MiTek®

RE: P250365-01
Roof - BY Lot 0170

MiTek, Inc.
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200

Site Information:

Customer: Clayton Properties Project Name: P250365-01
Lot/Block: 0170 Model: Charlotte - Craftsman 3 Car
Address: 1313 SE Ranchland St. Subdivision: Bailey Farms
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 35 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I65733273	A1	5/22/2024	21	I65733293	V4	5/22/2024
2	I65733274	A2	5/22/2024	22	I65733294	V5	5/22/2024
3	I65733275	A3	5/22/2024	23	I65733295	V6	5/22/2024
4	I65733276	A4	5/22/2024	24	I65733296	V7	5/22/2024
5	I65733277	A5	5/22/2024	25	I65733297	V8	5/22/2024
6	I65733278	B1	5/22/2024	26	I65733298	V9	5/22/2024
7	I65733279	B2	5/22/2024	27	I65733299	V10	5/22/2024
8	I65733280	B3	5/22/2024	28	I65733300	V11	5/22/2024
9	I65733281	B4	5/22/2024	29	I65733301	V12	5/22/2024
10	I65733282	C1	5/22/2024	30	I65733302	V13	5/22/2024
11	I65733283	C2	5/22/2024	31	I65733303	V14	5/22/2024
12	I65733284	D1	5/22/2024	32	I65733304	V15	5/22/2024
13	I65733285	D2	5/22/2024	33	I65733305	V16	5/22/2024
14	I65733286	D3	5/22/2024	34	I65733306	V17	5/22/2024
15	I65733287	E1	5/22/2024	35	I65733307	V18	5/22/2024
16	I65733288	E2	5/22/2024				
17	I65733289	F1	5/22/2024				
18	I65733290	V1	5/22/2024				
19	I65733291	V2	5/22/2024				
20	I65733292	V3	5/22/2024				

The truss drawing(s) referenced above have been prepared by MiTek USA, Inc under my direct supervision based on the parameters provided by .

Truss Design Engineer's Name: Nathan Fox
My license renewal date for the state of Missouri is December 31, 2026.
Missouri COA: 001193

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. Any project specific information included is for MiTek customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek 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.

May 22, 2024
Nathan Fox

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733273
P250365-01	A1	Common Supported Gable	1	1	Job Reference (optional)	

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

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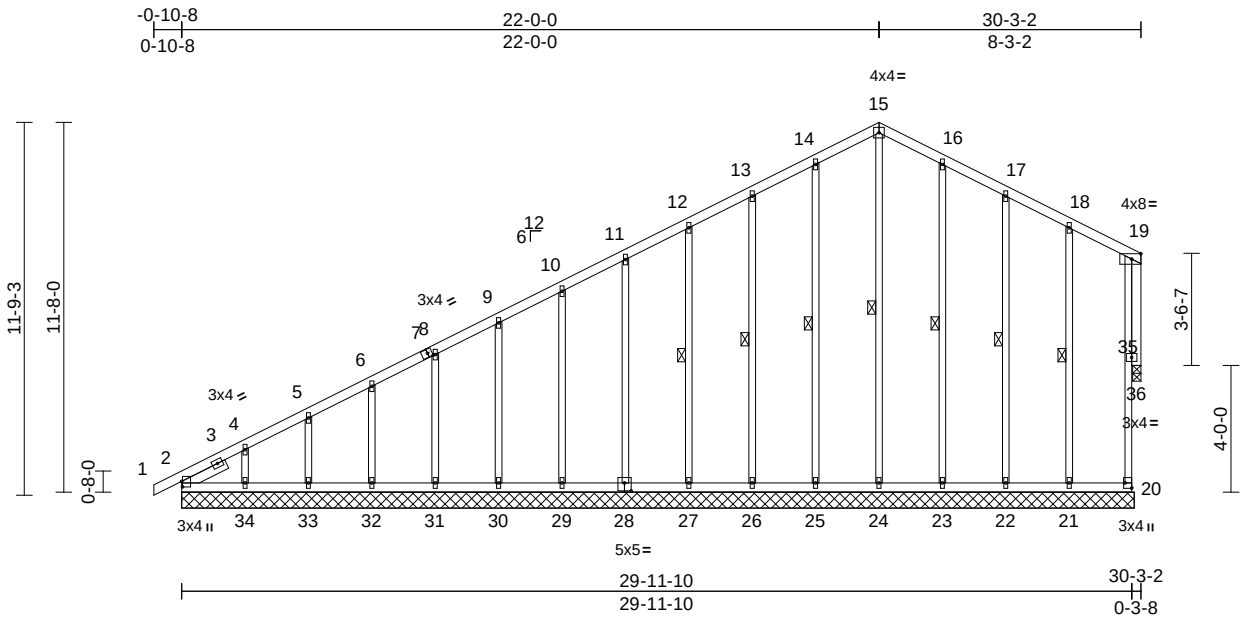

Scale = 1:72.7

Plate Offsets (X, Y): [2:0-2-1,0-0-5], [7:0-1-12,0-1-8], [20:Edge,0-2-8], [28:0-2-8,0-3-0]

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	0.33	Vert(LL)	0.00	20-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	0.00	20-21	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.10	36	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 187 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x3 SPF No.2
OTHERS	2x3 SPF No.2 *Except* 0-0,35-19:2x4 SP No.2
SLIDER	Left 2x4 SP No.2 -- 1-6-7

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 15-24, 14-25, 13-26, 12-27, 16-23, 17-22, 18-21

REACTIONS (size) 2=30-0-10, 20=30-0-10, 21=30-0-10, 22=30-0-10, 23=30-0-10, 24=30-0-10, 25=30-0-10, 26=30-0-10, 27=30-0-10, 28=30-0-10, 29=30-0-10, 30=30-0-10, 31=30-0-10, 32=30-0-10, 33=30-0-10, 34=30-0-10, 36=0-3-2
Max Horiz 2=323 (LC 9)
Max Uplift 2=-7 (LC 8), 20=-278 (LC 17), 21=-65 (LC 13), 22=-65 (LC 13), 23=-54 (LC 13), 25=-57 (LC 12), 26=-64 (LC 12), 27=-60 (LC 12), 28=-61 (LC 12), 29=-62 (LC 12), 30=-61 (LC 12), 31=-61 (LC 12), 32=-63 (LC 12), 33=-52 (LC 12), 34=-140 (LC 12), 36=-251 (LC 8)
Max Grav 2=220 (LC 21), 20=225 (LC 8), 21=187 (LC 26), 22=180 (LC 26), 23=188 (LC 26), 24=180 (LC 19), 25=188 (LC 25), 26=180 (LC 25), 27=181 (LC 1), 28=180 (LC 25), 29=180 (LC 1), 30=180 (LC 25), 31=180 (LC 1), 32=180 (LC 25), 33=181 (LC 1), 34=180 (LC 25), 36=332 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/6, 2-4=-442/210, 4-5=-344/172, 5-6=-294/156, 6-8=-239/136, 8-9=-185/118, 9-10=-142/99, 10-11=-126/94, 11-12=-110/111, 12-13=-98/164, 13-14=-118/221, 14-15=-135/268, 15-16=-135/268, 16-17=-119/222, 17-18=-91/157, 18-19=-97/135, 20-35=-442/337, 19-35=-442/337
BOT CHORD	2-34=-97/127, 33-34=-97/127, 32-33=-97/127, 31-32=-97/127, 30-31=-97/127, 29-30=-97/127, 27-29=-97/127, 26-27=-96/127, 25-26=-96/127, 24-25=-96/127, 23-24=-96/127, 22-23=-96/127, 21-22=-96/127, 20-21=-96/127
WEBS	15-24=-149/35, 14-25=-148/90, 13-26=-140/103, 12-27=-140/96, 11-28=-140/97, 10-29=-140/97, 9-30=-140/96, 8-31=-140/97, 6-32=-140/98, 5-33=-142/117, 4-34=-137/213, 16-23=-148/91, 17-22=-140/122, 18-21=-145/138, 19-36=-444/577

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 Corner(3E) -0-10-8 to 4-0-0, Exterior(2N) 4-0-0 to 22-0-0, Corner(3R) 22-0-0 to 27-0-0, Exterior(2N) 27-0-0 to 29-10-6 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 studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
8) Bearing at joint(s) 36 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

May 22,2024

Continued on page 2

MiTek®
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Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A1	Common Supported Gable	1	1	Job Reference (optional)

I65733273

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 278 lb uplift at joint 20, 7 lb uplift at joint 2, 57 lb uplift at joint 25, 64 lb uplift at joint 26, 60 lb uplift at joint 27, 61 lb uplift at joint 28, 62 lb uplift at joint 29, 61 lb uplift at joint 30, 61 lb uplift at joint 31, 63 lb uplift at joint 32, 52 lb uplift at joint 33, 140 lb uplift at joint 34, 54 lb uplift at joint 23, 65 lb uplift at joint 22, 65 lb uplift at joint 21 and 251 lb uplift at joint 36.
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

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A2	Common	9	1	Job Reference (optional) I65733274

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

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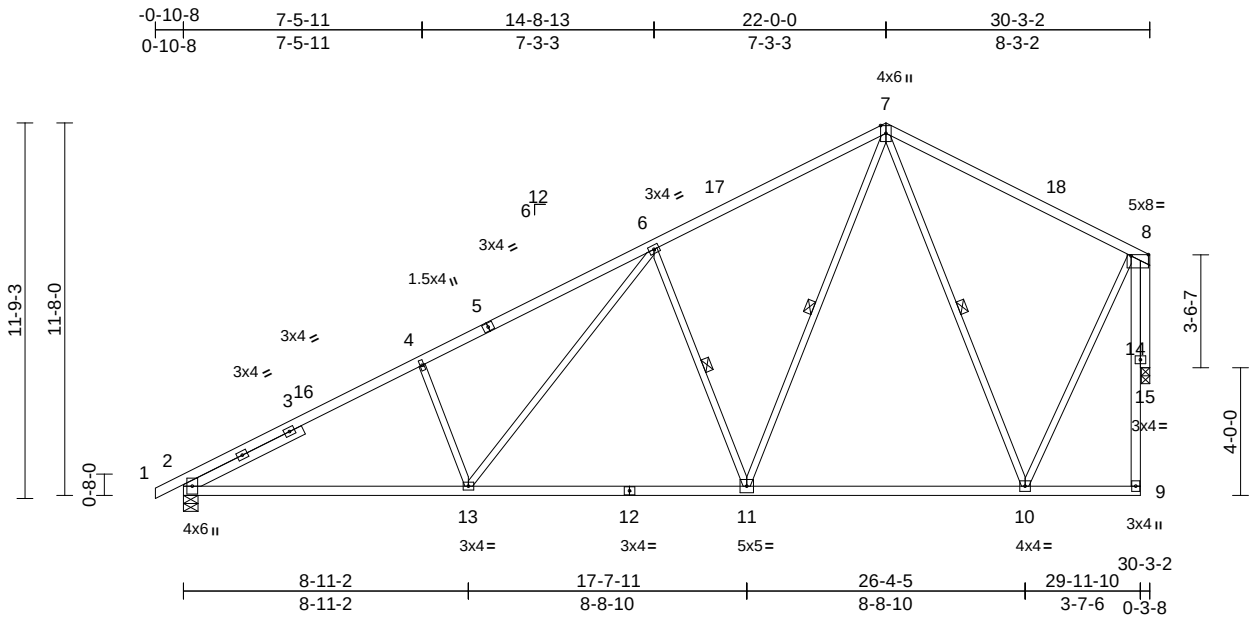

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Plate Offsets (X, Y): [2:0-3-9,0-1-5], [8:0-6-8,0-0-8]

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	0.81	Vert(LL)	-0.16	2-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.34	2-13	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	1.00	Horz(CT)	0.28	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 162 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 7-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 9-8:2x4 SP No.2
OTHERS 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 4-1-12

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-1-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-11-9 oc bracing.
WEBS 1 Row at midpt 7-10, 7-11, 6-11

REACTIONS (size) 2=0-5-8, 15=0-3-2
Max Horiz 2=323 (LC 9)
Max Uplift 2=-240 (LC 12), 15=-221 (LC 12)
Max Grav 2=1418 (LC 1), 15=1328 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-2275/366, 4-6=-2097/436, 6-7=-1325/341, 7-8=-630/204, 9-14=-21/43, 8-14=-21/43
BOT CHORD 2-13=-531/1918, 11-13=-389/1359, 10-11=-226/720, 9-10=-104/145
WEBS 7-10=-731/221, 8-10=-127/877, 7-11=-272/1013, 6-11=-821/386, 6-13=-196/702, 4-13=-400/282, 8-15=-1335/247

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 27-0-0, Interior (1) 27-0-0 to 29-9-14 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) All plates are 3x4 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 240 lb uplift at joint 2 and 221 lb uplift at joint 15.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A3	Common	1	1	Job Reference (optional) I65733275

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

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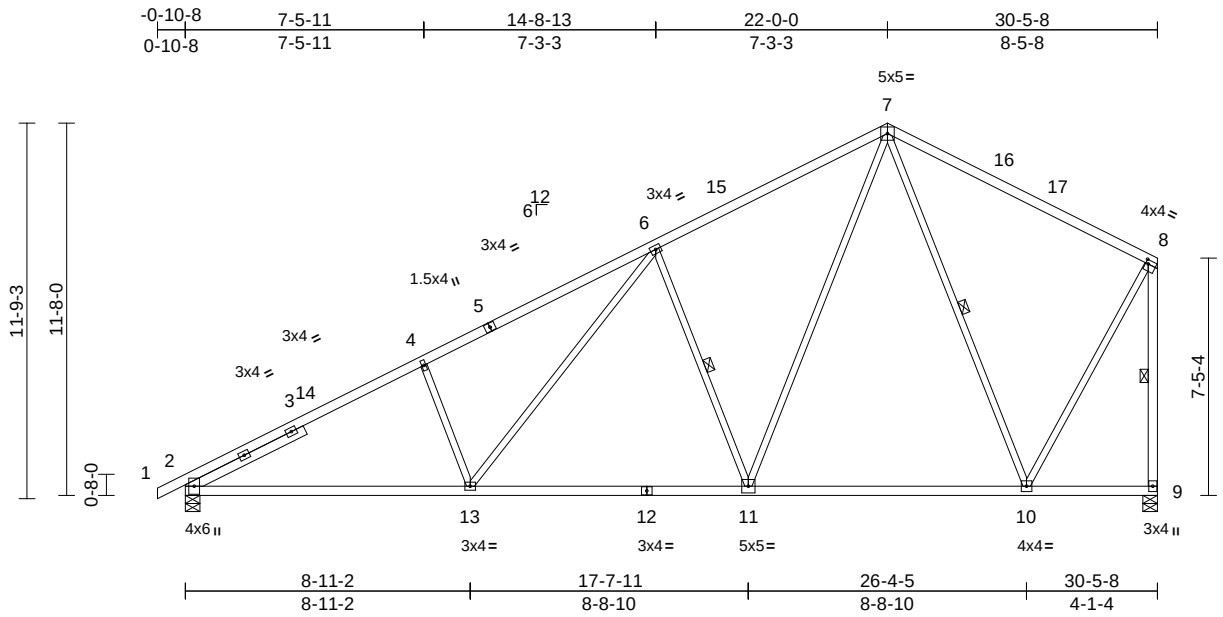

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Plate Offsets (X, Y): [2:0-3-9,0-1-5], [8:0-1-0,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.16	2-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.34	2-13	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	1.00	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 158 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 7-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 9-8:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 4-1-12

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-8-0 oc bracing.
WEBS 1 Row at midpt 7-10, 6-11, 8-9

