information:

Project Customer: Summit Homes Project Name: Sheffield - Traditional
Lot/Block: 146 Subdivision: Highland Meadows
Model:

Address: 2782 SW 12th St

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	No.	Seal#	Truss Name	Date
1	I59339916	A01	7/5/23	35	I59339950	J02	7/5/23
2	I59339917	A02	7/5/23	36	I59339951	J2	7/5/23
3	I59339918	B01	7/5/23	37	I59339952	J03	7/5/23
4	I59339919	B02	7/5/23	38	I59339953	J3	7/5/23
5	I59339920	B03	7/5/23	39	I59339954	J04	7/5/23
6	I59339921	C01	7/5/23	40	I59339955	J4	7/5/23
7	I59339922	C02	7/5/23	41	I59339956	J05	7/5/23
8	I59339923	C03	7/5/23	42	I59339957	J06	7/5/23
9	I59339924	C04	7/5/23	43	I59339958	J07	7/5/23
10	I59339925	C05	7/5/23	44	I59339959	J08	7/5/23
11	I59339926	C06	7/5/23	45	I59339960	J09	7/5/23
12	I59339927	C07	7/5/23	46	I59339961	J10	7/5/23
13	I59339928	C08	7/5/23	47	I59339962	J11	7/5/23
14	I59339929	C09	7/5/23	48	I59339963	J12	7/5/23
15	I59339930	CJ01	7/5/23	49	I59339964	LG01	7/5/23
16	I59339931	CJ02	7/5/23	50	I59339965	LG04	7/5/23
17	I59339932	D01	7/5/23	51	I59339966	T1	7/5/23
18	I59339933	D02	7/5/23	52	I59339967	TG1	7/5/23
19	I59339934	D03	7/5/23	53	I59339968	TG2	7/5/23
20	I59339935	D04	7/5/23	54	I59339969	V1	7/5/23
21	I59339936	D05	7/5/23	55	I59339970	V2	7/5/23
22	I59339937	D06	7/5/23	56	I59339971	V07	7/5/23
23	I59339938	D07	7/5/23	57	I59339972	V08	7/5/23
24	I59339939	E01	7/5/23	58	I59339973	V09	7/5/23
25	I59339940	E02	7/5/23	59	I59339974	V10	7/5/23
26	I59339941	E03	7/5/23	60	I59339975	V11	7/5/23
27	I59339942	GR1	7/5/23	61	I59339976	V12	7/5/23
28	I59339943	H1	7/5/23	62	I59339977	V13	7/5/23
29	I59339944	H2	7/5/23	63	I59339978	V14	7/5/23
30	I59339945	HG1	7/5/23				
31	I59339946	HG2	7/5/23				
32	I59339947	HG3	7/5/23				
33	I59339948	J01	7/5/23				
34	I59339949	J1	7/5/23				

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: Nathan Fox

My license renewal date for the state of Missouri is December 31, 2024.

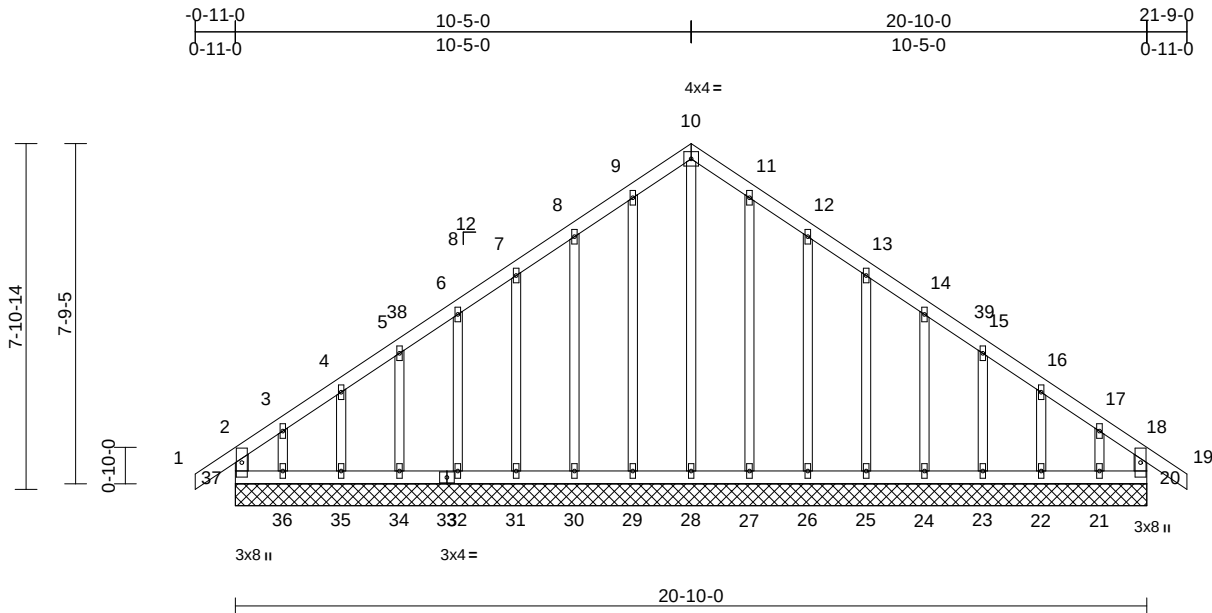
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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.



July 5, 2023

Truss Type	Qty	Ply	Roof	159339916
Common Supported Gable	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:40 Page: 1
ID:FxmRxdkv5fqFFsikMTkq1WzRpY_-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?F



Scale = 1:52.7

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	0.09	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.00	20	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							
Weight: 121 lb FT = 20%											

LUMBER

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

BRACING

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

REACTIONS

(size)	20=20-10-0, 21=20-10-0, 22=20-10-0, 23=20-10-0, 24=20-10-0, 25=20-10-0, 26=20-10-0, 27=20-10-0, 28=20-10-0, 29=20-10-0, 30=20-10-0, 31=20-10-0, 32=20-10-0, 34=20-10-0, 35=20-10-0, 36=20-10-0, 37=20-10-0
Max Horiz	37=236 (LC 10)
Max Uplift	20=73 (LC 9), 21=133 (LC 13), 22=40 (LC 13), 23=55 (LC 13), 24=51 (LC 13), 25=52 (LC 13), 26=62 (LC 13), 27=25 (LC 13), 29=29 (LC 12), 30=61 (LC 12), 31=52 (LC 12), 32=51 (LC 12), 34=56 (LC 12), 35=37 (LC 12), 36=152 (LC 12), 37=133 (LC 8)
Max Grav	20=180 (LC 19), 21=132 (LC 11), 22=129 (LC 26), 23=126 (LC 20), 24=126 (LC 20), 25=126 (LC 20), 26=128 (LC 20), 27=126 (LC 20), 28=179 (LC 13), 29=132 (LC 19), 30=126 (LC 19), 31=126 (LC 19), 32=126 (LC 19), 34=127 (LC 19), 35=129 (LC 25), 36=171 (LC 10), 37=228 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
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TOP CHORD

2-37=-179/100, 1-2=0/41, 2-3=-186/165, 3-4=-131/129, 4-5=-119/116, 5-6=-105/112, 6-7=-92/136, 7-8=-90/174, 8-9=-119/228, 9-10=-134/257, 10-11=-134/257, 11-12=-119/228, 12-13=-90/174, 13-14=-65/126, 14-15=-54/83, 15-16=-65/66, 16-17=-82/77, 17-18=-141/102, 18-19=0/41, 18-20=-144/56

BOT CHORD

36-37=-100/129, 35-36=-100/129, 34-35=-100/129, 32-34=-100/129, 31-32=-100/129, 30-31=-100/129, 29-30=-100/129, 28-29=-100/129, 27-28=-100/129, 26-27=-100/129, 25-26=-100/129, 24-25=-100/129, 23-24=-100/129, 22-23=-100/129, 21-22=-100/129, 20-21=-100/129

WEBS

10-28=-204/69, 9-29=-105/45, 8-30=-99/83, 7-31=-99/70, 6-32=-99/70, 5-34=-99/80, 4-35=-101/87, 3-36=-95/106, 11-27=-100/41, 12-26=-101/83, 13-25=-99/70, 14-24=-99/70, 15-23=-99/80, 16-22=-102/87, 17-21=-87/96

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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 10-5-0, Corner(3R) 10-5-0 to 15-5-0, Exterior(2N) 15-5-0 to 21-9-0 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 1-4-0 oc.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 133 lb uplift at joint 37, 73 lb uplift at joint 20, 29 lb uplift at joint 29, 61 lb uplift at joint 30, 52 lb uplift at joint 31, 51 lb uplift at joint 32, 56 lb uplift at joint 34, 37 lb uplift at joint 35, 152 lb uplift at joint 36, 25 lb uplift at joint 27, 62 lb uplift at joint 26, 52 lb uplift at joint 25, 51 lb uplift at joint 24, 55 lb uplift at joint 23, 40 lb uplift at joint 22 and 133 lb uplift at joint 21.
 - 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



July 5, 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

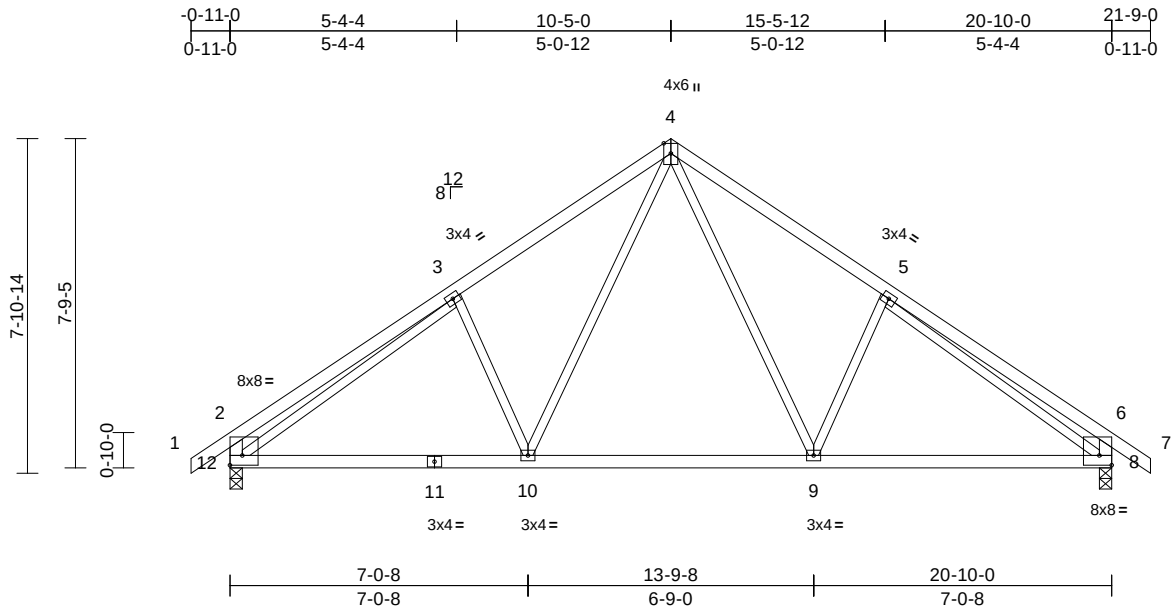
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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	Roof	Job Reference (optional)
Common	1	1		
Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:42				Page: 1
ID:7pn4iRk51xMGpZhR6tY_NCzRpJn-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?I				



Scale = 1:54.4

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

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	0.37	Vert(LL)	-0.06	10-12	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.12	10-12	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
Weight: 103 lb											FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-2-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-236 (LC 10)
Max Uplift 8=-156 (LC 13), 12=-156 (LC 12)
Max Grav 8=999 (LC 1), 12=999 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/41, 2-3=-471/190, 3-4=-1075/274, 4-5=-1075/274, 5-6=-471/190, 6-7=0/41, 2-12=-462/197, 6-8=-462/197
BOT CHORD 10-12=-172/943, 9-10=-11/641, 8-9=-75/906
WEBS 4-9=-154/450, 5-9=-294/246, 4-10=-153/449, 3-10=-294/246, 3-12=-761/68, 5-8=-761/68

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=1.00; 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 10-5-0, Exterior(2R) 10-5-0 to 15-6-8, Interior (1) 15-6-8 to 21-9-0 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.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 156 lb uplift at joint 12 and 156 lb uplift at joint 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



July 5, 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

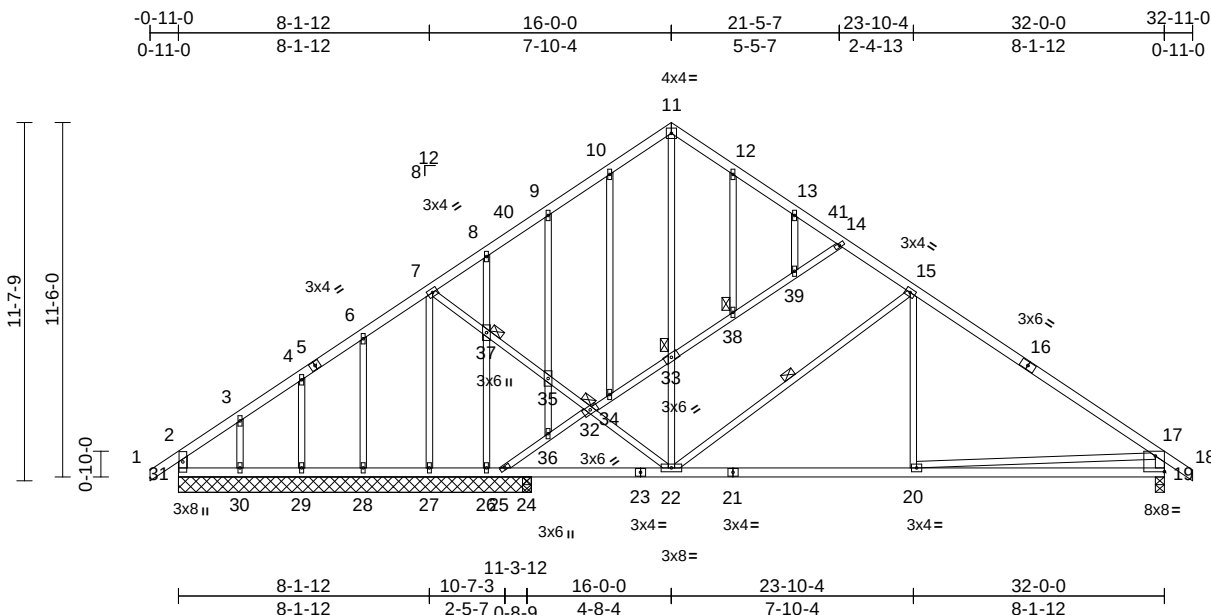
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	159339918
Common Structural Gable	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:43 Page: 1
ID: jxv5rPNXrdNsUsqkPNG08UzRpXA-RfC?PsB70Hq3NSgPqnL8w3uITxbGKwRCDoi7J4zJC7f



Scale = 1:74.8

Plate Offsets (X, Y): [19:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.09	19-20	>999	240	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.19	19-20	>999	180	
BCLL	0.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.02	19	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
Weight: 190 lb FT = 20%											

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 31-2,19-17:2x4 SP No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 15-22
JOINTS 1 Brace at Jt(s): 32, 33, 37, 38

REACTIONS (size)
19=0-3-8, 24=0-3-8, 25=11-5-8, 26=11-5-8, 27=11-5-8, 28=11-5-8, 29=11-5-8, 30=11-5-8, 31=11-5-8
Max Horiz 31=340 (LC 10)
Max Uplift 19=191 (LC 13), 25=110 (LC 12), 26=126 (LC 12), 28=80 (LC 12), 29=63 (LC 12), 30=152 (LC 12), 31=87 (LC 8)
Max Grav 19=1076 (LC 1), 24=164 (LC 3), 25=102 (LC 1), 26=324 (LC 19), 27=716 (LC 1), 28=232 (LC 19), 29=169 (LC 25), 30=255 (LC 19), 31=136 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/41, 2-3=-176/214, 3-4=-92/177, 4-6=-55/169, 6-7=-45/150, 7-8=-475/134, 8-9=-502/179, 9-10=-477/214, 10-11=-442/231, 11-12=-424/218, 12-13=-480/198, 13-14=-542/179, 14-15=-713/207, 15-17=-1272/209, 17-18=0/41, 2-31=-113/77, 17-19=-1004/235

BOT CHORD 30-31=-243/222, 29-30=-243/222, 28-29=-243/222, 27-28=-243/222, 26-27=-243/222, 25-26=-243/222, 24-25=-176/295, 22-24=-176/295, 20-22=-179/233, 19-20=-312/666, 22-33=-94/260, 11-33=-118/279, 15-22=-533/212, 15-20=0/327, 7-37=0/541, 35-37=0/560, 32-35=0/525, 22-32=0/480, 7-27=-676/0, 17-20=-13/361, 25-36=-313/172, 32-36=-284/155, 32-34=-218/127, 33-34=-200/122, 33-38=-216/131, 38-39=-201/122, 14-39=-193/115, 10-34=-110/71, 9-35=-118/85, 35-36=-54/40, 8-37=-225/125, 26-37=-260/151, 6-28=-187/103, 4-29=-131/95, 3-30=-181/140, 12-38=-28/17, 13-39=-14/13

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-0-0, Interior (1) 4-0-0 to 16-0-0, Exterior(2R) 16-0-0 to 21-0-0, Interior (1) 21-0-0 to 32-11-0 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 1.5x4 MT20 unless otherwise indicated.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 87 lb uplift at joint 31, 191 lb uplift at joint 19, 110 lb uplift at joint 25, 126 lb uplift at joint 26, 80 lb uplift at joint 28, 63 lb uplift at joint 29 and 152 lb uplift at joint 30.
 - 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



July 5, 2023

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

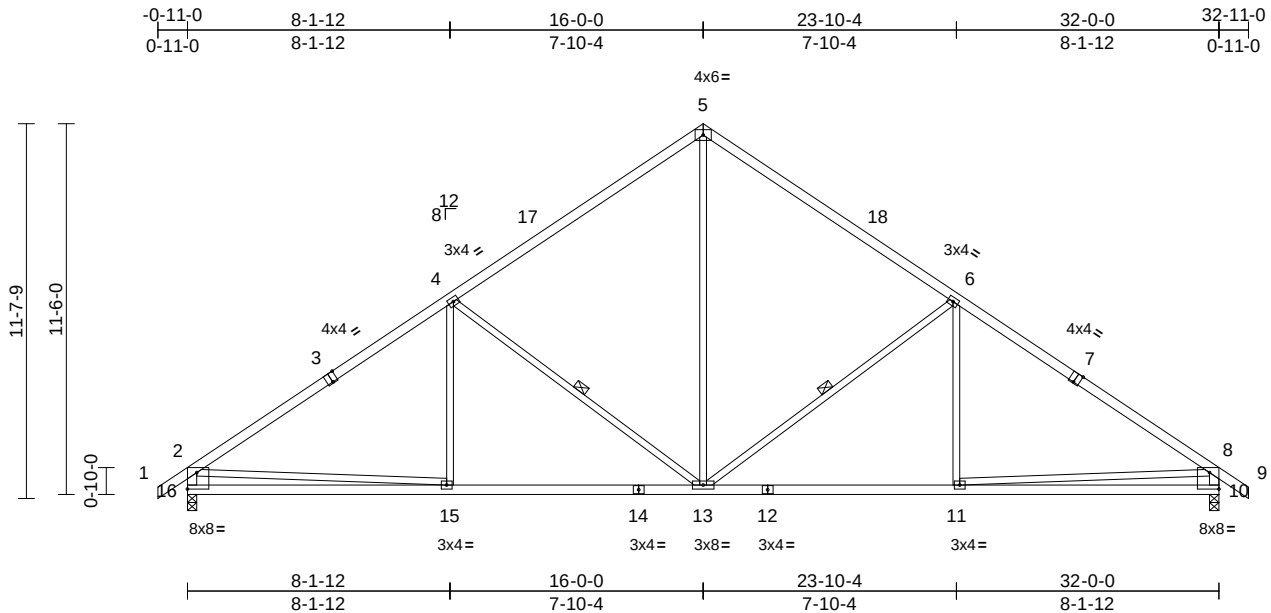
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:71.5

Plate Offsets (X, Y): [3:0-2-0,Edge], [7:0-2-0,Edge], [10:Edge,0-6-2], [16:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.10	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.22	15-16	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.06	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
Weight: 156 lb											FT = 20%	

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
8-10-10 oc bracing: 15-16.

