MiTek®

RE: 240617
Lot 134 MN

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

Site Information:

Customer: Avital Homes Project Name: 240617
Lot/Block: Model: Devotion - Craftsman Farmhouse 3rd Car
Address: Subdivision:
City: State:

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

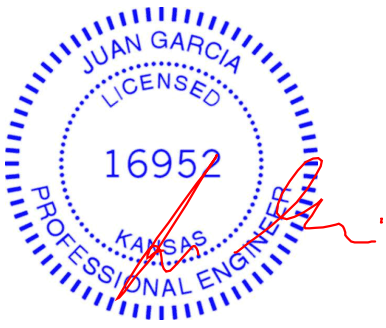
Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.7
Wind Code: ASCE 7 - 16[Low Rise] Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 43 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I64632856	A1	4/3/2024	21	I64632876	G2	4/3/2024
2	I64632857	A2	4/3/2024	22	I64632877	G3	4/3/2024
3	I64632858	A2A	4/3/2024	23	I64632878	G4	4/3/2024
4	I64632859	A3A	4/3/2024	24	I64632879	J1	4/3/2024
5	I64632860	A4	4/3/2024	25	I64632880	J2	4/3/2024
6	I64632861	A5	4/3/2024	26	I64632881	J3	4/3/2024
7	I64632862	B1	4/3/2024	27	I64632882	J4	4/3/2024
8	I64632863	B2	4/3/2024	28	I64632883	J5	4/3/2024
9	I64632864	D1	4/3/2024	29	I64632884	J6	4/3/2024
10	I64632865	D2	4/3/2024	30	I64632885	J7	4/3/2024
11	I64632866	E1	4/3/2024	31	I64632886	J9	4/3/2024
12	I64632867	E2	4/3/2024	32	I64632887	J10	4/3/2024
13	I64632868	E3	4/3/2024	33	I64632888	J11	4/3/2024
14	I64632869	E4	4/3/2024	34	I64632889	LAY1	4/3/2024
15	I64632870	E4A	4/3/2024	35	I64632890	LAY2	4/3/2024
16	I64632871	E5	4/3/2024	36	I64632891	LAY4	4/3/2024
17	I64632872	E6	4/3/2024	37	I64632892	V1	4/3/2024
18	I64632873	E7	4/3/2024	38	I64632893	V2	4/3/2024
19	I64632874	E8	4/3/2024	39	I64632894	V3	4/3/2024
20	I64632875	G1	4/3/2024	40	I64632895	V4	4/3/2024

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

Truss Design Engineer's Name: Garcia, Juan
My license renewal date for the state of Kansas is April 30, 2024.
Kansas COA: E-943



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.

April 03, 2024
Garcia, Juan

MiTek®

RE: 240617 - Lot 134 MN

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

Site Information:

Project Customer: Avital Homes Project Name: 240617
Lot/Block: Subdivision:
Address:
City, County: State:

No.	Seal#	Truss Name	Date
41	I64632896	V5	4/3/2024
42	I64632897	V6	4/3/2024
43	I64632898	V7	4/3/2024

MiTek®

RE: 240617
Lot 134 MN

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

Site Information:

Customer: Avital Homes Project Name: 240617
Lot/Block: Model: Devotion - Craftsman Farmhouse 3rd Car
Address: Subdivision:
City: State:

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.7
Wind Code: ASCE 7 - 16[Low Rise] Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 43 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I64632856	A1	4/3/2024	21	I64632876	G2	4/3/2024
2	I64632857	A2	4/3/2024	22	I64632877	G3	4/3/2024
3	I64632858	A2A	4/3/2024	23	I64632878	G4	4/3/2024
4	I64632859	A3A	4/3/2024	24	I64632879	J1	4/3/2024
5	I64632860	A4	4/3/2024	25	I64632880	J2	4/3/2024
6	I64632861	A5	4/3/2024	26	I64632881	J3	4/3/2024
7	I64632862	B1	4/3/2024	27	I64632882	J4	4/3/2024
8	I64632863	B2	4/3/2024	28	I64632883	J5	4/3/2024
9	I64632864	D1	4/3/2024	29	I64632884	J6	4/3/2024
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12	I64632867	E2	4/3/2024	32	I64632887	J10	4/3/2024
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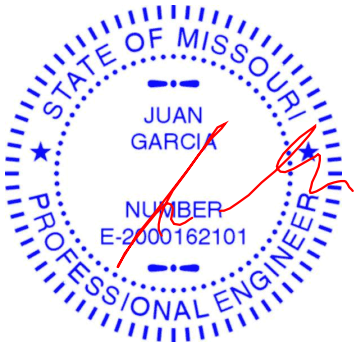
16	I64632871	E5	4/3/2024	36	I64632891	LAY4	4/3/2024
17	I64632872	E6	4/3/2024	37	I64632892	V1	4/3/2024
18	I64632873	E7	4/3/2024	38	I64632893	V2	4/3/2024
19	I64632874	E8	4/3/2024	39	I64632894	V3	4/3/2024
20	I64632875	G1	4/3/2024	40	I64632895	V4	4/3/2024

