MiTek®

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

RE: P240960 -

Site Information:

Project Customer: Clayton Properties Project Name: Wildflower - Transitional 3Car
Lot/Block: 197 Subdivision: Hawthorne Ridge
Model:
Address: 3215 SW Arbor Sound Dr
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014
Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 115 mph
Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Roof Load: 45.0 psf
Floor Load: N/A psf

Mean Roof Height (feet): 35
Exposure Category: C

No.	Seal#	Truss Name	Date
1	I68266273	A1	9/17/24
2	I68266274	A2	9/17/24
3	I68266275	A3	9/17/24
4	I68266276	A4	9/17/24
5	I68266277	A5	9/17/24
6	I68266278	B1	9/17/24
7	I68266279	C1	9/17/24
8	I68266280	C2	9/17/24
9	I68266281	C3	9/17/24
10	I68266282	C4	9/17/24
11	I68266283	CG1	9/17/24
12	I68266284	J1	9/17/24
13	I68266285	J2	9/17/24
14	I68266286	LG01	9/17/24
15	I68266287	V1	9/17/24
16	I68266288	V2	9/17/24
17	I68266289	V3	9/17/24
18	I68266290	V4	9/17/24
19	I68266291	V5	9/17/24

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

Truss Design Engineer's Name: Sevier, Scott
My license renewal date for the state of Missouri is December 31, 2025.

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

September 17,2024

Sevier, Scott

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/08/2024

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
P240960	A1	Roof Special Structural Gable	1	1	I68266273

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

Run: 8.63 E Apr 26 2024 Print: 8.630 E Apr 26 2024 MiTek Industries, Inc. Tue Sep 17 09:53:57 Page: 1
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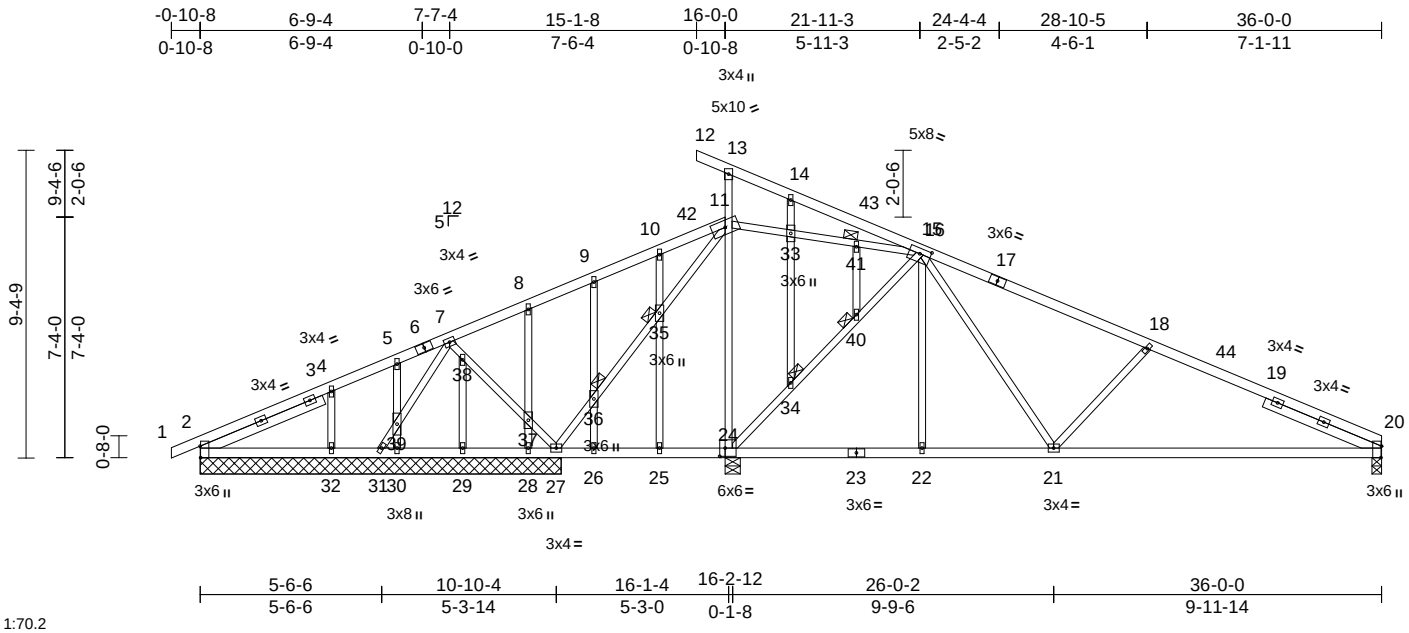

Scale = 1:70.2

Plate Offsets (X, Y): [2:0-4-3,Edge], [15:0-4-0,0-2-0], [20:0-4-3,Edge], [24:0-2-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	-0.26	20-21	>908	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.54	20-21	>445	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.59	Horz(CT)	0.02	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 197 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 -- 4-0-10, Right 2x4 SP No.2 -- 3-10-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-9 oc purlins, except end verticals.
Except:
6-0-0 oc bracing: 11-13
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 22-24,21-22
2-2-0 oc bracing: 20-21.
JOINTS 1 Brace at Jt(s): 34, 35, 36, 40, 41

REACTIONS All bearings 11-0-0. except 20=0-3-8, 24=0-5-8 (lb) - Max Horiz 2=-147 (LC 17)
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 28, 29, 30, 32 except 20=-155 (LC 13), 24=-247 (LC 13), 27=-225 (LC 12), 31=-225 (LC 28)
Max Grav All reactions 250 (lb) or less at joint (s) 2, 28, 29, 30, 31 except 20=777 (LC 28), 24=1558 (LC 2), 27=550 (LC 1), 32=360 (LC 2)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 7-8=-56/428, 8-9=-6/407, 9-10=0/420, 10-42=0/414, 11-42=0/441, 11-24=-534/127, 16-17=-762/229, 17-18=-865/215, 18-44=-1018/292, 19-44=-1081/276, 19-20=-1162/270
BOT CHORD 26-27=-395/264, 25-26=-395/264, 24-25=-395/264, 23-24=0/343, 22-23=0/343, 21-22=0/340, 20-21=-177/998
WEBS 11-33=0/419, 33-41=0/398, 15-41=0/407, 24-34=-1062/275, 34-40=-1024/256, 16-40=-986/228, 15-16=-3/344, 16-21=-127/743, 18-21=-499/285

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-0-0, Interior (1) 4-0-0 to 16-1-4, Exterior(2E) 15-1-8 to 20-1-8, Interior (1) 20-1-8 to 36-0-0 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 28, 29, 30, 32 except (jt=lb) 20=155, 27=225, 31=224, 24=247.
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

September 17,2024

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Chesterfield, MO 63017
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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/08/2024

Job	Truss	Truss Type	Qty	Ply		
P240960	A2	Roof Special	2	1	Job Reference (optional)	I68266274

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

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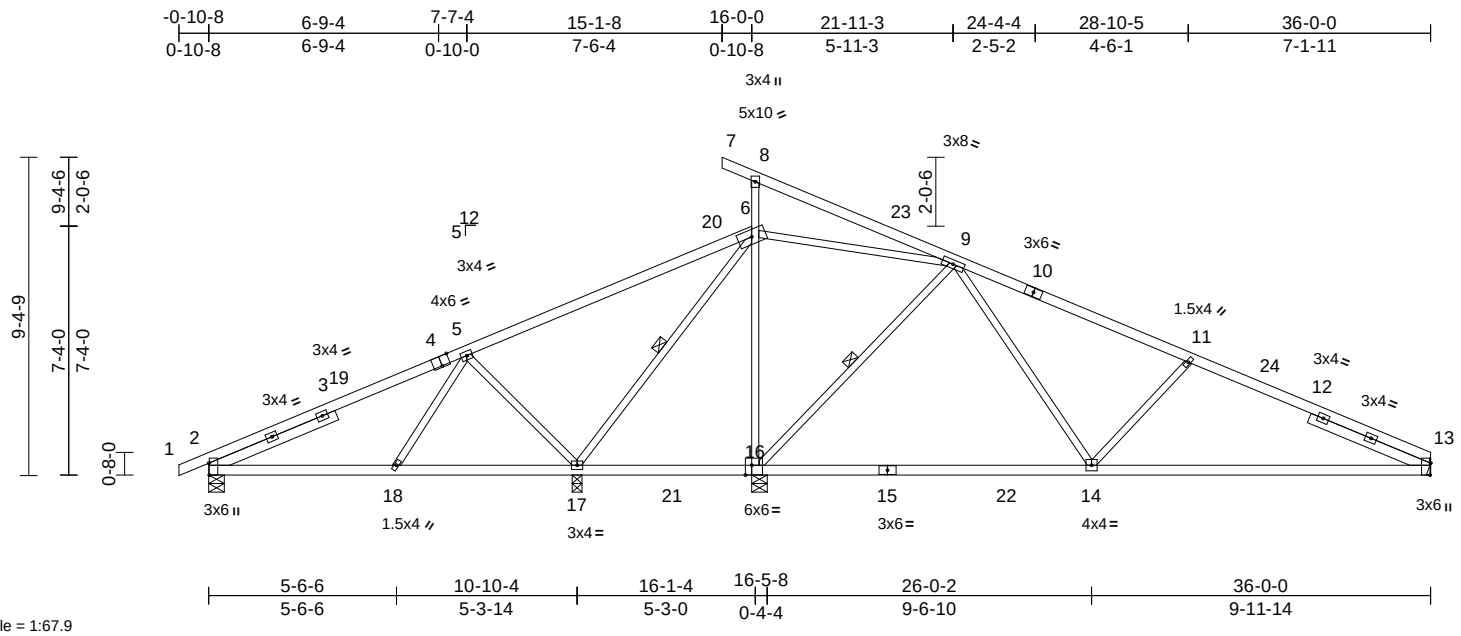