WEBS 1 Row at midpt 6-13, 4-13

REACTIONS (size) 10=0-3-8, 16=0-3-8
Max Horiz 16=-340 (LC 10)
Max Uplift 10=-227 (LC 13), 16=-227 (LC 12)
Max Grav 10=1501 (LC 1), 16=1501 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/41, 2-4=-1971/292, 4-5=-1411/336, 5-6=-1411/336, 6-8=-1971/292, 8-9=0/41, 2-16=-1424/274, 8-10=-1424/274
BOT CHORD 15-16=-429/855, 13-15=-273/1553, 11-13=-111/1514, 10-11=-252/623
WEBS 5-13=-157/883, 6-13=-661/315, 6-11=0/285, 4-13=-661/316, 4-15=0/285, 2-15=0/894, 8-11=0/894

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=1.00; 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 16-0-0, Exterior(2R) 16-0-0 to
21-0-0, Interior (1) 21-0-0 to 32-11-0 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) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 4) All bearings are assumed to be SP No.2 crushing
capacity of 565 psi.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 227 lb uplift at
joint 16 and 227 lb uplift at joint 10.
- 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



July 5, 2023

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

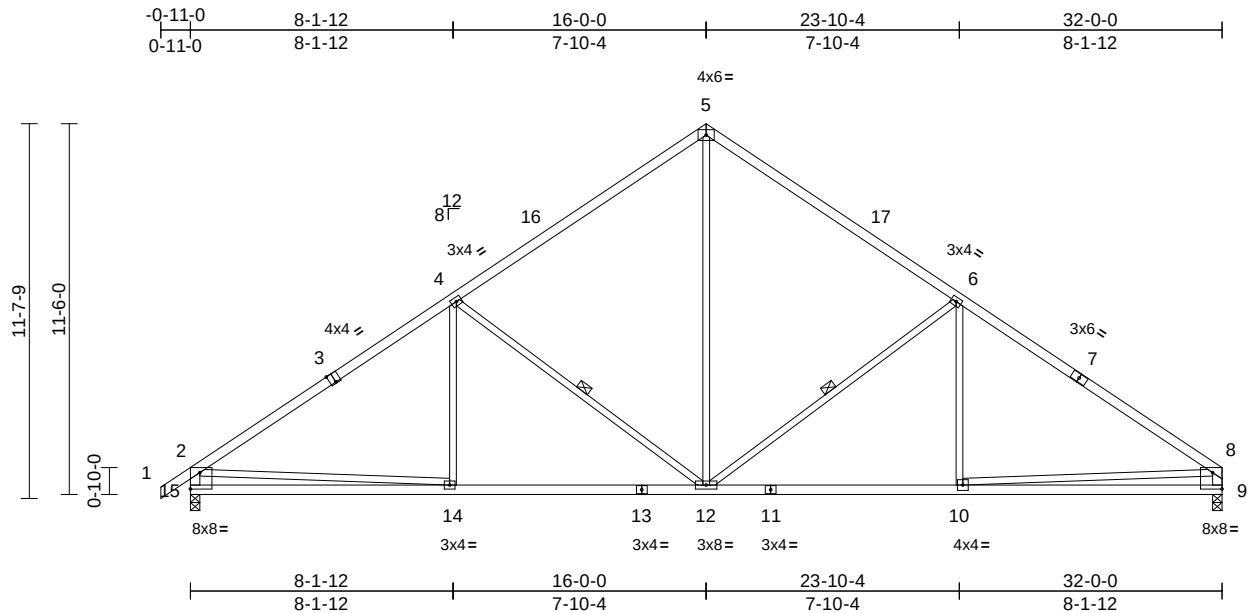
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

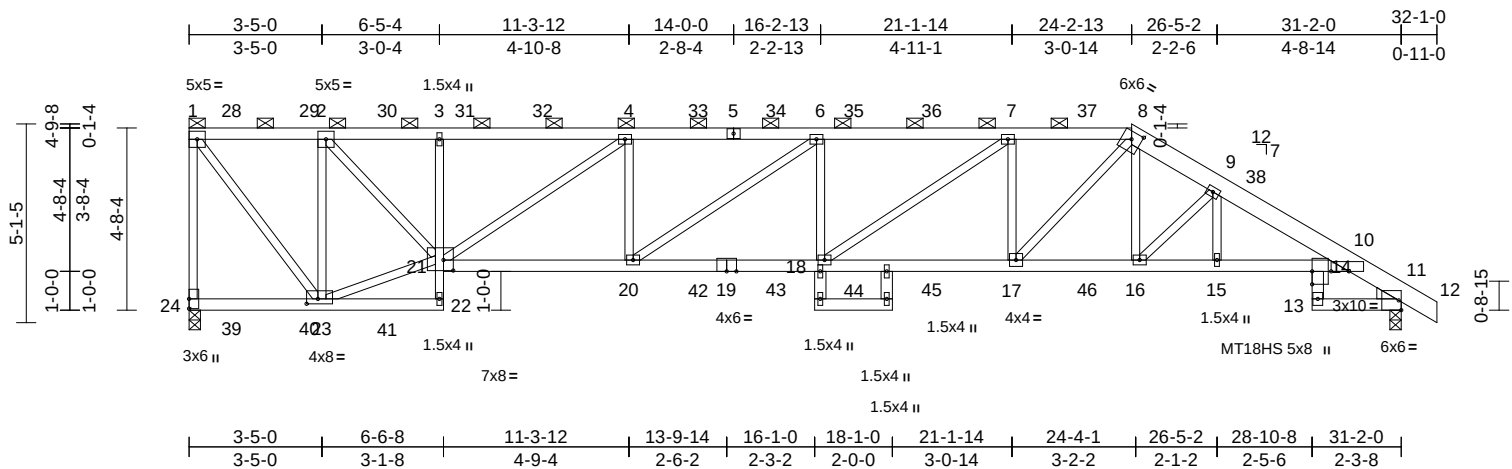
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Truss Type	Qty	Ply	Roof	Job Reference (optional)
Half Hip Girder	1	2		I59339921
Run: 8.63 E Jun 15 2023 Print: 8.630 E Jun 15 2023 MiTek Industries, Inc. Wed Jul 05 09:10:52 ID: _SwThsMShWVpdp3CNlbxeZzRpTJ-VjBENKTqAd09la_YXuhtvpht?b4pR9yH17cvoEz?9iJ				



Scale = 1:59.2

Plate Offsets (X, Y): [8:0-3-0,0-2-5], [10:0-5-8,Edge], [14:0-4-0,Edge], [21:0-3-0,0-3-4], [23:0-3-8,0-1-8]

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	0.54	Vert(LL)	0.31	17-18	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.45	17-18	>833	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.53	Horz(CT)	0.25	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
Weight: 327 lb											FT = 20%	

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 8-12:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 22-3:2x3 SPF No.2, 14-13:2x4 SP 1650F 1.5E, 19-10:2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2
WEDGE Right: 2x4 SP No.2
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-6-15 max.): 1-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 8-2-2 oc bracing: 20-21 7-6-10 oc bracing: 18-20.
REACTIONS (lb/size) 11=2788/0-3-8, 24=2653/0-3-8
Max Horiz 24=-191 (LC 8)
Max Uplift 11=-1091 (LC 13), 24=-1099 (LC 8)
FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-24=-2516/1025, 1-28=-1809/772, 28-29=-1809/772, 2-29=-1809/772, 2-30=-3878/1596, 3-30=-3878/1596, 3-31=-3905/1604, 31-32=-3905/1604, 4-32=-3905/1604, 4-33=-5803/2449, 5-33=-5803/2449, 5-34=-5803/2449, 6-34=-5803/2449, 6-35=-6628/2927, 35-36=-6628/2927, 7-36=-6628/2927, 7-37=-6109/2786, 8-37=-6109/2786, 8-9=-5741/2572, 9-38=-6301/2727, 10-38=-6402/2707, 10-11=-2507/1035

BOT CHORD 3-21=-294/76, 20-21=-2461/5808, 20-42=-2890/6671, 19-42=-2890/6671, 19-43=-2890/6671, 18-43=-2890/6671, 18-44=-2689/6152, 44-45=-2689/6152, 17-45=-2689/6152, 17-46=-2084/4877, 16-46=-2084/4877, 15-16=-2377/5704, 14-15=-2377/5701, 10-14=-2025/4857, 11-13=-351/856
WEBS 1-23=-1242/2984, 2-23=-2600/996, 21-23=-763/1827, 2-21=-1240/3113, 4-21=-2330/1104, 4-20=-233/736, 9-15=-146/531, 7-17=-631/231, 6-20=-1105/606, 7-18=-244/683, 8-16=-643/1438, 8-17=-934/1905, 9-16=-1201/455

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 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.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 24-2-13, Exterior(2R) 24-2-13 to 31-0-4, Interior (1) 31-0-4 to 32-1-0 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

- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- All plates are 3x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1099 lb uplift at joint 24 and 1091 lb uplift at joint 11.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



July 5, 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/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
Half Hip Girder	1	2	I59339921
Job Reference (optional)			

Run: 8.63 E Jun 15 2023 Print: 8.630 E Jun 15 2023 MiTek Industries, Inc. Wed Jul 05 09:10:52
ID: _SwThsMShWVpdp3CNlBxeZzRpTJ-VjBENKTqAd09la_YXuhtvpht?b4pR9yH17cvoEz?9iJ

Page: 2

11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 77 lb down and 38 lb up at 1-1-4, 77 lb down and 38 lb up at 3-1-4, 77 lb down and 38 lb up at 5-1-4, 57 lb down at 7-1-4, 57 lb down at 9-1-4, 207 lb down and 156 lb up at 11-1-4, 207 lb down and 156 lb up at 13-1-4, 207 lb down and 156 lb up at 15-1-4, 77 lb down and 38 lb up at 17-1-4, 98 lb down and 30 lb up at 19-1-4, and 98 lb down and 30 lb up at 21-1-4, and 98 lb down and 30 lb up at 23-1-4 on top chord, and 167 lb down and 123 lb up at 1-1-4, 167 lb down and 123 lb up at 3-1-4, 167 lb down and 123 lb up at 5-1-4, 37 lb down at 11-1-4, 37 lb down at 13-1-4, 37 lb down at 15-1-4, 167 lb down and 123 lb up at 17-1-4, 294 lb down and 218 lb up at 19-1-4, 294 lb down and 218 lb up at 21-1-4, and 294 lb down and 218 lb up at 23-1-4, and 519 lb down and 286 lb up at 24-2-13 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15,
Plate Increase=1.15
Uniform Loads (lb/ft)

Vert: 1-8=-70, 8-12=-70, 22-24=-20, 14-21=-20,
11-13=-20

Concentrated Loads (lb)

Vert: 4=-151 (B), 20=-19 (B), 17=-272 (B), 16=-495 (B), 28=-29 (B), 29=-29 (B), 30=-29 (B), 31=-19 (B), 32=-19 (B), 33=-151 (B), 34=-151 (B), 35=-29 (B), 39=-152 (B), 40=-152 (B), 41=-152 (B), 42=-19 (B), 43=-19 (B), 44=-152 (B), 45=-272 (B), 46=-272 (B)

 **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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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

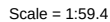


Plate Offsets (X, Y): [2:0-2-8,0-2-0], [6:0-3-0,0-2-5], [8:0-5-4,Edge], [9:Edge,0-0-13], [12:0-4-0,Edge], [17:0-3-8,Edge], [19:0-3-0,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.18	14-15	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.34	15-17	>999	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.56	Horz(CT)	0.24	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 162 lb	FT = 20%

LUMBER

WEBS 2x3 SPF No.2
WEDGE Right: 2x4 SP No.2

BRACING

WEBS	1 Row at midpt	1-20, 2-19
------	----------------	------------

Max Uplift 9=-174 (LC 13), 20=-301 (LC 8)

FORCES

TOP CHORD 1-20=-1341/319, 1-25=-1138/240,
2-25=-1138/240, 2-3=-2086/372,
3-4=-2095/373, 4-26=-2095/373,
5-26=-2095/373, 5-6=-2344/409,
6-7=-2309/343, 7-27=-2798/337,
27-28=-2868/317, 8-28=-2898/315
8-9=-1343/168

BOT CHORD 19-20=-178/291, 3-17=-358/164,
16-17=-346/2343, 15-16=-346/2343
14-15=-168/1910, 13-14=-224/2526
12-13=-224/2526, 8-12=-167/2019
9-11=-57/507

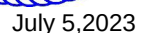
WEBS 1-19=-351/1634, 2-19=-1274/347,
17-19=-245/1092, 2-17=-227/1282,
6-14=-60/514, 7-14=-772/192, 7-13=0/306,
5-17=-322/80, 5-15=-294/231, 6-15=-238/665

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDF=6.0psf; BCDF=6.0psf; h=35ft;
Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4,
Interior (1) 5-1-4 to 21-11-6, Exterior(2R) 21-11-6 to
29-0-3, Interior (1) 29-0-3 to 32-1-0 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) 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) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 301 lb uplift at
joint 20 and 174 lb uplift at joint 9.
- 7) This truss is designed in accordance with the 2018
International Residential Code sections R502.1.1 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



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 Code**

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

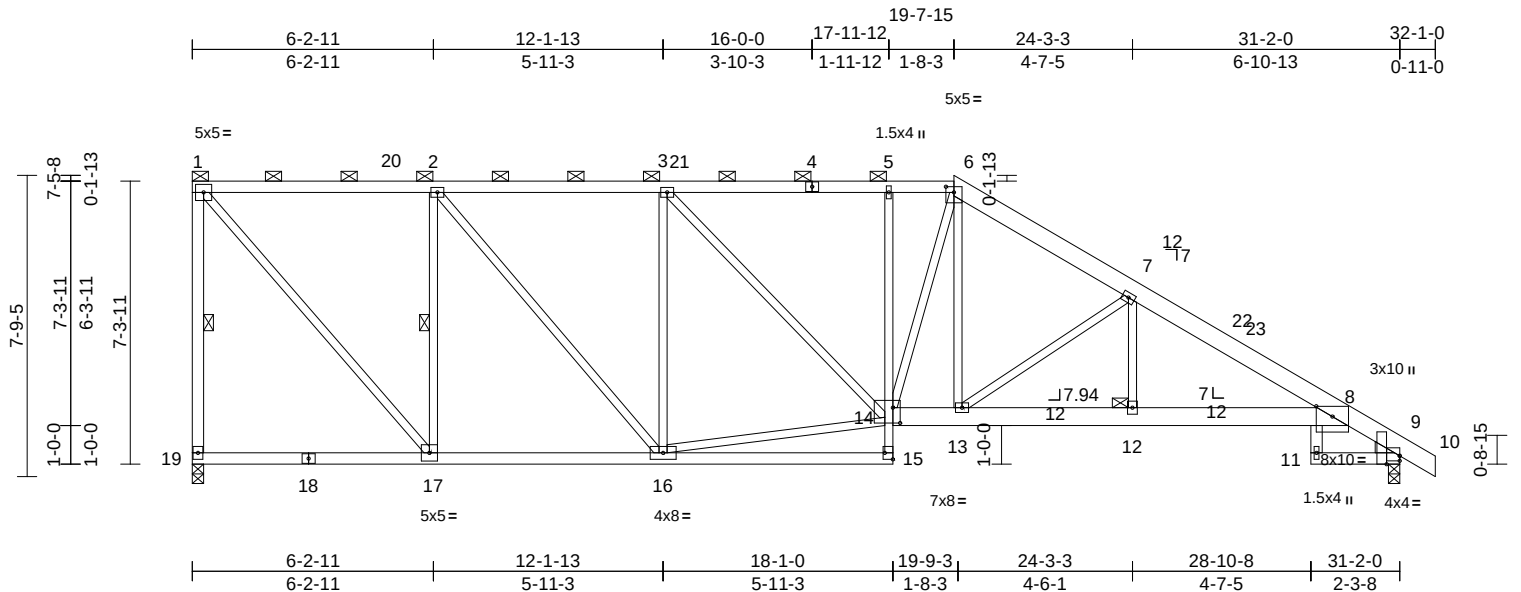


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	Job Reference (optional)
Half Hip	1	1		I59339923

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:46
ID:20eYaG1uup8i?2TQoPEXkFzRp1K-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?i

Page: 1



Scale = 1:59.5

Plate Offsets (X, Y): [6:0-2-8,0-1-12], [8:0-5-0,0-3-3], [9:Edge,0-1-9], [9:0-2-9,Edge], [14:0-2-4,0-4-12], [15: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	0.58	Vert(LL)	-0.15	11	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.27	11	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.20	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 191 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 6-10:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2 *Except* 15-5:2x3 SPF No.2, 14-8:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 19-1:2x4 SP No.2
WEDGE Right: 2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-3-8 oc purlins, except end verticals, and 2-0-0 oc purlins (3-11-13 max.): 1-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 9-11.
WEBS 1 Row at midpt 1-19, 2-17
JOINTS 1 Brace at Jt(s): 1, 12

REACTIONS

(size) 9=0-3-8, 19=0-3-8
Max Horiz 19=-302 (LC 8)
Max Uplift 9=-187 (LC 13), 19=-297 (LC 8)
Max Grav 9=1481 (LC 1), 19=1389 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-19=-1333/321, 1-2=-1010/198, 2-3=-1488/251, 3-5=-1770/270, 5-6=-1769/270, 6-7=-2068/258, 7-8=-2756/273, 8-9=-956/140, 9-10=0/14
BOT CHORD 17-19=-215/336, 16-17=-219/1010, 15-16=-10/134, 14-15=0/106, 5-14=-345/153, 13-14=-97/1674, 12-13=-120/2395, 8-12=-120/2394, 8-11=0/71, 9-11=-38/0
WEBS 3-14=-73/402, 6-14=-206/440, 2-17=-1023/333, 1-17=-324/1522, 2-16=-152/740, 3-16=-701/204, 14-16=-215/1377, 6-13=-80/593, 7-13=-878/236, 7-12=0/334

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=1.00; 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 19-7-15, Exterior(2R) 19-7-15 to 26-8-13, Interior (1) 26-8-13 to 32-1-0 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
- Provide adequate drainage to prevent water ponding.
- All plates are 3x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 297 lb uplift at joint 19 and 187 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 5, 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

Half Hip

Qty

1

Ply

1

Roof

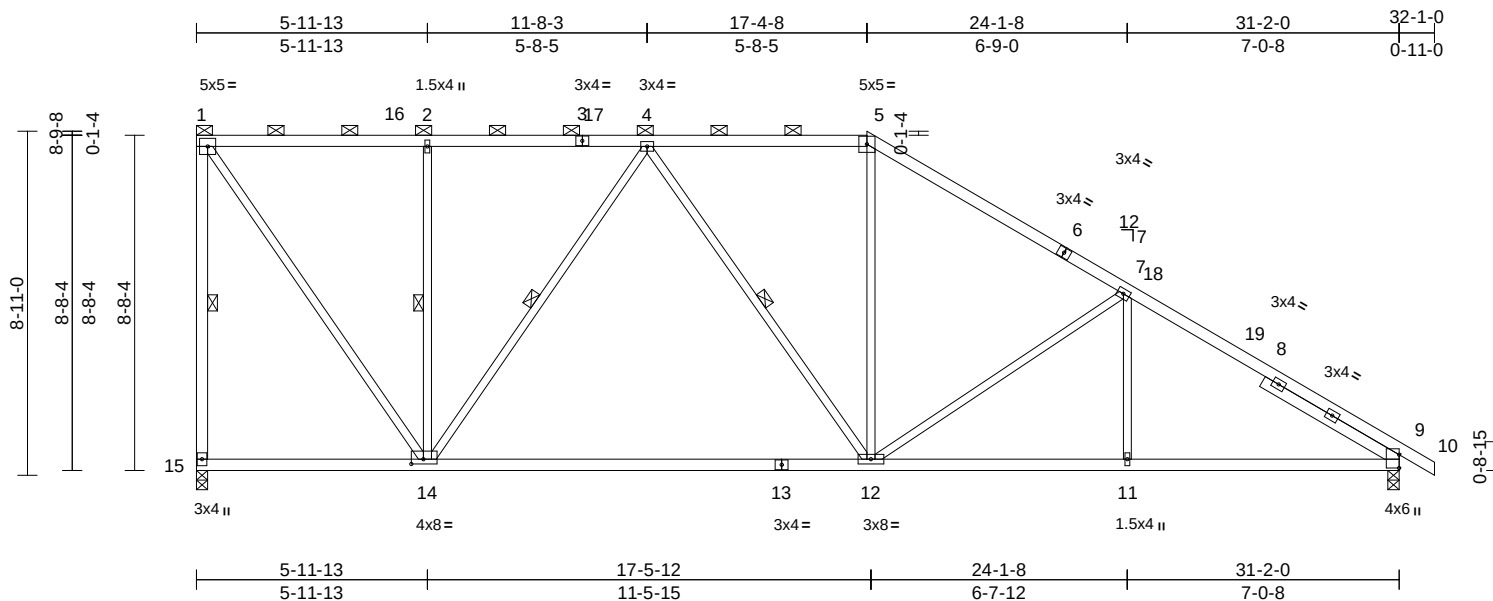
Job Reference (optional)

I59339924

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:47

Page: 1

ID: JvvM0mrIMQ7uK3IoMKx6qzRp?3-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?F



Scale = 1:59.7

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

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	0.90	Vert(LL)	-0.36	12-14	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.74	12-14	>502	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 163 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 15-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 4-0-14

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-8-0 max.): 1-5.

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

WEBS 1 Row at midpt 1-15, 2-14, 4-14, 4-12

REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=-359 (LC 10)
Max Uplift 9=-212 (LC 13), 15=-295 (LC 8)
Max Grav 9=1461 (LC 1), 15=1395 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-15=-1364/299, 1-2=-835/201, 2-4=-835/201, 4-5=-1305/266, 5-7=-1635/241, 7-9=-2146/287, 9-10=0/7
BOT CHORD 14-15=-261/381, 12-14=-172/1208, 11-12=-122/1726, 9-11=-122/1726
WEBS 1-14=-281/1449, 2-14=-439/210, 4-14=-664/189, 4-12=-103/307, 5-12=0/398, 7-12=-567/277, 7-11=0/233

NOTES

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

- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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 17-4-8, Exterior(2R) 17-4-8 to 24-5-6, Interior (1) 24-5-6 to 32-1-0 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) Provide adequate drainage to prevent water ponding.
- 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) All bearings are assumed to be SP 1650F 1.5E crushing capacity of 565 psi.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 295 lb uplift at joint 15 and 212 lb uplift at joint 9.
- 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



July 5, 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

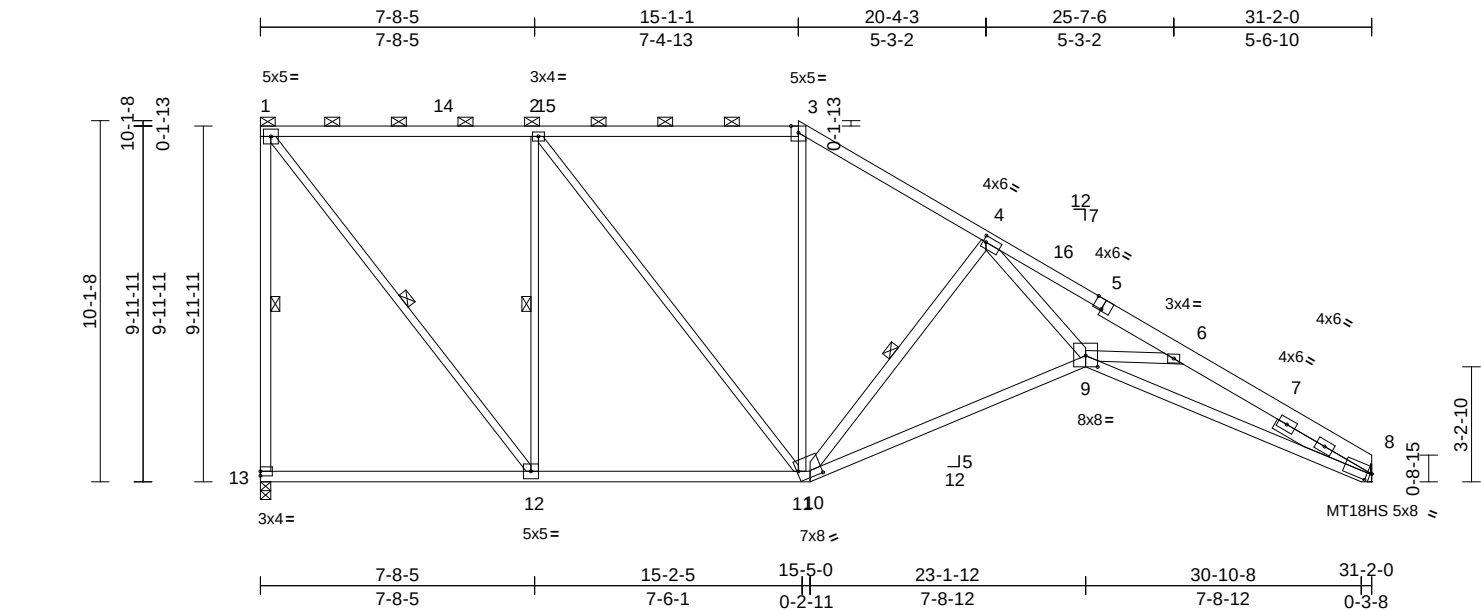


Plate Offsets (X, Y): [4:0-1-0,0-2-0], [5:0-3-0,Edge], [8:0-1-8,0-2-12], [9:0-4-0,0-3-13], [10:0-7-8,0-3-8]

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	0.97	Vert(LL)	-0.35	9-10	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.73	9-10	>510	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.43	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
											Weight: 177 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP 1650F
1.5E, 5-8:2x6 SPF No.2
BOT CHORD 2x4 SP No.2 *Except* 9-8:2x4 SP 1650F
1.5E
WEBS 2x3 SPF No.2 *Except* 13-1:2x4 SP 1650F
1.5E, 9-4,9-6,10-4:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-0-14

BRACING

TOP CHORD Structural wood sheathing directly applied or
2-2-0 oc purlins, except end verticals, and
2-0-0 oc purlins (2-2-0 max.): 1-3.
BOT CHORD Rigid ceiling directly applied or 9-8-3 oc
bracing.