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=379 (LC 9)
Max Uplift 2=-256 (LC 12), 9=-205 (LC 12)
Max Grav 2=1426 (LC 1), 9=1363 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-2292/399, 4-6=-2115/469, 6-7=-1342/404, 7-8=-659/294, 8-9=-1338/277
BOT CHORD 2-13=-572/1933, 11-13=-444/1374, 10-11=-283/738, 9-10=-131/144
WEBS 7-10=-730/265, 7-11=-271/1012, 6-11=-821/385, 6-13=-194/701, 4-13=-399/280, 8-10=-154/934

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 27-0-0, Interior (1) 27-0-0 to 30-3-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 256 lb uplift at joint 2 and 205 lb uplift at joint 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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A4	Common	9	1	Job Reference (optional) I65733276

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

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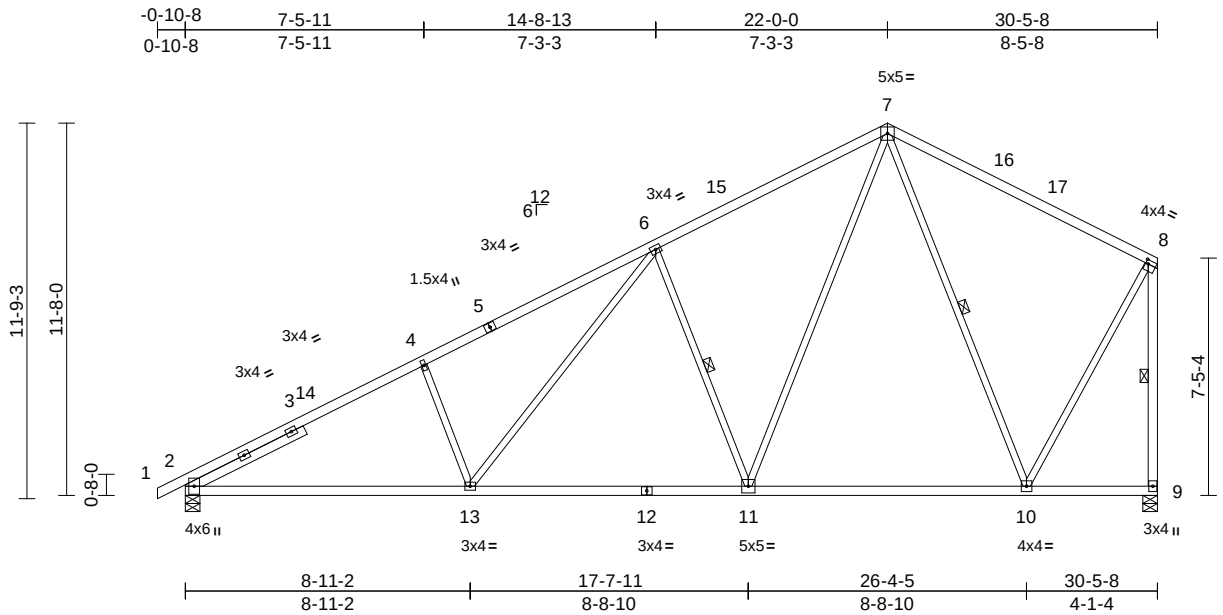

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Plate Offsets (X, Y): [2:0-3-9,0-1-5], [8:0-1-0,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.16	2-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.34	2-13	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	1.00	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 158 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 7-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 9-8:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 4-1-12

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-8-0 oc bracing.
WEBS 1 Row at midpt 7-10, 6-11, 8-9

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=379 (LC 9)
Max Uplift 2=-256 (LC 12), 9=-205 (LC 12)
Max Grav 2=1426 (LC 1), 9=1363 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-2292/399, 4-6=-2115/469, 6-7=-1342/404, 7-8=-659/294, 8-9=-1338/277
BOT CHORD 2-13=-572/1933, 11-13=-444/1374, 10-11=-283/738, 9-10=-131/144
WEBS 7-10=-730/265, 7-11=-271/1012, 6-11=-821/385, 6-13=-194/701, 4-13=-399/280, 8-10=-154/934

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 27-0-0, Interior (1) 27-0-0 to 30-3-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 256 lb uplift at joint 2 and 205 lb uplift at joint 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

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A5	Common Supported Gable	1	1	Job Reference (optional) I65733277

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

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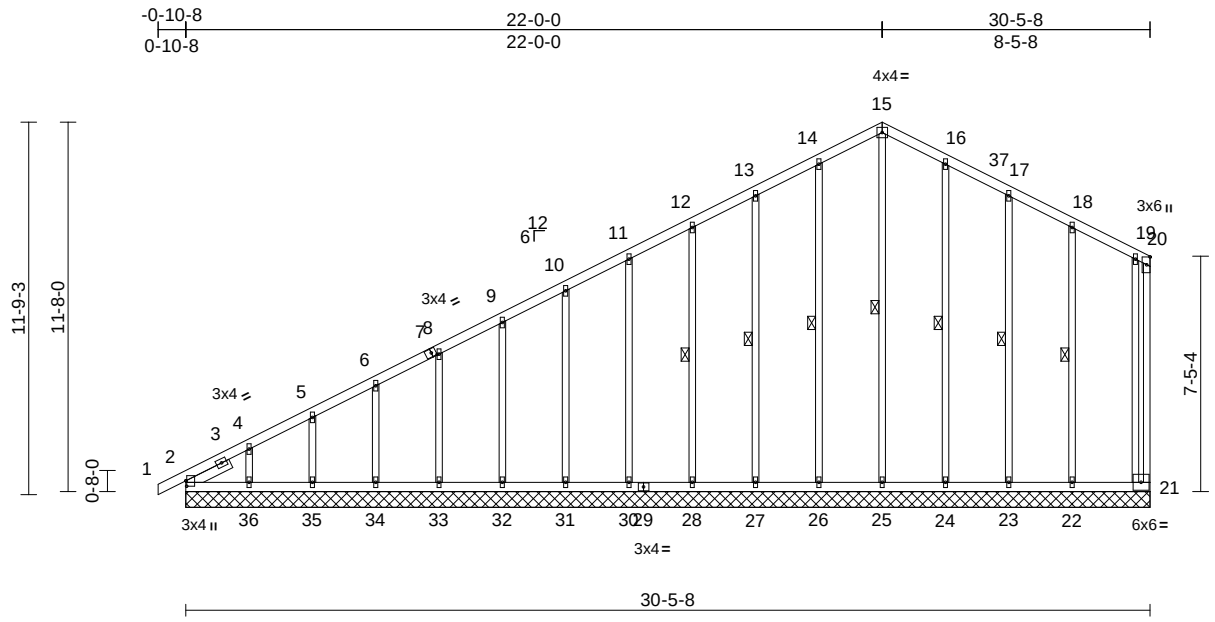

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Plate Offsets (X, Y): [2:0-2-1,0-0-5], [7:0-1-12,0-1-8]

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	0.84	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.01	21	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 188 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-6-7

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 15-25, 14-26, 13-27, 12-28, 16-24, 17-23, 18-22

REACTIONS (size) 2=30-5-8, 21=30-5-8, 22=30-5-8, 23=30-5-8, 24=30-5-8, 25=30-5-8, 26=30-5-8, 27=30-5-8, 28=30-5-8, 30=30-5-8, 31=30-5-8, 32=30-5-8, 33=30-5-8, 34=30-5-8, 35=30-5-8, 36=30-5-8
Max Horiz 2=379 (LC 9)
Max Uplift 2=-44 (LC 8), 21=-36 (LC 8), 22=-53 (LC 13), 23=-70 (LC 13), 24=-54 (LC 13), 25=-35 (LC 11), 26=-53 (LC 12), 27=-66 (LC 12), 28=-60 (LC 12), 30=-61 (LC 12), 31=-61 (LC 12), 32=-61 (LC 12), 33=-61 (LC 12), 34=-63 (LC 12), 35=-53 (LC 12), 36=-129 (LC 12)
Max Grav 2=235 (LC 20), 21=109 (LC 20), 22=199 (LC 26), 23=176 (LC 26), 24=189 (LC 26), 25=196 (LC 19), 26=188 (LC 25), 27=180 (LC 25), 28=180 (LC 1), 30=180 (LC 25), 31=180 (LC 1), 32=180 (LC 25), 33=180 (LC 1), 34=180 (LC 25), 35=181 (LC 1), 36=180 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-430/301, 4-5=-332/257, 5-6=-282/241, 6-8=-242/221, 8-9=-227/203, 9-10=-211/184, 10-11=-195/189, 11-12=-179/243, 12-13=-194/297, 13-14=-215/354, 14-15=-229/399, 15-16=-229/399, 16-17=-215/354, 17-18=-188/292, 18-19=-190/262, 19-20=-214/283, 20-21=-198/261
BOT CHORD 2-36=-148/195, 35-36=-148/195, 34-35=-148/195, 33-34=-148/195, 32-33=-148/195, 31-32=-148/195, 30-31=-148/195, 28-30=-148/195, 27-28=-148/195, 26-27=-148/195, 25-26=-148/195, 24-25=-148/195, 23-24=-148/195, 22-23=-148/195, 21-22=-148/195
WEBS 15-25=-257/113, 14-26=-148/89, 13-27=-140/107, 12-28=-140/96, 11-30=-140/97, 10-31=-140/96, 9-32=-140/97, 8-33=-140/97, 6-34=-140/98, 5-35=-142/119, 4-36=-139/188, 16-24=-148/92, 17-23=-138/132, 18-22=-152/197, 19-21=-140/143

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 Corner(3E) -0-10-8 to 4-0-0, Exterior(2N) 4-0-0 to 22-0-0, Corner(3R) 22-0-0 to 27-0-0, Exterior(2N) 27-0-0 to 30-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 21, 44 lb uplift at joint 2, 35 lb uplift at joint 25, 53 lb uplift at joint 26, 66 lb uplift at joint 27, 60 lb uplift at joint 28, 61 lb uplift at joint 30, 61 lb uplift at joint 31, 61 lb uplift at joint 32, 61 lb uplift at joint 33, 63 lb uplift at joint 34, 53 lb uplift at joint 35, 129 lb uplift at joint 36, 54 lb uplift at joint 24, 70 lb uplift at joint 23 and 53 lb uplift at joint 22.
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.

May 22,2024

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	A5	Common Supported Gable	1	1	Job Reference (optional) I65733277

LOAD CASE(S) Standard

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	B1	Roof Special Structural Gable	1	1	Job Reference (optional) I65733278

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

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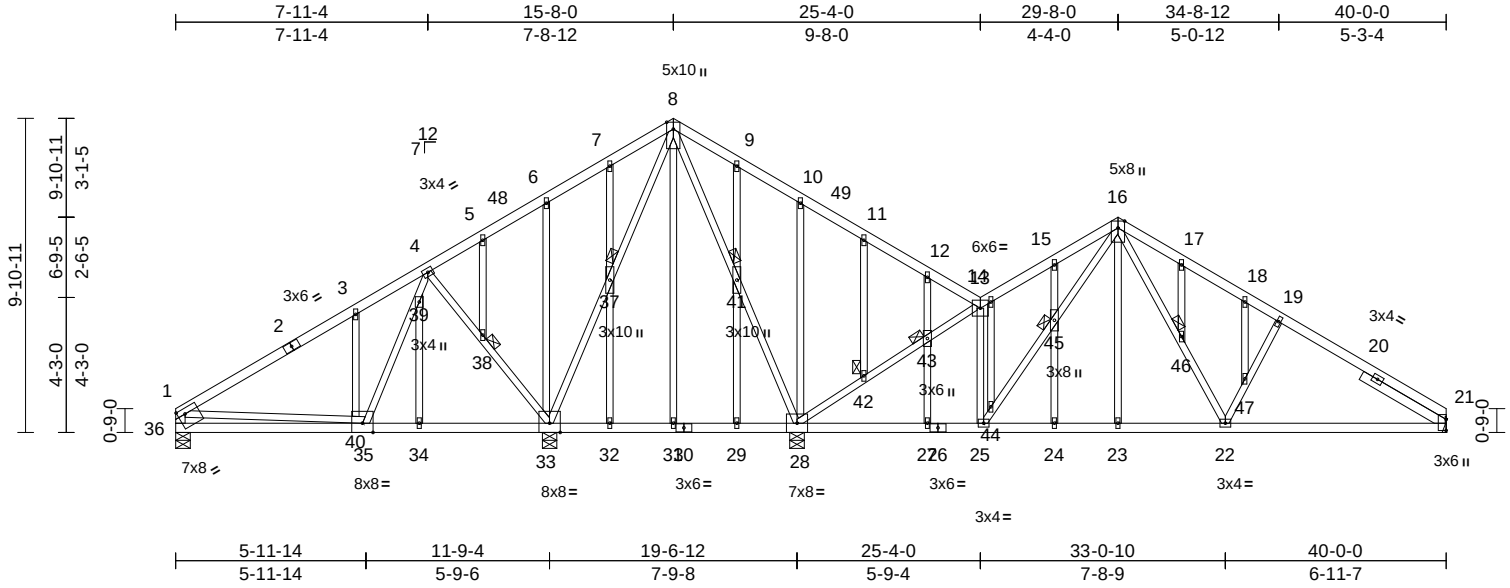

Scale = 1:72.6

Plate Offsets (X, Y): [21:Edge,0-0-0], [36:0-2-12,0-2-0]

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	0.39	Vert(LL)	-0.07	21-22	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.14	21-22	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.33	Horz(CT)	0.02	21	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 251 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 36-1:2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Right 2x4 SP No.2 -- 3-0-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-10-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 37, 38, 41, 42, 43, 45, 46

REACTIONS (size) 21= Mechanical, 28=0-5-8, 33=0-5-8, 36=0-5-8
Max Horiz 36=-273 (LC 8)
Max Uplift 21=-149 (LC 13), 28=-329 (LC 13), 33=-255 (LC 12), 36=-25 (LC 12)
Max Grav 21=771 (LC 26), 28=1540 (LC 26), 33=997 (LC 25), 36=362 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-310/42, 3-4=-271/102, 4-5=-46/360, 5-6=-28/425, 6-7=0/358, 7-8=0/409, 8-9=0/512, 9-10=0/478, 10-11=-27/543, 11-12=-59/510, 12-13=-112/476, 13-14=-604/174, 14-15=-575/184, 15-16=-527/231, 16-17=-816/292, 17-18=-886/275, 18-19=-879/239, 19-21=-1059/229, 1-36=-300/56
BOT CHORD 35-36=-260/493, 34-35=-200/243, 33-34=-200/243, 32-33=-285/298, 31-32=-285/298, 29-31=-284/298, 28-29=-284/298, 27-28=0/455, 25-27=0/455, 24-25=0/506, 23-24=0/506, 22-23=0/507, 21-22=-100/821
WEBS 35-39=-167/459, 4-39=-156/493, 4-38=-447/178, 33-38=-465/189, 33-37=-267/0, 8-37=-284/0, 8-41=-514/10, 28-41=-523/11, 28-42=-1042/304, 42-43=-991/282, 13-43=-996/288, 13-25=-39/267, 25-44=-115/5, 44-45=-146/5, 16-45=-142/5, 16-46=-150/463, 22-46=-142/461, 22-47=-307/221, 19-47=-223/178, 1-40=-233/187, 35-40=-405/291, 8-31=-2/138, 7-37=-45/50, 32-37=-61/45, 6-33=-276/161, 5-38=-22/14, 34-39=0/59, 3-40=-335/219, 9-41=-86/54, 29-41=-77/53, 10-28=-271/160, 11-42=-91/37, 12-43=-64/86, 27-43=-73/96, 14-44=-2/38, 15-45=-61/68, 24-45=-54/65, 16-23=-2/91, 17-46=-2/14, 18-47=-94/54

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 15-6-11, Exterior(2R) 15-6-11 to 20-6-11, Interior (1) 20-6-11 to 29-6-15, Exterior(2R) 29-6-15 to 34-9-9, Interior (1) 34-9-9 to 40-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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) Provide adequate drainage to prevent water ponding.
5) All plates are 1.5x4 MT20 unless otherwise indicated.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Bearings are assumed to be: Joint 36 SP No.2 crushing capacity of 565 psi, Joint 33 SP No.2 crushing capacity of 565 psi, Joint 28 SP No.2 crushing capacity of 565 psi.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 149 lb uplift at joint 21, 25 lb uplift at joint 36, 255 lb uplift at joint 33 and 329 lb uplift at joint 28.
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.