Scale = 1:67.9

Plate Offsets (X, Y): [2:0-4-3,Edge], [4:0-3-0,Edge], [13:0-4-3,Edge], [16:0-2-4,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	0.95	Vert(LL)	-0.25	14-16	>944	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.42	13-14	>569	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.02	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 168 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-4,10-13:2x4 SP No.2
BOT CHORD 2x4 SP 1650F 1.5E *Except* 16-15:2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 4-0-10, Right 2x4 SP No.2 -- 3-10-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-9-2 oc purlins, except end verticals.
Except:
6-0-0 oc bracing: 6-8
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 6-17, 9-16

REACTIONS All bearings 0-5-8. except 17=0-3-8, 13= Mechanical
(lb) - Max Horiz 2=-149 (LC 17)
Max Uplift All uplift 100 (lb) or less at joint(s) except 2=-118 (LC 12), 13=-184 (LC 13), 16=-208 (LC 13), 17=-180 (LC 12)
Max Grav All reactions 250 (lb) or less at joint (s) except 2=484 (LC 25), 13=793 (LC 28), 16=1649 (LC 2), 17=671 (LC 27)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-485/163, 3-19=-395/168, 4-19=-309/183, 4-5=-288/187, 5-20=0/419, 6-20=0/489, 6-16=-633/169, 6-8=-268/217, 9-10=-791/291, 10-11=-929/275, 11-24=-1071/348, 12-24=-1135/331, 12-13=-1227/326
BOT CHORD 2-18=-133/373, 17-18=-171/290, 17-21=-355/186, 16-21=-355/186, 15-16=-1/372, 15-22=-1/372, 14-22=-1/372, 13-14=-227/1048
WEBS 5-18=0/291, 5-17=-725/310, 6-9=0/368, 9-16=-996/274, 9-14=-84/834, 11-14=-466/269

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=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 16-1-4, Exterior(2E) 15-1-8 to 20-1-8, Interior (1) 20-1-8 to 36-0-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 117 lb uplift at joint 2, 179 lb uplift at joint 17, 183 lb uplift at joint 13 and 208 lb uplift at joint 16.
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

September 17,2024

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Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply	
P240960	A3	Common	8	1	I68266275 Job Reference (optional)

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

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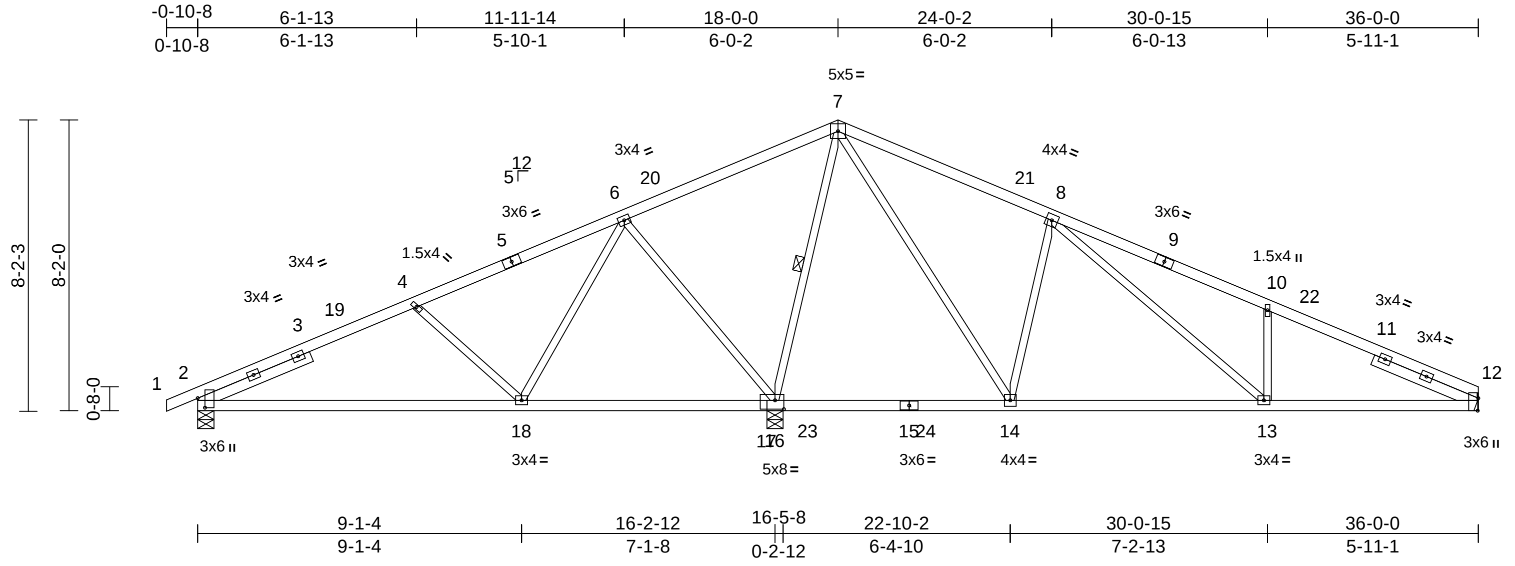

Scale = 1:64.8

Plate Offsets (X, Y): [2:0-3-3,0-2-7], [12:0-4-3,Edge], [17:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.17	2-18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.35	2-18	>560	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.02	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 163 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-5-1, Right 2x4 SP No.2 -- 3-2-2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 7-16

REACTIONS (size) 2=0-5-8, 12= Mechanical, 16=0-5-8
Max Horiz 2=148 (LC 12)
Max Uplift 2=-137 (LC 12), 12=-173 (LC 13), 16=-251 (LC 12)
Max Grav 2=620 (LC 25), 12=741 (LC 28), 16=2181 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-762/200, 4-6=-434/132, 6-7=0/693, 7-8=-460/294, 8-10=-1221/421, 10-12=-1237/305
BOT CHORD 2-18=-250/631, 16-18=-215/172, 14-16=-286/172, 13-14=-31/487, 12-13=-199/1060
WEBS 7-16=-1358/208, 4-18=-426/233, 6-18=-61/631, 6-16=-783/284, 8-14=-692/315, 7-14=-261/1035, 8-13=-224/811, 10-13=-374/230

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 18-0-0, Exterior(2R) 18-0-0 to 23-0-0, Interior (1) 23-0-0 to 36-0-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Bearings are assumed to be: Joint 2 SP No.2 crushing capacity of 565 psi, Joint 16 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 137 lb uplift at joint 2, 251 lb uplift at joint 16 and 173 lb uplift at joint 12.
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

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply	I68266276
P240960	A4	Common	18	1	Job Reference (optional)

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

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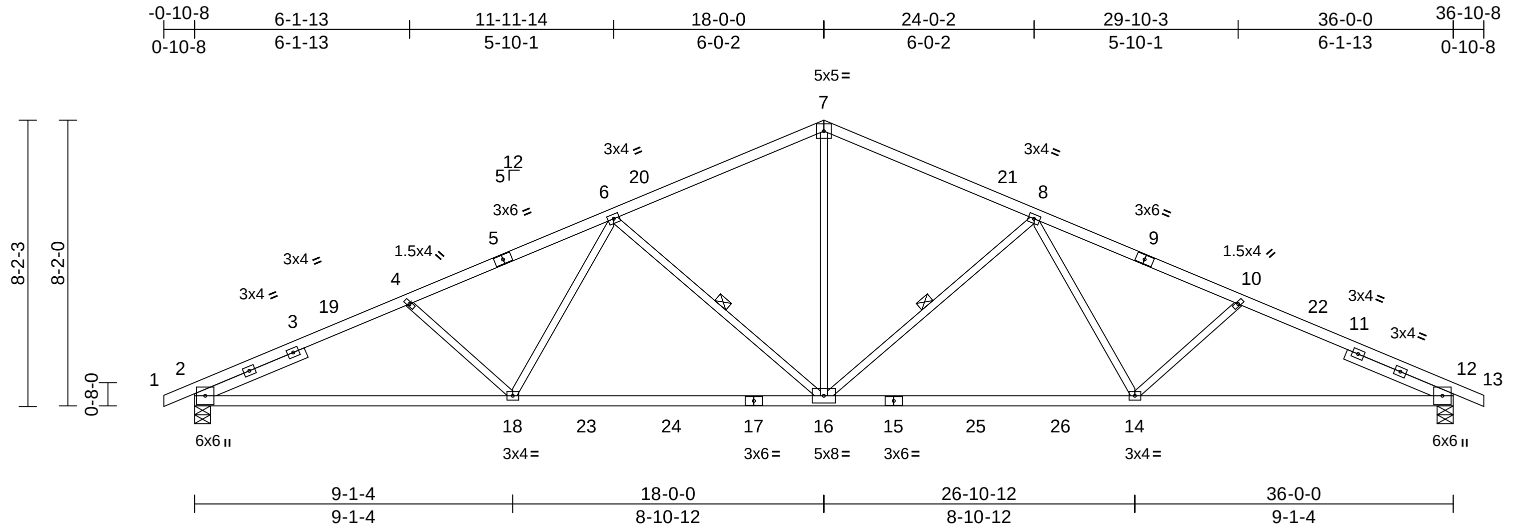

Scale = 1:65.9

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

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	0.63	Vert(LL)	-0.31	14-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.53	14-16	>808	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.15	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 159 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 1-5,9-13:2x4 SP 1650F 1.5E

BOT CHORD 2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2

SLIDER Left 2x4 SP No.2 -- 3-5-1, Right 2x4 SP No.2 -- 3-3-9

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-7-11 oc purlins.