WEBS 1 Row at midpt 1-13, 2-12, 1-12, 4-10

REACTIONS (size) 8= Mechanical, 13=0-3-8
Max Horiz 13=413 (LC 8)
Max Uplift 8=201 (LC 13), 13=290 (LC 8)
Max Grav 8=1391 (LC 1), 13=1391 (LC 1)

FORCES (lb) - Maximum Compression/Maximum
Tension

TOP CHORD 1-13=-1321/317, 1-2=-872/250,
2-3=-1136/289, 3-4=-1407/282,
4-6=-5004/445, 6-8=-5036/683
BOT CHORD 12-13=-296/425, 11-12=-156/872,
10-11=-26/1122, 9-10=-61/2301,
8-9=-532/4410

WEBS 4-9=-174/3459, 6-9=-58/354, 2-12=-956/345,
1-12=-290/1398, 2-11=-171/491,
3-11=-19/332, 4-10=-1634/301

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=1.00; 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 15-1-1, Exterior(2R) 15-1-1 to
22-1-15, Interior (1) 22-1-15 to 31-0-10 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) Bearings are assumed to be: Joint 13 SP No.2 crushing
capacity of 565 psi.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 290 lb uplift at
joint 13 and 201 lb uplift at joint 8.
- 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.
- 10) 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



July 5, 2023

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

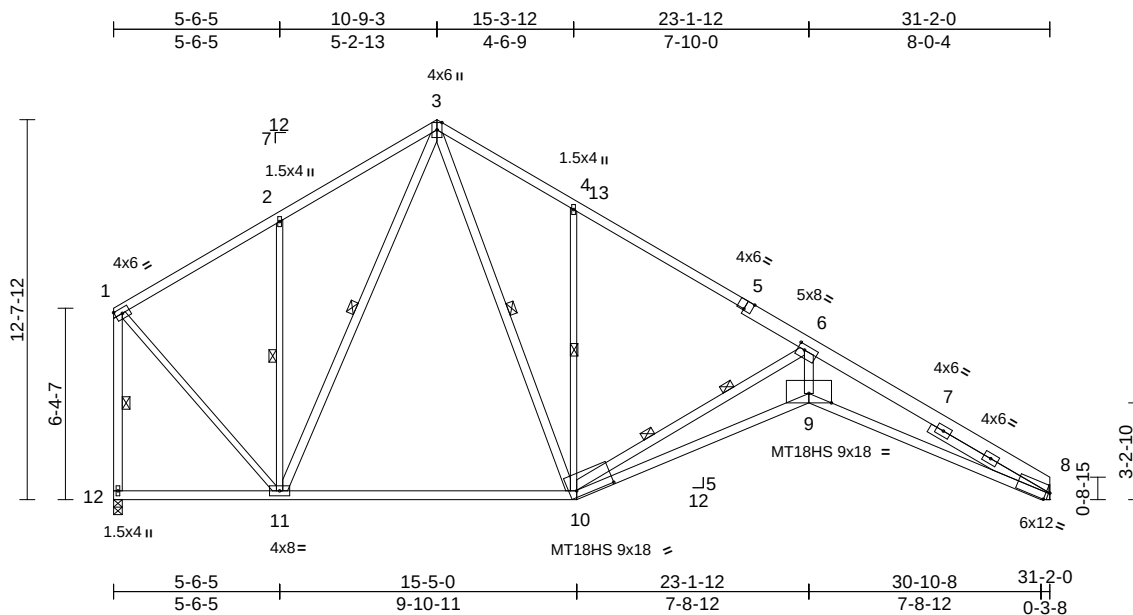
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:76.7

Plate Offsets (X, Y): [5:0-3-0,Edge], [6:0-2-12,0-2-0], [8:0-1-8,0-3-4], [9:0-9-0,0-3-13], [10:1-3-0,0-2-8]

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	0.75	Vert(LL)	-0.49	9-10	>759	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.91	9-10	>406	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.64	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 204 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP 1650F 1.5E, 5-8:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP 1650F 1.5E *Except* 12-10:2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 2-11,10-4,11-1:2x3 SPF No.2, 10-6:2x4 SP 1650F 1.5E
SLIDER Right 2x4 SP No.2 -- 4-6-13

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 2-11, 3-11, 3-10, 4-10, 1-12
WEBS 2 Rows at 1/3 pts 6-10

REACTIONS

(size) 8= Mechanical, 12=0-3-8
Max Horiz 12=-436 (LC 8)
Max Uplift 8=-221 (LC 13), 12=-186 (LC 13)
Max Grav 8=1391 (LC 1), 12=1391 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-896/257, 2-3=-925/400, 3-4=-1468/484, 4-6=-1439/330, 6-8=-5553/702, 1-12=-1362/229
BOT CHORD 11-12=-301/383, 10-11=0/806, 9-10=-525/4946, 8-9=-525/4943
WEBS 2-11=-449/294, 3-11=-306/182, 3-10=-391/1144, 4-10=-562/299, 6-10=-4033/669, 6-9=-296/3922, 1-11=-182/1055

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=1.00; 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 10-9-3, Exterior(2R) 10-9-3 to 15-9-3, Interior (1) 15-9-3 to 31-0-10 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) Bearings are assumed to be: Joint 12 SP No.2 crushing capacity of 565 psi.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 12 and 221 lb uplift at joint 8.
- 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



July 5, 2023

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

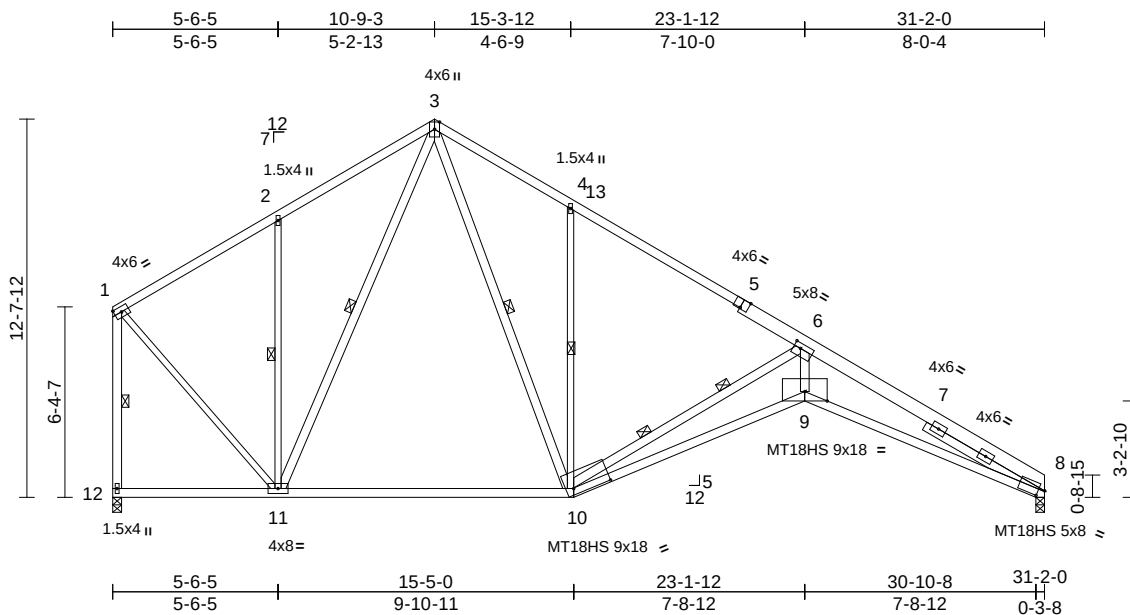
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:77.1

Plate Offsets (X, Y): [5:0-3-0,Edge], [6:0-2-12,0-2-0], [8:0-2-8,0-3-0], [9:0-9-0,0-3-13], [10:1-3-0,0-2-8]

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	0.75	Vert(LL)	-0.49	9-10	>759	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.91	9-10	>406	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.64	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 204 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 3-5:2x4 SP 1650F 1.5E, 5-8:2x6 SP 2400F 2.0E
BOT CHORD 2x4 SP 1650F 1.5E *Except* 12-10:2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 2-11,10-4,11-1:2x3 SPF No.2, 10-6:2x4 SP 1650F 1.5E
SLIDER Right 2x4 SP No.2 -- 4-6-13

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 2-11, 3-11, 3-10, 4-10, 1-12
WEBS 2 Rows at 1/3 pts 6-10

REACTIONS

(size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-436 (LC 8)
Max Uplift 8=-221 (LC 13), 12=-186 (LC 13)
Max Grav 8=1391 (LC 1), 12=1391 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-896/257, 2-3=-925/400, 3-4=-1468/484, 4-6=-1439/330, 6-8=-5553/702, 1-12=-1362/229
BOT CHORD 11-12=-301/383, 10-11=0/806, 9-10=-525/4946, 8-9=-525/4943
WEBS 2-11=-449/294, 3-11=-306/182, 3-10=-391/1144, 4-10=-562/299, 6-10=-4033/669, 6-9=-296/3922, 1-11=-182/1055

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=1.00; 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 10-9-3, Exterior(2R) 10-9-3 to 15-9-3, Interior (1) 15-9-3 to 31-0-10 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) Bearings are assumed to be: Joint 12 SP No.2 crushing capacity of 565 psi, Joint 8 SP 1650F 1.5E crushing capacity of 565 psi.
- 6) Bearing at joint(s) 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 12 and 221 lb uplift at joint 8.
- 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



July 5, 2023

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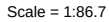
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



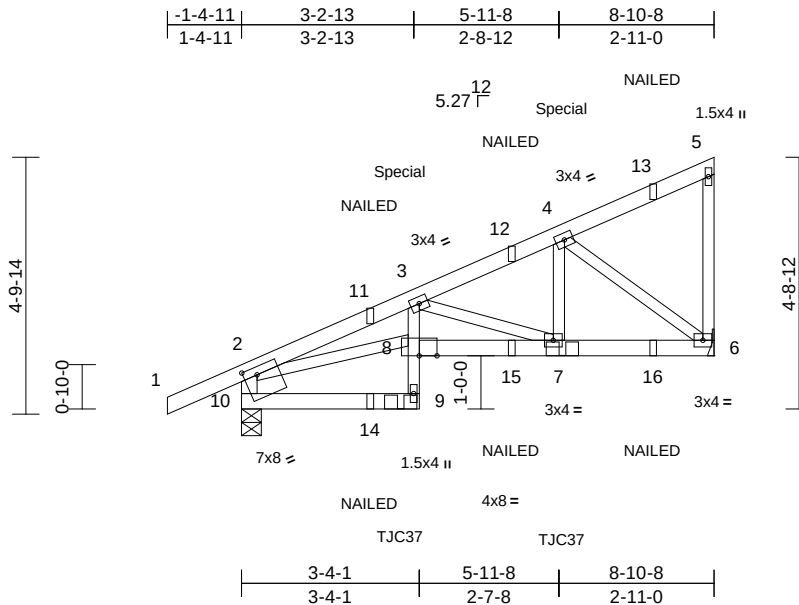
16023 Swingley Ridge Rd
Chesterfield, MO 63017



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	159339930
Diagonal Hip Girder	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:49 Page: 1
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Scale = 1:43.3

Plate Offsets (X, Y): [10:0-3-0,0-1-12]

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	0.25	Vert(LL)	0.03	7-8	>999	240	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.04	7-8	>999	180	
BCLL	0.0	Rep Stress Incr	NO	WB	0.27	Horz(CT)	-0.03	6	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
										Weight: 43 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-3:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-2:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-7-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-7-7 oc bracing.

REACTIONS

(size) 6= Mechanical, 10=0-4-7
Max Horiz 10=196 (LC 9)
Max Uplift 6=-268 (LC 9), 10=-163 (LC 12)
Max Grav 6=548 (LC 19), 10=547 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-10=-515/354, 1-2=0/43, 2-3=-1046/493,
3-4=-628/299, 4-5=-126/82, 5-6=-109/107
BOT CHORD 9-10=-138/133, 8-9=-26/61, 3-8=-85/164,
7-8=-785/930, 6-7=-403/527

WEBS 2-8=-603/826, 3-7=-435/405, 4-7=-197/325,
4-6=-639/441

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner (3) -1-4-11 to 5-11-8,
Exterior(2R) 5-11-8 to 8-9-4 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: Joint 10 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 163 lb uplift at
joint 10 and 268 lb uplift at joint 6.

- 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.
- 7) Use Simpson Strong-Tie TJC37 (4 nail 90-150) or
equivalent spaced at 3-0-7 oc max. starting at 2-11-14
from the left end to 6-0-5 to connect truss(es) to back
face of bottom chord.
- 8) Fill all nail holes where hanger is in contact with lumber.
- 9) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails
per NDS guidelines.
- 10) Hanger(s) or other connection device(s) shall be
provided sufficient to support concentrated load(s) 130
lb down and 86 lb up at 2-11-14, and 158 lb down and
98 lb up at 6-0-5 on top chord. The design/selection of
such connection device(s) is the responsibility of others.
- 11) In the LOAD CASE(S) section, loads applied to the face
of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15,
Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-5=-70, 9-10=-20, 6-8=-20
Concentrated Loads (lb)
Vert: 7=-49 (B), 4=-13 (B), 12=-2 (F), 13=-55 (F),
14=4 (F), 15=-27 (F), 16=-47 (F)



July 5, 2023

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

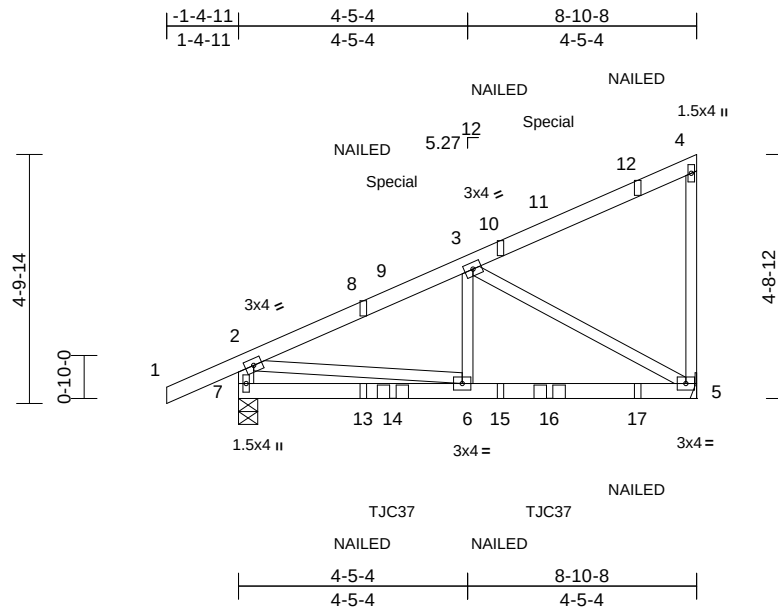
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	159339931
Diagonal Hip Girder	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:50 Page: 1
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Scale = 1:44.6

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)	0.05	5-6	>999	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.06	5-6	>999	180	
BCLL	0.0	Rep Stress Incr	NO	WB	0.36	Horz(CT)	-0.01	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							
Weight: 43 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.2
 WEBS 2x3 SPF No.2 *Except* 7-2:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 8-7-12 oc bracing.

REACTIONS

(size) 5= Mechanical, 7=0-4-7
 Max Horiz 7=214 (LC 28)
 Max Uplift 5=-268 (LC 9), 7=-166 (LC 12)
 Max Grav 5=566 (LC 19), 7=548 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 2-7=-528/360, 1-2=0/43, 2-3=-694/278, 3-4=-248/113, 4-5=-137/130
 BOT CHORD 6-7=-424/234, 5-6=-428/533
 WEBS 2-6=-200/619, 3-6=-46/193, 3-5=-594/421

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-4-11 to 5-8-2, Exterior(2R) 5-8-2 to 8-9-4 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: Joint 7 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 166 lb uplift at joint 7 and 268 lb uplift at joint 5.
- 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.

- 7) Use Simpson Strong-Tie TJC37 (4 nail, 30-90) or equivalent spaced at 3-0-7 oc max. starting at 2-11-14 from the left end to 6-0-5 to connect truss(es) to front face of bottom chord.
- 8) Fill all nail holes where hanger is in contact with lumber.
- 9) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
- 10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 130 lb down and 86 lb up at 2-11-14, and 143 lb down and 70 lb up at 6-0-5 on top chord. The design/selection of such connection device(s) is the responsibility of others.
- 11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (lb/ft)
 Vert: 1-2=-70, 2-4=-70, 5-7=-20
 Concentrated Loads (lb)
 Vert: 10=-2 (B), 11=-10 (F), 12=-18 (B), 13=4 (B), 15=-7 (B), 16=-75 (F), 17=-108 (B)



July 5, 2023

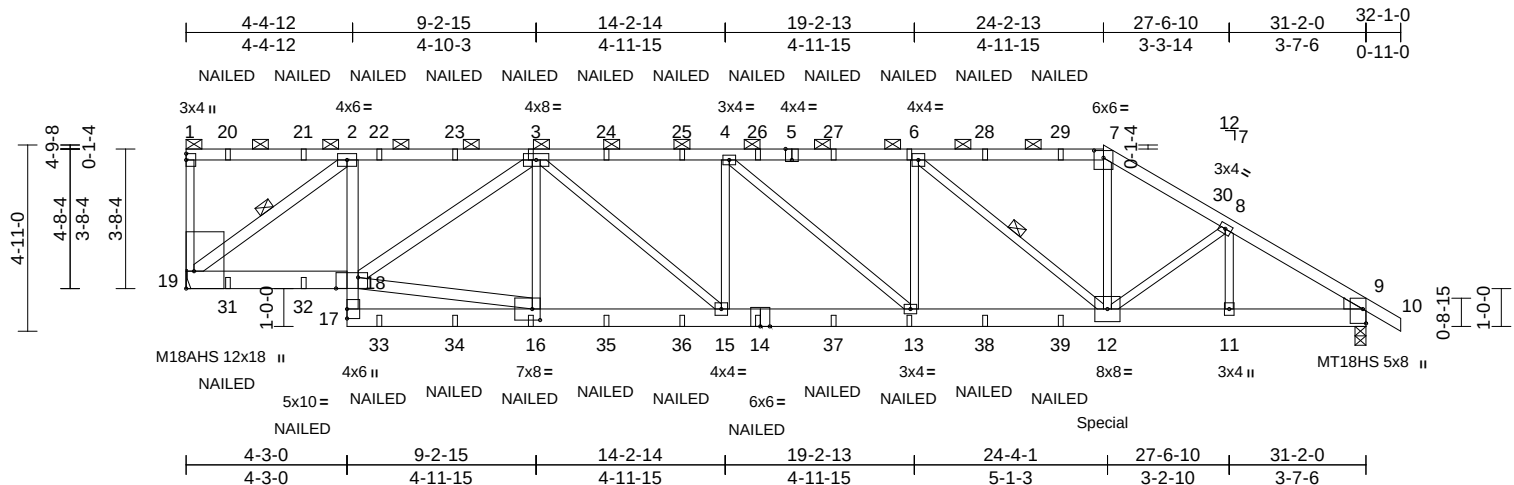
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

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 = 1:60.9

Plate Offsets (X, Y): [5:0-2-0,Edge], [7:0-3-0,0-2-5], [9:Edge,0-1-0], [16:0-2-8,0-3-8], [18:0-7-0,Edge], [19: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	0.96	Vert(LL)	0.28	13-15	>999	240	M18AHS	142/136
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.43	13-15	>854	180	MT20	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.93	Horz(CT)	0.09	9	n/a	n/a	MT18HS	244/190
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 185 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 1-5:2x4 SP 1650F 1.5E
BOT CHORD	2x6 SP 2400F 2.0E *Except* 19-18:2x6 SPF No.2, 2-17:2x4 SP No.2
WEBS	2x3 SPF No.2 *Except* 19-2,18-3,18-16:2x4 SP No.2
WEDGE	Right: 2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-6-14 oc purlins, except end verticals, and 2-0-0 oc purlins (2-1-6 max.): 1-7.	
BOT CHORD	Rigid ceiling directly applied or 6-5-15 oc bracing.	
WEBS	1 Row at midpt	2-19, 6-12

REACTIONS

Max Horiz	19=-169 (LC 31)
Max Uplift	9=-968 (LC 13), 19=-1154 (LC 8)
Max Grav	9=2720 (LC 1), 19=2796 (LC 1)

FORCES

STRINGS	Maximum Tension	Maximum Compression	Maximum
TOP CHORD	1-19=-272/169, 1-2=-85/85, 2-3=-3052/1242, 3-4=-5159/2099, 4-6=-4969/2017, 6-7=-3651/1472, 7-8=-4302/1697, 8-9=-4269/1545, 9-10=0/13		
BOT CHORD	18-19=-1280/3109, 17-18=-139/286, 2-18=-702/1811, 16-17=-270/595, 15-16=-1728/4318, 13-15=-2029/5159, 12-13=-1910/4969, 11-12=-1214/3423, 9-11=-1214/3423		
WEBS	2-19=-3872/1591, 3-18=-1543/657, 3-16=-251/34, 16-18=-1485/3792, 3-15=-447/1111, 4-15=-254/52, 4-13=-305/157, 6-13=-357/699, 6-12=-1787/766, 7-12=-767/1816, 8-12=-326/467, 8-11=-105/119		

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 24-2-13, Exterior(2R) 24-2-13 to 31-0-4, Interior (1) 31-0-4 to 32-1-0 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) 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) Bearings are assumed to be : Joint 9 SP 2400F 2.0E crushing capacity of 805 psi.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1154 lb uplift at joint 19 and 968 lb uplift at joint 9.
- 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.
- 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 11) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
- 12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 538 lb down and 287 lb up at 24-2-13 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Roof Live (balanced): Lumber Increase=1.15,
Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-7=-70, 7-10=-70, 18-19=-20, 9-17=-20
Concentrated Loads (lb)
Vert: 14=-152 (F), 3=-29 (F), 16=-152 (F), 13=-152 (F), 6=-29 (F), 12=-521 (F), 20=-153 (F), 21=-153 (F), 22=-29 (F), 23=-29 (F), 24=-29 (F), 25=-29 (F), 26=-29 (F), 27=-29 (F), 28=-29 (F), 29=-29 (F), 31=-8 (F), 32=-8 (F), 33=-152 (F), 34=-152 (F), 35=-152 (F), 36=-152 (F), 37=-152 (F), 38=-152 (F), 39=-152 (F)