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

Truss Design Engineer's Name: Garcia, Juan
My license renewal date for the state of Missouri is December 31, 2024.
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.



April 03, 2024
Garcia, Juan

MiTek®

RE: 240617 - Lot 134 MN

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

Site Information:

Project Customer: Avital Homes Project Name: 240617
Lot/Block: Subdivision:
Address:
City, County: State:

No.	Seal#	Truss Name	Date
41	I64632896	V5	4/3/2024
42	I64632897	V6	4/3/2024
43	I64632898	V7	4/3/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632856
240617	A1	Common Supported Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:49 Page: 1
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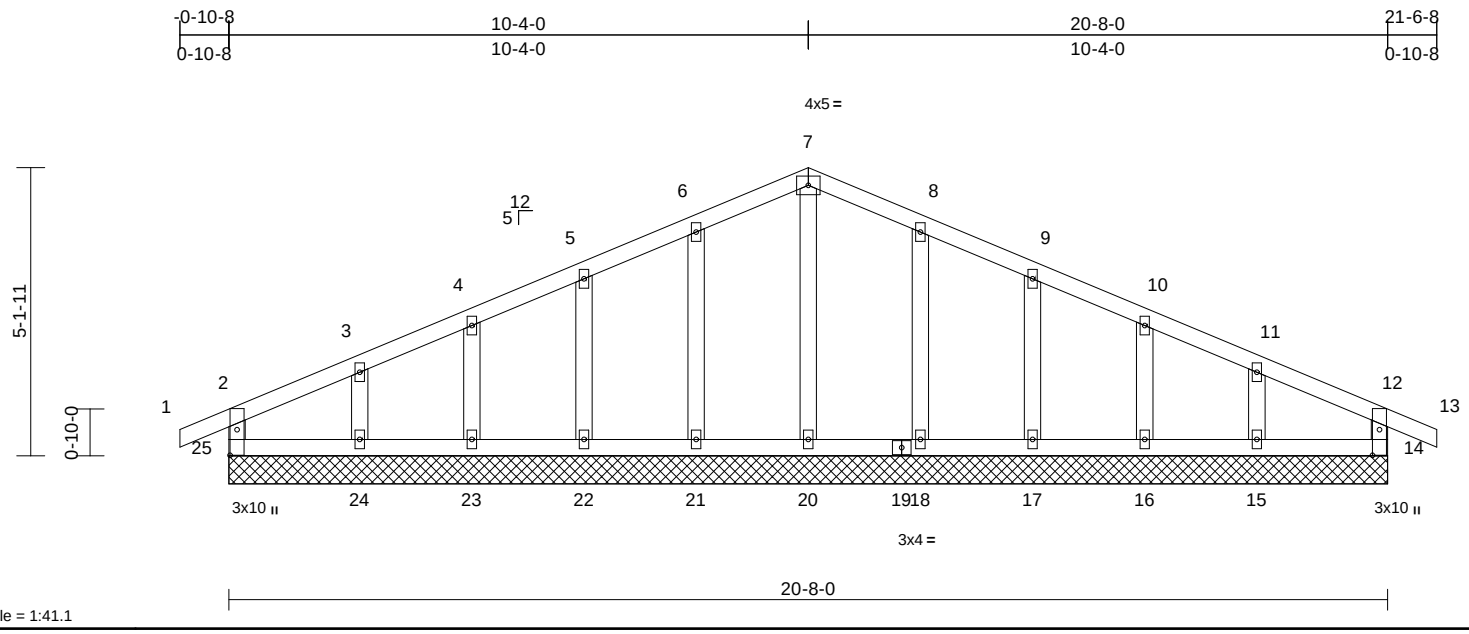

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Plate Offsets (X, Y): [14:0-5-8,0-1-8], [25:0-5-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	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	0.05	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 80 lb	FT = 10%