BOT CHORD Rigid ceiling directly applied or 9-9-0 oc bracing.

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

REACTIONS (size) 2=0-5-8, 12=0-5-8

Max Horiz 2=148 (LC 12)

Max Uplift 2=-275 (LC 12), 12=-275 (LC 13)

Max Grav 2=1752 (LC 2), 12=1752 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-3328/512, 4-6=-3103/471, 6-7=-2247/433, 7-8=-2247/433, 8-10=-3102/471, 10-12=-3326/512, 12-13=0/0

BOT CHORD 2-18=-530/2942, 16-18=-360/2581, 14-16=-289/2581, 12-14=-383/2941

WEBS 7-16=-156/1367, 4-18=-273/212, 6-18=-33/542, 6-16=-790/287, 8-16=-791/287, 8-14=-33/541, 10-14=-272/212

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 18-0-0, Exterior(2R) 18-0-0 to 23-0-0, Interior (1) 23-0-0 to 36-10-8 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) All bearings are assumed to be SP 1650F 1.5E crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 275 lb uplift at joint 2 and 275 lb uplift at joint 12.
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

September 17,2024

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Job	Truss	Truss Type	Qty	Ply		
P240960	A5	Common Supported Gable	1	1	Job Reference (optional)	I68266277

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

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Tue Sep 17 09:38:03 Page: 1
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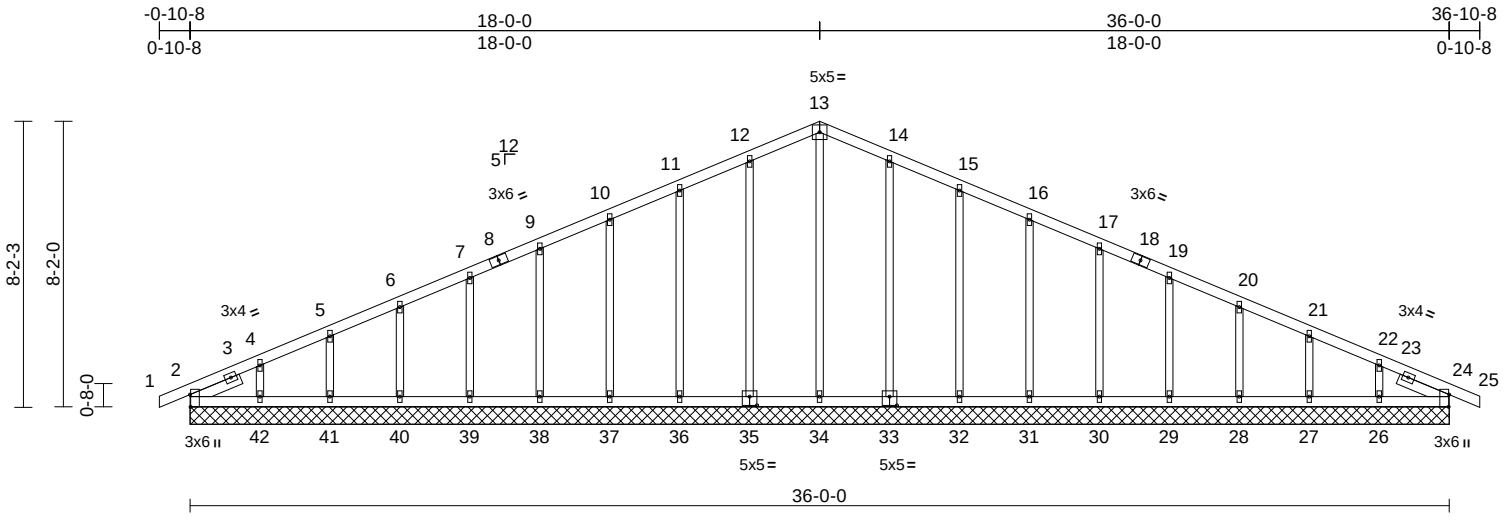

Scale = 1:65.9

Plate Offsets (X, Y): [2:0-4-3,Edge], [24:0-4-3,Edge], [33:0-2-8,0-3-0], [35:0-2-8,0-3-0]

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
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	0.22	Horz(CT)	0.01	24	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 176 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=36-0-0, 24=36-0-0, 26=36-0-0, 27=36-0-0, 28=36-0-0, 29=36-0-0, 30=36-0-0, 31=36-0-0, 32=36-0-0, 33=36-0-0, 34=36-0-0, 35=36-0-0, 36=36-0-0, 37=36-0-0, 38=36-0-0, 39=36-0-0, 40=36-0-0, 41=36-0-0, 42=36-0-0
Max Horiz 2=148 (LC 16)
Max Uplift 2=-27 (LC 13), 24=-3 (LC 9), 26=-80 (LC 13), 27=-52 (LC 13), 28=-55 (LC 13), 29=-54 (LC 13), 30=-55 (LC 13), 31=-54 (LC 13), 32=-58 (LC 13), 33=-50 (LC 13), 35=-52 (LC 12), 36=-57 (LC 12), 37=-54 (LC 12), 38=-55 (LC 12), 39=-54 (LC 12), 40=-55 (LC 12), 41=-51 (LC 12), 42=-93 (LC 12)
Max Grav 2=160 (LC 1), 24=160 (LC 1), 26=178 (LC 26), 27=182 (LC 1), 28=180 (LC 26), 29=180 (LC 1), 30=180 (LC 26), 31=180 (LC 1), 32=179 (LC 26), 33=189 (LC 26), 34=185 (LC 22), 35=189 (LC 25), 36=179 (LC 25), 37=180 (LC 1), 38=180 (LC 25), 39=180 (LC 1), 40=180 (LC 25), 41=182 (LC 1), 42=178 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-196/72, 4-5=-135/78, 5-6=-102/90, 6-7=-81/111, 7-9=-60/133, 9-10=-58/156, 10-11=-73/194, 11-12=-88/239, 12-13=-103/279, 13-14=-103/279, 14-15=-88/239, 15-16=-73/194, 16-17=-58/151, 17-19=-43/107, 19-20=-43/63, 20-21=-53/25, 21-22=-73/18, 22-24=-126/38, 24-25=0/0
BOT CHORD 2-42=-38/146, 41-42=-38/146, 40-41=-38/146, 39-40=-38/146, 38-39=-38/146, 37-38=-38/146, 36-37=-38/146, 34-36=-38/146, 32-34=-38/146, 31-32=-38/146, 30-31=-38/146, 29-30=-38/146, 28-29=-38/146, 27-28=-38/146, 26-27=-38/146, 24-26=-38/146
WEBS 13-34=-145/13, 12-35=-149/82, 11-36=-139/94, 10-37=-140/88, 9-38=-140/89, 7-39=-140/90, 6-40=-139/89, 5-41=-142/112, 4-42=-135/166, 14-33=-149/82, 15-32=-139/94, 16-31=-140/88, 17-30=-140/89, 19-29=-140/90, 20-28=-139/89, 21-27=-142/113, 22-26=-135/163

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 18-0-0, Corner(3R) 18-0-0 to 23-0-0, Exterior(2N) 23-0-0 to 36-10-8 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

September 17,2024

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply		
P240960	A5	Common Supported Gable	1	1	Job Reference (optional)	I68266277

10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 2, 52 lb uplift at joint 35, 57 lb uplift at joint 36, 54 lb uplift at joint 37, 55 lb uplift at joint 38, 54 lb uplift at joint 39, 55 lb uplift at joint 40, 51 lb uplift at joint 41, 93 lb uplift at joint 42, 50 lb uplift at joint 33, 58 lb uplift at joint 32, 54 lb uplift at joint 31, 55 lb uplift at joint 30, 54 lb uplift at joint 29, 55 lb uplift at joint 28, 52 lb uplift at joint 27, 80 lb uplift at joint 26 and 3 lb uplift at joint 24.
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

Job	Truss	Truss Type	Qty	Ply		
P240960	B1	Roof Special Supported Gable	1	1	Job Reference (optional)	I68266278

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

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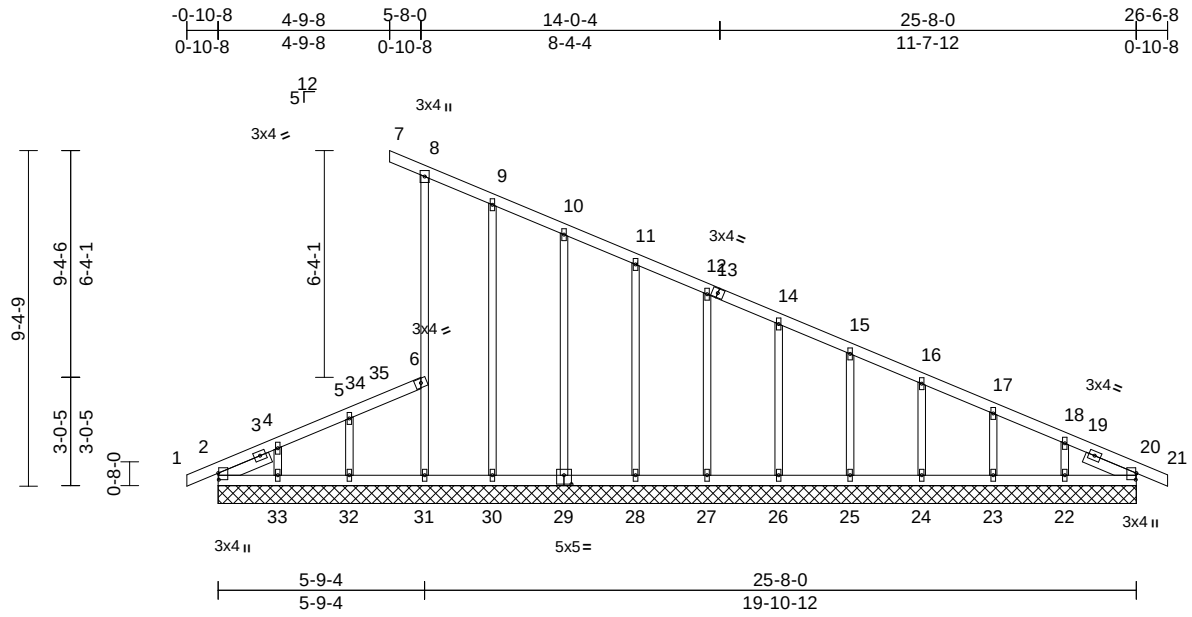

Scale = 1:64.4

Plate Offsets (X, Y): [2:0-2-3,0-0-3], [20:0-2-3,0-0-3], [29:0-2-8,0-3-0]

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	0.41	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.01	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 129 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 -- 1-6-8, Right 2x4 SP No.2 -- 1-6-7

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
Except:
6-0-0 oc bracing: 6-8
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 2-33,32-33,31-32.