July 5, 2023



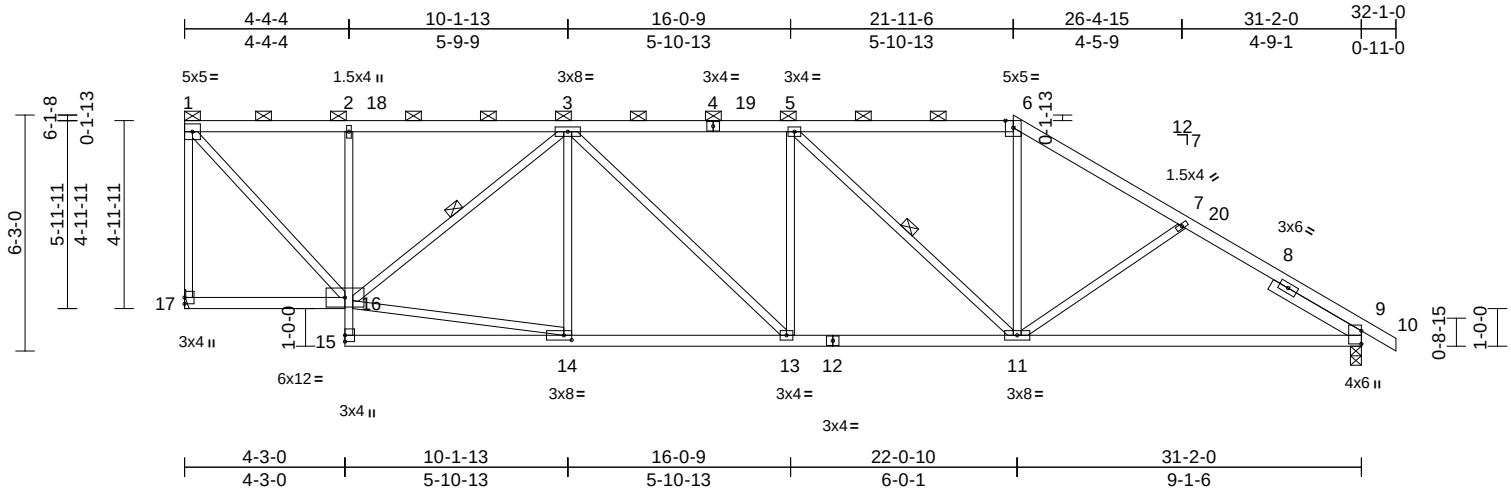
WARNING – verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE (M17-743) (REV. 3/19/2020) BEFORE USE. Design valid for use only with MiTEK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building 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



Scale = 1:61

Plate Offsets (X, Y): [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	0.80	Vert(LL)	-0.18	9-11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.39	9-11	>963	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.57	Horz(CT)	0.07	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 154 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 2-15:2x3 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Right 2x4 SP No.2 -- 2-9-1

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-3-1 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-7 max.): 1-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 3-16, 5-11

REACTIONS (size) 9=0-3-8, 17= Mechanical
Max Horiz 17=-225 (LC 8)
Max Uplift 9=-177 (LC 13), 17=-294 (LC 8)
Max Grav 9=1463 (LC 1), 17=1397 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-17=-1343/310, 1-2=-1122/238, 2-3=-1120/239, 3-5=-1950/389, 5-6=-1607/285, 6-7=-1913/304, 7-9=-2165/302, 9-10=0/7
BOT CHORD 16-17=-164/273, 15-16=0/102, 2-16=-381/179, 14-15=-11/88, 13-14=-303/1715, 11-13=-285/1950, 9-11=-192/1723
WEBS 1-16=-357/1659, 3-16=-764/183, 5-11=-577/238, 6-11=-31/569, 7-11=-216/203, 3-14=-157/131, 14-16=-300/1650, 3-13=-77/327, 5-13=-125/113

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 21-11-6, Exterior(2R) 21-11-6 to 29-0-3, Interior (1) 29-0-3 to 32-1-0 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) Provide adequate drainage to prevent water ponding.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) Bearings are assumed to be: , Joint 9 SP No.2 crushing capacity of 565 psi.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 294 lb uplift at joint 17 and 177 lb uplift at joint 9.
- 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



July 5, 2023

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

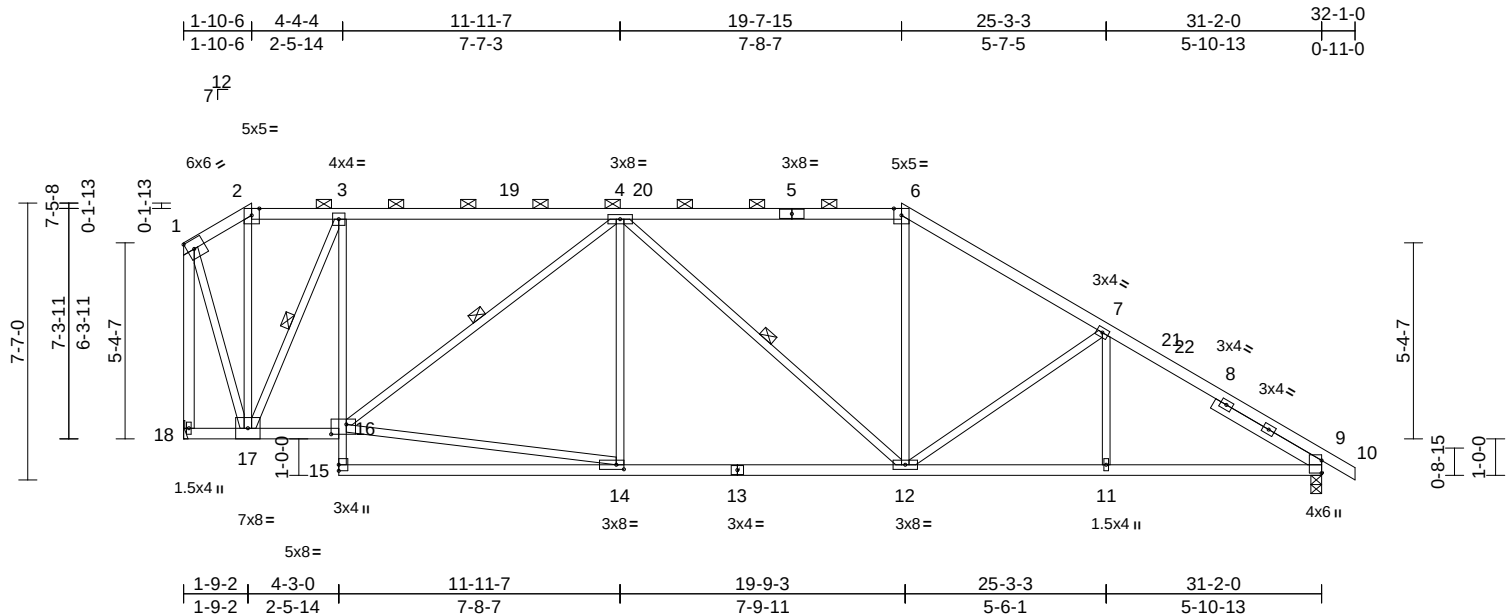
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:63.1

Plate Offsets (X, Y): [14:0-2-8,0-1-8], [16:0-5-0,0-3-4]												
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	0.67	Vert(LL)	-0.10	14-15	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.23	14-15	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.07	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 171 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 2-5-5-6:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2 *Except* 3-15:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 18-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-4-15
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-15 oc purlins, except end verticals, and 2-0-0 oc purlins (4-7-14 max.): 2-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-17, 4-16, 4-12
REACTIONS (size) 9=0-3-8, 18= Mechanical
Max Horiz 18=272 (LC 8)
Max Uplift 9=201 (LC 13), 18=208 (LC 8)
Max Grav 9=1461 (LC 1), 18=1395 (LC 1)
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-441/168, 2-3=-358/149, 3-4=-894/190, 4-6=-1457/258, 6-7=-1776/258, 7-9=-2173/268, 9-10=0/7, 1-18=-1378/196
BOT CHORD 17-18=-179/281, 16-17=-214/892, 15-16=0/132, 3-16=-81/824, 14-15=0/113, 12-14=-218/1529, 11-12=-121/1747, 9-11=-121/1747
WEBS 2-17=-71/195, 3-17=-1361/296, 14-16=-228/1441, 4-16=-806/191, 4-14=-53/200, 4-12=-260/202, 6-12=0/433, 7-12=-424/214, 7-11=0/216, 1-17=-216/1164

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 1-10-6, Exterior(2R) 1-10-6 to 8-11-4, Interior (1) 8-11-4 to 19-7-15, Exterior(2R) 19-7-15 to 26-8-13, Interior (1) 26-8-13 to 32-1-0 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) Provide adequate drainage to prevent water ponding.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 5) Bearings are assumed to be: , Joint 9 SP No.2 crushing capacity of 565 psi.
- 6) Refer to girder(s) for truss to truss connections.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 208 lb uplift at joint 18 and 201 lb uplift at joint 9.
- 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



July 5,2023

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16023 Swingley Ridge Rd
Chesterfield, MO 63017

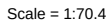
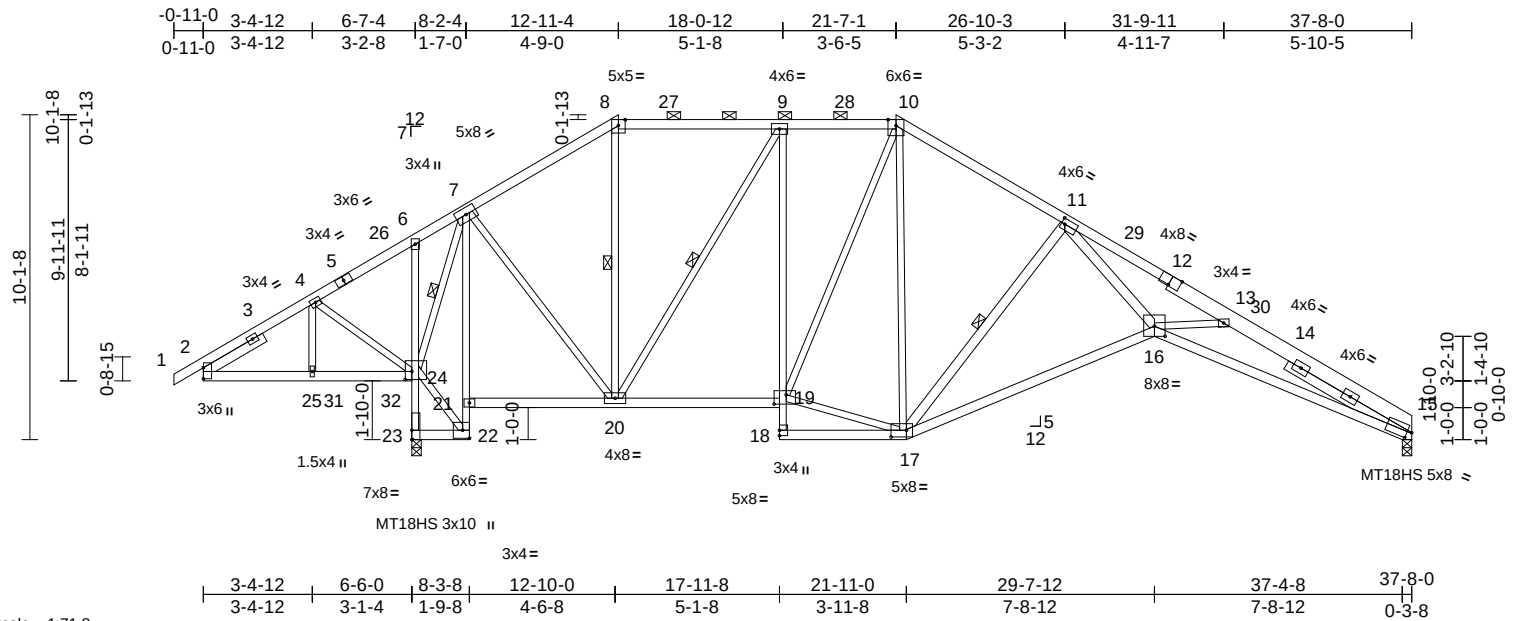


Plate Offsets (X, Y): [2:Edge,0-0-1], [6:0-5-0,0-1-2], [10:0-4-0,Edge], [13:0-1-12,0-2-12], [14:0-9-0,0-3-13], [15:0-0-14,0-2-0], [16:0-4-4,0-2-12], [20:0-2-0,0-2-0]

16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:71.8

Plate Offsets (X, Y): [2:Edge,0-0-1], [11:0-1-4,0-2-0], [12:0-4-0,Edge], [15:0-1-12,0-2-12], [16:0-4-0,0-3-13], [17:0-5-12,0-2-8], [19:0-4-8,0-3-8], [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	0.62	Vert(LL)	-0.32	16-17	>999	240	MT20 244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.65	16-17	>568	180	MT18HS 197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.45	15	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 224 lb FT = 20%

LUMBER

TOP CHORD	2x4 SP 1650F 1.5E *Except* 8-10,1-5:2x4 SP No.2, 12-15:2x6 SPF No.2
BOT CHORD	2x4 SP No.2 *Except* 6-23,22-7,9-18:2x3 SPF No.2, 16-15:2x4 SP 1650F 1.5E
WEBS	2x3 SPF No.2 *Except* 17-11,16-11:2x4 SP No.2
SLIDER	Left 2x4 SP No.2 -- 2-2-4, Right 2x4 SP No.2 -- 4-5-7

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-7-4 oc purlins, except
BOT CHORD	2-0-0 oc purlins (5-5-5 max.): 8-10. Rigid ceiling directly applied or 3-3-2 oc bracing.

WEBS	1 Row at midpt	7-24, 8-20, 9-20, 11-17
REACTIONS	(size)	15=0-3-8, 23=0-3-8
	Max Horiz	23=-267 (LC 8)
	Max Uplift	15=-203 (LC 13), 23=-265 (LC 12)
	Max Grav	15=1328 (LC 26), 23=2129 (LC 1)

FORCES

Tension

TOP CHORD	1-2=0/7, 2-4=-236/399, 4-6=-402/682, 6-7=-376/662, 7-8=-763/159, 8-9=-629/170, 9-10=-1051/228, 10-11=-1289/289, 11-13=-4726/472, 13-15=-4848/664
BOT CHORD	2-25=-272/230, 24-25=-272/230, 23-24=-2102/521, 6-24=-159/59, 22-23=-252/260, 21-22=-184/123, 7-21=-194/141, 20-21=-226/367, 19-20=-87/1051, 18-19=0/52, 9-19=-63/436, 17-18=-12/18, 16-17=-65/2151, 15-16=-509/4283

WEBS

7-20=-186/992, 8-20=-72/143,
9-20=-830/197, 17-19=0/1047,
10-19=-219/179, 10-17=-190/396,
11-17=-1573/299, 11-16=-196/3311,
13-16=-57/290, 4-24=-340/286,
4-25=-156/151

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=1.00; 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 12-11-4, Exterior(2R) 12-11-4 to 20-0-2, Interior (1) 20-0-2 to 21-7-1, Exterior(2R) 21-7-1 to 28-7-15, Interior (1) 28-7-15 to 37-6-10 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) Bearings are assumed to be: Joint 23 SP No.2 crushing capacity of 565 psi, Joint 15 SP 1650F 1.5E crushing capacity of 565 psi.
- 7) Bearing at joint(s) 15 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 265 lb uplift at joint 23 and 203 lb uplift at joint 15.
- 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.

10) 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



July 5, 2023



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

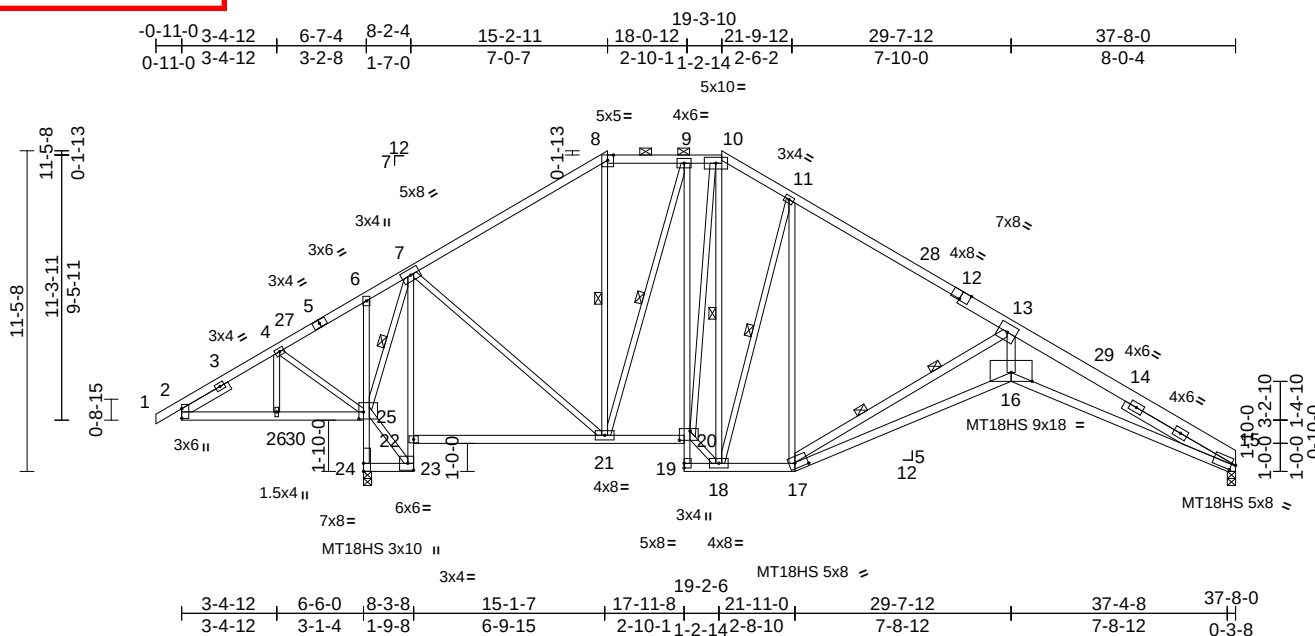


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	159339937
Hip	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:54
ID:nx7RbqYUOVQ_2yW9NZnQelzRonA-RfC?PsB70Hq3NSgPqnL8w3uITxbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:82.3

Plate Offsets (X, Y): [2:Edge,0-0-1], [12:0-4-0,Edge], [15:0-1-12,0-2-12], [16:0-9-0,0-3-13], [17:0-5-8,0-2-4], [20:0-4-8,0-4-0], [25:0-2-0,0-3-0]

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	0.96	Vert(LL)	-0.49	16-17	>764	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.94	16-17	>397	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.66	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
Weight: 240 lb											FT = 20%	

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 12-15:2x6 SPF No.2
BOT CHORD 2x4 SP No.2 *Except* 6-24,23-7,9-19:2x3
SPF No.2, 17-16,16-15:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 17-13:2x4 SP 1650F
1.5E, 16-13:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-11-9, Right 2x4 SP
No.2 -- 4-6-13

WEBS 23-25=-57/415, 7-25=-1904/625,
7-21=-158/908, 8-21=-88/220,
9-21=-564/187, 18-20=0/1014,
10-20=-158/372, 10-18=-416/387,
11-18=-902/342, 11-17=-106/472,
13-17=-3817/637, 13-16=-264/3671,
4-25=-353/289, 4-26=-158/151

LOAD CASE(S) Standard

BRACING
TOP CHORD Structural wood sheathing directly applied,
except
2-0-0 oc purlins (6-0-0 max.): 8-10.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc
bracing.
WEBS 1 Row at midpt 7-25, 8-21, 9-21, 10-18,
11-18
WEBS 2 Rows at 1/3 pts 13-17

REACTIONS (size) 15=0-3-8, 24=0-3-8
Max Horiz 24=-305 (LC 8)
Max Uplift 15=-215 (LC 13), 24=-289 (LC 12)
Max Grav 15=1315 (LC 1), 24=2129 (LC 1)

FORCES (lb) - Maximum Compression/Maximum
Tension
TOP CHORD 1-2=0/7, 2-4=-235/395, 4-6=-401/684,
6-7=-401/736, 7-8=-945/218, 8-9=-704/220,
9-10=-848/268, 10-11=-1037/338,
11-13=-1297/293, 13-15=-5185/662
2-26=-268/228, 25-26=-268/228,
24-25=-2115/462, 6-25=-94/0,
23-24=-287/295, 22-23=-176/109,
7-22=-159/155, 21-22=-236/374,
20-21=-5/848, 19-20=-14/29, 9-20=-128/427,
18-19=-10/60, 17-18=0/1032,
16-17=-486/4615, 15-16=-487/4611

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=1.00; 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 15-2-11, Exterior(2E) 15-2-11 to 19-3-10, Exterior(2R) 19-3-10 to 26-4-8, Interior (1) 26-4-8 to 37-6-10 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) Bearings are assumed to be: Joint 24 SP No.2 crushing capacity of 565 psi, Joint 15 SP 1650F 1.5E crushing capacity of 565 psi.
- 7) Bearing at joint(s) 15 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 289 lb uplift at joint 24 and 215 lb uplift at joint 15.
- 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.
- 10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



July 5,2023

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

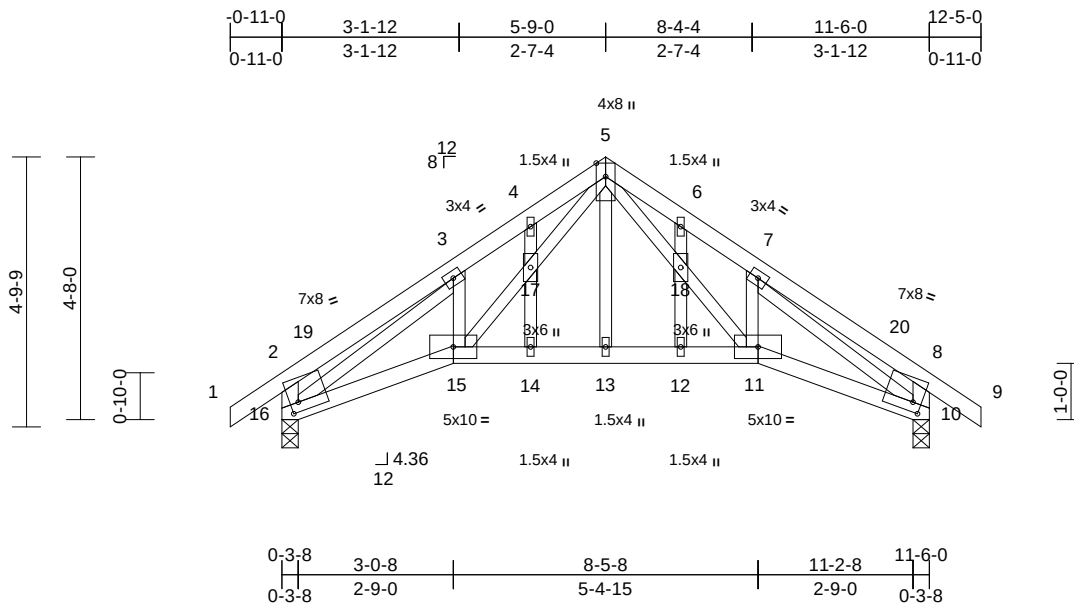
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

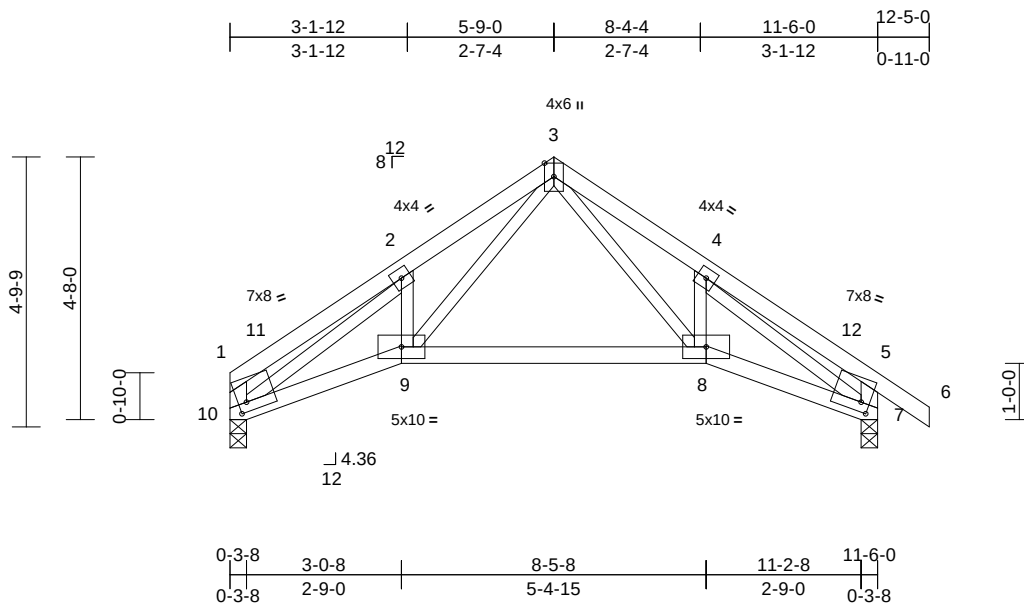
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017