LOAD CASE(S) Standard

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733279
P250365-01	B2	Roof Special	2	1	Job Reference (optional)	

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

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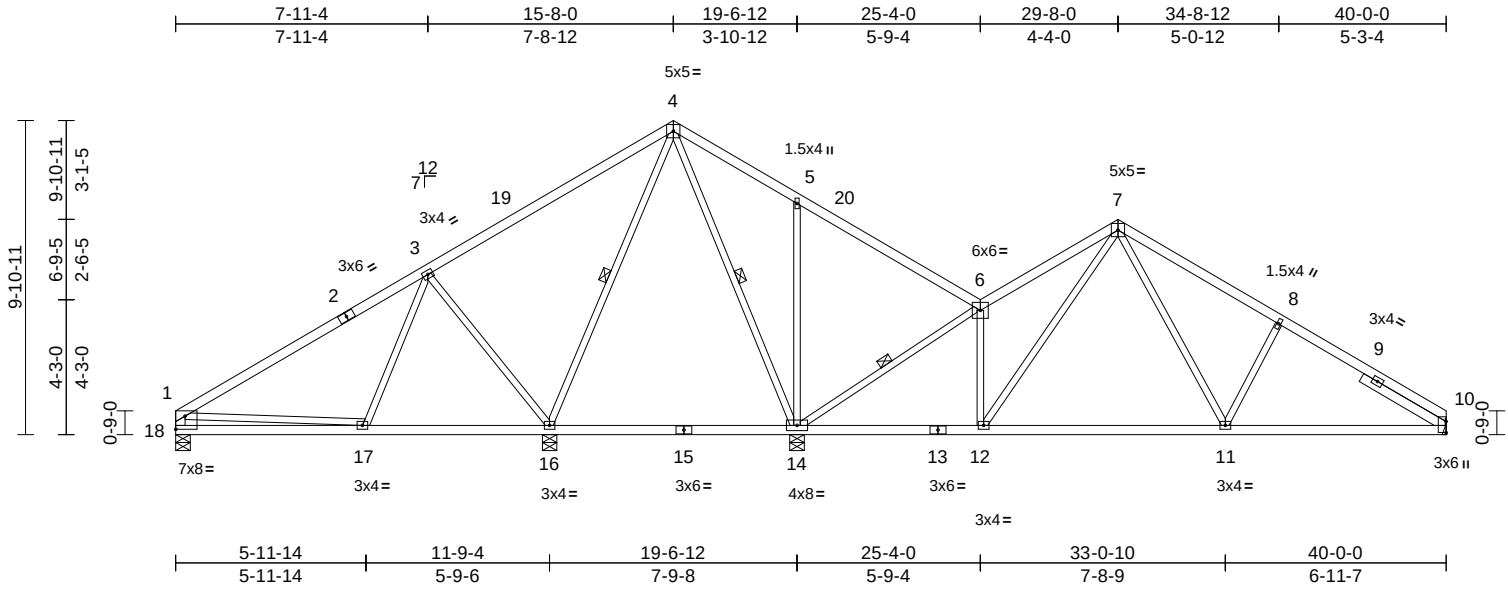

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Plate Offsets (X, Y): [10:Edge,0-0-0], [18:Edge,0-5-0]

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	0.68	Vert(LL)	-0.07	11-12	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.16	11-12	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.67	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 193 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 2-4:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 18-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-0-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-16, 4-14, 6-14

REACTIONS (size) 10= Mechanical, 14=0-5-8, 16=0-5-8, 18=0-5-8
Max Horiz 18=-275 (LC 10)
Max Uplift 10=-146 (LC 13), 14=-359 (LC 13), 16=-181 (LC 12), 18=-60 (LC 12)
Max Grav 10=758 (LC 26), 14=1617 (LC 1), 16=871 (LC 19), 18=428 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-414/97, 3-4=0/444, 4-5=0/549, 5-6=-89/599, 6-7=-546/191, 7-8=-897/271, 8-10=-1056/226, 1-18=-375/95
BOT CHORD 17-18=-290/530, 16-17=-216/248, 14-16=-296/291, 12-14=0/405, 11-12=0/472, 10-11=-100/822
WEBS 3-17=0/257, 3-16=-666/331, 4-16=-230/3, 4-14=-590/72, 6-14=-995/276, 6-12=0/299, 7-12=-135/31, 7-11=-120/496, 8-11=-310/225, 1-17=-230/204, 5-14=-404/257

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 15-8-0, Exterior(2R) 15-8-0 to 20-8-0, Interior (1) 20-8-0 to 29-8-0, Exterior(2R) 29-8-0 to 34-9-9, Interior (1) 34-9-9 to 40-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 18 SP No.2 crushing capacity of 565 psi, Joint 16 SP No.2 crushing capacity of 565 psi, Joint 14 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 146 lb uplift at joint 10, 60 lb uplift at joint 18, 181 lb uplift at joint 16 and 359 lb uplift at joint 14.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	B3	Roof Special	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65733280
05/13/2025

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

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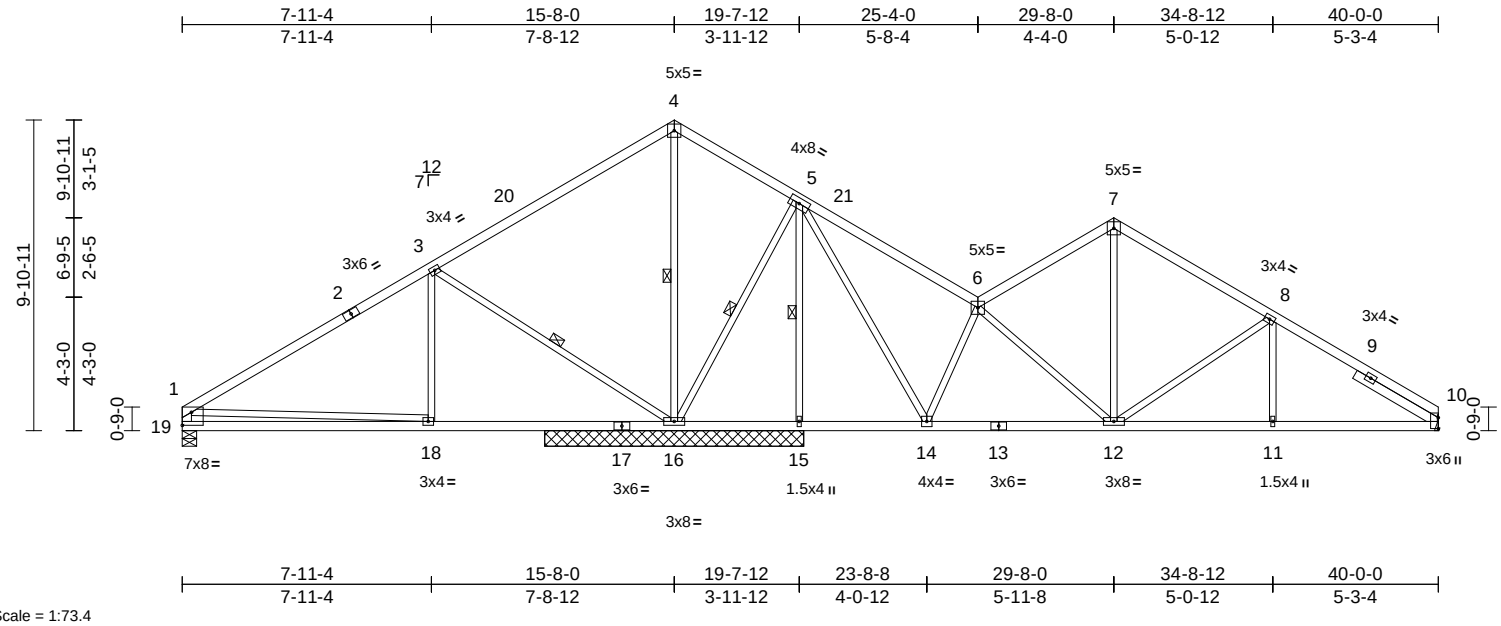

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Plate Offsets (X, Y): [10:Edge,0-0-0], [19:Edge,0-5-0]

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	0.71	Vert(LL)	-0.08	18-19	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.16	18-19	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 198 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 2-4:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 19-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-0-10

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-10-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-16, 5-16, 3-16, 5-15

REACTIONS (size) 10= Mechanical, 15=8-3-0, 16=8-3-0, 19=0-5-8
Max Horiz 19=-275 (LC 8)
Max Uplift 10=-155 (LC 13), 15=-223 (LC 13), 16=-210 (LC 12), 19=-93 (LC 12)
Max Grav 10=768 (LC 26), 15=1005 (LC 26), 16=1475 (LC 1), 19=531 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-571/165, 3-4=-5/633, 4-5=0/580, 5-6=-204/125, 6-7=-662/216, 7-8=-680/213, 8-10=-1085/233, 1-19=-462/136
BOT CHORD 18-19=-273/563, 16-18=-243/396, 15-16=-470/267, 14-15=-470/267, 12-14=0/415, 11-12=-104/845, 10-11=-104/845
WEBS 4-16=-870/93, 1-18=-247/130, 5-16=-98/131, 3-18=0/352, 3-16=-813/314, 5-15=-929/251, 5-14=-247/984, 6-14=-828/309, 6-12=0/164, 7-12=-65/271, 8-12=-437/191, 8-11=0/209

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 15-8-0, Exterior(2R) 15-8-0 to 20-8-0, Interior (1) 20-8-0 to 29-8-0, Exterior(2R) 29-8-0 to 34-8-12, Interior (1) 34-8-12 to 40-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 19 SP No.2 crushing capacity of 565 psi, Joint 15 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 155 lb uplift at joint 10, 93 lb uplift at joint 19, 210 lb uplift at joint 16 and 223 lb uplift at joint 15.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733281
P250365-01	B4	Roof Special	2	1	Job Reference (optional)	

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

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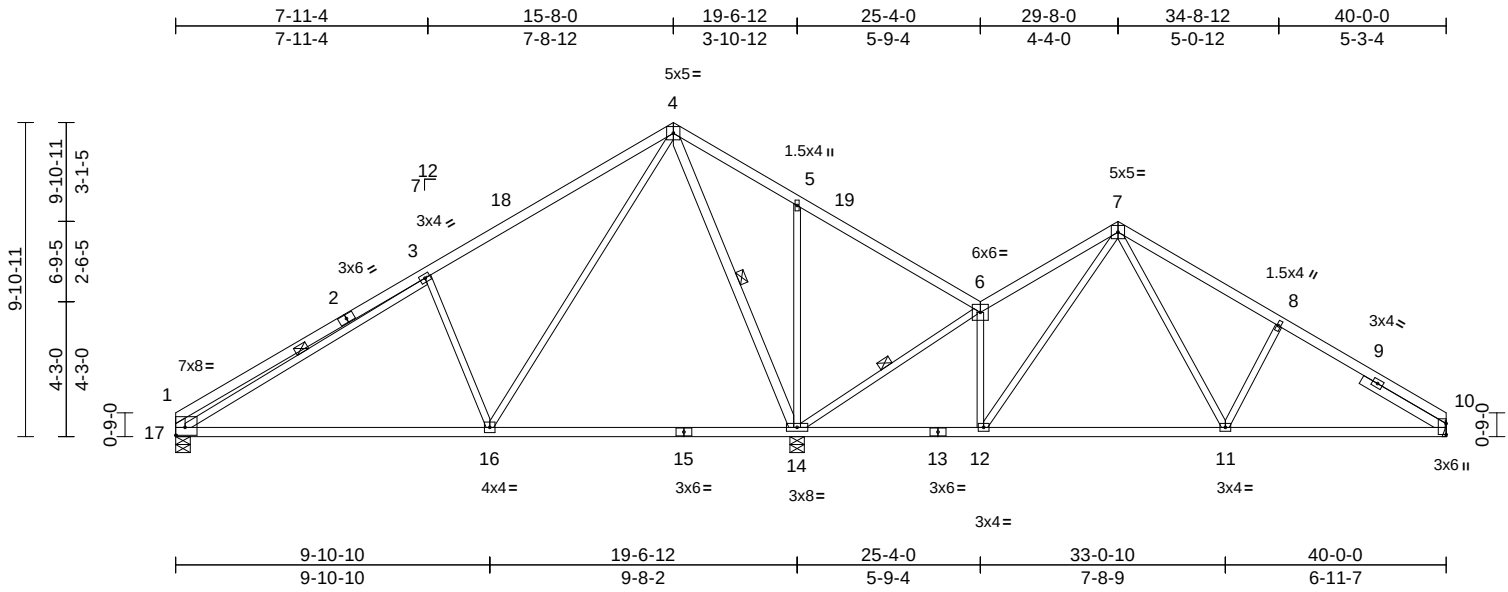


Scale = 1:72.6

Plate Offsets (X, Y): [1:Edge,0-3-0], [10: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	0.97	Vert(LL)	-0.19	16-17	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.39	16-17	>600	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 198 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 14-4,17-1:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-0-11

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-16.
WEBS 1 Row at midpt 4-14, 6-14, 3-17

REACTIONS (size) 10= Mechanical, 14=0-5-8, 17=0-5-8
Max Horiz 17=-275 (LC 10)
Max Uplift 10=-148 (LC 13), 14=-337 (LC 13), 17=-128 (LC 12)
Max Grav 10=745 (LC 26), 14=2183 (LC 1), 17=749 (LC 25)

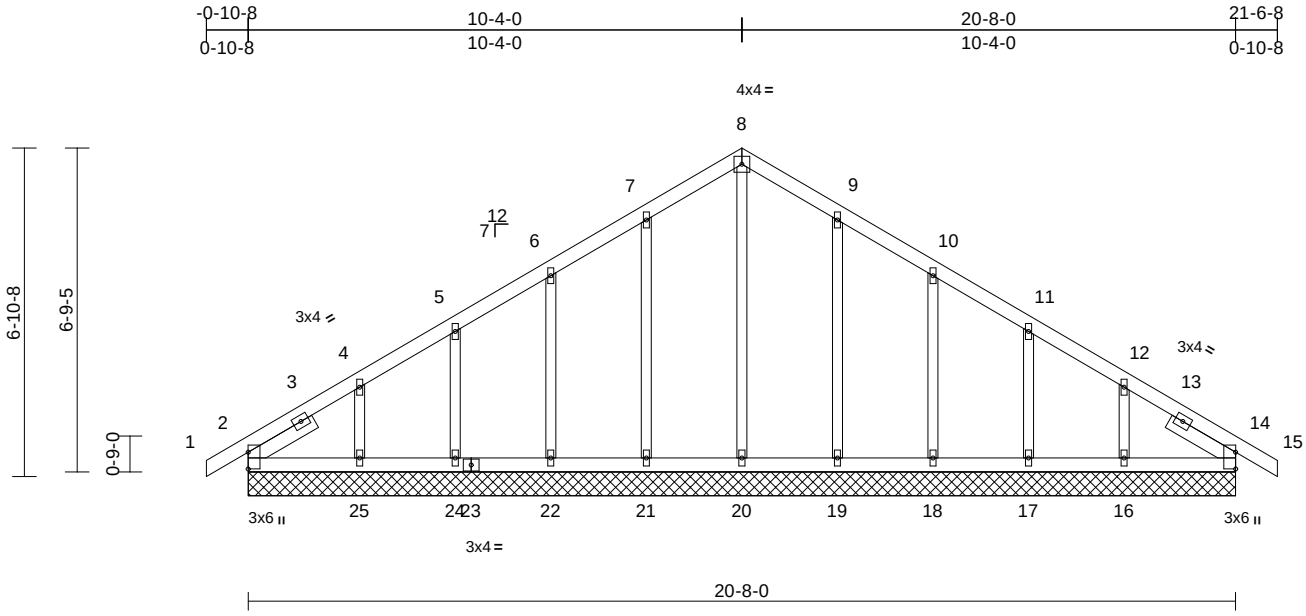
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-649/223, 3-4=-749/281, 4-5=0/627, 5-6=-83/676, 6-7=-489/203, 7-8=-874/275, 8-10=-1034/231, 1-17=-506/203
BOT CHORD 16-17=-211/747, 14-16=-209/292, 12-14=0/356, 11-12=0/451, 10-11=-103/804
WEBS 3-16=-565/365, 4-16=-246/861, 4-14=-1205/180, 6-14=-970/282, 6-12=0/332, 7-12=-227/33, 7-11=-119/500, 8-11=-313/225, 3-17=-294/86, 5-14=-402/256