REACTIONS (size) 2=25-8-0, 20=25-8-0, 22=25-8-0, 23=25-8-0, 24=25-8-0, 25=25-8-0, 26=25-8-0, 27=25-8-0, 28=25-8-0, 29=25-8-0, 30=25-8-0, 31=25-8-0, 32=25-8-0, 33=25-8-0
Max Horiz 2=-307 (LC 9)
Max Uplift 2=-40 (LC 11), 22=-111 (LC 13), 23=-49 (LC 13), 24=-56 (LC 13), 25=-54 (LC 13), 26=-54 (LC 13), 27=-55 (LC 13), 28=-53 (LC 13), 29=-64 (LC 13), 30=-45 (LC 9), 31=-173 (LC 13), 32=-51 (LC 9), 33=-102 (LC 12)
Max Grav 2=165 (LC 22), 20=206 (LC 20), 22=180 (LC 1), 23=181 (LC 26), 24=180 (LC 1), 25=180 (LC 26), 26=180 (LC 1), 27=180 (LC 26), 28=180 (LC 1), 29=182 (LC 26), 30=167 (LC 1), 31=206 (LC 1), 32=190 (LC 1), 33=158 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-262/116, 4-5=-207/105, 5-6=-208/139, 6-31=-166/347, 6-8=-142/241, 7-8=-26/0, 8-9=-104/79, 9-10=-130/60, 10-11=-157/71, 11-12=-200/86, 12-14=-243/101, 14-15=-287/116, 15-16=-330/131, 16-17=-374/147, 17-18=-414/161, 18-20=-504/191, 20-21=0/0
BOT CHORD 2-33=-161/464, 32-33=-161/464, 31-32=-161/464, 30-31=-169/459, 28-30=-169/459, 27-28=-169/459, 26-27=-169/459, 25-26=-169/459, 24-25=-169/459, 23-24=-169/459, 22-23=-169/459, 20-22=-169/459
WEBS 18-22=-137/227, 17-23=-142/105, 16-24=-140/91, 15-25=-140/89, 14-26=-140/89, 12-27=-140/89, 11-28=-140/88, 10-29=-142/117, 9-30=-128/122, 5-32=-148/130, 4-33=-121/161

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 4-1-8, Exterior(2N) 4-1-8 to 5-9-4, Corner(3E) 4-9-8 to 9-8-0, Exterior(2N) 9-8-0 to 26-6-8 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 173 lb uplift at joint 31, 40 lb uplift at joint 2, 111 lb uplift at joint 22, 49 lb uplift at joint 23, 56 lb uplift at joint 24, 54 lb uplift at joint 25, 54 lb uplift at joint 26, 55 lb uplift at joint 27, 53 lb uplift at joint 28, 64 lb uplift at joint 29, 45 lb uplift at joint 30, 51 lb uplift at joint 32 and 102 lb uplift at joint 33.
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

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
P240960	C1	Hip Girder	1	2	I68266279

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

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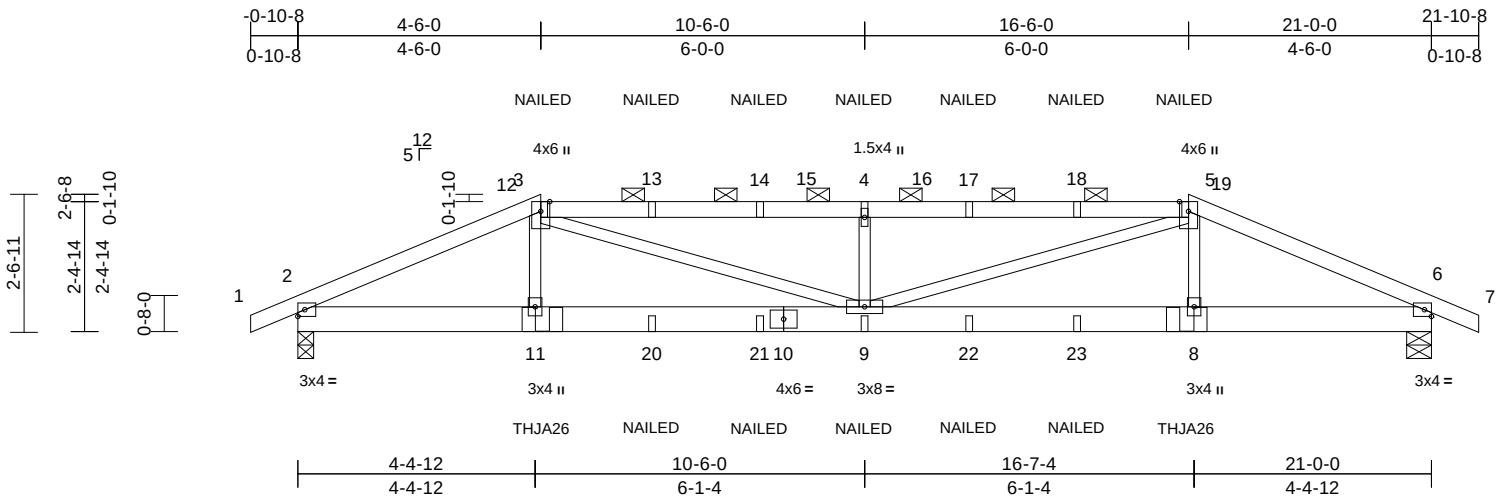


Scale = 1:42.7

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	0.61	Vert(LL)	-0.11	9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.20	9	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.26	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 175 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (5-4-6 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6=0-5-8
Max Horiz 2=41 (LC 33)
Max Uplift 2=-432 (LC 8), 6=-438 (LC 9)
Max Grav 2=1599 (LC 1), 6=1610 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-3215/930, 3-4=-4170/1268, 4-5=-4170/1268, 5-6=-3185/919, 6-7=0/6
BOT CHORD 2-11=-776/2841, 9-11=-776/2819, 8-9=-763/2783, 6-8=-764/2805
WEBS 3-11=-13/471, 3-9=-447/1492, 4-9=-827/450, 5-9=-457/1527, 5-8=-13/470

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: 2x6 - 2 rows staggered at 0-9-0 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) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-6-0, Exterior(2R) 4-6-0 to 11-6-14, Interior (1) 11-6-14 to 16-6-0, Exterior(2E) 16-6-0 to 21-10-8 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
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 432 lb uplift at joint 2 and 438 lb uplift at joint 6.
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.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie THJA26 (THJA26 on 2 ply, Left Hand Hip) or equivalent at 4-6-6 from the left end to connect truss(es) to front face of bottom chord.
13) Use Simpson Strong-Tie THJA26 (THJA26 on 2 ply, Right Hand Hip) or equivalent at 16-5-10 from the left end to connect truss(es) to front face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.

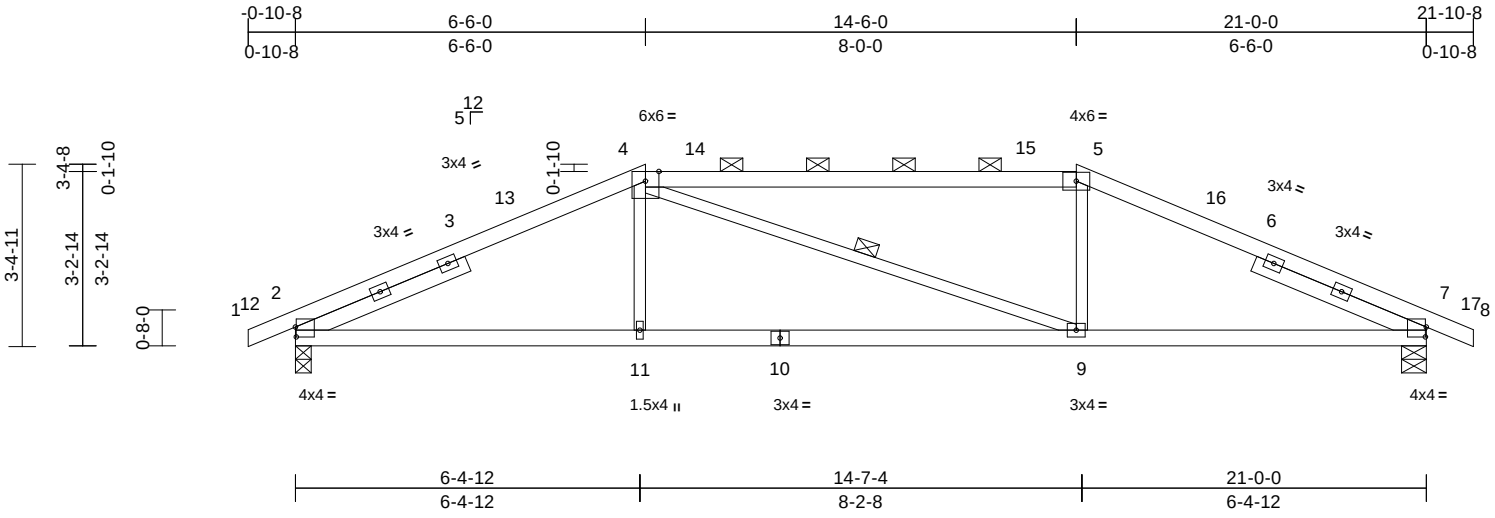
LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 5-7=-70, 2-6=-20
Concentrated Loads (lb)
Vert: 3=-79 (F), 5=-79 (F), 11=-263 (F), 9=-24 (F), 4=-79 (F), 8=-263 (F), 13=-79 (F), 14=-79 (F), 17=-79 (F), 18=-79 (F), 20=-24 (F), 21=-24 (F), 22=-24 (F), 23=-24 (F)