Scale = 1:40.9

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

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	0.21	Vert(LL)	-0.04	8-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.10	8-9	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.04	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 56 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 10-1,7-5:2x4 SP No.2

BRACING

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

REACTIONS

(size) 7=0-3-8, 10=0-3-8
Max Horiz 10=-144 (LC 8)
Max Uplift 7=-96 (LC 13), 10=-69 (LC 12)
Max Grav 7=582 (LC 1), 10=501 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-245/124, 2-3=-907/334, 3-4=-873/305, 4-5=-254/140, 5-6=0/41, 1-10=-223/114, 5-7=-312/173
BOT CHORD 9-10=-108/825, 8-9=0/427, 7-8=-80/749
WEBS 3-8=-160/466, 4-8=-80/167, 3-9=-185/551, 2-9=-85/166, 2-10=-763/92, 4-7=-734/88

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=1.00; 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 5-9-0, Exterior(2R) 5-9-0 to 10-9-0, Interior (1) 10-9-0 to 12-5-0 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.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

- Bearing at joint(s) 10, 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 10 and 96 lb uplift at joint 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



July 5, 2023

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

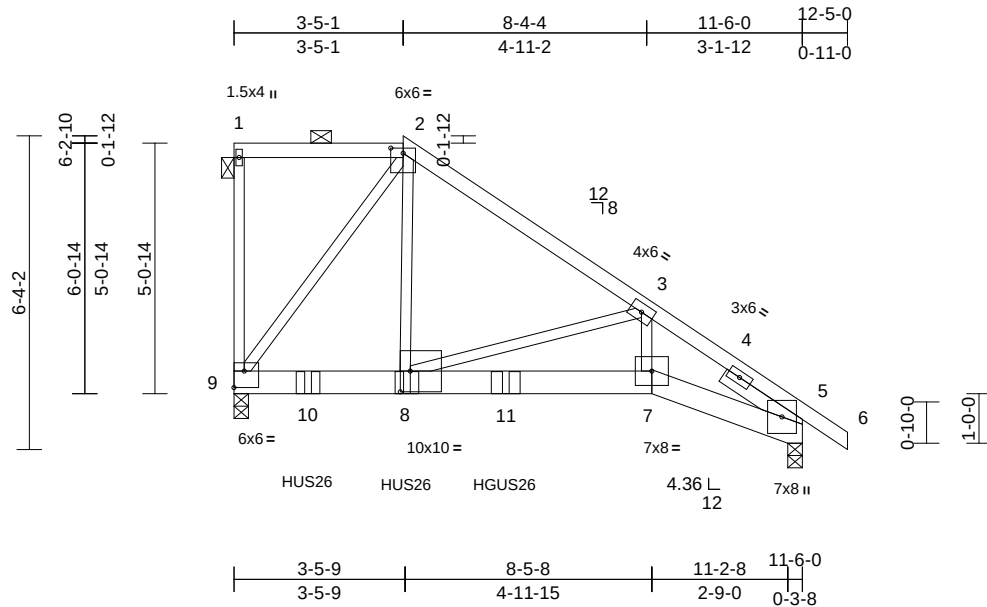
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:46.6

Plate Offsets (X, Y): [2:0-3-0,0-1-4], [5:0-3-7,0-1-7], [8:0-2-7,0-5-1], [9:Edge,0-4-0]

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)	0.13	7-8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.20	7-8	>662	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.06	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S								
Weight: 133 lb											FT = 20%	

LUMBER

TOP CHORD	2x4 SP No.2 *Except* 2-6:2x4 SP 1650F 1.5E
BOT CHORD	2x6 SP 2400F 2.0E *Except* 7-5:2x6 SP No.2
WEBS	2x3 SP No.2
SLIDER	Right 2x4 SP No.2 -- 1-10-10

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-5-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 1-2.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	5=0-3-8, 9=0-3-8
Max Horiz	9=-227 (LC 8)
Max Uplift	5=-788 (LC 13), 9=-1111 (LC 8)
Max Grav	5=2499 (LC 1), 9=4115 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-9=-99/69, 1-2=-99/106, 2-3=-3133/1027, 3-5=-5730/1932, 5-6=0/10
BOT CHORD	8-9=-753/2554, 7-8=-1367/4254, 5-7=-1490/4611
WEBS	2-9=-4444/1501, 3-7=-764/2261, 2-8=-1553/4948, 3-8=-1739/768

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-4-0 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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 3-5-1, Exterior(2R) 3-5-1 to 8-4-4, Interior (1) 8-4-4 to 12-5-0 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
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- Bearings are assumed to be: Joint 9 SP 2400F 2.0E crushing capacity of 805 psi, Joint 5 SPF No.2 crushing capacity of 425 psi.
- Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1111 lb uplift at joint 9 and 788 lb uplift at joint 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 1-6-0 from the left end to 3-6-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HGUS26 (20-SD10212 Girder, 8-SD10212 Truss) or equivalent at 5-6-0 from the left end to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-6=-70, 7-9=-20, 5-7=-20
Concentrated Loads (lb)
Vert: 8=-1377 (B), 10=-1375 (B), 11=-2776 (B)



July 5, 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

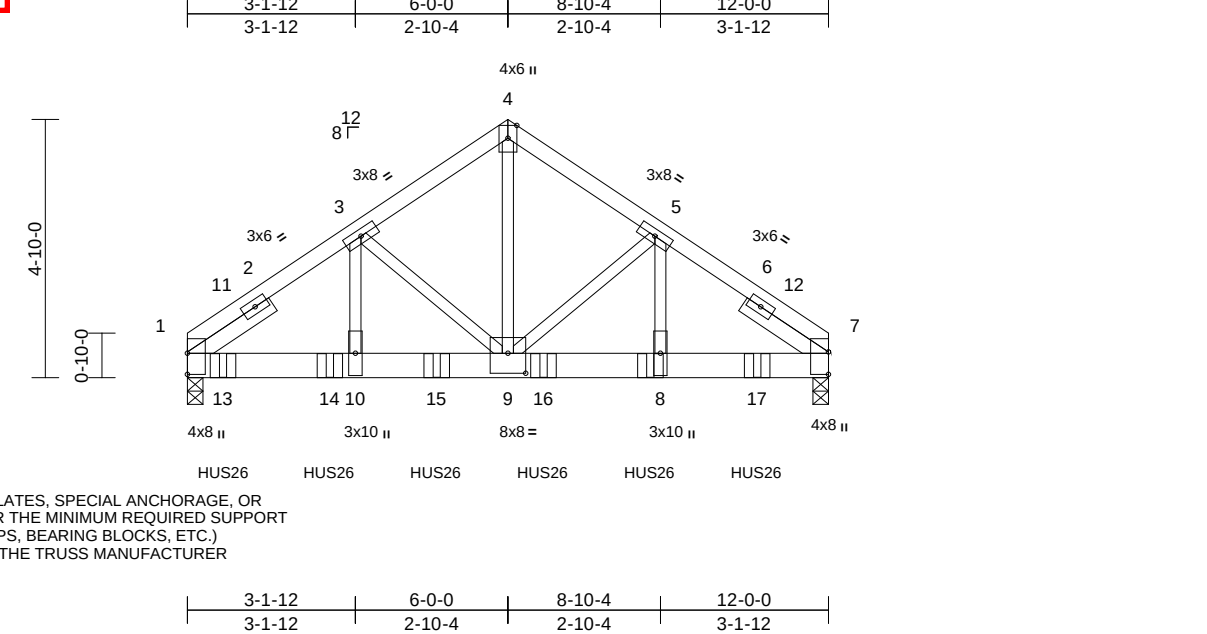


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	159339942
Common Girder	1	2	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:56 Page: 1

ID: 5GY308gYHvxZFhU1h41Suz?AJU-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

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

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	0.83	Vert(LL)	-0.05	9-10	>999	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.09	9-10	>999	180	
BCLL	0.0	Rep Stress Incr	NO	WB	0.67	Horz(CT)	0.03	7	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
Weight: 123 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-10-2, Right 2x4 SP No.2 -- 1-10-2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-8-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=0-3-8, (req. 0-3-13), 7=0-3-8
Max Horiz 1=-124 (LC 31)
Max Uplift 1=-779 (LC 12), 7=-733 (LC 13)
Max Grav 1=4863 (LC 1), 7=4446 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-5449/978, 3-4=-3924/772, 4-5=-3924/772, 5-7=-5462/991
BOT CHORD 1-10=-720/4256, 9-10=-720/4256, 8-9=-713/4265, 7-8=-713/4265
WEBS 3-10=-279/1936, 3-9=-1322/301, 4-9=-724/3900, 5-9=-1335/316, 5-8=-298/1954

NOTES

- 2-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 0-7-0 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=1.00; 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 6-0-0, Exterior(2R) 6-0-0 to 11-0-0, Interior (1) 11-0-0 to 12-0-0 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
- 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 greater than input bearing size.
- All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 779 lb uplift at joint 1 and 733 lb uplift at joint 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.
- Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-8-0 from the left end to 10-8-0 to connect truss(es) to front face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

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: 8=-1371 (F), 13=-1374 (F), 14=-1371 (F), 15=-1371 (F), 16=-1371 (F), 17=-1371 (F)



July 5, 2023

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

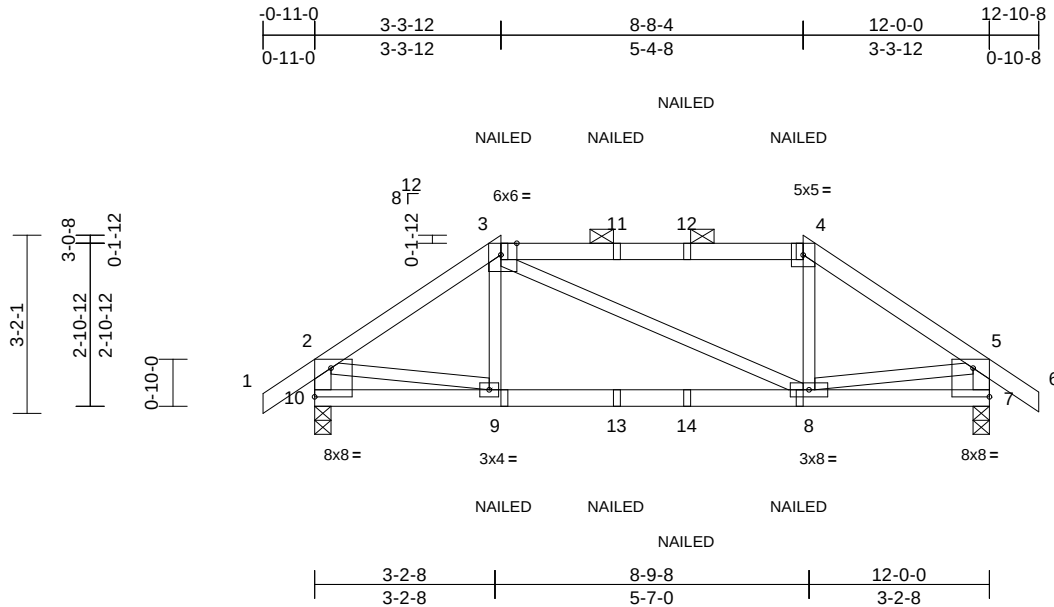
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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



16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:41

Plate Offsets (X, Y): [3:0-3-6,Edge], [4:Edge,0-0-0], [7:Edge,0-6-2], [10:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.04	8-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.08	8-9	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 56 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 10-2,7-5:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6'-0-0 oc purlins, except end verticals, and 2'-0-0 oc purlins (4'-3-12 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10'-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=102 (LC 11)
Max Uplift 7=-222 (LC 13), 10=-223 (LC 12)
Max Grav 7=752 (LC 1), 10=755 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/41, 2-3=-865/317, 3-4=-685/307, 4-5=-866/310, 5-6=0/40, 2-10=-737/288, 5-7=-734/293
BOT CHORD 9-10=-93/125, 8-9=-247/695, 7-8=-47/53
WEBS 3-9=0/193, 3-8=-42/43, 4-8=-3/194, 2-9=-242/673, 5-8=-247/673

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=1.00; 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
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 223 lb uplift at joint 10 and 222 lb uplift at joint 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 7-10=-20
Concentrated Loads (lb)
Vert: 3=-58 (B), 4=-58 (B), 9=-19 (B), 8=-19 (B), 11=-58 (B), 12=-58 (B), 13=-19 (B), 14=-19 (B)



July 5, 2023

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

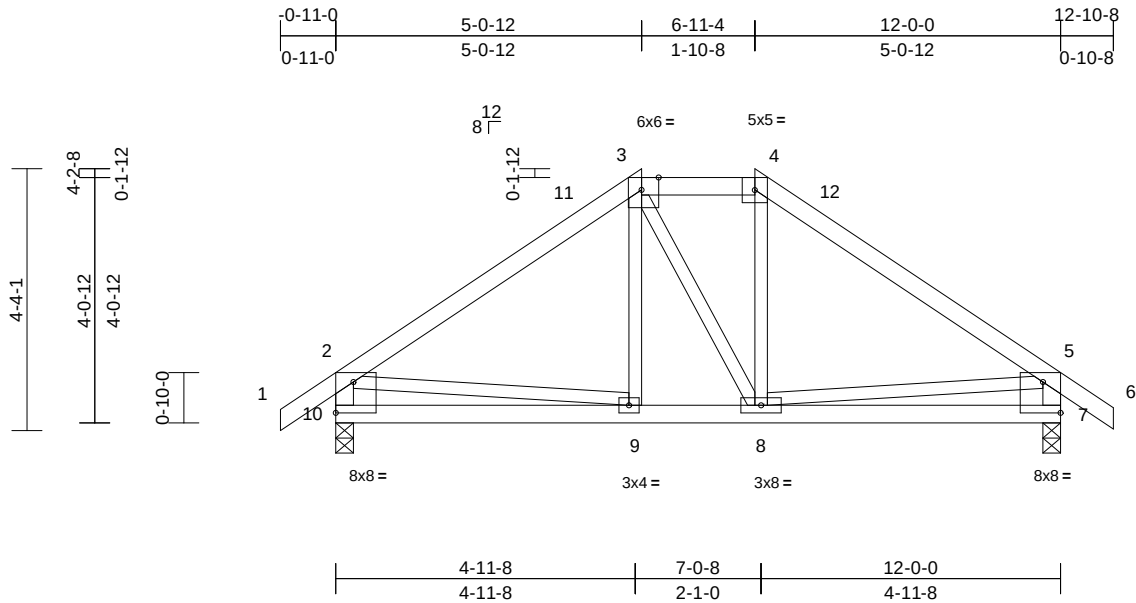
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:38.1

Plate Offsets (X, Y): [3:0-3-6,Edge], [4:Edge,0-0-0], [7:Edge,0-6-2], [10:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	-0.02	9-10	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.03	9-10	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 60 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 10-2,7-5:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 10=0-3-8
Max Horiz 10=134 (LC 11)
Max Uplift 7=-93 (LC 13), 10=-94 (LC 12)
Max Grav 7=598 (LC 1), 10=602 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/41, 2-3=-589/153, 3-4=-403/177, 4-5=-590/155, 5-6=0/40, 2-10=-553/198, 5-7=-550/207
BOT CHORD 9-10=-160/336, 8-9=-29/403, 7-8=-114/247
WEBS 3-9=0/121, 3-8=-80/82, 4-8=-17/122, 2-9=-58/205, 5-8=-65/207

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=1.00; 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 5-0-12, Exterior(2E) 5-0-12 to 12-10-8 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 10 and 93 lb uplift at joint 7.
- 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



July 5, 2023

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

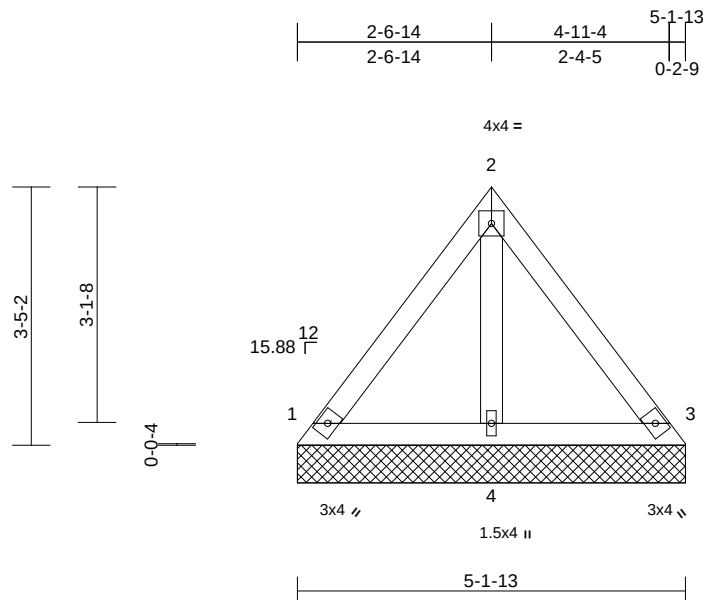
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:30.6

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	0.16	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999	
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P						Weight: 22 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SPF No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-2-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-1-13, 3=5-1-13, 4=5-1-13
Max Horiz 1=-92 (LC 8)
Max Uplift 1=-46 (LC 13), 3=-39 (LC 12)
Max Grav 1=137 (LC 1), 3=137 (LC 1), 4=139 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-119/61, 2-3=-109/52
BOT CHORD 1-4=-36/64, 3-4=-36/64
WEBS 2-4=-82/22

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=1.00; 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.

- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 1 and 39 lb uplift at joint 3.
- 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



July 5, 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

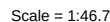


Plate Offsets (X, Y): [5:0-3-0,Edge]

LOAD CASE(S) Standard

BRACING

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

REACTIONS (size)

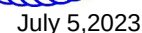
(size)	1=17-2-6, 11=17-2-6, 12=17-2-6, 13=17-2-6, 14=17-2-6, 15=17-2-6, 16=17-2-6, 17=17-2-6, 18=17-2-6, 20=17-2-6
Max Horiz	1=247 (LC 9)
Max Uplift	1=-101 (LC 8), 11=-32 (LC 11), 12=-26 (LC 8), 13=-46 (LC 9), 14=-38 (LC 13), 15=-45 (LC 9), 16=-76 (LC 8), 17=-105 (LC 11), 18=-133 (LC 12), 20=-161 (LC 12)
Max Grav	1=198 (LC 11), 11=22 (LC 8), 12=132 (LC 26), 13=190 (LC 1), 14=177 (LC 26), 15=185 (LC 1), 16=206 (LC 20), 17=226 (LC 19), 18=210 (LC 19), 20=241 (LC 19)

FORCES

	Tension
TOP CHORD	1-2=-287/291, 2-3=-216/171, 3-4=-193/201, 4-5=-187/196, 5-6=-89/96, 6-7=-89/96, 7-8=-89/96, 8-9=-89/96, 9-10=-89/96, 10-11=-55/58
BOT CHORD	1-20=-94/101, 18-20=-94/101, 17-18=-94/101, 16-17=-94/101, 15-16=-92/100, 14-15=-92/100, 13-14=-92/100, 12-13=-92/100, 11-12=-92/100

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1, Interior (1) 5-4-1 to 6-5-13, Exterior(2E) 6-5-13 to 8-6-3, Interior (1) 8-6-3 to 17-0-14 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/PTP 1.
- 4) Provide adequate drainage to prevent water ponding.
- 5) All plates are 1.5x4 MT20 unless otherwise indicated.
- 6) Gable requires continuous bottom chord bearing.
- 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 101 lb uplift at joint 1, 32 lb uplift at joint 11, 105 lb uplift at joint 17, 133 lb uplift at joint 18, 161 lb uplift at joint 20, 76 lb uplift at joint 16, 45 lb uplift at joint 15, 38 lb uplift at joint 14, 46 lb uplift at joint 13 and 26 lb uplift at joint 12.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/PTP 1.



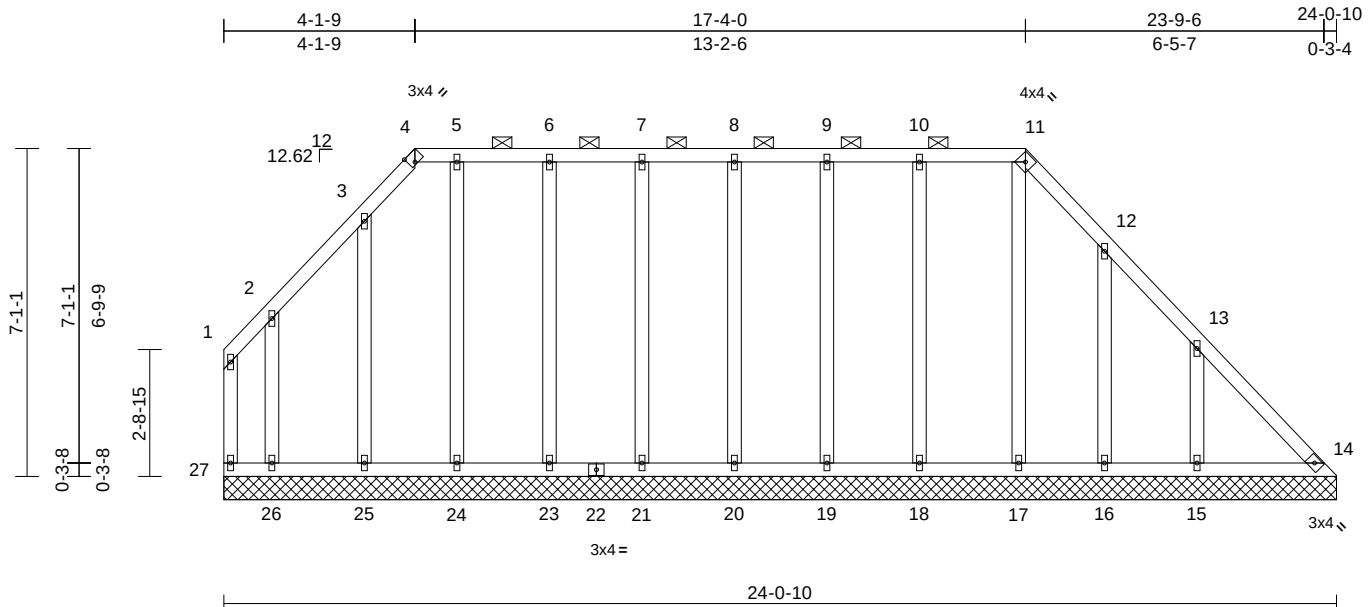
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE (M1-7473) (REV. 3/19/2020) BEFORE USE.