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

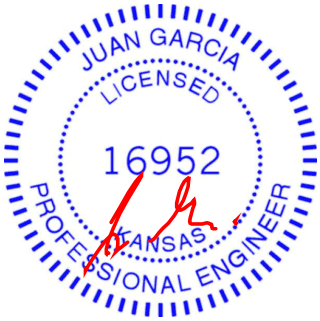
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 14=20-8-0, 15=20-8-0, 16=20-8-0, 17=20-8-0, 18=20-8-0, 20=20-8-0, 21=20-8-0, 22=20-8-0, 23=20-8-0, 24=20-8-0, 25=20-8-0
Max Horiz 25=-62 (LC 13)
Max Uplift 14=-35 (LC 5), 15=-70 (LC 9), 16=-42 (LC 9), 17=-50 (LC 9), 18=-50 (LC 9), 21=-50 (LC 8), 22=-50 (LC 8), 23=-40 (LC 8), 24=-75 (LC 8), 25=-36 (LC 4)
Max Grav 14=174 (LC 22), 15=187 (LC 1), 16=178 (LC 22), 17=179 (LC 1), 18=191 (LC 22), 20=164 (LC 1), 21=191 (LC 21), 22=179 (LC 1), 23=178 (LC 21), 24=187 (LC 1), 25=174 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-154/49, 1-2=0/27, 2-3=-64/53, 3-4=-37/72, 4-5=-30/93, 5-6=-30/115, 6-7=-34/134, 7-8=-34/128, 8-9=-30/102, 9-10=-30/80, 10-11=-31/59, 11-12=-53/43, 12-13=0/27, 12-14=-154/49
BOT CHORD 24-25=-10/50, 23-24=-10/50, 22-23=-10/50, 21-22=-10/50, 20-21=-10/50, 18-20=-10/50, 17-18=-10/50, 16-17=-10/50, 15-16=-10/50, 14-15=-10/50
WEBS 7-20=-124/0, 6-21=-151/74, 5-22=-138/73, 4-23=-140/66, 3-24=-143/91, 8-18=-151/74, 9-17=-138/73, 10-16=-140/67, 11-15=-143/88

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss 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.
10) All bearings are assumed to be SPF No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 25, 35 lb uplift at joint 14, 50 lb uplift at joint 21, 50 lb uplift at joint 22, 40 lb uplift at joint 23, 75 lb uplift at joint 24, 50 lb uplift at joint 18, 50 lb uplift at joint 17, 42 lb uplift at joint 16 and 70 lb uplift at joint 15.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



April 3,2024

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
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	A2	Common	4	1	I64632857 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:17:50 Page: 1

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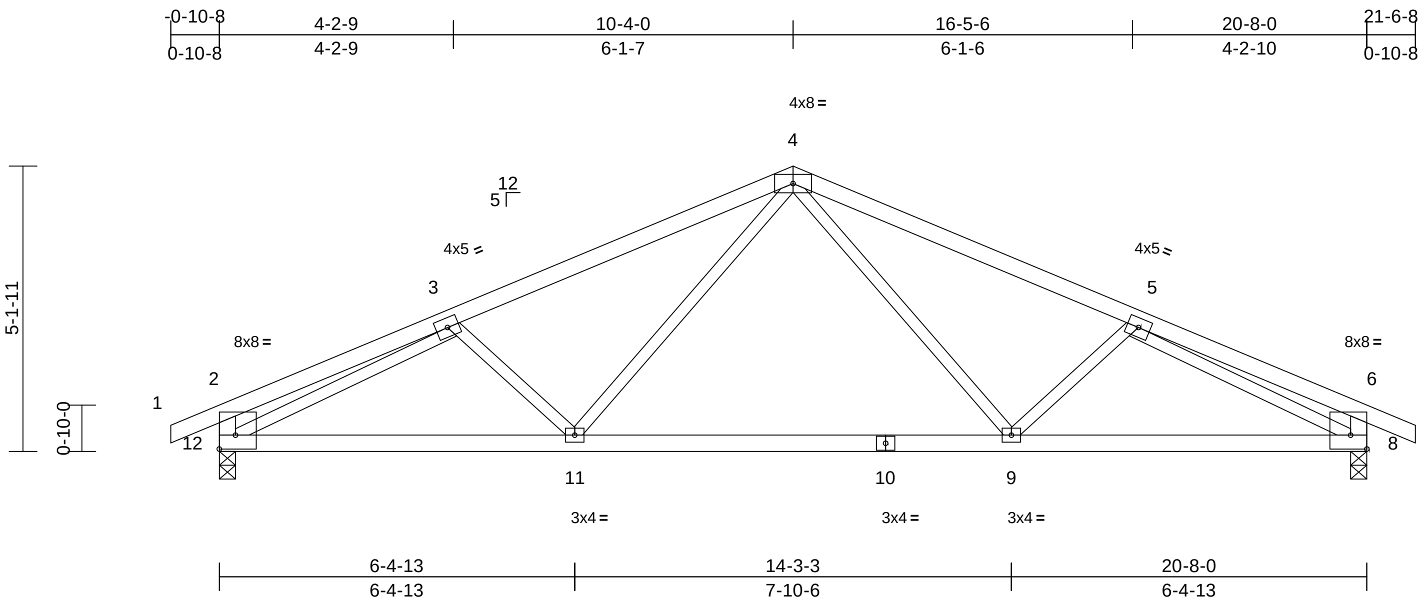