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply	Job Reference (optional)
P240960	C2	Hip	1	1	I68266280



Scale = 1:42.8

Plate Offsets (X, Y): [2:0-0-3,0-2-3], [7:0-0-3,0-2-3]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.11	9-11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.25	9-11	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.05	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 89 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-5-3, Right 2x4 SP No.2 -- 3-5-3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-13 oc purlins, except 2-0-0 oc purlins (4-8-7 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-9

REACTIONS (size) 2=0-3-8, 7=0-5-8
Max Horiz 2=57 (LC 16)
Max Uplift 2=-154 (LC 8), 7=-154 (LC 9)
Max Grav 2=1006 (LC 1), 7=1006 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-1707/352, 4-5=-1479/372, 5-7=-1709/352, 7-8=0/0
BOT CHORD 2-11=-244/1483, 9-11=-247/1478, 7-9=-234/1485
WEBS 4-11=0/311, 4-9=-169/171, 5-9=0/311

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 6-6-0, Exterior(2R) 6-6-0 to 13-6-14, Interior (1) 13-6-14 to 14-6-0, Exterior(2R) 14-6-0 to 21-6-14, Interior (1) 21-6-14 to 21-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) 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 154 lb uplift at joint 2 and 154 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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply	
P240960	C3	Hip	1	1	I68266281 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/08/2024

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

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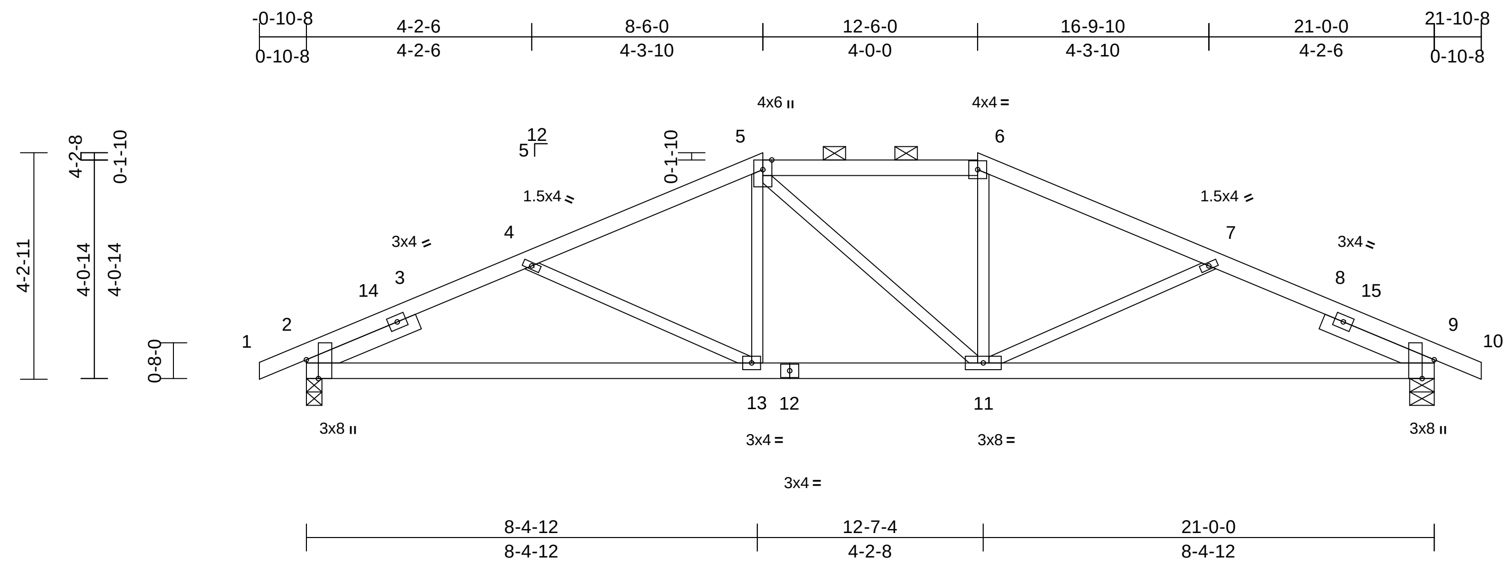

Scale = 1:42.9

Plate Offsets (X, Y): [2:0-4-3,Edge], [9:0-4-3,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	0.38	Vert(LL)	-0.15	2-13	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.31	2-13	>825	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.05	9	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 -- 2-2-11, Right 2x4 SP No.2 -- 2-2-11

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-5 oc purlins, except 2-0-0 oc purlins (5-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 9-11-10 oc bracing.

REACTIONS (size) 2=0-3-8, 9=0-5-8
Max Horiz 2=-72 (LC 17)
Max Uplift 2=-152 (LC 12), 9=-152 (LC 13)
Max Grav 2=1006 (LC 1), 9=1006 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-1699/414, 4-5=-1437/318, 5-6=-1276/326, 6-7=-1437/318, 7-9=-1699/414, 9-10=0/0
BOT CHORD 2-13=-327/1465, 11-13=-173/1275, 9-11=-317/1465
WEBS 5-13=-3/266, 5-11=-134/135, 6-11=0/266, 4-13=-229/191, 7-11=-229/192

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 4-0-2, Interior (1) 4-0-2 to 8-6-0, Exterior(2E) 8-6-0 to 12-6-0, Exterior(2R) 12-6-0 to 19-6-14, Interior (1) 19-6-14 to 21-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) 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 152 lb uplift at joint 2 and 152 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

September 17,2024

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
10/08/2024

Job	Truss	Truss Type	Qty	Ply	
P240960	C4	Hip Girder	1	3	I68266282 Job Reference (optional)

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

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Tue Sep 17 09:38:04 Page: 1
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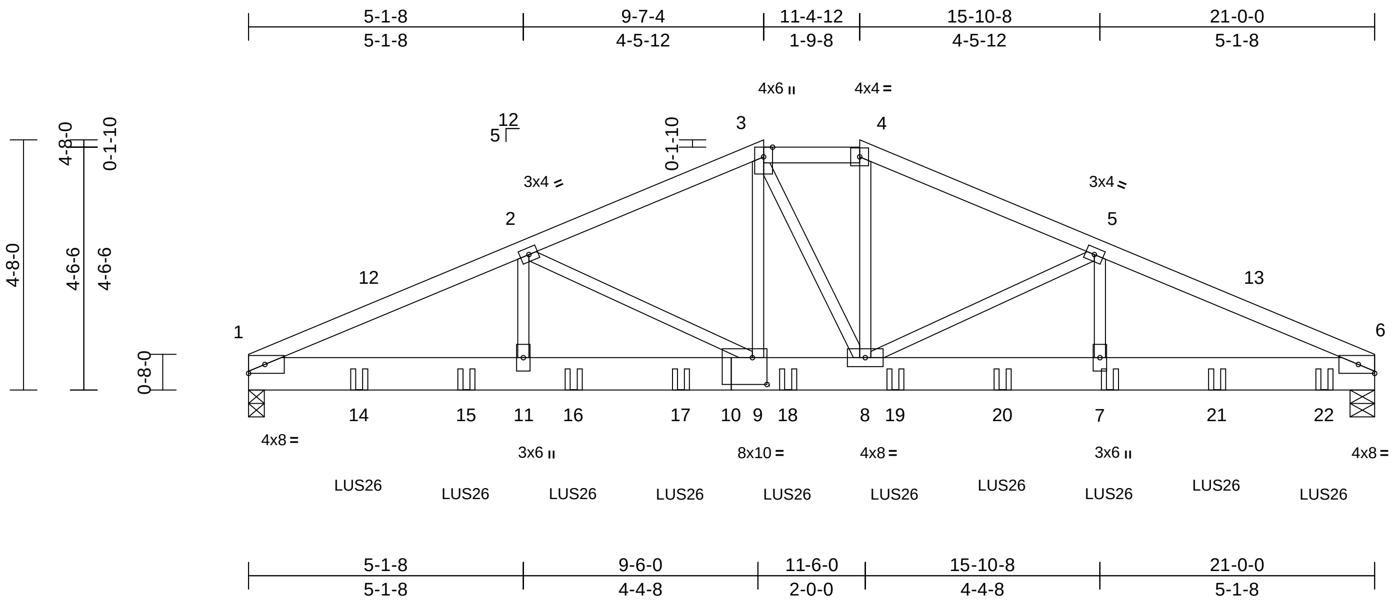

Scale = 1:43

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

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	0.38	Vert(LL)	-0.09	9-11	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.16	9-11	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.25	Horz(CT)	0.04	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 311 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2