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





Scale = 1:49.8

Plate Offsets (X, Y): [4:0-1-7,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	0.13	Vert(LL)	n/a	-	n/a	999	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999	
BCLL	0.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	0.01	14	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
Weight: 152 lb FT = 20%											

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SPF No.3
OTHERS 2x4 SPF No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-11.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size)
14=24-0-10, 15=24-0-10,
16=24-0-10, 17=24-0-10,
18=24-0-10, 19=24-0-10,
20=24-0-10, 21=24-0-10,
23=24-0-10, 24=24-0-10,
25=24-0-10, 26=24-0-10,
27=24-0-10
Max Horiz 27=-229 (LC 8)
Max Uplift 14=-113 (LC 9), 15=-193 (LC 13),
16=-114 (LC 13), 17=-69 (LC 8),
18=-49 (LC 8), 19=-39 (LC 9),
20=-40 (LC 9), 21=-39 (LC 8),
23=-57 (LC 9), 24=-47 (LC 8),
25=-46 (LC 12), 26=-171 (LC 12),
27=-20 (LC 8)
Max Grav 14=205 (LC 19), 15=291 (LC 20),
16=173 (LC 20), 17=187 (LC 21),
18=206 (LC 25), 19=174 (LC 1),
20=181 (LC 26), 21=180 (LC 25),
23=183 (LC 26), 24=179 (LC 25),
25=185 (LC 25), 26=217 (LC 19),
27=62 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-27=-56/41, 1-2=-69/67, 2-3=-183/191,
3-4=-215/219, 4-5=-183/200, 5-6=-183/200,
6-7=-183/200, 7-8=-183/200, 8-9=-183/200,
9-10=-183/200, 10-11=-183/199,
11-12=-232/244, 12-13=-199/191,
13-14=-246/226
BOT CHORD 26-27=-163/196, 25-26=-163/196,
24-25=-163/196, 23-24=-163/196,
21-23=-163/196, 20-21=-163/196,
19-20=-163/196, 18-19=-163/196,
17-18=-163/196, 16-17=-161/194,
15-16=-161/194, 14-15=-161/194
WEBS 11-17=-145/109, 10-18=-164/74,
9-19=-135/62, 8-20=-141/64, 7-21=-140/63,
6-23=-142/82, 5-24=-139/77, 3-25=-143/72,
2-26=-184/179, 12-16=-152/138,
13-15=-246/214

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 4-1-9, Exterior(2R) 4-1-9 to 11-0-8, Interior (1) 11-0-8 to 17-4-0, Exterior(2E) 17-4-0 to 23-8-13 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.
- Provide adequate drainage to prevent water ponding.
- 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.

- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 27, 113 lb uplift at joint 14, 69 lb uplift at joint 17, 49 lb uplift at joint 18, 39 lb uplift at joint 19, 40 lb uplift at joint 20, 39 lb uplift at joint 21, 57 lb uplift at joint 23, 47 lb uplift at joint 24, 46 lb uplift at joint 25, 171 lb uplift at joint 26, 114 lb uplift at joint 16 and 193 lb uplift at joint 15.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 5,2023

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

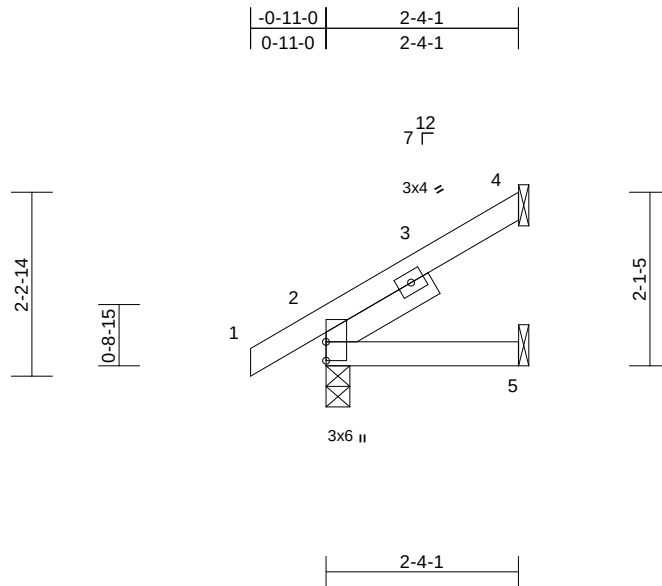


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	2	1	Job Reference (optional)	I59339948

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:00
ID:SkjSFJoQa5BKY2Ygxhz_RAzRpiE-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:28

Plate Offsets (X, Y): [2:Edge,0-0-0]

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	0.10	Vert(LL)	0.00	2-5	>999	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	2-5	>999	180	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 12 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-15

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=81 (LC 12)
Max Uplift 2=-21 (LC 12), 4=-61 (LC 12)
Max Grav 2=180 (LC 1), 4=75 (LC 19), 5=46 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/7, 2-4=-71/40
BOT CHORD 2-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 61 lb uplift at joint 4 and 21 lb uplift at joint 2.



July 5, 2023

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Chesterfield, MO 63017

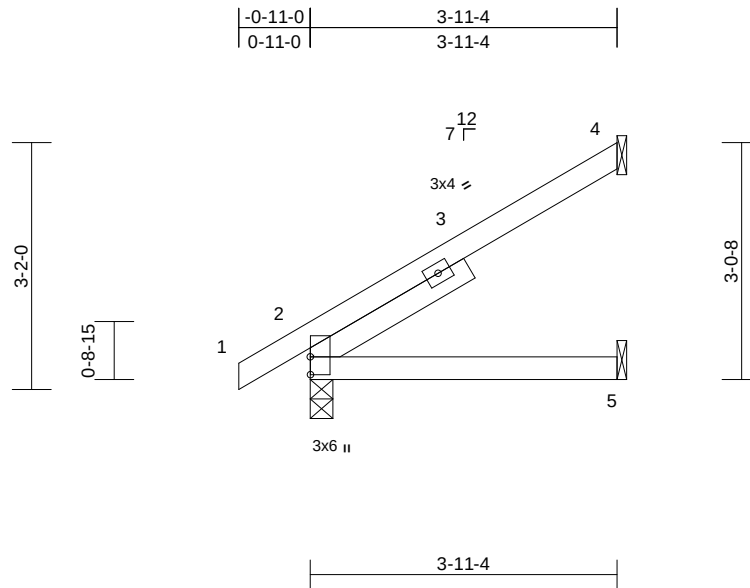
Truss Type	Qty	Ply	Roof
Jack-Open	4	1	Job Reference (optional)

I59339949

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:05:59

Page: 1

ID:1ecvqLc4vmNBHUK1SSHjgcz?AKA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.6

Plate Offsets (X, Y): [2:Edge,0-0-1]

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	0.30	Vert(LL)	-0.01	2-5	>999	240	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.03	2-5	>999	180	
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	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
SLIDER Left 2x4 SP No.2 -- 2-4-1

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-11-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=121 (LC 12)
Max Uplift 2=-23 (LC 12), 4=-99 (LC 12)
Max Grav 2=246 (LC 1), 4=138 (LC 19), 5=77 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/7, 2-4=-106/59
BOT CHORD 2-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 2 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 99 lb uplift at joint
4 and 23 lb uplift at joint 2.



July 5, 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

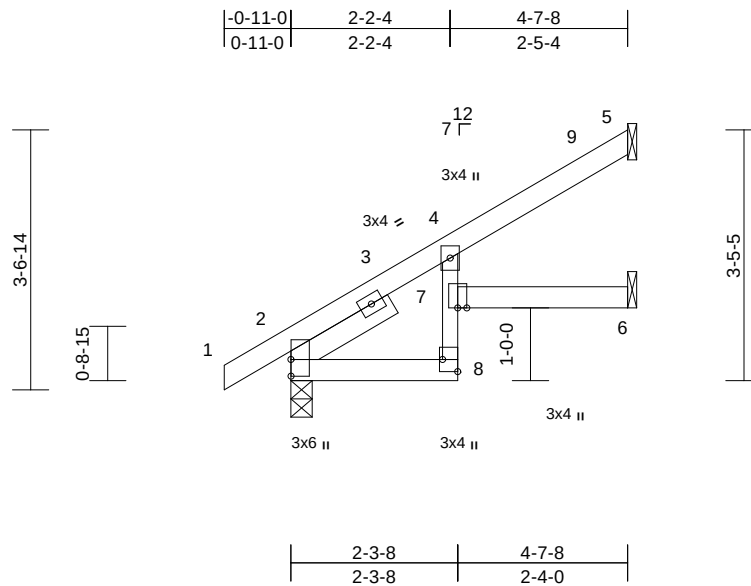


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	1	1		I59339950
Job Reference (optional)				

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:00
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Page: 1



Scale = 1:31.7

Plate Offsets (X, Y): [2:Edge,0-0-0], [8: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	0.24	Vert(LL)	0.03	6-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.04	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 20 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 8-4:2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-7-2

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

BRACING

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

REACTIONS

(size) 2=0-3-8, 5= Mechanical, 6= Mechanical
Max Horiz 2=139 (LC 12)
Max Uplift 2=-25 (LC 12), 5=-69 (LC 12), 6=-19 (LC 12)
Max Grav 2=276 (LC 1), 5=126 (LC 19), 6=84 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/7, 2-4=-240/3, 4-5=-60/56
BOT CHORD 2-8=-101/139, 7-8=-17/58, 4-7=0/72, 6-7=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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 4-6-12 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 2 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 5, 25 lb uplift at joint 2 and 19 lb uplift at joint 6.



July 5, 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

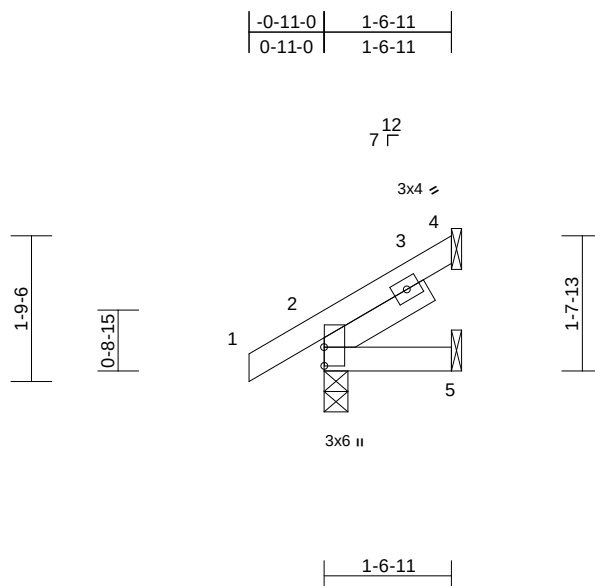


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	2	1	Job Reference (optional)	I59339951

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Page: 1



Scale = 1:28.2

Plate Offsets (X, Y): [2:Edge,0-0-1]

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	0.06	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	2-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 9 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-5-9

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-6-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=62 (LC 12)
Max Uplift 2=-20 (LC 12), 4=-42 (LC 12)
Max Grav 2=153 (LC 1), 4=43 (LC 19), 5=31 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/7, 2-4=-55/31
BOT CHORD 2-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 2 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 20 lb uplift at joint
2 and 42 lb uplift at joint 4.



July 5, 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
Jack-Open	2	1	Job Reference (optional)
I59339952			

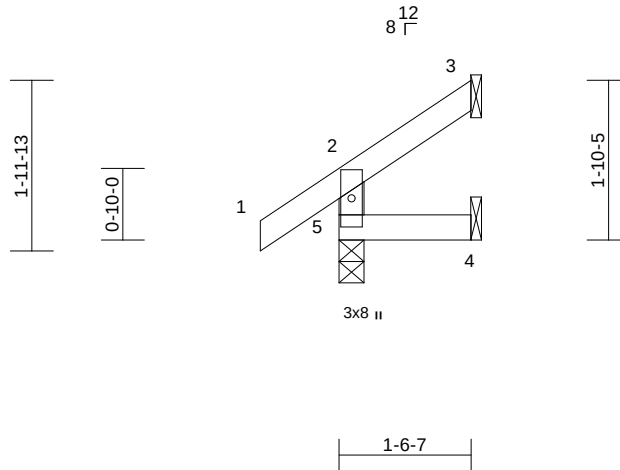
Premier Building Supply (Springhill, KS), Spring Hill, KS - 66083,

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:00

Page: 1

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-0-11-0	1-6-7
0-11-0	1-6-7



Scale = 1:26.8

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	0.11	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 8 lb	FT = 20%

LUMBER

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

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-6-7 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
 Max Horiz 5=57 (LC 12)
 Max Uplift 3=-33 (LC 12), 4=-4 (LC 12), 5=-17 (LC 12)
 Max Grav 3=34 (LC 19), 4=24 (LC 3), 5=165 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-144/121, 1-2=0/41, 2-3=-42/30
 BOT CHORD 4-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 5, 4 lb uplift at joint 4 and 33 lb uplift at joint 3.



July 5, 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

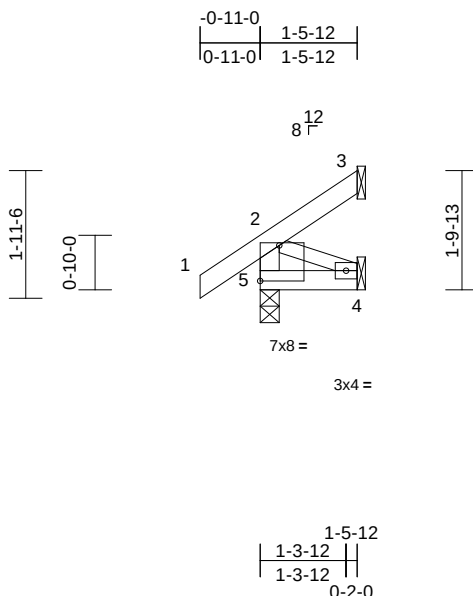


16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	1	1	Job Reference (optional)	I59339953

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Page: 1



Scale = 1:35.1

Plate Offsets (X, Y): [5:Edge,0-6-8]

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	0.11	Vert(LL)	0.00	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 4-2:2x3 SPF No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-5-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 3= Mechanical, 4= Mechanical,
5=0-3-8
Max Horiz 5=56 (LC 12)
Max Uplift 3=-16 (LC 12), 4=-20 (LC 12),
5=-17 (LC 12)
Max Grav 3=20 (LC 19), 4=27 (LC 10), 5=164 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-151/105, 1-2=0/41, 2-3=-42/30
BOT CHORD 4-5=-124/42
WEBS 2-4=-47/136

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: Joint 5 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 5, 20 lb uplift at joint 4 and 16 lb uplift at joint 3.



July 5, 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

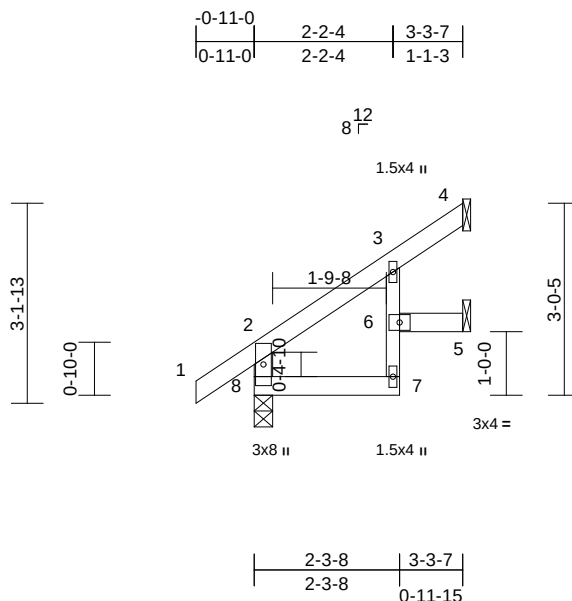
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	Jack-Open	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083.

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Scale = 1:36.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	I/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	0.01	6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 15 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 7-3:2x3 SPF No.2
WEBS 2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-3-7 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 4= Mechanical, 5= Mechanical,
8=0-3-8
Max Horiz 8=107 (LC 12)
Max Uplift 4=-41 (LC 12), 5=-33 (LC 12),
8=-13 (LC 12)
Max Grav 4=77 (LC 19), 5=63 (LC 19), 8=226
(LC 1)

FORCES

(Ib) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-204/118, 1-2=0/41, 2-3=-101/0,
3-4=-46/40

BOT CHORD 7-8=-61/57, 6-7=-16/40, 3-6=-19/59, 5-6=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
K=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 8 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 13 lb uplift at joint
8, 41 lb uplift at joint 4 and 33 lb uplift at joint 5.

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



July 5, 2023



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

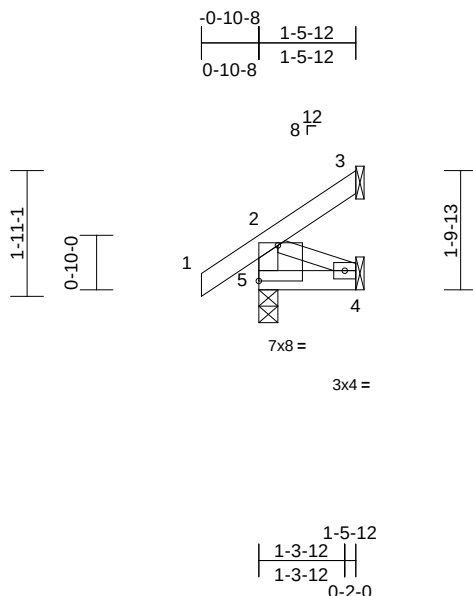


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof
Jack-Open	1	1	Job Reference (optional)
I59339955			

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Page: 1



Scale = 1:35.1

Plate Offsets (X, Y): [5:Edge,0-6-8]

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	0.10	Vert(LL)	0.00	4-5	>999	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	180	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 4-2:2x3 SPF No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-5-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=55 (LC 12)
Max Uplift 3=-17 (LC 12), 4=-19 (LC 12), 5=-15 (LC 12)
Max Grav 3=23 (LC 19), 4=27 (LC 10), 5=159 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-145/99, 1-2=0/40, 2-3=-41/30
BOT CHORD 4-5=-121/42
WEBS 2-4=-46/133

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 5, 19 lb uplift at joint 4 and 17 lb uplift at joint 3.



July 5, 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

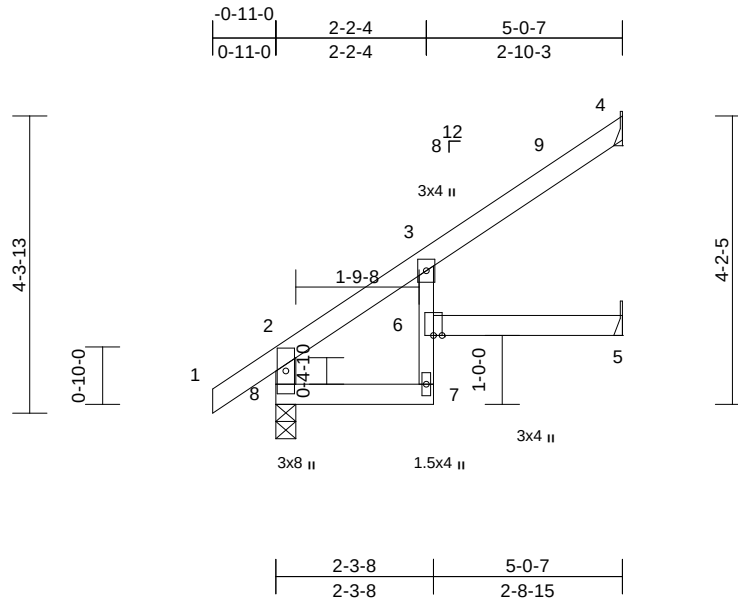


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339956
Jack-Open	1	1	Job Reference (optional)	

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Page: 1



Scale = 1:33.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.33	0.06	5-6	>908	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.29	0.07	5-6	>806	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	-0.04	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R						Weight: 20 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 7-3:2x3 SPF No.2
WEBS 2x4 SP No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical,
8=0-3-8
Max Horiz 8=158 (LC 12)
Max Uplift 4=-93 (LC 12), 5=-17 (LC 12),
8=-12 (LC 12)
Max Grav 4=149 (LC 19), 5=81 (LC 3), 8=300 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-8=-280/127, 1-2=0/41, 2-3=-187/0,
3-4=-97/74
BOT CHORD 7-8=-121/114, 6-7=-26/43, 3-6=0/73, 5-6=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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 4-11-11 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 8 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 12 lb uplift at joint
8, 93 lb uplift at joint 4 and 17 lb uplift at joint 5.



July 5, 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

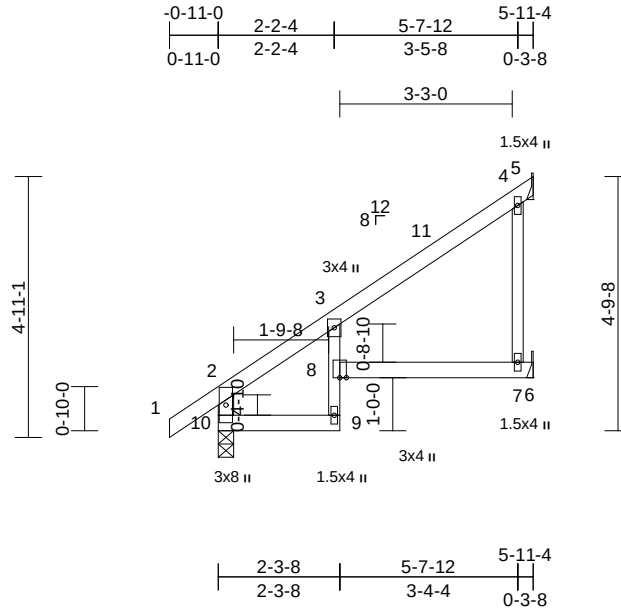


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	3	1		I59339957
Job Reference (optional)				

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Page: 1



Scale = 1:43.4

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	0.49	0.13	7-8	>546	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	-0.15	7-8	>471	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	0.07	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S						Weight: 26 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-3:2x3 SPF No.2
WEBS 2x4 SP No.2 *Except* 7-4:2x3 SPF No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied or
5-11-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc
bracing.

REACTIONS (size) 5= Mechanical, 6= Mechanical,
10=0-3-8
Max Horiz 10=184 (LC 12)
Max Uplift 5=-44 (LC 19), 6=-206 (LC 12),
10=-12 (LC 12)
Max Grav 5=78 (LC 12), 6=314 (LC 19),
10=339 (LC 1)

FORCES (lb) - Maximum Compression/Maximum
Tension

TOP CHORD 2-10=-321/132, 1-2=0/41, 2-3=-231/0,
3-4=-131/93, 4-5=-32/57

BOT CHORD 9-10=-147/140, 8-9=-32/45, 3-8=0/94,
7-8=0/0, 6-7=0/0

WEBS 4-7=-245/298

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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 5-10-8 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 10 SP No.2
crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 12 lb uplift at joint
10, 44 lb uplift at joint 5 and 206 lb uplift at joint 6.