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 15-8-0, Exterior(2R) 15-8-0 to 20-8-0, Interior (1) 20-8-0 to 29-8-0, Exterior(2R) 29-8-0 to 34-9-9, Interior (1) 34-9-9 to 40-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 17 SP No.2 crushing capacity of 565 psi, Joint 14 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 148 lb uplift at joint 10, 337 lb uplift at joint 14 and 128 lb uplift at joint 17.
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

May 22,2024

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	C1	Common Supported Gable	1	1	Job Reference (optional) I65733282



Scale = 1:48.2

Plate Offsets (X, Y): [2:Edge,0-0-0], [14: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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 101 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-7-2, Right 2x4 SP No.2 -- 1-7-2

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) 2=20-8-0, 14=20-8-0, 16=20-8-0, 17=20-8-0, 18=20-8-0, 19=20-8-0, 20=20-8-0, 21=20-8-0, 22=20-8-0, 24=20-8-0, 25=20-8-0
Max Horiz 2=183 (LC 11)
Max Uplift 2=-43 (LC 8), 16=-106 (LC 13), 17=-61 (LC 13), 18=-73 (LC 13), 19=-66 (LC 13), 21=-68 (LC 12), 22=-73 (LC 12), 24=-59 (LC 12), 25=-116 (LC 12)
Max Grav 2=196 (LC 20), 14=186 (LC 1), 16=219 (LC 20), 17=179 (LC 20), 18=188 (LC 20), 19=193 (LC 20), 20=170 (LC 22), 21=195 (LC 19), 22=187 (LC 19), 24=177 (LC 19), 25=230 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/5, 2-4=-174/134, 4-5=-131/99, 5-6=-120/110, 6-7=-108/147, 7-8=-126/206, 8-9=-126/206, 9-10=-95/147, 10-11=-72/84, 11-12=-83/36, 12-14=-131/64, 14-15=0/5
BOT CHORD 2-25=-57/123, 24-25=-57/123, 22-24=-57/123, 21-22=-57/123, 20-21=-57/123, 19-20=-57/123, 18-19=-57/123, 17-18=-57/123, 16-17=-57/123, 14-16=-57/123
WEBS 8-20=-131/31, 7-21=-155/92, 6-22=-146/102, 5-24=-141/100, 4-25=-177/151, 9-19=-153/92, 10-18=-147/102, 11-17=-143/100, 12-16=-168/149

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 Corner(3E) -0-10-8 to 4-4-0, Exterior(2N) 4-4-0 to 10-4-0, Corner(3R) 10-4-0 to 15-4-0, Exterior(2N) 15-4-0 to 21-6-8 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) 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 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 2, 68 lb uplift at joint 21, 73 lb uplift at joint 22, 59 lb uplift at joint 24, 116 lb uplift at joint 25, 66 lb uplift at joint 19, 73 lb uplift at joint 18, 61 lb uplift at joint 17 and 106 lb uplift at joint 16.
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

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER
May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733283
P250365-01	C2	Common	5	1	Job Reference (optional)	

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

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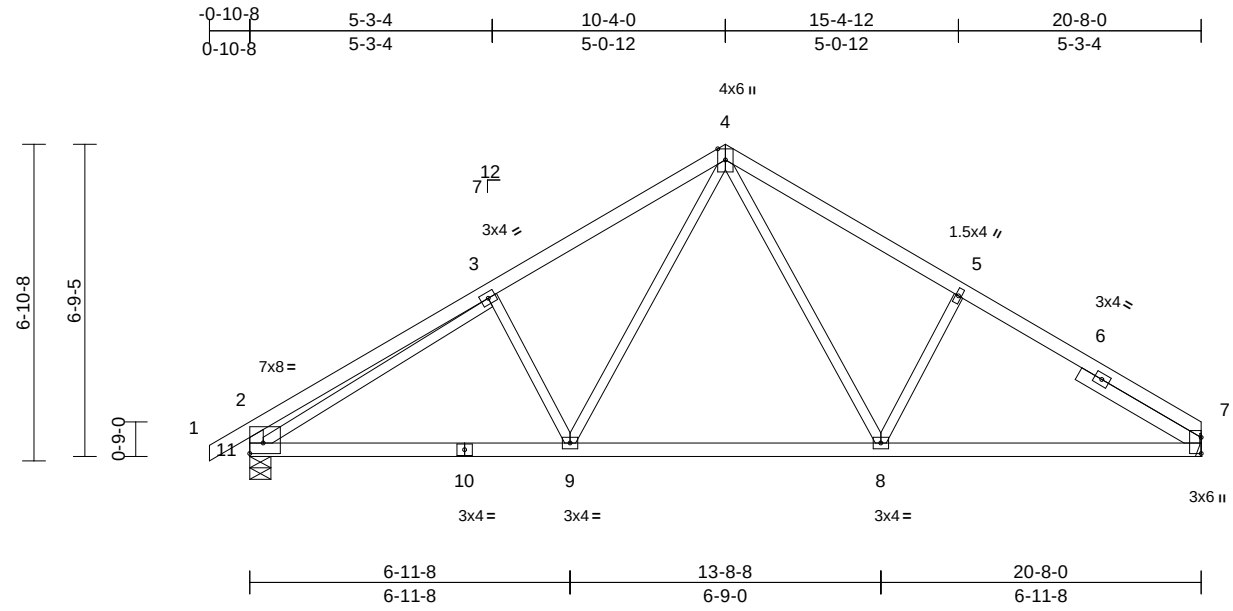

Scale = 1:50

Plate Offsets (X, Y): [2:Edge,0-2-12], [7: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	0.41	Vert(LL)	-0.06	7-8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.13	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 95 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 11-2:2x4 SP No.2
SLIDER Right 2x4 SP No.2 -- 3-0-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7= Mechanical, 11=0-5-8
Max Horiz 11=-194 (LC 10)
Max Uplift 7=-135 (LC 13), 11=-160 (LC 12)
Max Grav 7=922 (LC 1), 11=997 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-521/171, 3-4=-1170/264, 4-5=-1178/263, 5-7=-1340/221, 2-11=-469/177
BOT CHORD 9-11=-201/1045, 8-9=-41/739, 7-8=-111/1058
WEBS 4-8=-135/465, 5-8=-299/228, 4-9=-129/444, 3-9=-288/223, 3-11=-815/95

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 10-4-0, Exterior(2R) 10-4-0 to 15-5-9, Interior (1) 15-5-9 to 20-8-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 11 SP No.2 crushing capacity of 565 psi.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint 7 and 160 lb uplift at joint 11.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	D1	Common Supported Gable	1	1	Job Reference (optional) I65733284

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

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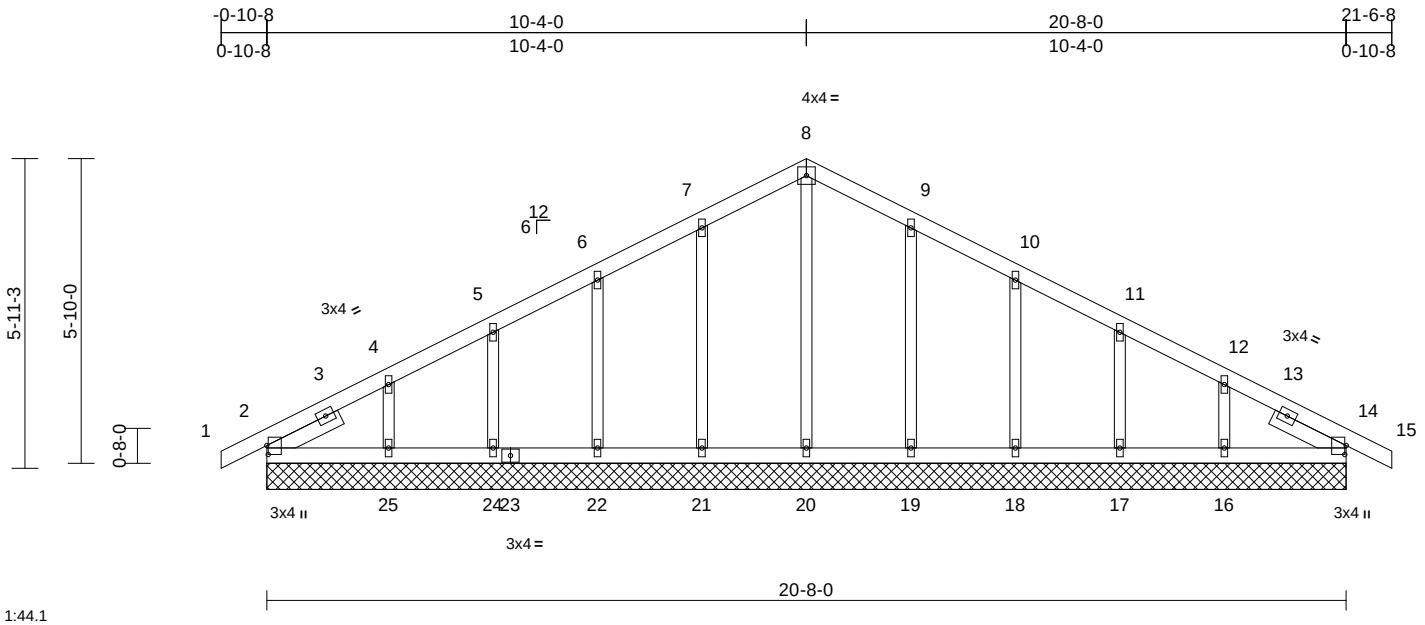

Scale = 1:44.1

Plate Offsets (X, Y): [2:0-2-1,0-0-5], [14:0-2-1,0-0-5]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 95 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-6-7, Right 2x4 SP No.2 -- 1-6-7

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) 2=20-8-0, 14=20-8-0, 16=20-8-0, 17=20-8-0, 18=20-8-0, 19=20-8-0, 20=20-8-0, 21=20-8-0, 22=20-8-0, 24=20-8-0, 25=20-8-0
Max Horiz 2=-106 (LC 17)
Max Uplift 2=-26 (LC 13), 14=-3 (LC 9), 16=-86 (LC 13), 17=-56 (LC 13), 18=-64 (LC 13), 19=-61 (LC 13), 21=-62 (LC 12), 22=-63 (LC 12), 24=-55 (LC 12), 25=-94 (LC 12)
Max Grav 2=179 (LC 1), 14=179 (LC 1), 16=200 (LC 26), 17=176 (LC 1), 18=180 (LC 1), 19=189 (LC 26), 20=160 (LC 22), 21=189 (LC 25), 22=180 (LC 1), 24=176 (LC 1), 25=200 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-138/57, 4-5=-85/73, 5-6=-67/101, 6-7=-64/157, 7-8=-83/211, 8-9=-83/211, 9-10=-63/157, 10-11=-60/102, 11-12=-61/39, 12-14=-104/18, 14-15=0/6
BOT CHORD 2-25=-22/119, 24-25=-22/119, 22-24=-22/119, 21-22=-22/119, 20-21=-22/119, 19-20=-22/119, 18-19=-22/119, 17-18=-22/119, 16-17=-22/119, 14-16=-22/119
WEBS 8-20=-120/7, 7-21=-150/96, 6-22=-139/102, 5-24=-139/117, 4-25=-151/186, 9-19=-150/96, 10-18=-139/102, 11-17=-139/117, 12-16=-151/183

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 Corner(3E) -0-10-8 to 4-4-0, Exterior(2N) 4-4-0 to 10-4-0, Corner(3R) 10-4-0 to 15-4-0, Exterior(2N) 15-4-0 to 21-6-8 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) 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 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 2, 62 lb uplift at joint 21, 63 lb uplift at joint 22, 55 lb uplift at joint 24, 94 lb uplift at joint 25, 61 lb uplift at joint 19, 64 lb uplift at joint 18, 56 lb uplift at joint 17, 86 lb uplift at joint 16 and 3 lb uplift at joint 14.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 14.
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.

LOAD CASE(S) Standard

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733285
P250365-01	D2	Common	4	1	Job Reference (optional)	

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

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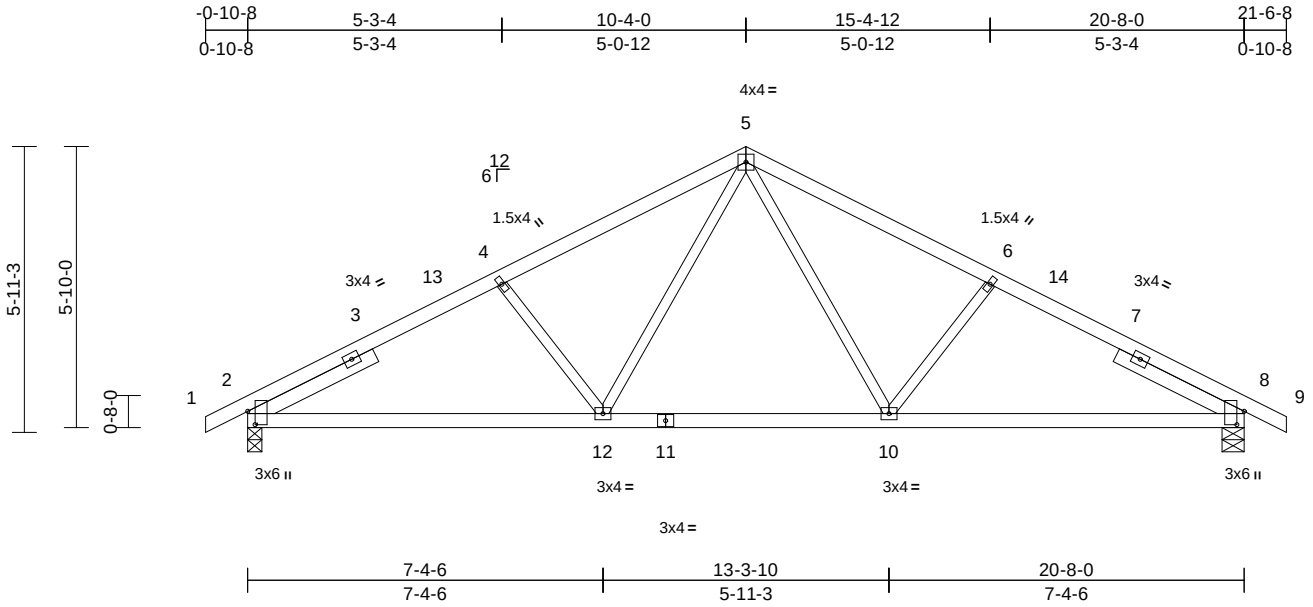

Scale = 1:47.8

Plate Offsets (X, Y): [2:0-3-5,0-1-13], [8:0-3-5,0-1-13]