BRACING

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

REACTIONS (size) 1=0-3-8, 6=0-5-8
Max Horiz 1=-78 (LC 17)
Max Uplift 1=-1028 (LC 12), 6=-1117 (LC 13)
Max Grav 1=4373 (LC 1), 6=4721 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-8438/2085, 2-3=-6374/1617, 3-4=-5880/1533, 4-5=-6458/1637, 5-6=-8307/2055
BOT CHORD 1-11=-1843/7587, 9-11=-1843/7587, 8-9=-1348/5804, 7-8=-1803/7446, 6-7=-1803/7446
WEBS 3-9=-492/2003, 3-8=-99/306, 4-8=-542/2165, 2-9=-1996/565, 5-8=-1751/509, 2-11=-380/1822, 5-7=-347/1664

NOTES

1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-5-0 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 5-1-8, Interior (1) 5-1-8 to 9-7-4, Exterior(2E) 9-7-4 to 11-4-12, Exterior(2R) 11-4-12 to 18-5-10, Interior (1) 18-5-10 to 20-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1028 lb uplift at joint 1 and 1117 lb uplift at joint 6.
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.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie LUS26 (4-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 4-0-12 to connect truss(es) to back face of bottom chord.
13) 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 6-0-12 from the left end to 20-0-12 to connect truss(es) to back face of bottom chord.
14) 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: 1-3=-70, 3-4=-70, 4-6=-70, 1-6=-20
Concentrated Loads (lb)
Vert: 7=-715 (B), 14=-758 (B), 15=-758 (B), 16=-715 (B), 17=-715 (B), 18=-715 (B), 19=-715 (B), 20=-715 (B), 21=-715 (B), 22=-718 (B)

September 17,2024

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
10/08/2024

Job	Truss	Truss Type	Qty	Ply		
P240960	CG1	Diagonal Hip Girder	2	1	Job Reference (optional)	I68266283

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

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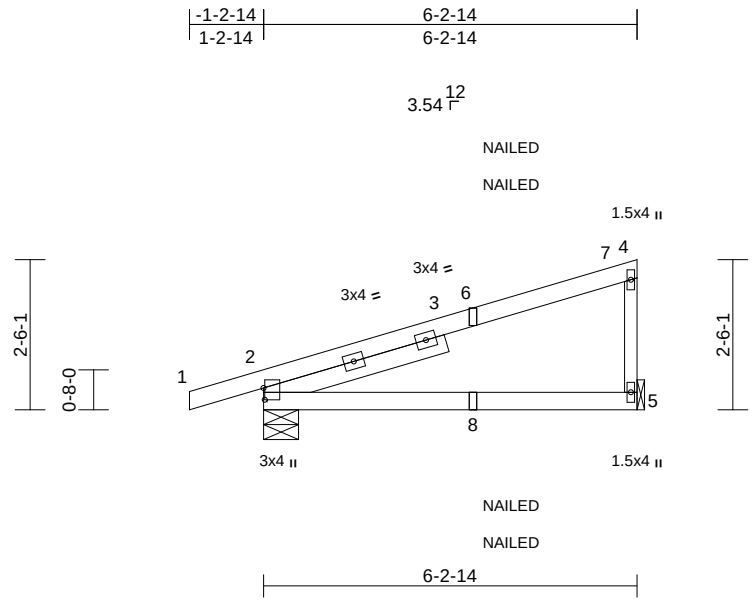

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Plate Offsets (X, Y): [2:0-2-6,0-0-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.08	2-5	>867	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.17	2-5	>433	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 27 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-1-15

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) 2=0-7-0, 5= Mechanical
Max Horiz 2=102 (LC 9)
Max Uplift 2=-116 (LC 8), 5=-67 (LC 12)
Max Grav 2=371 (LC 1), 5=267 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-133/79, 4-5=-206/266
BOT CHORD 2-5=-45/49

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-2-14 to 5-10-0, Exterior(2R) 5-10-0 to 6-1-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Bearings are assumed to be: Joint 2 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 67 lb uplift at joint 5 and 116 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-70, 2-5=-20

September 17,2024

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Job	Truss	Truss Type	Qty	Ply		
P240960	J1	Jack-Open	7	1	Job Reference (optional)	I68266284

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

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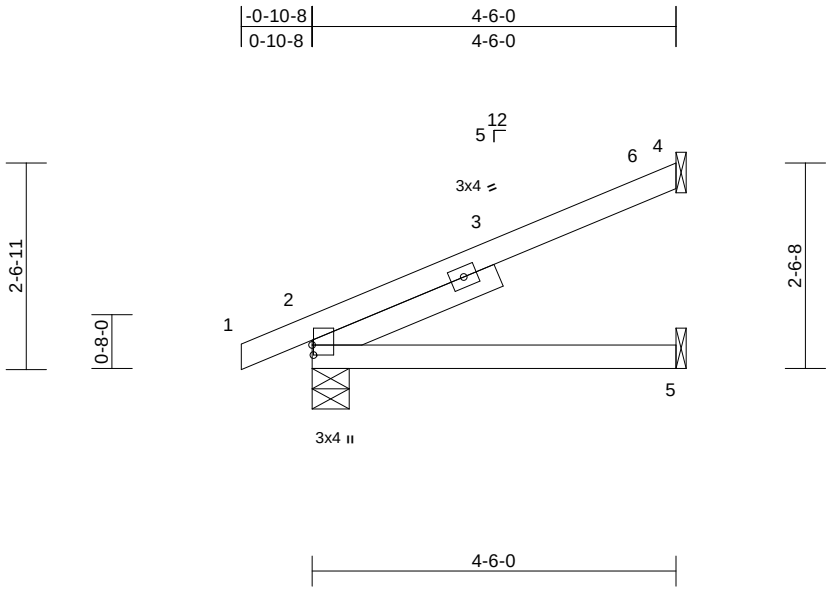

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Plate Offsets (X, Y): [2:0-1-8,0-0-3]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	-0.02	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.05	2-5	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-5-8

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

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=97 (LC 12)
Max Uplift 2=-44 (LC 12), 4=-92 (LC 12)
Max Grav 2=267 (LC 1), 4=149 (LC 1), 5=89 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-90/49
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-5-4 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Bearings are assumed to be: , Joint 2 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 92 lb uplift at joint 4 and 44 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

September 17,2024

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Job	Truss	Truss Type	Qty	Ply		
P240960	J2	Jack-Open	4	1	Job Reference (optional)	I68266285

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

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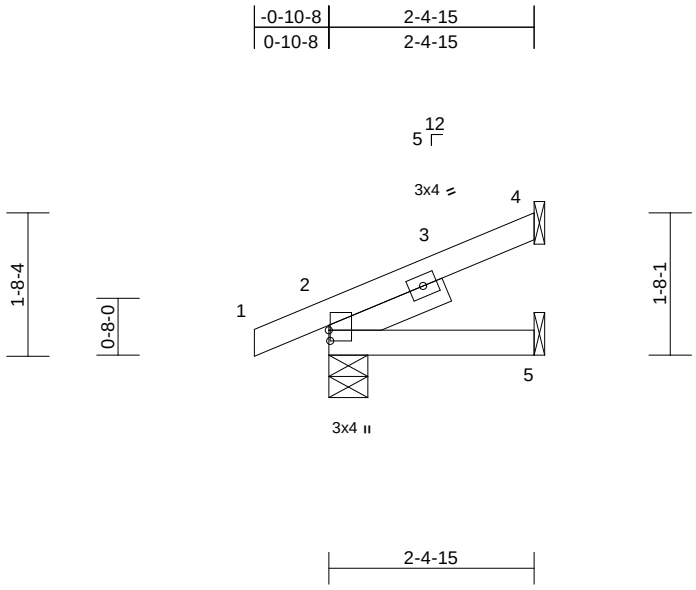

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Plate Offsets (X, Y): [2:0-1-8,0-0-3]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	0.00	2-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	2-5	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 11 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-4-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=59 (LC 12)
Max Uplift 2=-33 (LC 12), 4=-50 (LC 12)
Max Grav 2=178 (LC 1), 4=71 (LC 1), 5=47 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-57/26
BOT CHORD 2-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Bearings are assumed to be: , Joint 2 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 50 lb uplift at joint 4 and 33 lb uplift at joint 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

September 17,2024

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Job	Truss	Truss Type	Qty	Ply		
P240960	LG01	Lay-In Gable	1	1	Job Reference (optional)	I68266286

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

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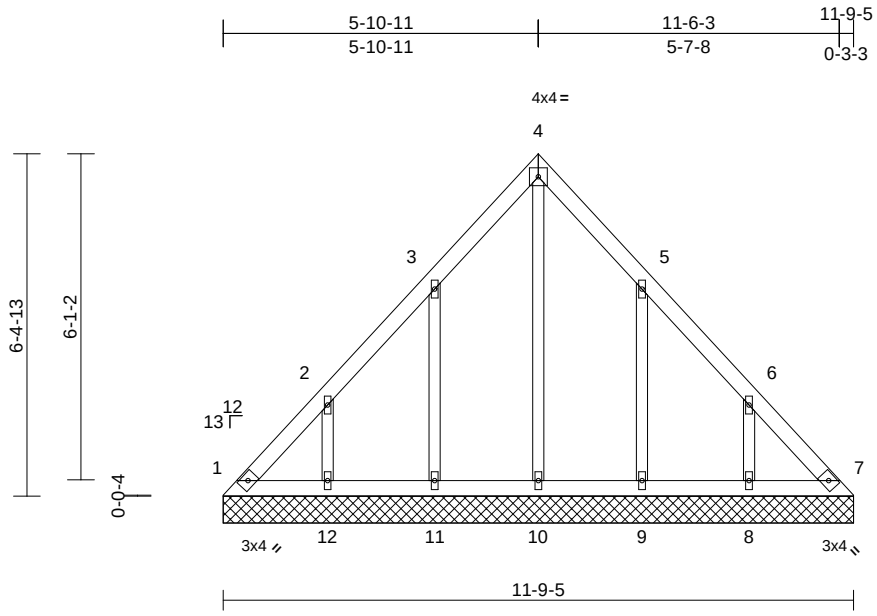