July 5, 2023

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

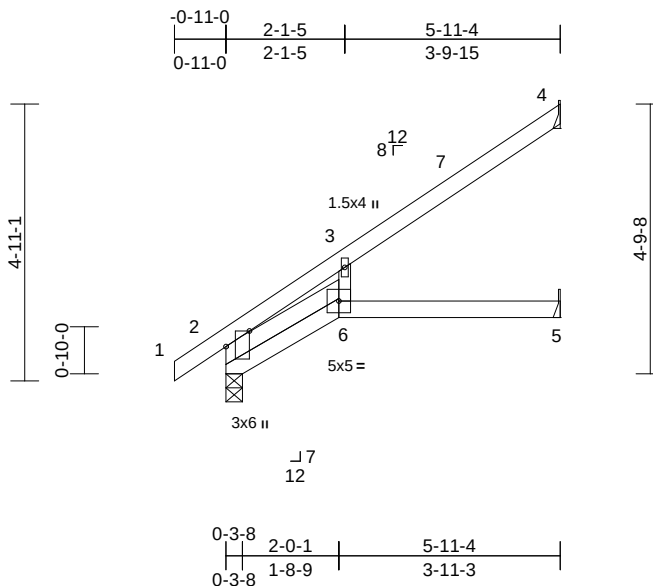
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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 = 1:40.9

Plate Offsets (X, Y): [2:0-3-5,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	0.59	Vert(LL)	0.28	6	>255	240	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.29	6	>244	180	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.17	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 26 lb FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP 1650F 1.5E -- 2-5-15

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-11-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=198 (LC 12)
Max Uplift 2=-5 (LC 12), 4=-157 (LC 12)
Max Grav 2=334 (LC 1), 4=240 (LC 19), 5=77 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-3/0, 2-3=-212/23, 3-4=-152/121
BOT CHORD 2-6=0/32, 5-6=0/0
WEBS 3-6=0/126

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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 5-10-8 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 2 SP 1650F 1.5E
crushing capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Bearing at joint(s) 2 considers parallel to grain value
using ANSI/TPI 1 angle to grain formula. Building
designer should verify capacity of bearing surface.

- 6) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 157 lb uplift at
joint 4 and 5 lb uplift at joint 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



July 5, 2023

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

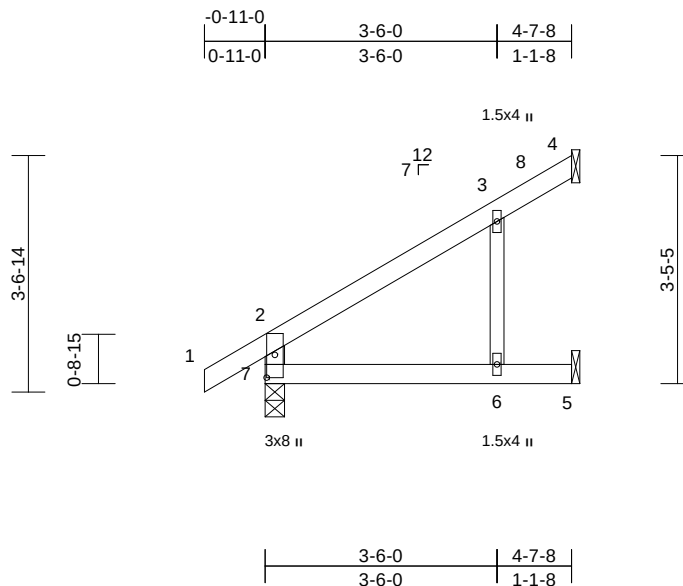
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	1	1		I59339960
Job Reference (optional)				

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Scale = 1:34.8

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

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	0.26	Vert(LL)	0.04	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 6-3:2x3 SPF No.2

BRACING

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

REACTIONS (size) 4= Mechanical, 5= Mechanical,
7=0-3-8
Max Horiz 7=128 (LC 12)
Max Uplift 4=-36 (LC 12), 5=-51 (LC 12),
7=-27 (LC 12)
Max Grav 4=90 (LC 19), 5=112 (LC 19),
7=282 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-221/106, 1-2=0/37, 2-3=-107/60,
3-4=-32/42
BOT CHORD 6-7=0/0, 5-6=0/0
WEBS 3-6=-84/111

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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 4-6-12 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 7 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.

- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 27 lb uplift at joint
7, 36 lb uplift at joint 4 and 51 lb uplift at joint 5.
- 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



July 5, 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



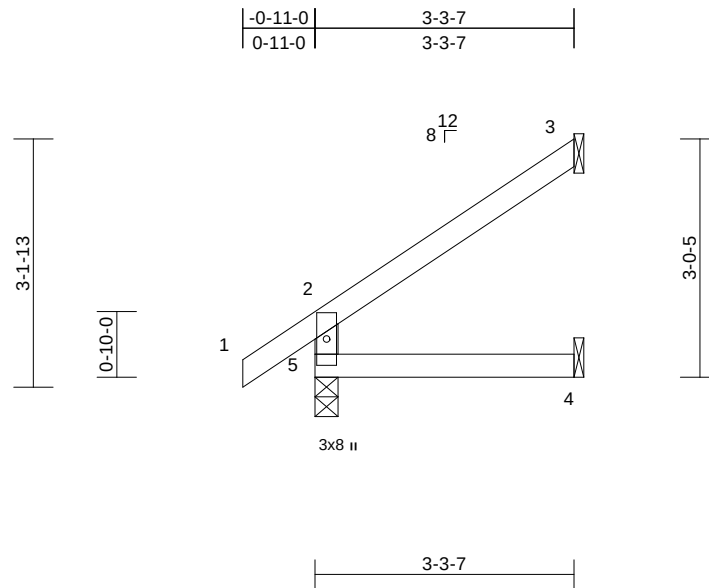
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Jack-Open	1	1	Job Reference (optional)	I59339961

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Page: 1



Scale = 1:29.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.01	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 13 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or
3-3-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc
bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical,
5=0-3-8
Max Horiz 5=107 (LC 12)
Max Uplift 3=-74 (LC 12), 5=-13 (LC 12)
Max Grav 3=101 (LC 19), 4=58 (LC 3), 5=226
(LC 1)

FORCES (lb) - Maximum Compression/Maximum
Tension

TOP CHORD 2-5=-198/127, 1-2=0/41, 2-3=-86/52
BOT CHORD 4-5=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 5 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 13 lb uplift at joint
5 and 74 lb uplift at joint 3.
- 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.



July 5, 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

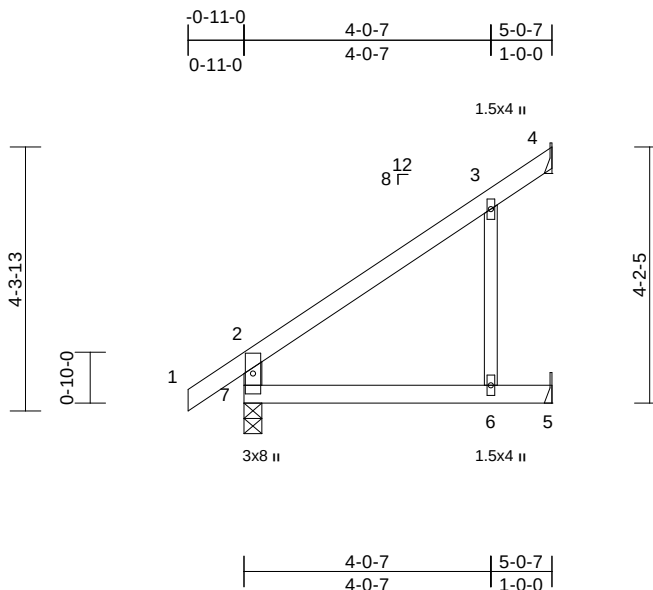


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339962
Jack-Open	1	1	Job Reference (optional)	

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Page: 1



Scale = 1:37.7

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)	0.06	6-7	>923	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.07	6-7	>856	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	-0.03	4	n/a	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
 WEBS 2x4 SP No.2 *Except* 3-6:2x3 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or
 5-0-7 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc
 bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical,
 7=0-3-8
 Max Horiz 7=158 (LC 12)
 Max Uplift 4=-29 (LC 12), 5=-81 (LC 12),
 7=-12 (LC 12)
 Max Grav 4=84 (LC 19), 5=142 (LC 19),
 7=300 (LC 1)

FORCES (lb) - Maximum Compression/Maximum
 Tension

TOP CHORD 2-7=-236/103, 1-2=0/41, 2-3=-150/78,
 3-4=-35/44
 BOT CHORD 6-7=0/0, 5-6=0/0
 WEBS 3-6=-108/164

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
 Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
 Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
 exterior zone and C-C Exterior(2E) -0-11-0 to 4-0-7,
 Interior (1) 4-0-7 to 4-11-11 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
- 2) This truss has been designed for a 10.0 psf bottom
 chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 7 SP No.2 crushing
 capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
 bearing plate capable of withstanding 12 lb uplift at joint
 7, 29 lb uplift at joint 4 and 81 lb uplift at joint 5.

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



July 5, 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

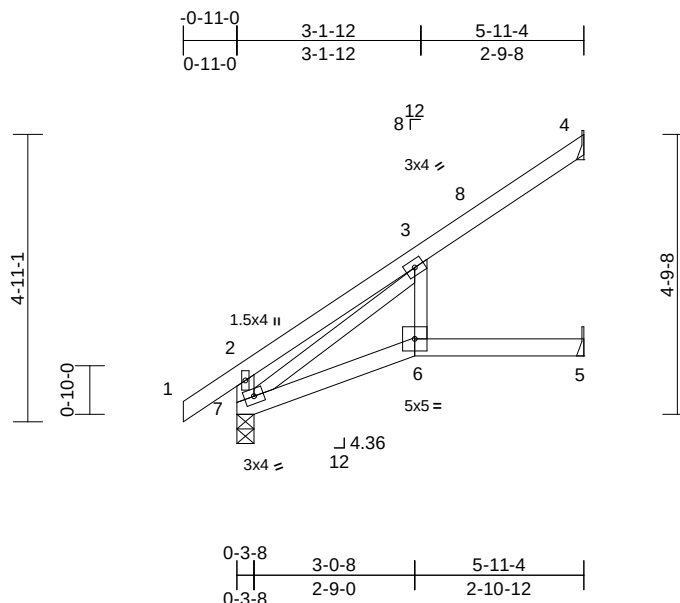
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
 Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339963
Jack-Open	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	0.85	0.26	6	>262	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	-0.30	6	>230	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.13	0.11	5	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
WEBS 2x3 SPF No.2 *Except* 7-2:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical,
7=0-3-8
Max Horiz 7=183 (LC 12)
Max Uplift 4=-146 (LC 12), 7=-10 (LC 12)
Max Grav 4=242 (LC 19), 5=57 (LC 3), 7=339 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-7=-329/331, 1-2=0/41, 2-3=-155/214,
3-4=-142/126
BOT CHORD 6-7=-8/24, 5-6=0/0
WEBS 3-6=0/118, 3-7=-381/145

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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 5-10-8 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 7 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Bearing at joint(s) 7 considers parallel to grain value
using ANSI/TPI 1 angle to grain formula. Building
designer should verify capacity of bearing surface.

- 6) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 10 lb uplift at joint
7 and 146 lb uplift at joint 4.
- 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



July 5, 2023

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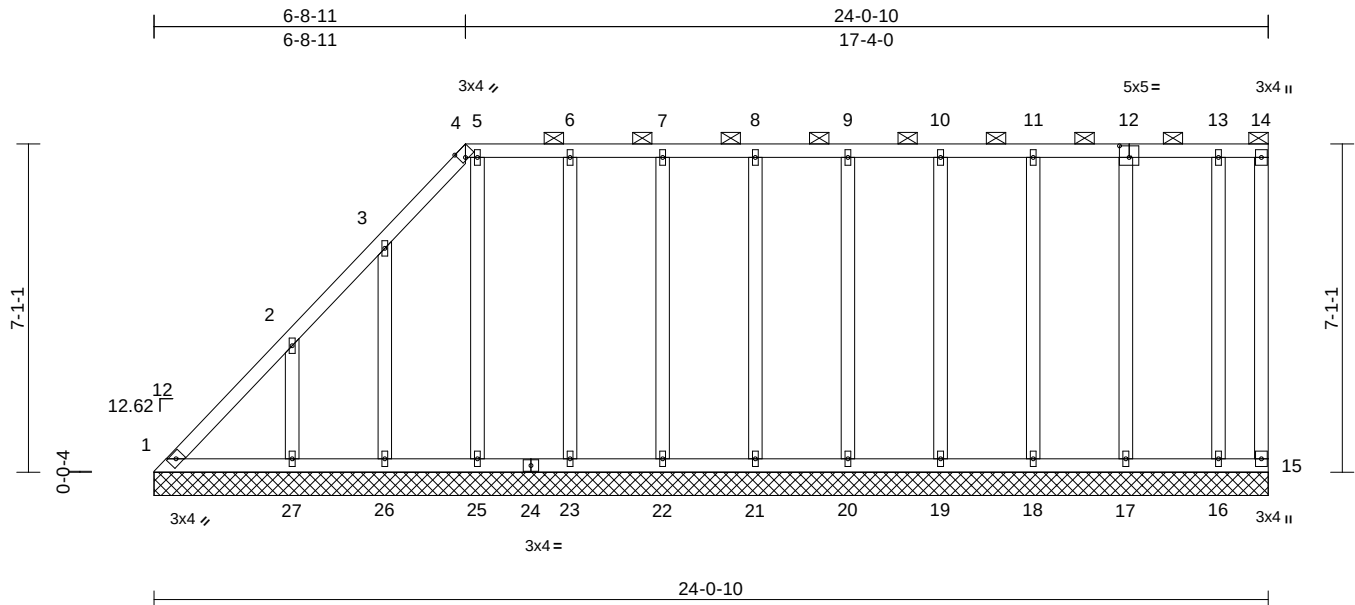
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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	Job Reference (optional)
Lay-In Gable	1	1		
Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:03				Page: 1
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Scale = 1:49.7

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

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	0.53	Vert(LL)	n/a	-	n/a	999	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999	
BCLL	0.0	Rep Stress Incr	YES	WB	0.24	Horiz(TL)	0.00	15	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							
Weight: 158 lb FT = 20%											

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SPF No.3
OTHERS 2x4 SPF No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-14.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 16-17,15-16.

REACTIONS (size)
1=24-0-10, 15=24-0-10,
16=24-0-10, 17=24-0-10,
18=24-0-10, 19=24-0-10,
20=24-0-10, 21=24-0-10,
22=24-0-10, 23=24-0-10,
25=24-0-10, 26=24-0-10,
27=24-0-10
Max Horiz 1=289 (LC 9)
Max Uplift 1=-72 (LC 8), 15=-20 (LC 9),
16=-49 (LC 8), 17=-49 (LC 9),
18=-44 (LC 8), 19=-39 (LC 9),
20=-39 (LC 8), 21=-39 (LC 8),
22=-40 (LC 9), 23=-52 (LC 8),
25=-112 (LC 9), 26=-117 (LC 12),
27=-190 (LC 12)
Max Grav 1=210 (LC 11), 15=26 (LC 1),
16=138 (LC 26), 17=188 (LC 26),
18=182 (LC 1), 19=179 (LC 26),
20=180 (LC 1), 21=180 (LC 26),
22=180 (LC 1), 23=187 (LC 26),
25=185 (LC 1), 26=187 (LC 19),
27=285 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-440/442, 2-3=-296/302, 3-4=-183/196,
4-5=-135/147, 5-6=-135/147, 6-7=-135/147,
7-8=-135/147, 8-9=-135/147, 9-10=-135/147,
10-11=-135/147, 11-13=-136/147,
13-14=-136/147, 14-15=-114/114
BOT CHORD 1-27=-138/149, 26-27=-138/149,
25-26=-138/149, 23-25=-138/149,
22-23=-138/149, 21-22=-138/149,
20-21=-138/149, 19-20=-138/149,
18-19=-138/149, 17-18=-138/149,
16-17=-136/149, 15-16=-136/149
WEBS 2-27=-244/211, 3-26=-177/143,
5-25=-251/176, 6-23=-147/76, 7-22=-140/64,
8-21=-140/63, 9-20=-140/63, 10-19=-139/63,
11-18=-143/65, 12-17=-147/67,
13-16=-153/102

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1, Interior (1) 5-4-1 to 6-8-15, Exterior(2R) 6-8-15 to 13-9-12, Interior (1) 13-9-12 to 23-11-2 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.
- Provide adequate drainage to prevent water ponding.
- All plates are 1.5x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 0-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) N/A

- 11) 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.
12) 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



July 5, 2023

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

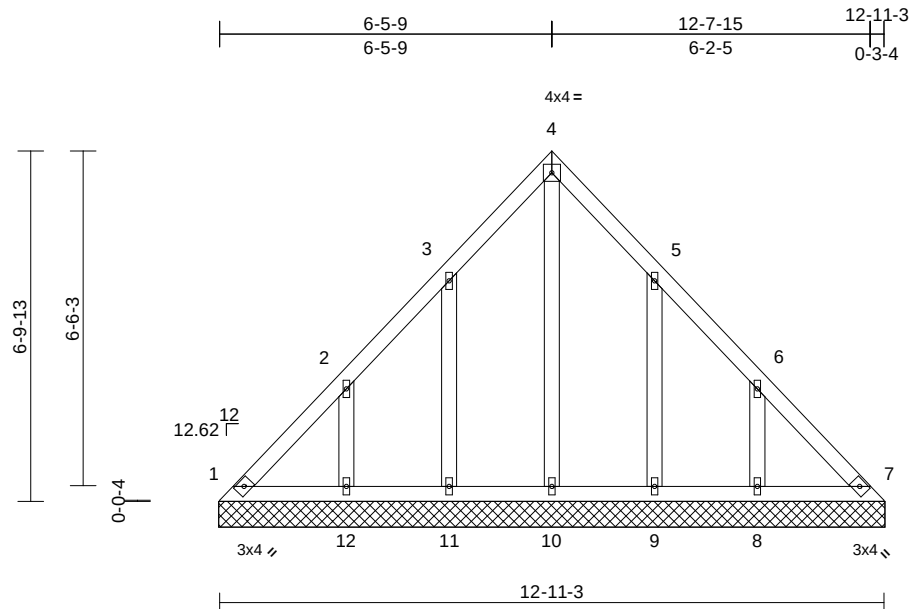
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ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:44.8

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	0.08	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.10	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S						Weight: 67 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SPF No.3

BRACING

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

REACTIONS

(size) 1=12-11-10, 7=12-11-10,
8=12-11-10, 9=12-11-10,
10=12-11-10, 11=12-11-10,
12=12-11-10
Max Horiz 1=-183 (LC 8)
Max Uplift 1=-46 (LC 10), 7=-17 (LC 11),
8=-162 (LC 13), 9=-133 (LC 13),
11=-134 (LC 12), 12=-161 (LC 12)
Max Grav 1=157 (LC 21), 7=142 (LC 22),
8=243 (LC 20), 9=205 (LC 20),
10=161 (LC 22), 11=207 (LC 19),
12=242 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-214/147, 2-3=-137/89, 3-4=-142/135,
4-5=-142/128, 5-6=-107/48, 6-7=-188/128
BOT CHORD 1-12=-112/167, 11-12=-112/167,
10-11=-112/167, 9-10=-112/167,
8-9=-112/167, 7-8=-112/167
WEBS 2-12=-222/180, 3-11=-190/159,
4-10=-121/73, 5-9=-190/158, 6-8=-222/181

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) 0-4-1 to 5-4-1,
Interior (1) 5-4-1 to 6-5-13, Exterior(2R) 6-5-13 to
11-5-13, Interior (1) 11-5-13 to 12-7-9 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) Gable studs spaced at 0-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 8) All bearings are assumed to be SP No.2 crushing
capacity of 565 psi.
- 9) N/A

10) 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



July 5, 2023

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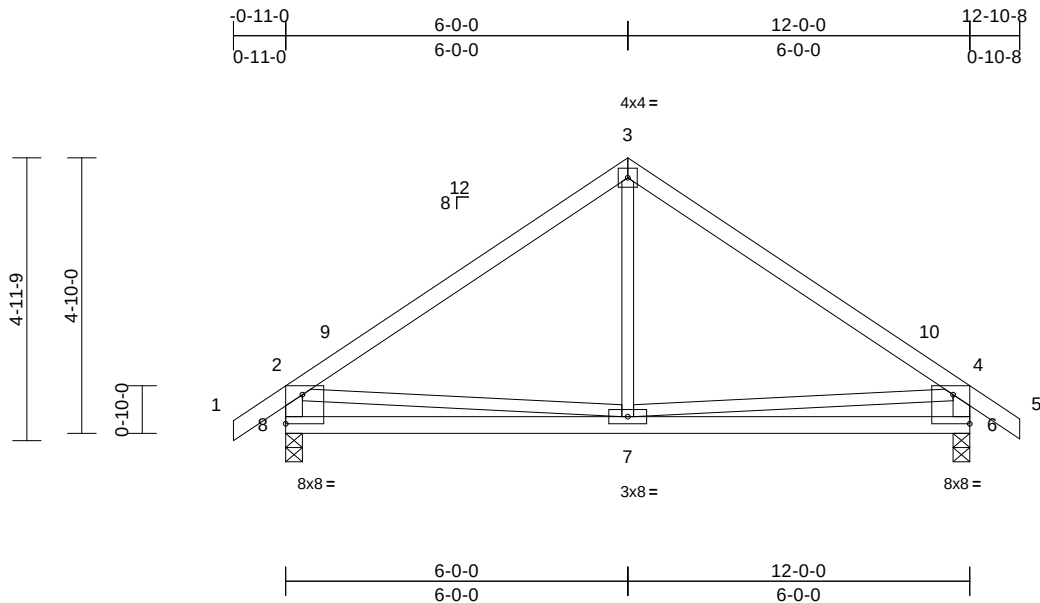
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339966
Common	1	1	Job Reference (optional)	

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:04 Page: 1
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Scale = 1:40.4

Plate Offsets (X, Y): [6:Edge,0-6-2], [8:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.49	Vert(LL)	-0.02	7-8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.05	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 57 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 8-2,6-4:2x4 SP No.2

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

BRACING

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

REACTIONS (size) 6=0-3-8, 8=0-3-8

Max Horiz 8=153 (LC 11)
Max Uplift 6=-98 (LC 13), 8=-99 (LC 12)
Max Grav 6=598 (LC 1), 8=602 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/41, 2-3=-571/156, 3-4=-571/156, 4-5=0/40, 2-8=-550/223, 4-6=-547/220
BOT CHORD 7-8=-240/454, 6-7=-181/350
WEBS 3-7=0/245, 2-7=-112/245, 4-7=-125/251

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=1.00; 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 6-0-0, Exterior(2R) 6-0-0 to 11-0-0, Interior (1) 11-0-0 to 12-10-8 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.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 8 and 98 lb uplift at joint 6.



July 5, 2023

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

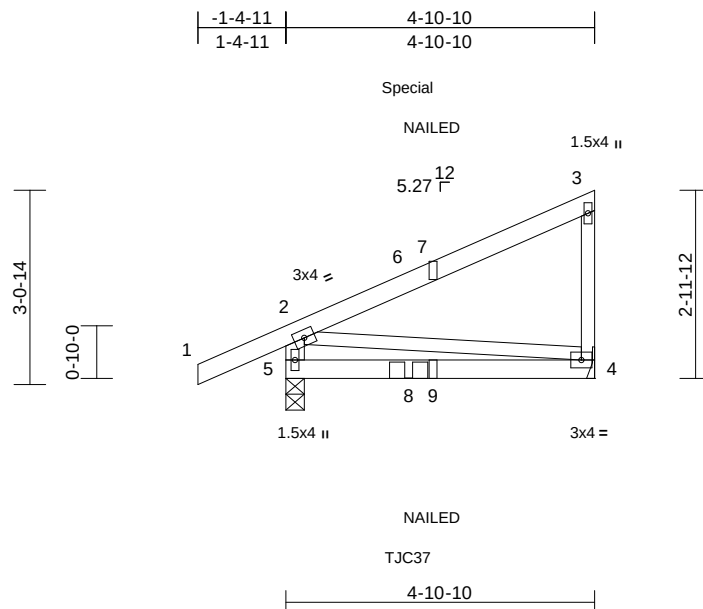
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16023 Swingley Ridge Rd
Chesterfield, MO 63017



Scale = 1:36.5

[illegible]

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 5-2:2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-1-4 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 4= Mechanical, 5=0-3-8
Max Horiz 5=133 (LC 9)
Max Uplift 4=-68 (LC 12), 5=-90 (LC 12)
Max Grav 4=191 (LC 1), 5=334 (LC 1)

FORCES

FORCES	(a) Maximum Compression/Maximum Tension
TOP CHORD	2-5=-288/298, 1-2=0/43, 2-3=-190/96, 3-4=-152/181
BOT CHORD	4-5=-291/143
WEBS	2-4=-101/255

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope).
exterior zone and C-C Corner (3) 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be: , Joint 5 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 90 lb uplift at joint
5 and 68 lb uplift at joint 4.
- 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.