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	0.41	Vert(LL)	-0.08	8-10	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.18	8-10	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 92 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-11-0, Right 2x4 SP No.2 -- 2-11-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-5-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 8=0-5-8
Max Horiz 2=-106 (LC 13)
Max Uplift 2=-163 (LC 12), 8=-163 (LC 13)
Max Grav 2=991 (LC 1), 8=991 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-1487/372, 4-5=-1281/363, 5-6=-1281/363, 6-8=-1486/372, 8-9=0/6
BOT CHORD 2-12=-254/1238, 10-12=-85/880, 8-10=-247/1238
WEBS 5-10=-101/432, 6-10=-304/212, 5-12=-101/432, 4-12=-304/212

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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 10-4-0, Exterior(2R) 10-4-0 to 15-5-14, Interior (1) 15-5-14 to 21-6-8 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) 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 163 lb uplift at joint 2 and 163 lb uplift at joint 8.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	D3	Common Girder	1	2	Job Reference (optional) I65733286

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

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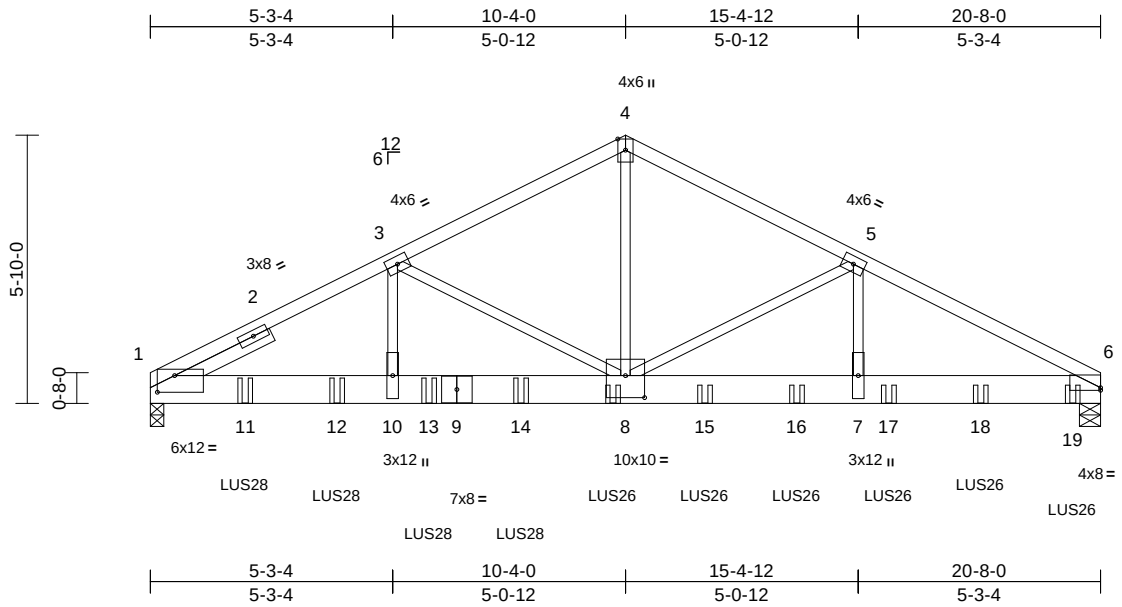

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Plate Offsets (X, Y): [1:0-4-8,0-4-5], [6:Edge,0-0-11], [8:0-5-0,0-5-12]

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	0.64	Vert(LL)	-0.12	8-10	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.20	8-10	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.05	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 208 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 2-3-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-3-8, (req. 0-3-12), 6=0-5-8
Max Horiz 1=101 (LC 16)
Max Uplift 1=-835 (LC 12), 6=-988 (LC 13)
Max Grav 1=4816 (LC 1), 6=5048 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-8013/1534, 3-4=-5550/1184, 4-5=-5585/1188, 5-6=-7706/1606
BOT CHORD 1-10=-1282/6978, 8-10=-1282/6978, 7-8=-1332/6663, 6-7=-1332/6663
WEBS 3-10=-271/2163, 3-8=-2386/482, 4-8=-883/4516, 5-8=-2024/549, 5-7=-347/1904

NOTES
1) 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: 2x8 - 2 rows staggered at 0-6-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) 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.
3) Unbalanced roof live loads have been considered for this design.
4) 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 5-3-4, Interior (1) 5-3-4 to 10-4-0, Exterior(2R) 10-4-0 to 15-4-12, Interior (1) 15-4-12 to 20-5-4 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
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) WARNING: Required bearing size at joint(s) 1 greater than input bearing size.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 835 lb uplift at joint 1 and 988 lb uplift at joint 6.
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) Use Simpson Strong-Tie LUS28 (6-10d Girder, 3-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 8-0-12 to connect truss(es) to back face of bottom chord.
11) Use Simpson Strong-Tie LUS26 (4-10d Girder, 4-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 10-0-12 from the left end to 20-0-12 to connect truss(es) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 4-6=-70, 1-6=-20
Concentrated Loads (lb)
Vert: 8=-751 (B), 11=-902 (B), 12=-902 (B), 13=-902 (B), 14=-902 (B), 15=-738 (B), 16=-738 (B), 17=-748 (B), 18=-725 (B), 19=-731 (B)

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER
May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	E1	Common Supported Gable	1	1	Job Reference (optional) I65733287

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/13/2025

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

Run: 8.63 S Apr 26 2024 Print: 8.630 S Apr 26 2024 MiTek Industries, Inc. Tue May 21 13:04:16 Page: 1
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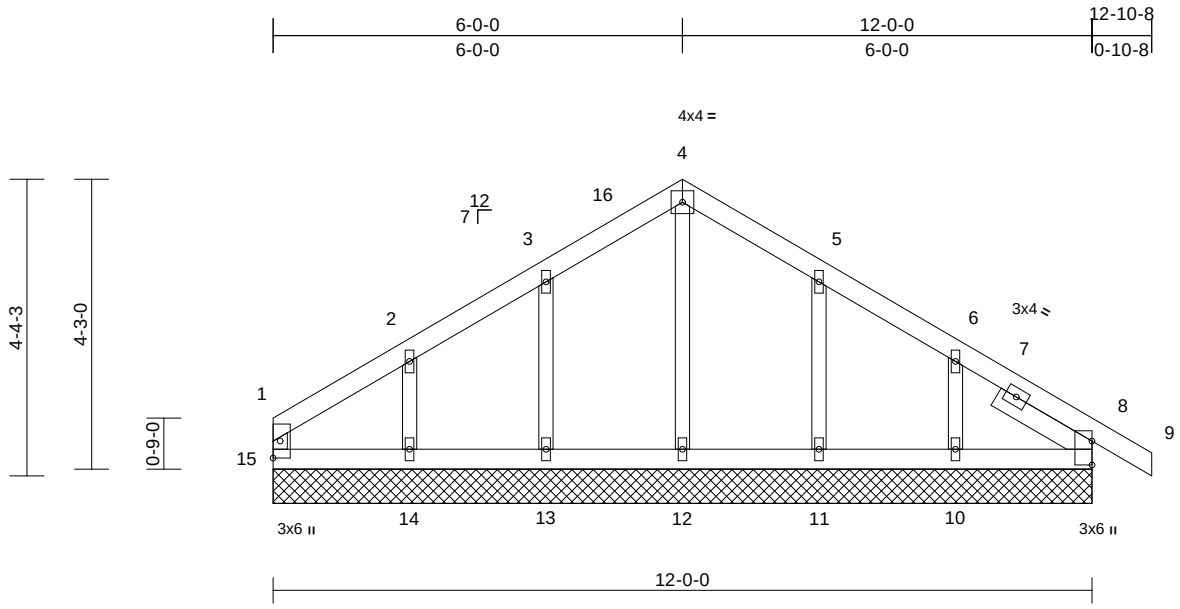

Scale = 1:33.8

Plate Offsets (X, Y): [8: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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 52 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Right 2x4 SP No.2 -- 1-7-4

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) 8=12-0-0, 10=12-0-0, 11=12-0-0, 12=12-0-0, 13=12-0-0, 14=12-0-0, 15=12-0-0
Max Horiz 15=-119 (LC 8)
Max Uplift 8=-31 (LC 12), 10=-87 (LC 13), 11=-71 (LC 13), 13=-67 (LC 12), 14=-91 (LC 12), 15=-15 (LC 13)
Max Grav 8=169 (LC 1), 10=195 (LC 20), 11=196 (LC 20), 12=144 (LC 21), 13=190 (LC 19), 14=207 (LC 19), 15=90 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-15=-71/42, 1-2=-73/38, 2-3=-70/110, 3-4=-109/188, 4-5=-109/189, 5-6=-85/111, 6-8=-119/74, 8-9=0/5
BOT CHORD 14-15=-62/83, 13-14=-62/83, 12-13=-62/83, 11-12=-62/83, 10-11=-62/83, 8-10=-62/83
WEBS 4-12=-104/8, 3-13=-153/157, 2-14=-159/181, 5-11=-157/148, 6-10=-151/172

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 Corner(3E) 0-1-4 to 5-1-4, Exterior(2N) 5-1-4 to 6-0-0, Corner(3R) 6-0-0 to 11-0-0, Exterior(2N) 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
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 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 15, 31 lb uplift at joint 8, 67 lb uplift at joint 13, 91 lb uplift at joint 14, 71 lb uplift at joint 11 and 87 lb uplift at joint 10.
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

STATE OF MISSOURI
NATHANIEL FOX
NUMBER
PE-2022042259
PROFESSIONAL ENGINEER
May 22,2024

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 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, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcscomponents.com)

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733288
P250365-01	E2	Common	1	1	Job Reference (optional)	

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

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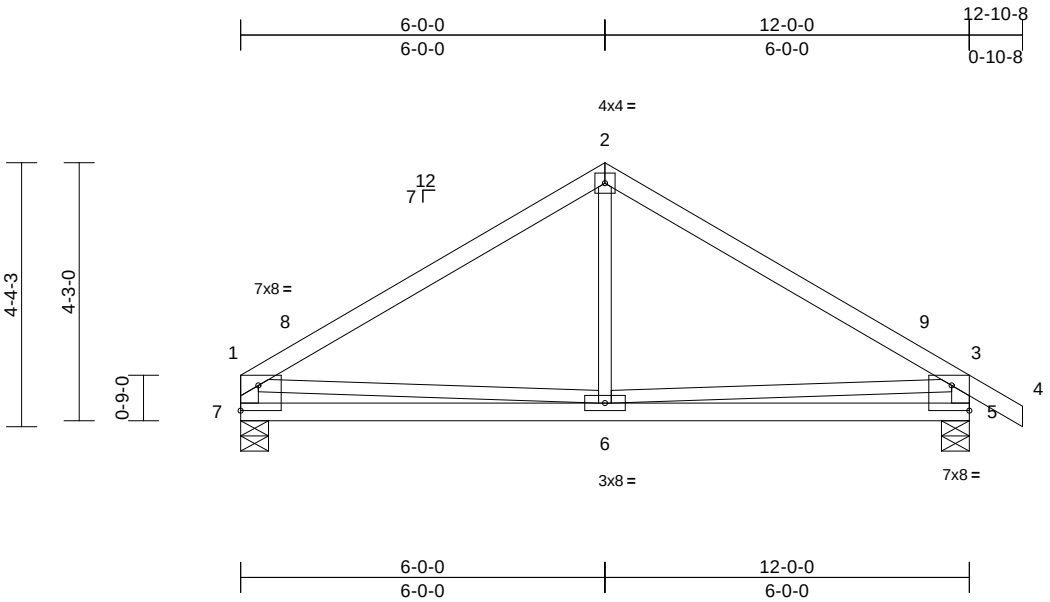

Scale = 1:37.9

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

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	0.55	Vert(LL)	-0.02	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.05	5-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 53 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-1,5-3:2x4 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) 5=0-5-8, 7=0-5-8
Max Horiz 7=-128 (LC 8)
Max Uplift 5=-102 (LC 13), 7=-75 (LC 12)
Max Grav 5=601 (LC 1), 7=524 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-608/150, 2-3=-615/154, 3-4=0/36, 1-7=-472/156, 3-5=-550/216
BOT CHORD 6-7=-153/388, 5-6=-179/393
WEBS 2-6=0/243, 1-6=-51/204, 3-6=-112/229

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 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
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 75 lb uplift at joint 7 and 102 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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	F1	Flat Girder	1	2	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65733289
05/13/2025

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

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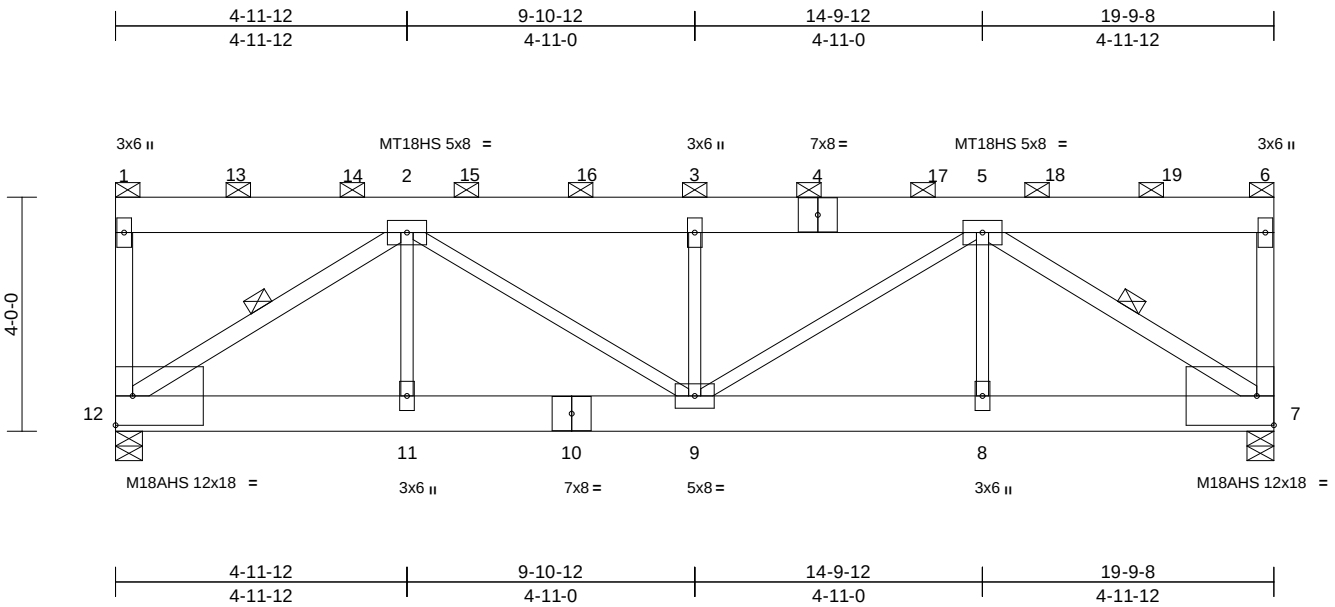

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.57	Vert(LL)	-0.12	9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.21	9	>999	180	M18AHS	142/136
BCLL	0.0	Rep Stress Incr	NO	WB	0.73	Horz(CT)	0.06	7	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 267 lb	FT = 20%

LUMBER
TOP CHORD 2x8 SPF No.2
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2 *Except* 1-12,6-7,5-7,12-2:2x4 SP No.2

BRACING
TOP CHORD 2-0-0 oc purlins (4-11-9 max.): 1-6, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-7, 2-12