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 55 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=11-9-5, 7=11-9-5, 8=11-9-5, 9=11-9-5, 10=11-9-5, 11=11-9-5, 12=11-9-5
Max Horiz 1=-173 (LC 8)
Max Uplift 1=-58 (LC 10), 7=-33 (LC 11), 8=-145 (LC 13), 9=-142 (LC 13), 11=-143 (LC 12), 12=-144 (LC 12)
Max Grav 1=148 (LC 21), 7=136 (LC 22), 8=210 (LC 20), 9=214 (LC 20), 10=141 (LC 22), 11=216 (LC 19), 12=210 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-218/139, 2-3=-137/89, 3-4=-130/119, 4-5=-130/114, 5-6=-111/55, 6-7=-196/135
BOT CHORD 1-12=-108/161, 11-12=-109/161, 10-11=-109/161, 9-10=-109/161, 8-9=-109/161, 7-8=-108/161
WEBS 2-12=-199/162, 3-11=-201/168, 4-10=-102/62, 5-9=-201/167, 6-8=-199/163

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-0 to 5-4-0, Interior (1) 5-4-0 to 5-10-14, Exterior(2R) 5-10-14 to 10-10-14, Interior (1) 10-10-14 to 11-5-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 0-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1, 33 lb uplift at joint 7, 144 lb uplift at joint 12, 143 lb uplift at joint 11, 142 lb uplift at joint 9 and 145 lb uplift at joint 8.
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

September 17,2024

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Chesterfield, MO 63017
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Job	Truss	Truss Type	Qty	Ply		
P240960	V1	Valley	1	1	Job Reference (optional)	I68266287

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

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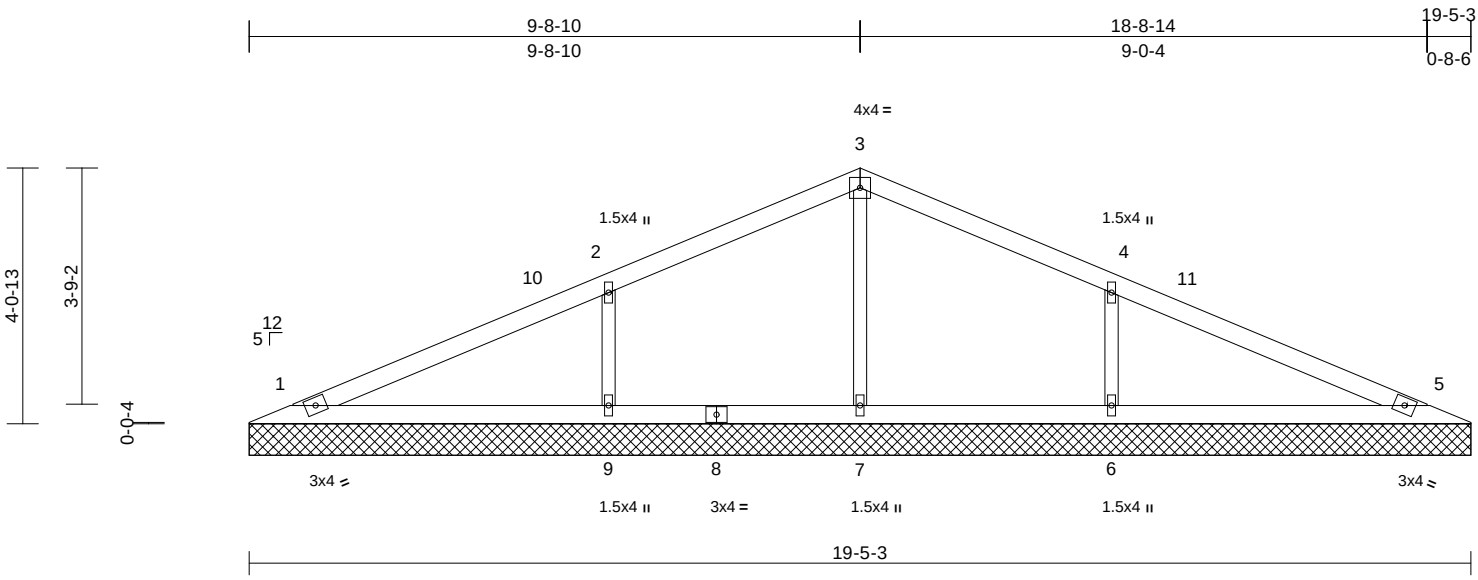

Scale = 1:36.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 64 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=19-5-3, 5=19-5-3, 6=19-5-3, 7=19-5-3, 9=19-5-3
Max Horiz 1=71 (LC 16)
Max Uplift 1=-19 (LC 12), 5=-31 (LC 13), 6=-154 (LC 13), 9=-154 (LC 12)
Max Grav 1=189 (LC 1), 5=189 (LC 1), 6=500 (LC 26), 7=250 (LC 1), 9=500 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-88/79, 2-3=-90/118, 3-4=-90/114, 4-5=-66/64
BOT CHORD 1-9=-11/56, 7-9=-11/56, 6-7=-11/56, 5-6=-11/56
WEBS 3-7=-195/30, 2-9=-381/231, 4-6=-381/231

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) 0-9-1 to 5-9-3, Interior (1) 5-9-3 to 9-9-3, Exterior(2R) 9-9-3 to 14-9-3, Interior (1) 14-9-3 to 18-9-6 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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
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 19 lb uplift at joint 1, 31 lb uplift at joint 5, 154 lb uplift at joint 9 and 154 lb uplift at joint 6.
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
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply		
P240960	V2	Valley	1	1	Job Reference (optional)	I68266288

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

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Tue Sep 17 09:38:05 Page: 1
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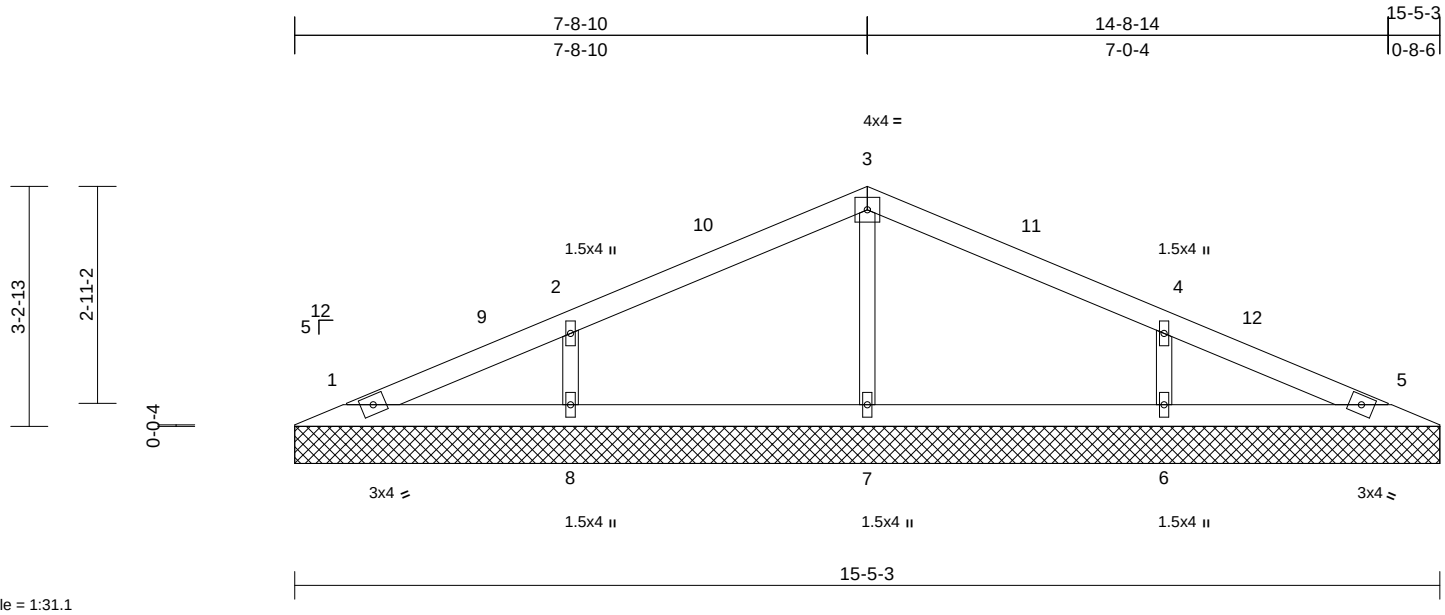

Scale = 1:31.1

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	0.22	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	0.06	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 49 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=15-5-3, 5=15-5-3, 6=15-5-3, 7=15-5-3, 8=15-5-3
Max Horiz 1=-55 (LC 17)
Max Uplift 1=-12 (LC 13), 5=-10 (LC 13), 6=-119 (LC 13), 8=-120 (LC 12)
Max Grav 1=106 (LC 1), 5=106 (LC 1), 6=375 (LC 26), 7=315 (LC 1), 8=375 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-71/46, 2-3=-87/104, 3-4=-87/98, 4-5=-53/35
BOT CHORD 1-8=-4/43, 7-8=-4/43, 6-7=-4/43, 5-6=-4/43
WEBS 3-7=-235/88, 2-8=-295/222, 4-6=-295/222