Scale = 1:41.5

Plate Offsets (X, Y): [2:Edge,0-3-0], [3:0-0-0,0-0-0], [6:Edge,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	0.56	Vert(LL)	-0.08	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.20	9-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.71	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-11	>999	240	Weight: 74 lb	FT = 10%

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

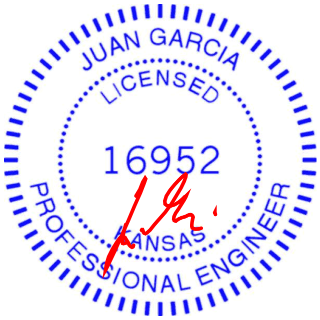
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-62 (LC 13)
Max Uplift 8=-140 (LC 9), 12=-140 (LC 8)
Max Grav 8=988 (LC 1), 12=988 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-272/41, 3-4=-1396/189, 4-5=-1396/189, 5-6=-273/41, 6-7=0/27, 2-12=-280/73, 6-8=-280/74
BOT CHORD 11-12=-230/1358, 9-11=-61/973, 8-9=-167/1358
WEBS 4-9=-51/417, 5-9=-256/190, 4-11=-51/417, 3-11=-256/190, 3-12=-1321/196, 5-8=-1321/196

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 12 and 140 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632858
240617	A2A	Common	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:50 Page: 1
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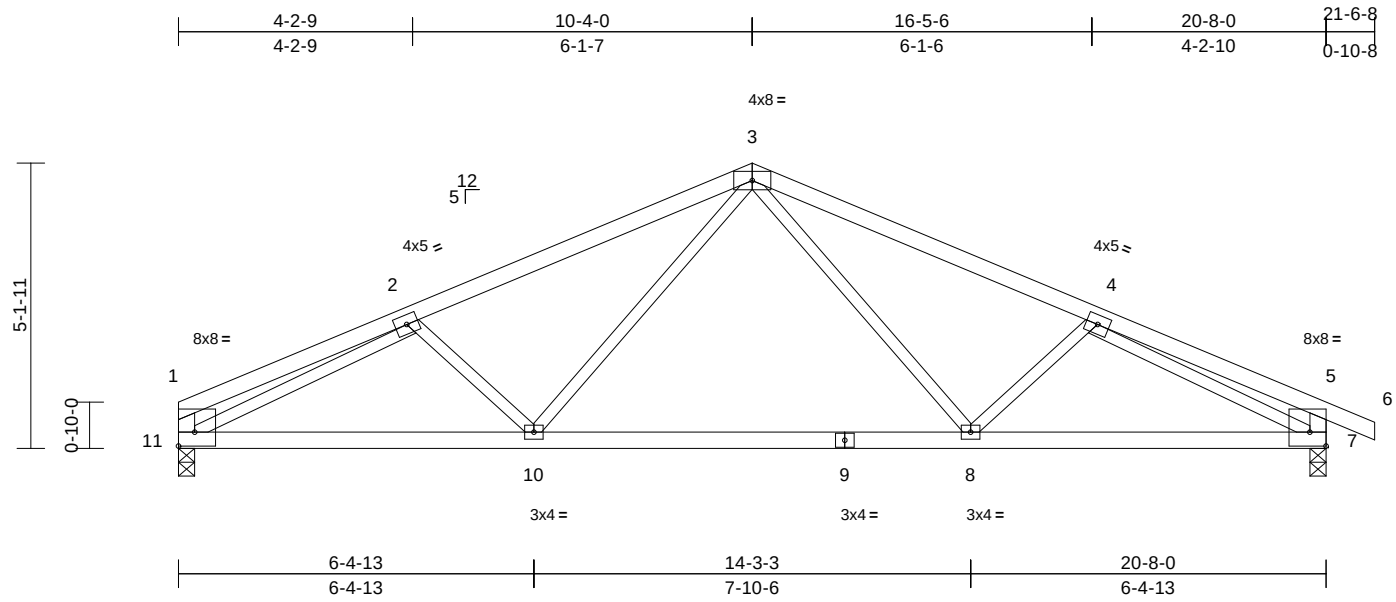