REACTIONS (size) 7=0-5-8, 12=0-5-8
Max Horiz 12=-139 (LC 8)
Max Uplift 7=-1066 (LC 9), 12=-1274 (LC 8)
Max Grav 7=6618 (LC 1), 12=6455 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-943/441, 1-2=-110/92, 2-3=-10137/1855, 3-5=-10137/1855, 5-6=-114/92, 6-7=-1059/249
BOT CHORD 11-12=-1568/7832, 9-11=-1568/7832, 8-9=-1503/7809, 7-8=-1503/7809
WEBS 5-7=-9429/1756, 2-11=0/154, 2-12=-9463/1766, 2-9=-536/2801, 3-9=-3128/638, 5-9=-547/2829, 5-8=0/155

NOTES
1) 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, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
2) 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.
3) 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
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1274 lb uplift at joint 12 and 1066 lb uplift at joint 7.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 367 lb down and 232 lb up at 0-1-12, 1258 lb down and 189 lb up at 2-0-12, 1258 lb down and 189 lb up at 4-0-12, 1258 lb down and 189 lb up at 6-0-12, 1258 lb down and 189 lb up at 8-0-12, 1258 lb down and 189 lb up at 10-0-12, 1258 lb down and 189 lb up at 12-0-12, 1258 lb down and 189 lb up at 14-0-12, and 1258 lb down and 189 lb up at 16-0-12, and 1258 lb down and 189 lb up at 18-0-12 on top 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: 1-6=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 4=-1258, 3=-1258, 13=-1258, 14=-1258, 15=-1258, 16=-1258, 17=-1258, 18=-1258, 19=-1258

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V1	Valley	1	1	Job Reference (optional) I65733290

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

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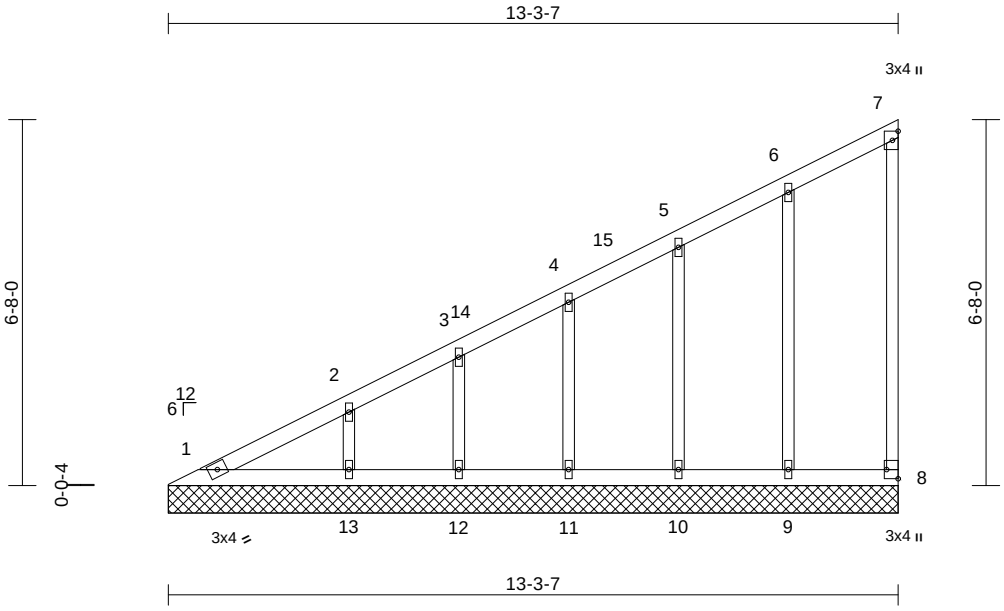

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Plate Offsets (X, Y): [8:Edge,0-2-8]

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	0.51	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 58 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) 1=13-3-7, 8=13-3-7, 9=13-3-7, 10=13-3-7, 11=13-3-7, 12=13-3-7, 13=13-3-7
Max Horiz 1=281 (LC 9)
Max Uplift 8=-37 (LC 9), 9=-67 (LC 12), 10=-58 (LC 12), 11=-64 (LC 12), 12=-53 (LC 12), 13=-86 (LC 12)
Max Grav 1=140 (LC 20), 8=72 (LC 19), 9=193 (LC 1), 10=177 (LC 1), 11=186 (LC 1), 12=156 (LC 1), 13=253 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-434/252, 2-3=-361/214, 3-4=-311/197, 4-5=-254/173, 5-6=-196/155, 6-7=-120/112, 7-8=-54/52
BOT CHORD 1-13=-127/138, 12-13=-127/138, 11-12=-127/138, 10-11=-127/138, 9-10=-127/138, 8-9=-127/138
WEBS 6-9=-149/166, 5-10=-138/111, 4-11=-144/104, 3-12=-124/97, 2-13=-190/153

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 13-2-11 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) 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) All plates are 1.5x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
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 37 lb uplift at joint 8, 67 lb uplift at joint 9, 58 lb uplift at joint 10, 64 lb uplift at joint 11, 53 lb uplift at joint 12 and 86 lb uplift at joint 13.
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

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733291
P250365-01	V2	Valley	1	1	Job Reference (optional)	

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

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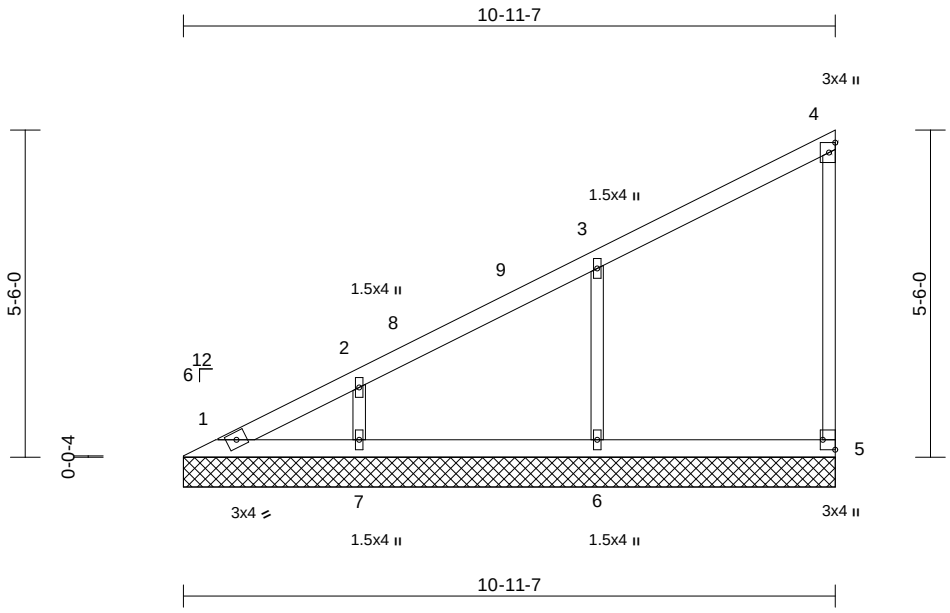

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Plate Offsets (X, Y): [5:Edge,0-2-8]

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	0.34	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 41 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) 1=10-11-7, 5=10-11-7, 6=10-11-7, 7=10-11-7
Max Horiz 1=229 (LC 9)
Max Uplift 5=-38 (LC 9), 6=-137 (LC 12), 7=-106 (LC 12)
Max Grav 1=107 (LC 20), 5=140 (LC 1), 6=403 (LC 1), 7=310 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-380/221, 2-3=-294/185, 3-4=-139/114, 4-5=-108/123
BOT CHORD 1-7=-103/114, 6-7=-103/114, 5-6=-103/114
WEBS 3-6=-314/298, 2-7=-239/225

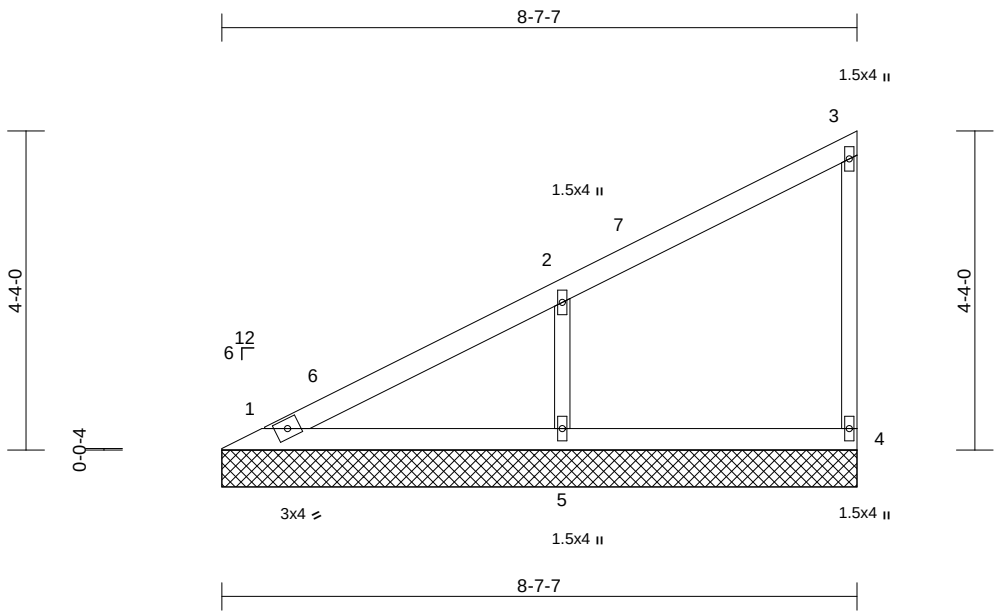
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 10-10-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) 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 38 lb uplift at joint 5, 137 lb uplift at joint 6 and 106 lb uplift at joint 7.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733292
P250365-01	V3	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	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 31 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) 1=8-7-7, 4=8-7-7, 5=8-7-7
Max Horiz 1=177 (LC 9)
Max Uplift 4=-31 (LC 9), 5=-151 (LC 12)
Max Grav 1=142 (LC 20), 4=130 (LC 1), 5=446 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-303/184, 2-3=-130/101, 3-4=-106/130
BOT CHORD 1-5=-82/89, 4-5=-82/89
WEBS 2-5=-346/343

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 8-6-11 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) 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 31 lb uplift at joint 4 and 151 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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V4	Valley	1	1	Job Reference (optional) I65733293

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

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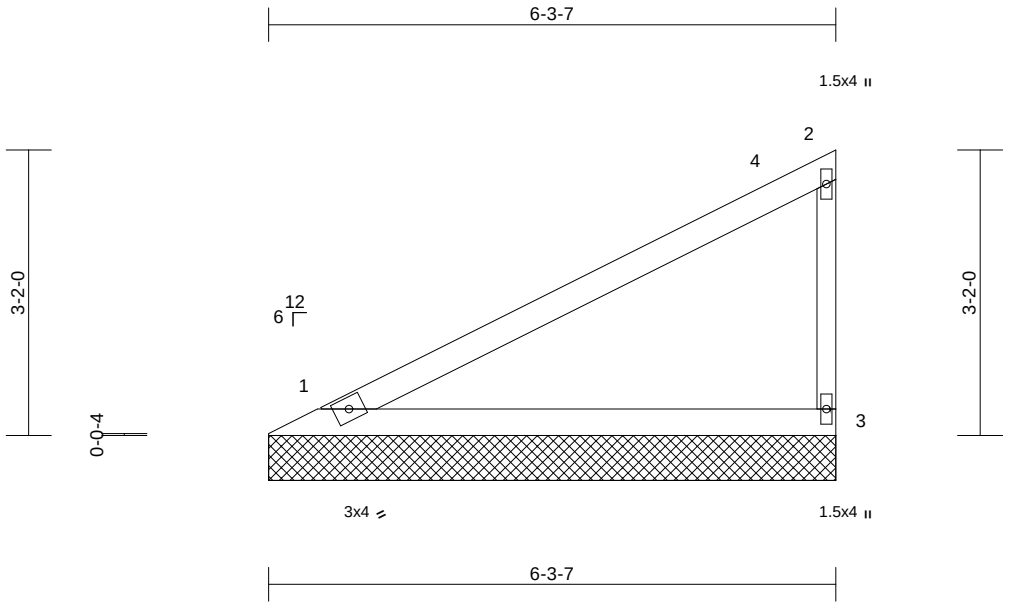

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.74	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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 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=6-3-7, 3=6-3-7
Max Horiz 1=125 (LC 9)
Max Uplift 1=-39 (LC 12), 3=-71 (LC 12)
Max Grav 1=252 (LC 1), 3=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-171/116, 2-3=-196/242
BOT CHORD 1-3=-58/63

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 6-2-11 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) 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 39 lb uplift at joint 1 and 71 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	
P250365-01	V5	Valley	1	1	Job Reference (optional)	I65733294

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/13/2025

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

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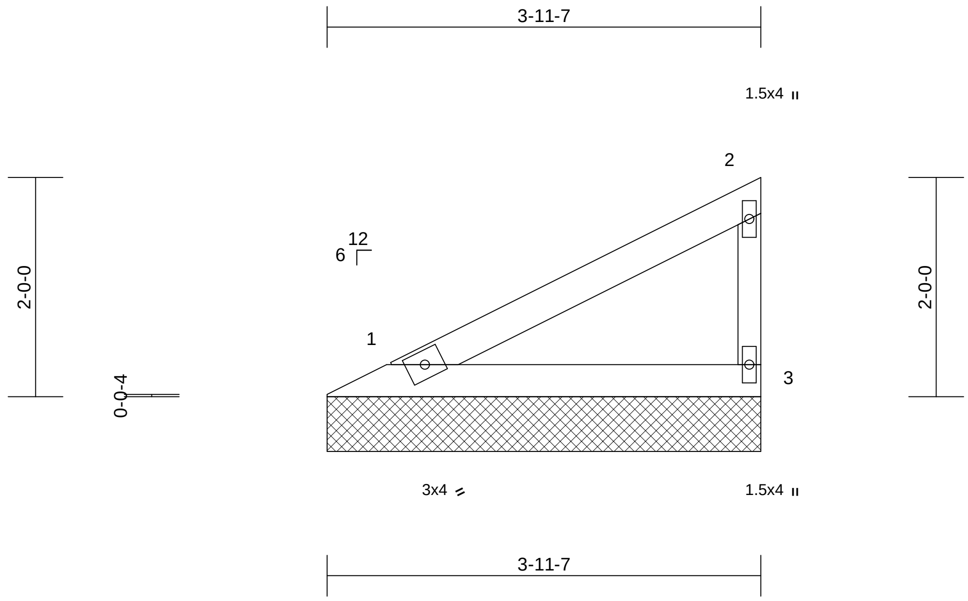

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 13 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 3-11-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-11-7, 3=3-11-7
Max Horiz 1=73 (LC 9)
Max Uplift 1=-23 (LC 12), 3=-41 (LC 12)
Max Grav 1=147 (LC 1), 3=147 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-103/69, 2-3=-114/148
BOT CHORD 1-3=-34/37

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 23 lb uplift at joint 1 and 41 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V6	Valley	1	1	I65733295 Job Reference (optional)

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

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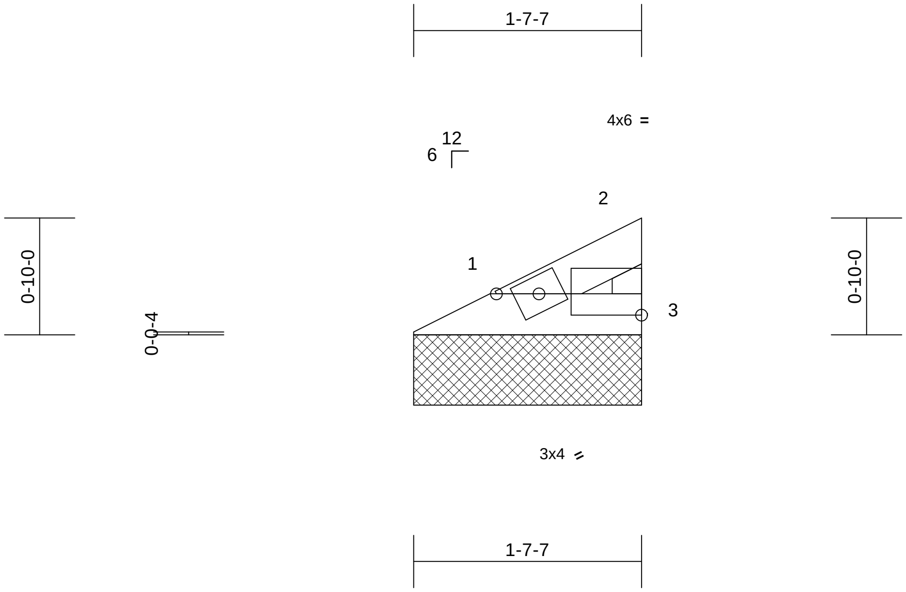