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) 0-9-1 to 5-9-1, Interior (1) 5-9-1 to 7-9-3, Exterior(2R) 7-9-3 to 12-9-3, Interior (1) 12-9-3 to 14-9-6 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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
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 12 lb uplift at joint 1, 10 lb uplift at joint 5, 120 lb uplift at joint 8 and 119 lb uplift at joint 6.
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

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply		
P240960	V3	Valley	1	1	Job Reference (optional)	I68266289

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

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Tue Sep 17 09:38:05 Page: 1
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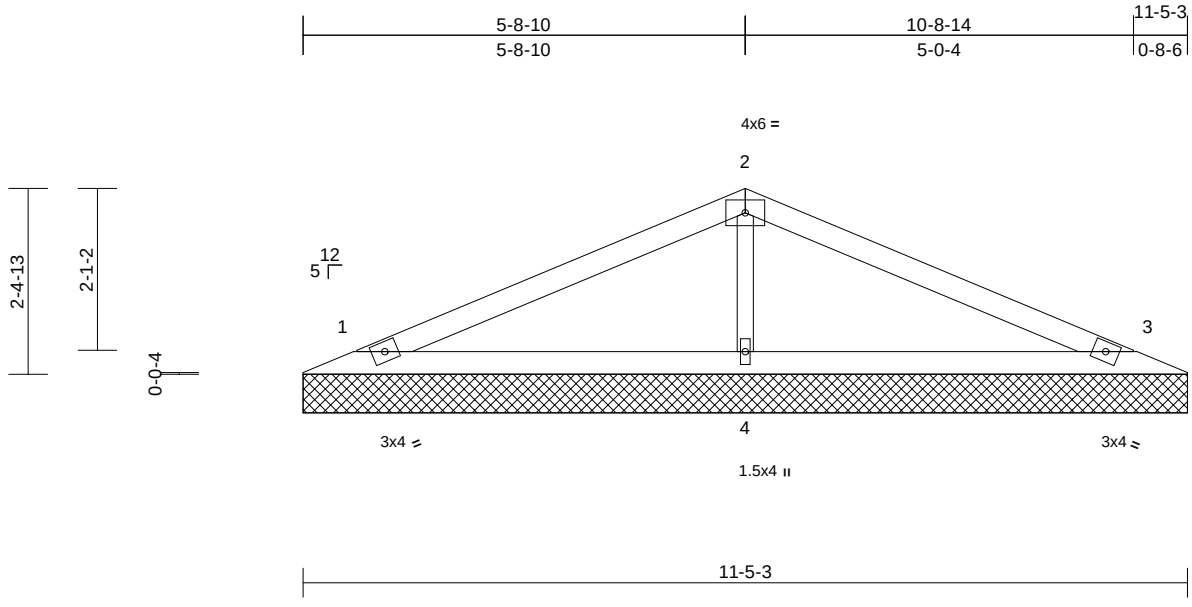

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.25	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 35 lb	FT = 20%

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

BRACING
TOP CHORD 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=11-5-3, 3=11-5-3, 4=11-5-3
Max Horiz 1=40 (LC 12)
Max Uplift 1=-49 (LC 12), 3=-56 (LC 13), 4=-43 (LC 12)
Max Grav 1=207 (LC 25), 3=207 (LC 26), 4=496 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-106/64, 2-3=-106/70
BOT CHORD 1-4=-3/43, 3-4=-3/43
WEBS 2-4=-345/234

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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
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 49 lb uplift at joint 1, 56 lb uplift at joint 3 and 43 lb uplift at joint 4.
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

September 17,2024

Job	Truss	Truss Type	Qty	Ply		
P240960	V4	Valley	1	1	Job Reference (optional)	I68266290

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

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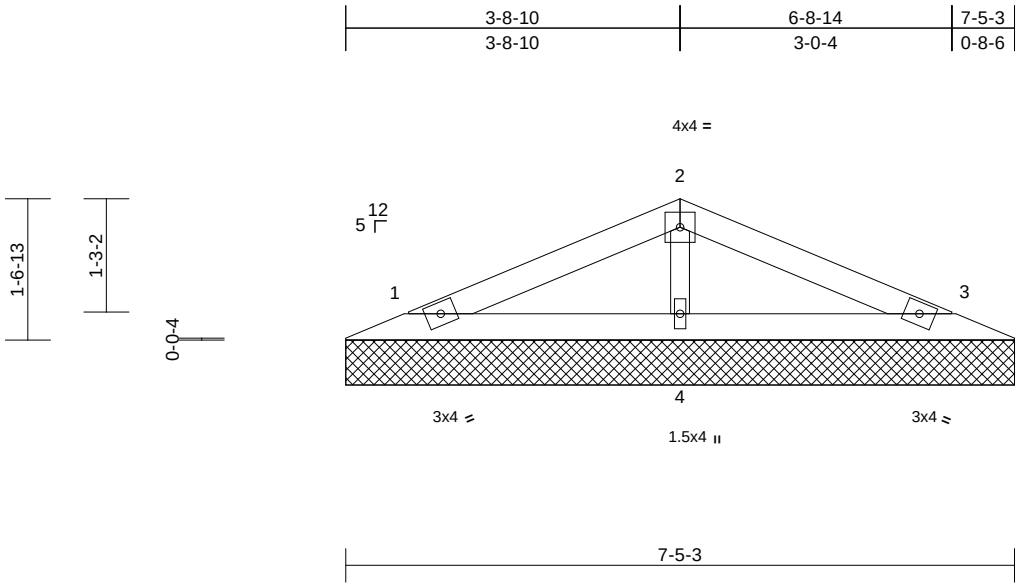

Scale = 1:25.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 22 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 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=7-5-3, 3=7-5-3, 4=7-5-3
Max Horiz 1=24 (LC 12)
Max Uplift 1=-36 (LC 12), 3=-40 (LC 13), 4=-13 (LC 12)
Max Grav 1=137 (LC 1), 3=137 (LC 1), 4=269 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-55/43, 2-3=-55/48
BOT CHORD 1-4=-1/24, 3-4=-1/24
WEBS 2-4=-193/164

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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
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 1, 40 lb uplift at joint 3 and 13 lb uplift at joint 4.
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

September 17,2024

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

Job	Truss	Truss Type	Qty	Ply		
P240960	V5	Valley	1	1	Job Reference (optional)	I68266291

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

Run: 8.63 S Jul 12 2024 Print: 8.630 S Jul 12 2024 MiTek Industries, Inc. Tue Sep 17 09:38:06 Page: 1
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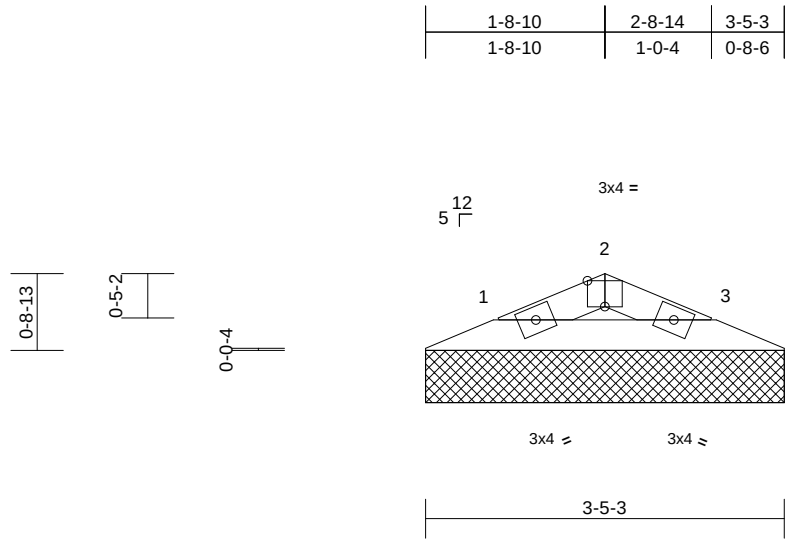


Scale = 1:22.1

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	0.03	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-5-3, 3=3-5-3
Max Horiz 1=8 (LC 12)
Max Uplift 1=-14 (LC 12), 3=-14 (LC 13)
Max Grav 1=91 (LC 1), 3=91 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-101/94, 2-3=-101/98
BOT CHORD 1-3=-72/83

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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
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 14 lb uplift at joint 1 and 14 lb uplift at joint 3.
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.

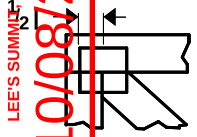
LOAD CASE(S) Standard

September 17,2024

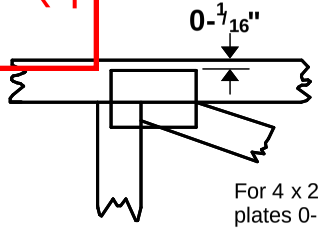
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

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.

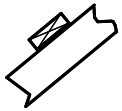
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

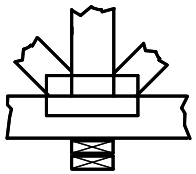
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

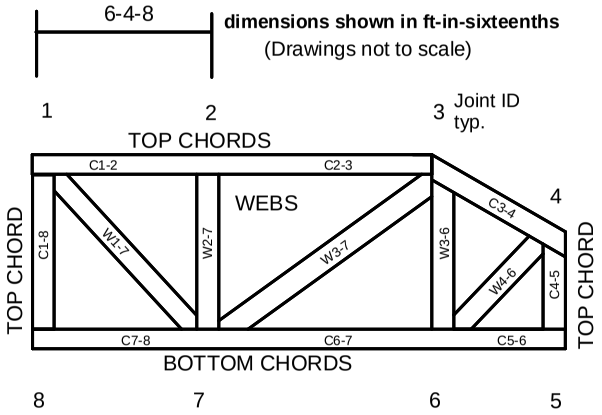


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

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.