- 7) Use Simpson Strong-Tie TJC37 (4 nail 90-150) or equivalent at 2'-1-15 from the left end to connect truss (es) to back face of bottom chord, skewed 48.8 deg. to the right, sloping 0.0 deg. down.
 - 8) Fill all nail holes where hanger is in contact with lumber.
 - 9) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
 - 10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 140 lb down and 65 lb up at 2'-1-15 on top chord. The design/selection of such connection device(s) is the responsibility of others.
 - 11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
- LOAD CASE(S)** Standard
- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 4-5=-20



July 5, 2023



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



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Chesterfield, MO 63017

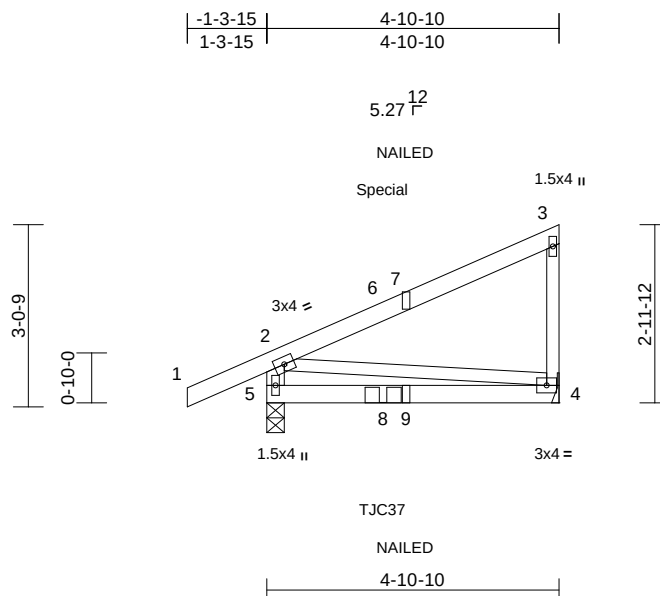
	Truss Type	Qty	Ply	Roof	I59339968
	Diagonal Hip Girder	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083.

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Page: 1

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LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 5-2:2x4 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-1-4 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 4= Mechanical, 5=0-3-8
 Max Horiz 5=132 (LC 11)
 Max Uplift 4=-68 (LC 12), 5=-87 (LC 12)
 Max Grav 4=192 (LC 1), 5=328 (LC 1)

FORCES

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-5=-282/290, 1-2=0/41, 2-3=-191/96, 3-4=-152/182
BOT CHORD	4-5=-289/143
WEBS	2-4=-102/253

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Corner (3) 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
- 2) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 3) Bearings are assumed to be : Joint 5 SP No.2 crushing
capacity of 565 psi.
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 87 lb uplift at joint
5 and 68 lb uplift at joint 4.
- 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.

- 7) Use Simpson Strong-Tie TJC37 (4 nail, 30-90) or equivalent at 2'-1.15 from the left end to connect truss (es) to front face of bottom chord, skewed 48.8 deg.to the left, sloping 0.0 deg. down.
 - 8) Fill all nail holes where hanger is in contact with lumber.
 - 9) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
 - 10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 140 lb down and 65 lb up at 2'-1.15 on top chord. The design/selection of such connection device(s) is the responsibility of others.
 - 11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
- LOAD CASE(S)** Standard
- 1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 4-5=-20



July 5, 2023



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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

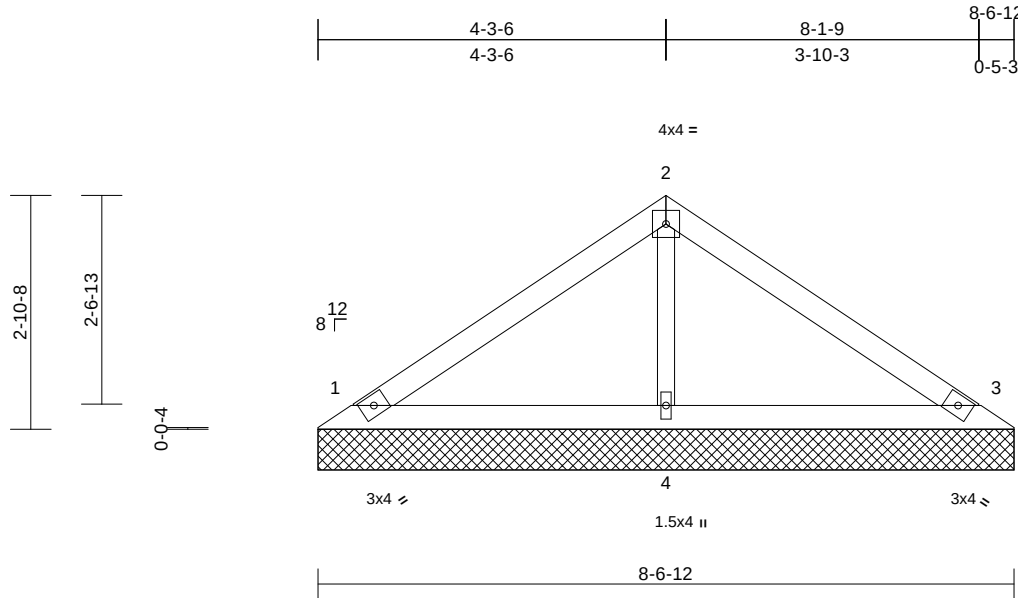


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339969
Valley	1	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	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 28 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 1=8-6-12, 3=8-6-12, 4=8-6-12
 Max Horiz 1=71 (LC 9)
 Max Uplift 1=-49 (LC 12), 3=-58 (LC 13), 4=-1 (LC 12)
 Max Grav 1=194 (LC 1), 3=194 (LC 1), 4=302 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-122/69, 2-3=-116/69
 BOT CHORD 1-4=-15/57, 3-4=-15/57
 WEBS 2-4=-206/102

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=1.00; 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.

- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 58 lb uplift at joint 3 and 1 lb uplift at joint 4.
- 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



July 5, 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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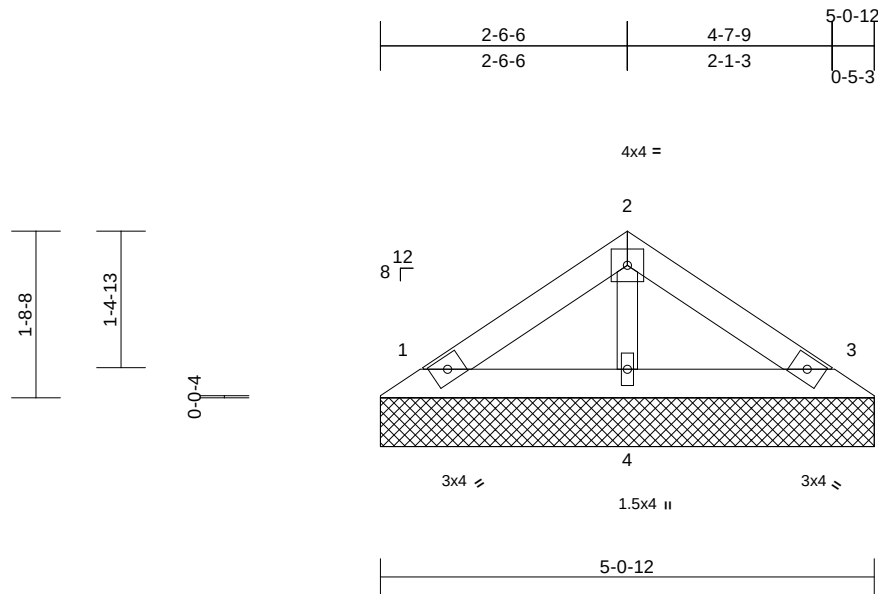
ANSI/TPI1 Quality Criteria, DSB-89 and BCSI Building Component

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	I59339970
	Valley	1	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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-1-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=5-0-12, 3=5-0-12, 4=5-0-12
 Max Horiz 1=-39 (LC 10)
 Max Uplift 1=-27 (LC 12), 3=-31 (LC 13)
 Max Grav 1=105 (LC 1), 3=105 (LC 1), 4=164 (LC 1)

FORCES

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-66/47, 2-3=-63/47
BOT CHORD	1-4=-8/31, 3-4=-8/31
WEBS	2-4=-112/73

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=1.00; 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/TP1 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1 and 31 lb uplift at joint 3.
- 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



July 5, 2023



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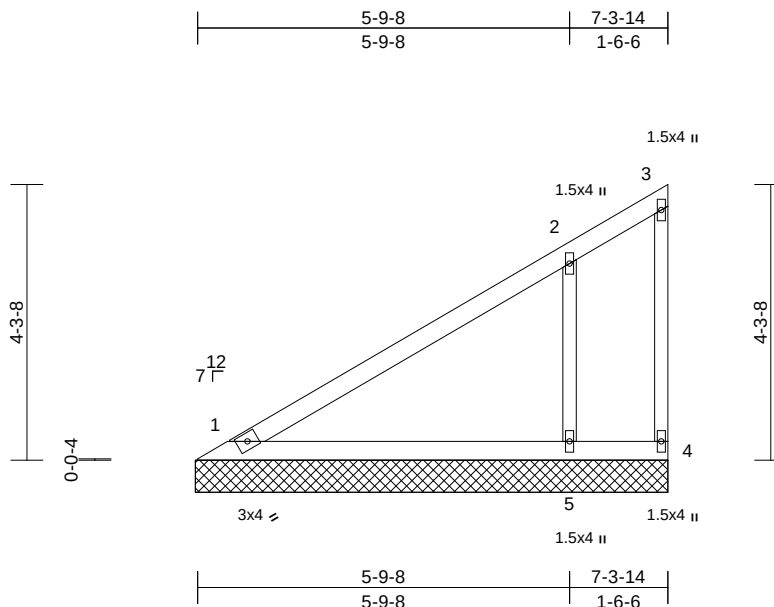
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	Job Reference (optional)
Valley	1	1		I59339972

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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	0.46	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	4	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 28 lb FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 1=7-4-5, 4=7-4-5, 5=7-4-5
Max Horiz 1=167 (LC 9)
Max Uplift 4=109 (LC 1), 5=198 (LC 12)
Max Grav 1=191 (LC 1), 4=65 (LC 12), 5=541 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-232/185, 2-3=-141/138, 3-4=-125/112
BOT CHORD 1-5=-81/88, 4-5=-81/88
WEBS 2-5=-424/326

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-6-8 to 5-9-15, Interior (1) 5-9-15 to 7-3-1 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
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 109 lb uplift at joint 4 and 198 lb uplift at joint 5.
- 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



July 5, 2023

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

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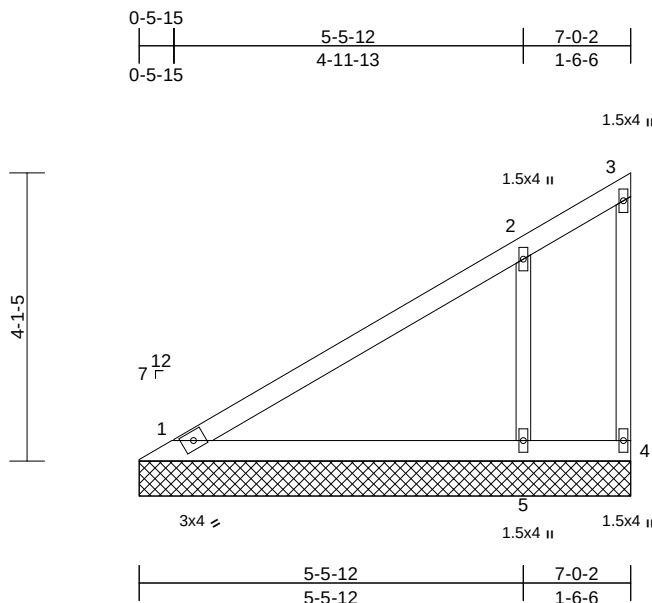


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	I59339973
Valley	1	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	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	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
WEBS 2x3 SPF No.2

BRACING

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

REACTIONS

(size) 1=7-0-2, 4=7-0-2, 5=7-0-2
Max Horiz 1=159 (LC 9)
Max Uplift 4=88 (LC 20), 5=184 (LC 12)
Max Grav 1=180 (LC 1), 4=55 (LC 12), 5=501 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-224/178, 2-3=-130/127, 3-4=-110/98
BOT CHORD 1-5=-77/83, 4-5=-77/83
WEBS 2-5=-393/305

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope)
exterior zone and C-C Exterior(2E) 0-6-8 to 5-6-3,
Interior (1) 5-6-3 to 6-11-5 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
- 2) Truss designed for wind loads in the plane of the truss
only. For studs exposed to wind (normal to the face),
see Standard Industry Gable End Details as applicable,
or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 6) All bearings are assumed to be SP No.2 crushing
capacity of 565 psi.

- 7) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 88 lb uplift at joint
4 and 184 lb uplift at joint 5.
- 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



July 5, 2023

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

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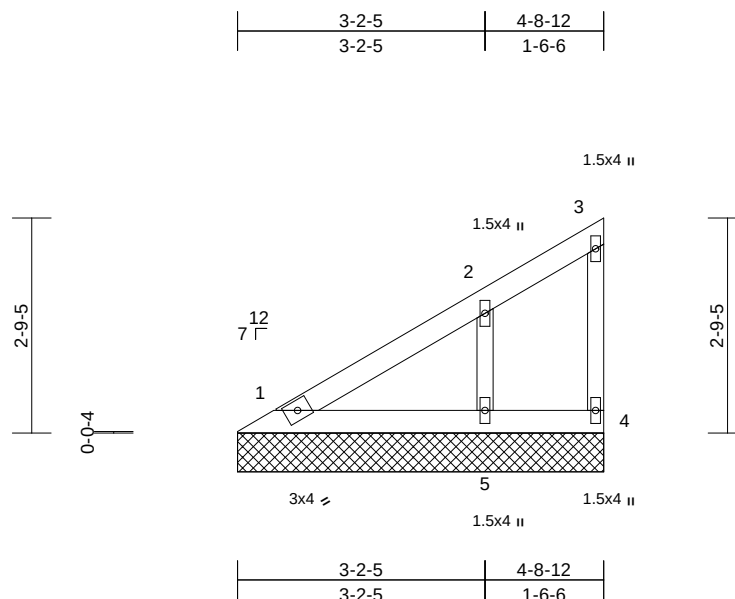


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Valley	1	1	Job Reference (optional)	I59339974

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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	0.11	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	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
WEBS 2x3 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-9-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-8-12, 4=4-8-12, 5=4-8-12
Max Horiz 1=102 (LC 9)
Max Uplift 4=-15 (LC 11), 5=-94 (LC 12)
Max Grav 1=101 (LC 20), 4=29 (LC 19), 5=258 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-156/121, 2-3=-67/53, 3-4=-38/36
BOT CHORD 1-5=-49/54, 4-5=-49/54
WEBS 2-5=-202/176

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 4 and 94 lb uplift at joint 5.
- 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



July 5, 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

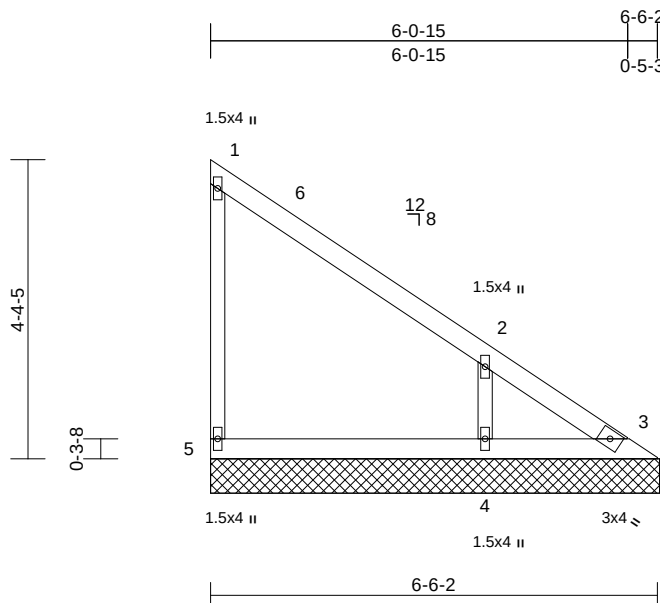


16023 Swingley Ridge Rd
Chesterfield, MO 63017

Truss Type	Qty	Ply	Roof	
Valley	1	1		I59339975
Job Reference (optional)				

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Page: 1



Scale = 1:33.6

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	0.32	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 24 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

BRACING

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

REACTIONS

(size) 3=6-6-8, 4=6-6-8, 5=6-6-8
 Max Horiz 5=-169 (LC 8)
 Max Uplift 3=-34 (LC 11), 4=-157 (LC 13), 5=-42 (LC 8)
 Max Grav 3=85 (LC 8), 4=381 (LC 20), 5=160 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-5=-137/149, 1-2=-156/124, 2-3=-324/218
 BOT CHORD 4-5=-172/282, 3-4=-172/282
 WEBS 2-4=-300/289

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; 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
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 5, 34 lb uplift at joint 3 and 157 lb uplift at joint 4.
- 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



July 5, 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

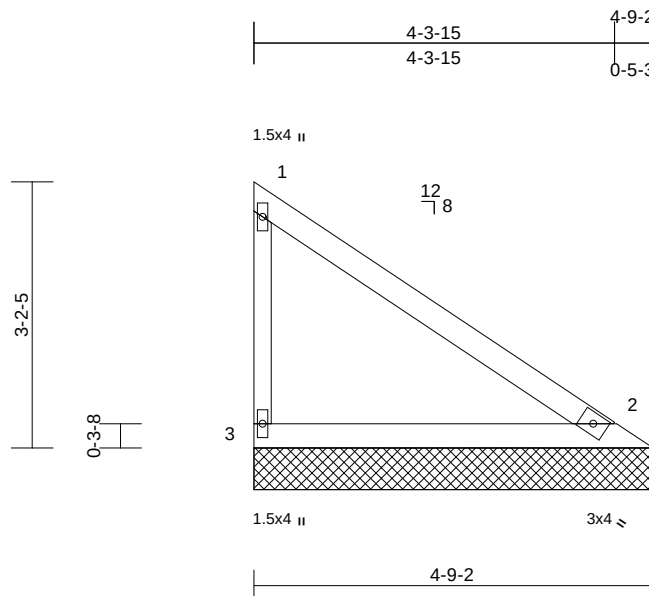
Truss Type	Qty	Ply	Roof	
Valley	1	1	Job Reference (optional)	I59339976

Premier Building Supply (Springhill, KS), Spring Hill, KS - 66083,

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Wed Jul 05 09:06:07

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Scale = 1:27.6															
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	197/144
TCDL		10.0	Lumber DOL		1.15	BC	0.21	Vert(TL)		n/a	-	n/a	999		
BCLL		0.0	Rep Stress Incr		YES	WB	0.00	Horiz(TL)		0.00	2	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
WEBS 2x3 SPF No.2

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-9-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=4-9-8, 3=4-9-8

Max Horiz 3=-119 (LC 8)
Max Uplift 2=-20 (LC 13), 3=-62 (LC 13)
Max Grav 2=189 (LC 1), 3=206 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-3=-164/187, 1-2=-162/122
BOT CHORD 2-3=-127/211

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) Truss designed for wind loads in the plane of the truss
only. For studs exposed to wind (normal to the face),
see Standard Industry Gable End Details as applicable,
or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 6) All bearings are assumed to be SP No.2 crushing
capacity of 565 psi.
- 7) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 62 lb uplift at joint
3 and 20 lb uplift at joint 2.



July 5, 2023

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

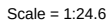
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



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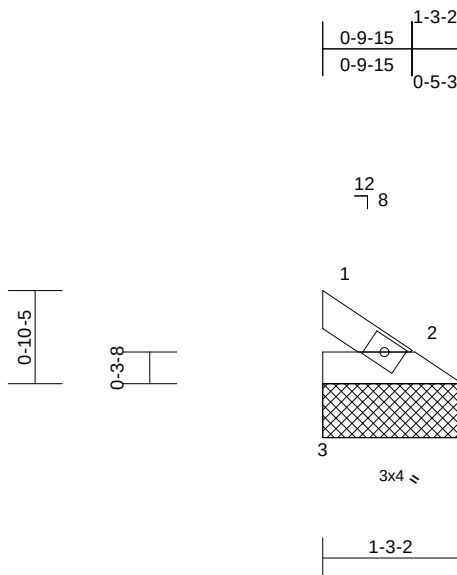


July 5, 2023

Truss Type	Qty	Ply	Roof	159339978
Valley	1	1	Job Reference (optional)	

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Page: 1



Scale = 1:21.3

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	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 3 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-3-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=1-3-8, 2=1-3-8, 3=1-3-8
Max Horiz 1=-24 (LC 13)
Max Uplift 1=-5 (LC 13), 2=-16 (LC 13)
Max Grav 1=28 (LC 1), 2=38 (LC 20), 3=16 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-15/27
BOT CHORD 2-3=0/0

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft;
Ke=1.00; 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
- 2) Truss designed for wind loads in the plane of the truss
only. For studs exposed to wind (normal to the face),
see Standard Industry Gable End Details as applicable,
or consult qualified building designer as per ANSI/TPI 1.
- 3) Gable requires continuous bottom chord bearing.
- 4) Gable studs spaced at 4-0-0 oc.
- 5) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 6) All bearings are assumed to be SP No.2 crushing
capacity of 565 psi.

- 7) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 5 lb uplift at joint 1
and 16 lb uplift at joint 2.
- 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



July 5, 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

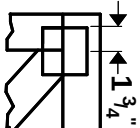
Safety Information available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601



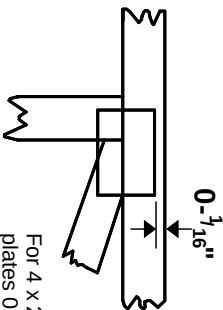
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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- $\frac{3}{16}$ " from outside edge of truss.

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

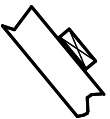
* Plate location details available in **MiTek 20120** software or upon request.

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



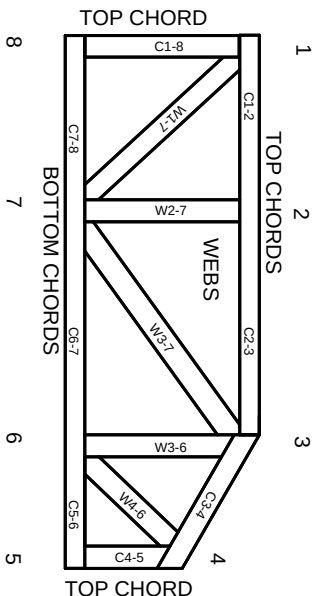
Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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 T or 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.