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Plate Offsets (X, Y): [2:Edge,0-1-13]

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	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 4 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 1-7-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=1-7-7, 3=1-7-7
Max Horiz 1=21 (LC 9)
Max Uplift 1=-6 (LC 12), 3=-12 (LC 12)
Max Grav 1=42 (LC 1), 3=42 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-30/20, 2-3=-32/42
BOT CHORD 1-3=-10/11

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 6 lb uplift at joint 1 and 12 lb uplift at joint 3.
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

May 22,2024

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V7	Valley	1	1	I65733296 Job Reference (optional)

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

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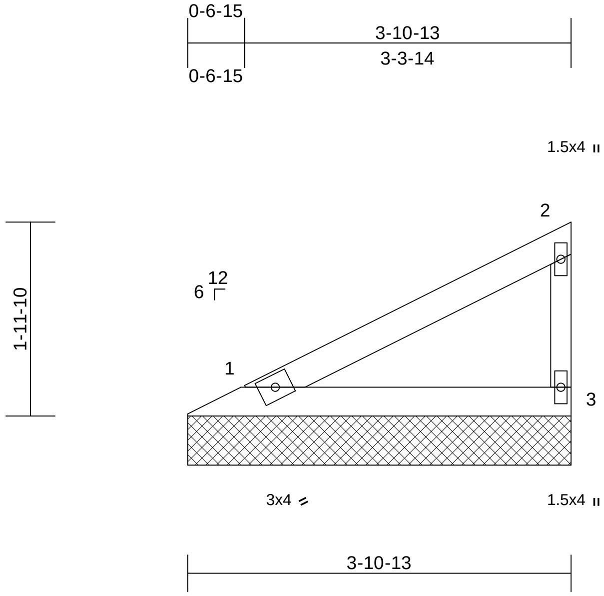

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-10-13, 3=3-10-13
Max Horiz 1=72 (LC 9)
Max Uplift 1=-22 (LC 12), 3=-41 (LC 12)
Max Grav 1=144 (LC 1), 3=144 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-101/68, 2-3=-112/145
BOT CHORD 1-3=-33/36

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 22 lb uplift at joint 1 and 41 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V8	Valley	1	1	Job Reference (optional) I65733297

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

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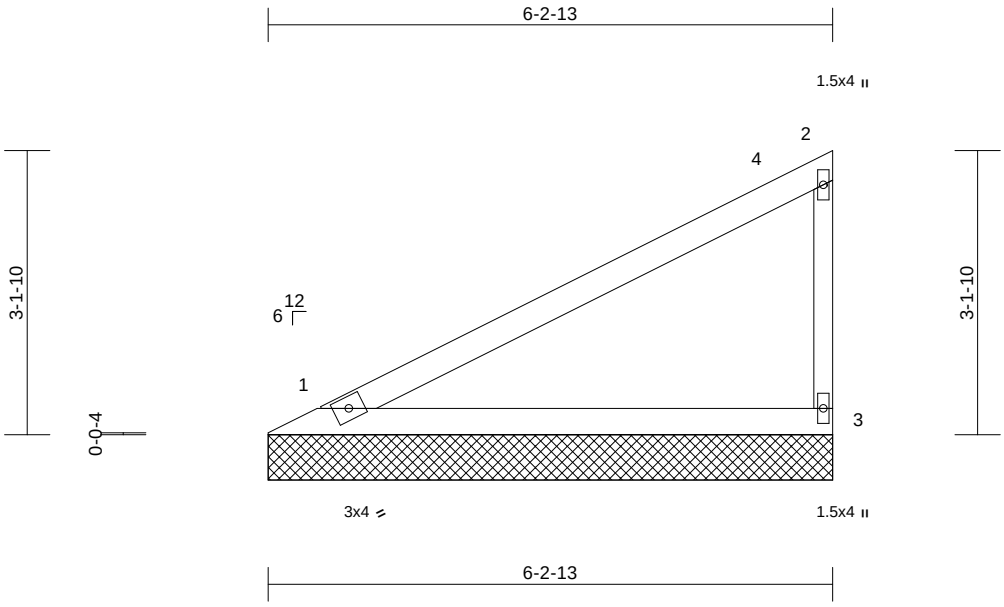

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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 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=6-2-13, 3=6-2-13
Max Horiz 1=124 (LC 9)
Max Uplift 1=-39 (LC 12), 3=-70 (LC 12)
Max Grav 1=249 (LC 1), 3=249 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-170/115, 2-3=-194/240
BOT CHORD 1-3=-57/62

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 6-2-1 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 39 lb uplift at joint 1 and 70 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733298
P250365-01	V9	Valley	1	1	Job Reference (optional)	

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/13/2025

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

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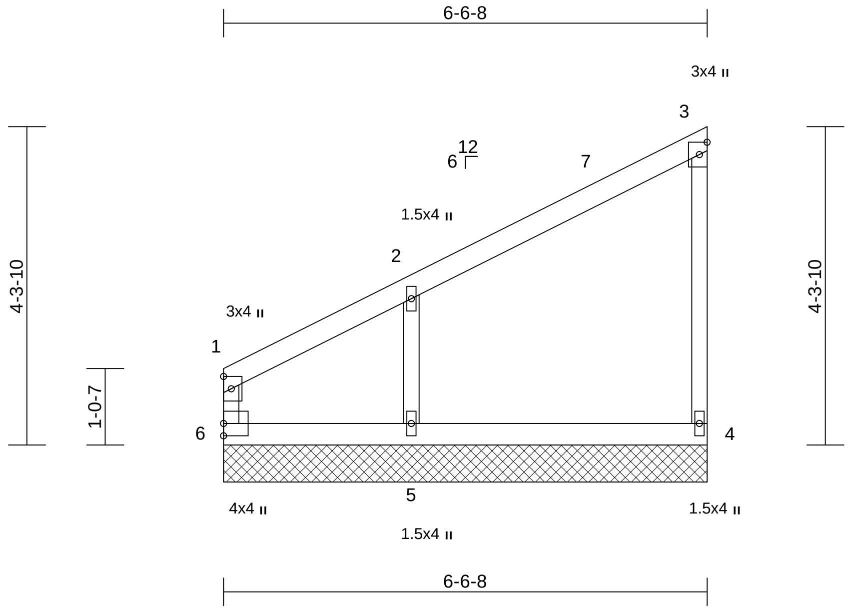

Scale = 1:31.1

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	0.31	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	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 26 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) 4=6-6-8, 5=6-6-8, 6=6-6-8
Max Horiz 6=173 (LC 9)
Max Uplift 4=-29 (LC 9), 5=-157 (LC 12), 6=-1 (LC 8)
Max Grav 4=147 (LC 1), 5=359 (LC 1), 6=115 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-143/69, 1-2=-311/184, 2-3=-129/97, 3-4=-113/143
BOT CHORD 5-6=-77/83, 4-5=-77/83
WEBS 2-5=-280/379

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) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 6-5-4 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) 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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 1 lb uplift at joint 6, 29 lb uplift at joint 4 and 157 lb uplift at joint 5.
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

May 22,2024

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V10	Valley	1	1	Job Reference (optional) I65733299

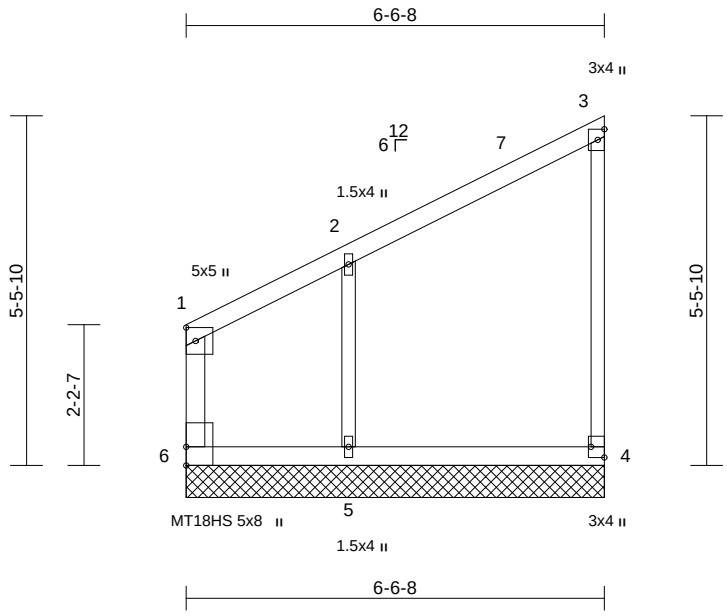

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Plate Offsets (X, Y): [4:Edge,0-2-8]

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	0.57	Vert(LL)	n/a	-	n/a	999	MT18HS	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.58	Vert(TL)	n/a	-	n/a	999	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 30 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 3-4:2x3 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) 4=6-6-8, 5=6-6-8, 6=6-6-8
Max Horiz 6=220 (LC 9)
Max Uplift 4=-31 (LC 9), 5=-186 (LC 12), 6=-36 (LC 8)
Max Grav 4=147 (LC 1), 5=357 (LC 1), 6=195 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-246/141, 1-2=-365/229, 2-3=-136/110, 3-4=-113/141
BOT CHORD 5-6=-104/109, 4-5=-104/109
WEBS 2-5=-335/482

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) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 6-5-4 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) 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) All plates are MT20 plates unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 4-0-0 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 6, 31 lb uplift at joint 4 and 186 lb uplift at joint 5.
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

May 22,2024

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V11	Valley	1	1	Job Reference (optional) I65733300

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

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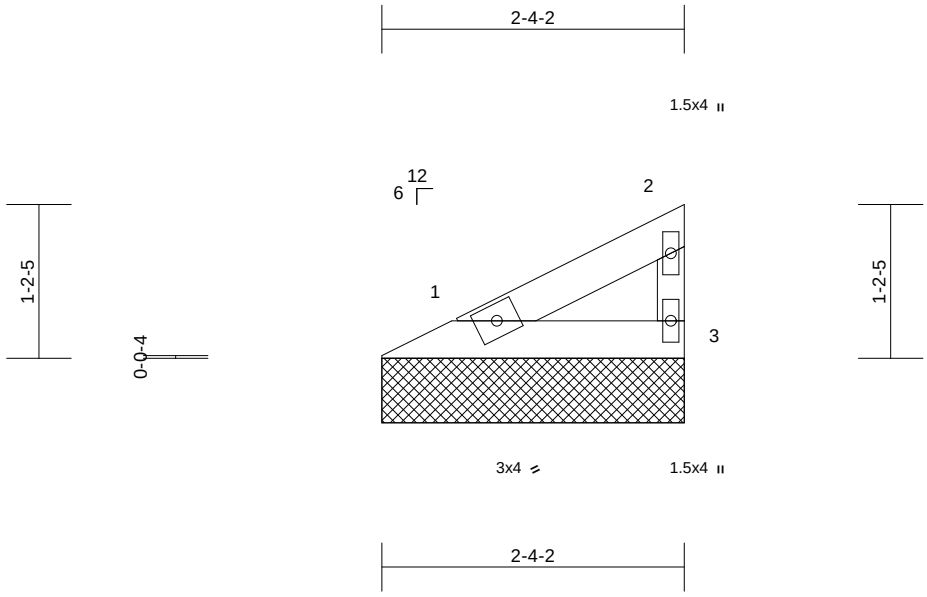

Scale = 1:17.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 7 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 2-4-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-4-2, 3=2-4-2
Max Horiz 1=37 (LC 9)
Max Uplift 1=-12 (LC 12), 3=-21 (LC 12)
Max Grav 1=74 (LC 1), 3=74 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-52/35, 2-3=-58/75
BOT CHORD 1-3=-17/19

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 12 lb uplift at joint 1 and 21 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
05/13/2025

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	
P250365-01	V12	Valley	1	1	Job Reference (optional)	I65733301

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

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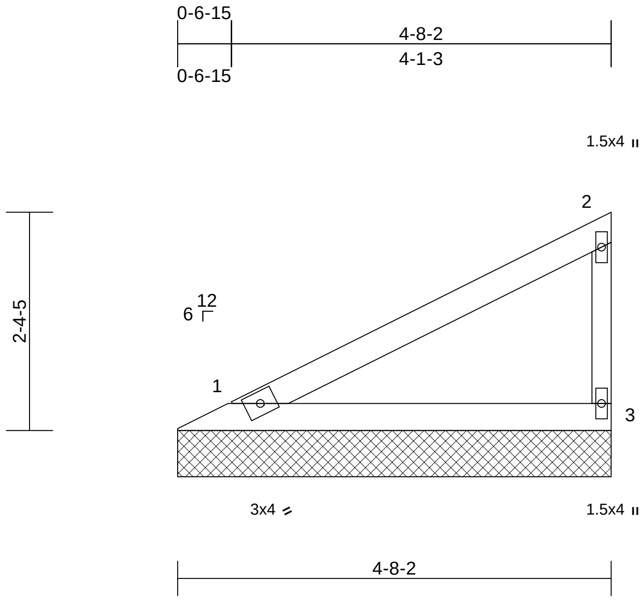

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 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 4-8-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-8-2, 3=4-8-2
Max Horiz 1=89 (LC 9)
Max Uplift 1=-28 (LC 12), 3=-50 (LC 12)
Max Grav 1=179 (LC 1), 3=179 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-126/85, 2-3=-139/180
BOT CHORD 1-3=-41/45

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 28 lb uplift at joint 1 and 50 lb uplift at joint 3.
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

May 22,2024

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V13	Valley	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I65733302
05/13/2025

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

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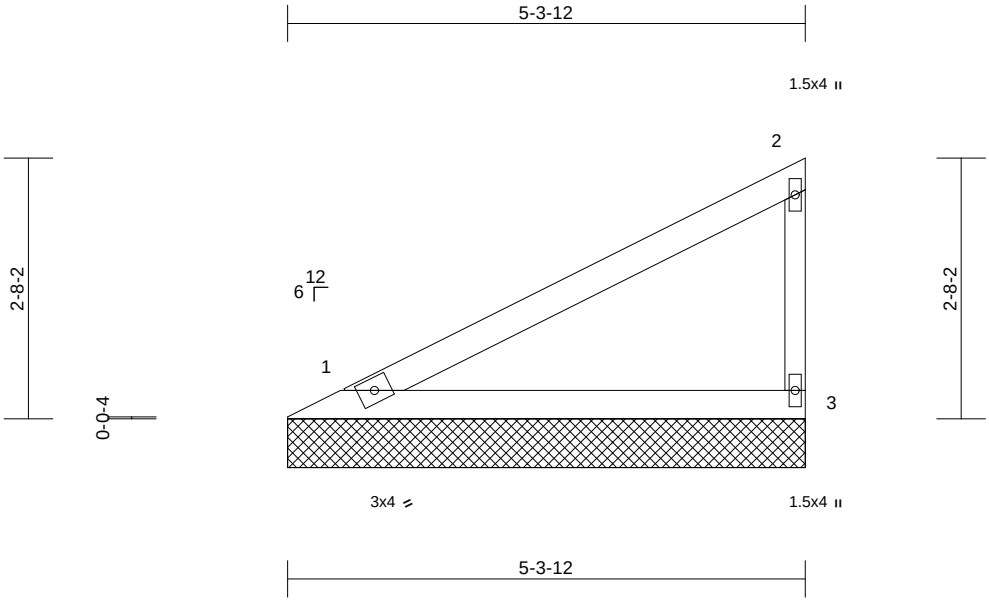

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.49	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

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

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

REACTIONS (size) 1=5-3-12, 3=5-3-12
Max Horiz 1=103 (LC 9)
Max Uplift 1=-32 (LC 12), 3=-58 (LC 12)
Max Grav 1=208 (LC 1), 3=208 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-145/97, 2-3=-162/207
BOT CHORD 1-3=-48/52

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 32 lb uplift at joint 1 and 58 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V14	Valley	1	1	Job Reference (optional) I65733303

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

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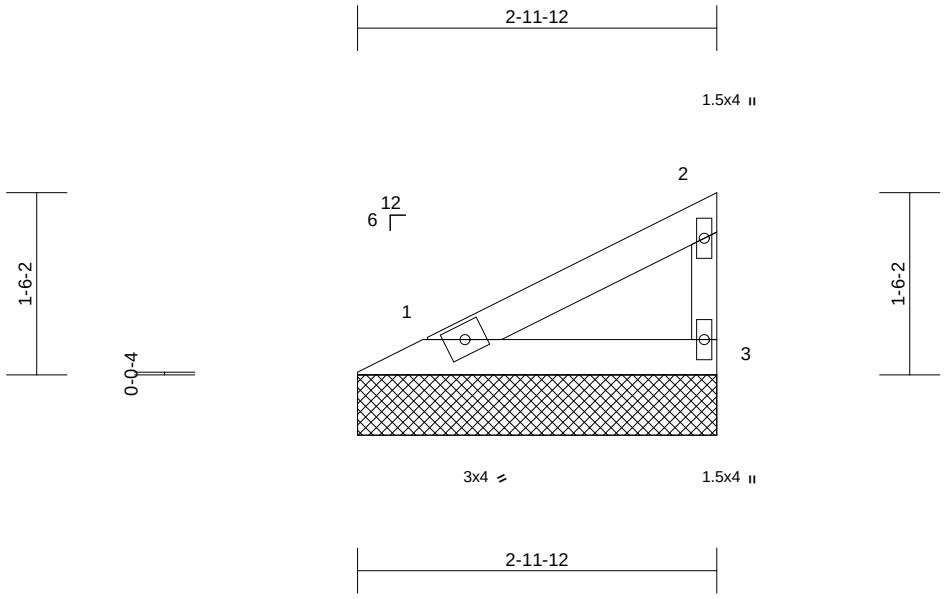

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	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
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-0-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-11-12, 3=2-11-12
Max Horiz 1=51 (LC 9)
Max Uplift 1=-16 (LC 12), 3=-29 (LC 12)
Max Grav 1=103 (LC 1), 3=103 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-72/49, 2-3=-80/104
BOT CHORD 1-3=-24/26

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 16 lb uplift at joint 1 and 29 lb uplift at joint 3.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733304
P250365-01	V15	Valley	1	1	Job Reference (optional)	

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

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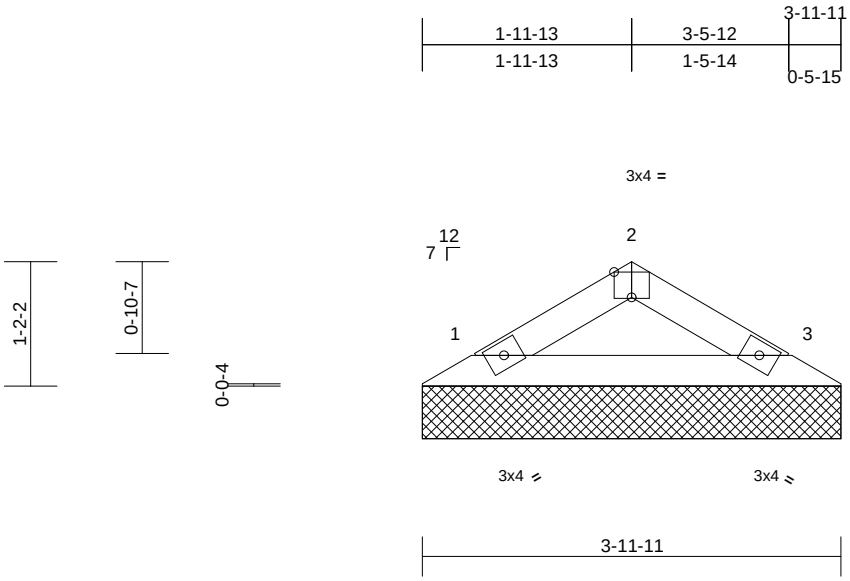

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Plate Offsets (X, Y): [2:0-2-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 11 lb	FT = 20%

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

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

REACTIONS (size) 1=3-11-11, 3=3-11-11
Max Horiz 1=-24 (LC 10)
Max Uplift 1=-20 (LC 12), 3=-20 (LC 13)
Max Grav 1=133 (LC 1), 3=133 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-124/87, 2-3=-124/87
BOT CHORD 1-3=-43/89

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/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) 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 20 lb uplift at joint 1 and 20 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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V16	Valley	1	1	Job Reference (optional) I65733305

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

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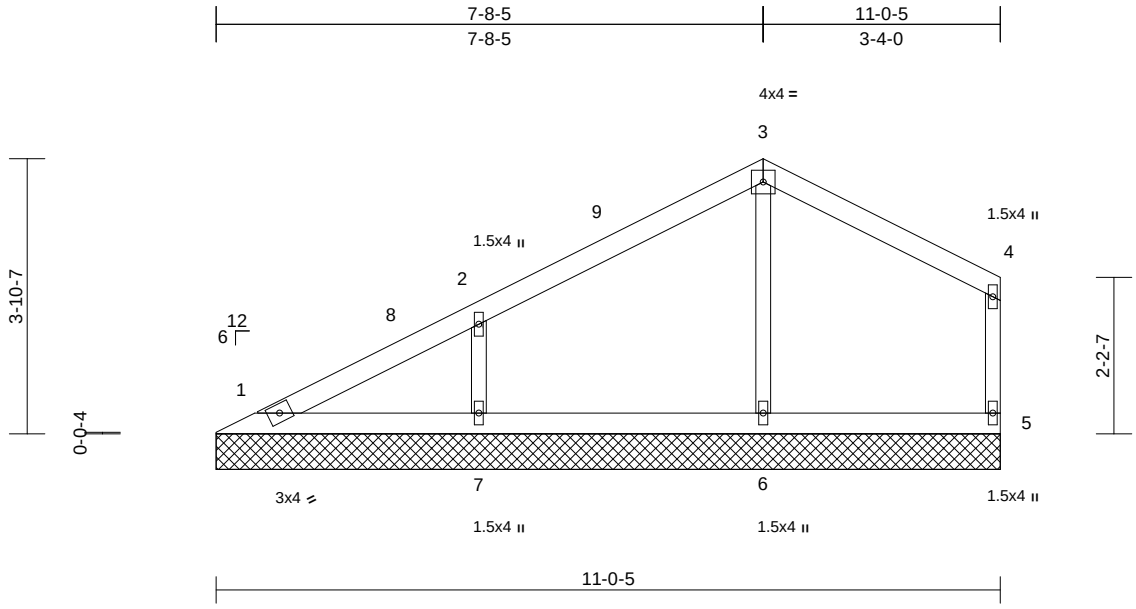

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 39 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) 1=11-0-5, 5=11-0-5, 6=11-0-5, 7=11-0-5
Max Horiz 1=109 (LC 9)
Max Uplift 1=-2 (LC 8), 5=-46 (LC 13), 6=-2 (LC 12), 7=-134 (LC 12)
Max Grav 1=106 (LC 20), 5=143 (LC 26), 6=315 (LC 1), 7=380 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-146/77, 2-3=-102/120, 3-4=-86/116, 4-5=-116/120
BOT CHORD 1-7=-36/40, 6-7=-36/40, 5-6=-36/40
WEBS 3-6=-238/176, 2-7=-297/295

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) 0-7-9 to 5-7-9, Interior (1) 5-7-9 to 7-8-13, Exterior(2E) 7-8-13 to 10-11-9 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) 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 2 lb uplift at joint 1, 46 lb uplift at joint 5, 2 lb uplift at joint 6 and 134 lb uplift at joint 7.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170
P250365-01	V17	Valley	1	1	Job Reference (optional) I65733306

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

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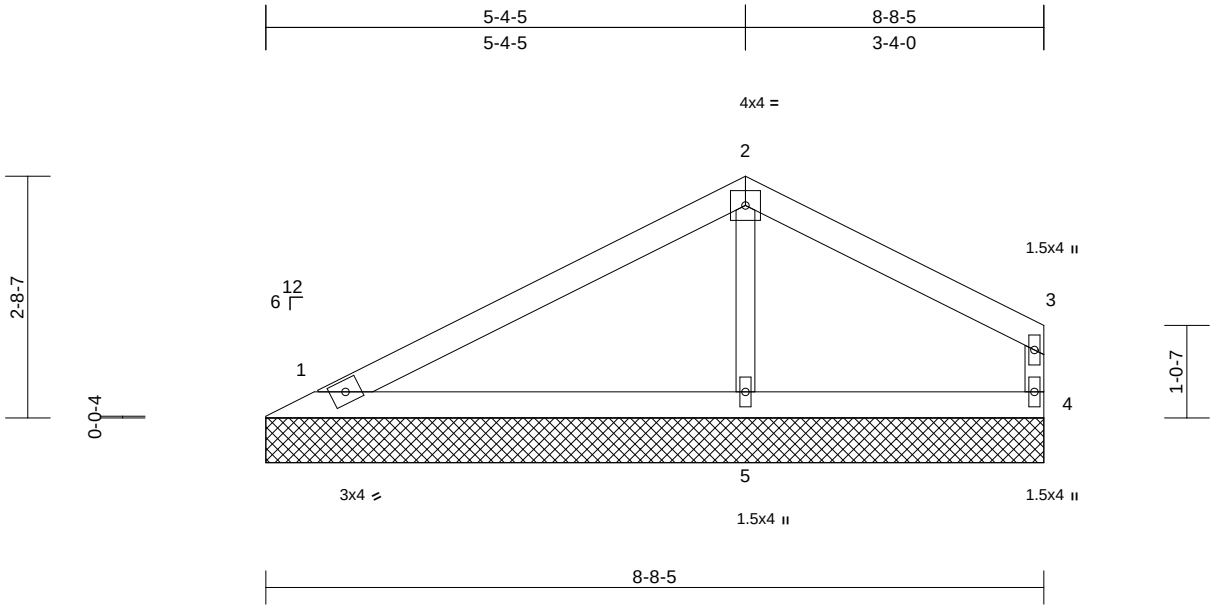

Scale = 1:25.7

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	0.52	Vert(LL)	n/a	-	n/a	999	MT20	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	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 29 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 8-8-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=8-8-5, 4=8-8-5, 5=8-8-5
Max Horiz 1=57 (LC 9)
Max Uplift 1=-51 (LC 12), 4=-55 (LC 13), 5=-22 (LC 12)
Max Grav 1=205 (LC 1), 4=132 (LC 1), 5=383 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-73/71, 2-3=-52/85, 3-4=-113/121
BOT CHORD 1-5=-16/17, 4-5=-16/17
WEBS 2-5=-280/222

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/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) 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 51 lb uplift at joint 1, 55 lb uplift at joint 4 and 22 lb uplift at joint 5.
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

May 22,2024

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - BY Lot 0170	I65733307
P250365-01	V18	Valley	1	1	Job Reference (optional)	

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

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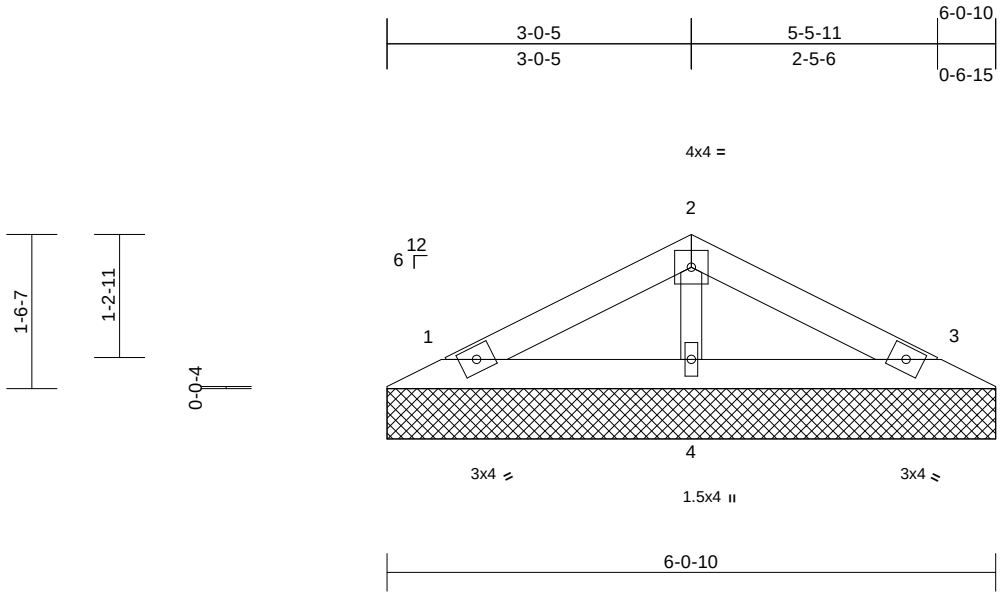

Scale = 1:22.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 18 lb	FT = 20%

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

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=6-0-10, 3=6-0-10, 4=6-0-10
Max Horiz 1=23 (LC 12)
Max Uplift 1=-30 (LC 12), 3=-34 (LC 13), 4=-7 (LC 12)
Max Grav 1=115 (LC 1), 3=115 (LC 1), 4=210 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-55/45, 2-3=-55/52
BOT CHORD 1-4=-1/25, 3-4=-1/25
WEBS 2-4=-149/134

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/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) 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 30 lb uplift at joint 1, 34 lb uplift at joint 3 and 7 lb uplift at joint 4.
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

May 22,2024

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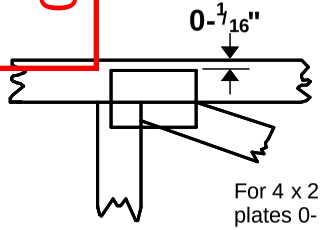
Symbols

PLATE LOCATION AND ORIENTATION

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



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

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

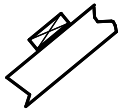
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

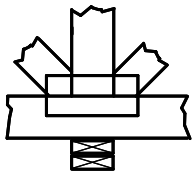
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

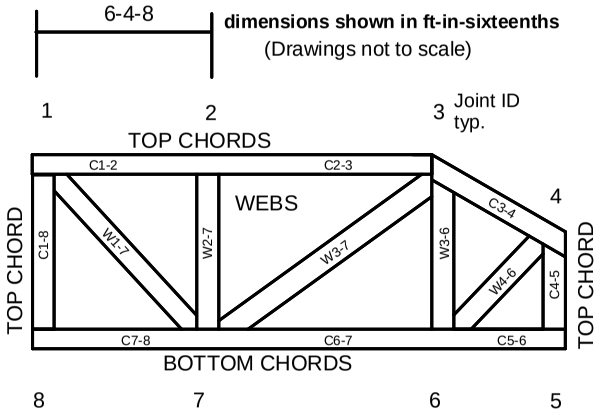


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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.

MiTek®

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.