Scale = 1:41.5

Plate Offsets (X, Y): [1:Edge,0-3-0], [2:0-0-0,0-0-0], [5:Edge,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	0.56	Vert(LL)	-0.08	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.20	8-10	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.04	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 73 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-1,7-5:2x4 SPF No.2

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

REACTIONS (size) 7=0-3-8, 11=0-3-8
Max Horiz 11=-70 (LC 9)
Max Uplift 7=-140 (LC 9), 11=-117 (LC 8)
Max Grav 7=990 (LC 1), 11=915 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-252/33, 2-3=-1406/191, 3-4=-1399/189, 4-5=-273/41, 5-6=0/27, 1-11=-189/44, 5-7=-280/73
BOT CHORD 10-11=-233/1375, 8-10=-62/976, 7-8=-167/1361
WEBS 3-8=-51/417, 4-8=-256/190, 3-10=-53/426, 2-10=-266/192, 2-11=-1357/206, 4-7=-1324/196

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 117 lb uplift at joint 11 and 140 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	A3A	Monopitch	2	1	Job Reference (optional)

I64632859

04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:50 Page: 1
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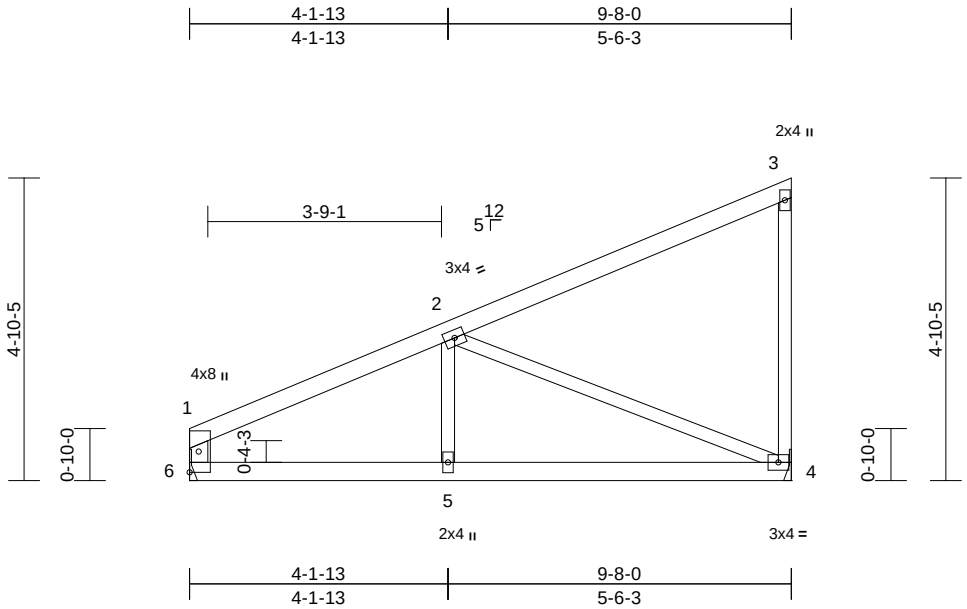

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	-0.04	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.09	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.43	Horz(CT)	0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	4-5	>999	240	Weight: 33 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 6-1:2x4 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= Mechanical, 6= Mechanical
Max Horiz 6=194 (LC 5)
Max Uplift 4=-101 (LC 8), 6=-58 (LC 8)
Max Grav 4=424 (LC 1), 6=424 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-579/82, 2-3=-138/37, 3-4=-167/67, 1-6=-345/71
BOT CHORD 5-6=-114/484, 4-5=-114/484
WEBS 2-4=-509/164, 2-5=0/187

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 101 lb uplift at joint 4 and 58 lb uplift at joint 6.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632860
240617	A4	Common Structural Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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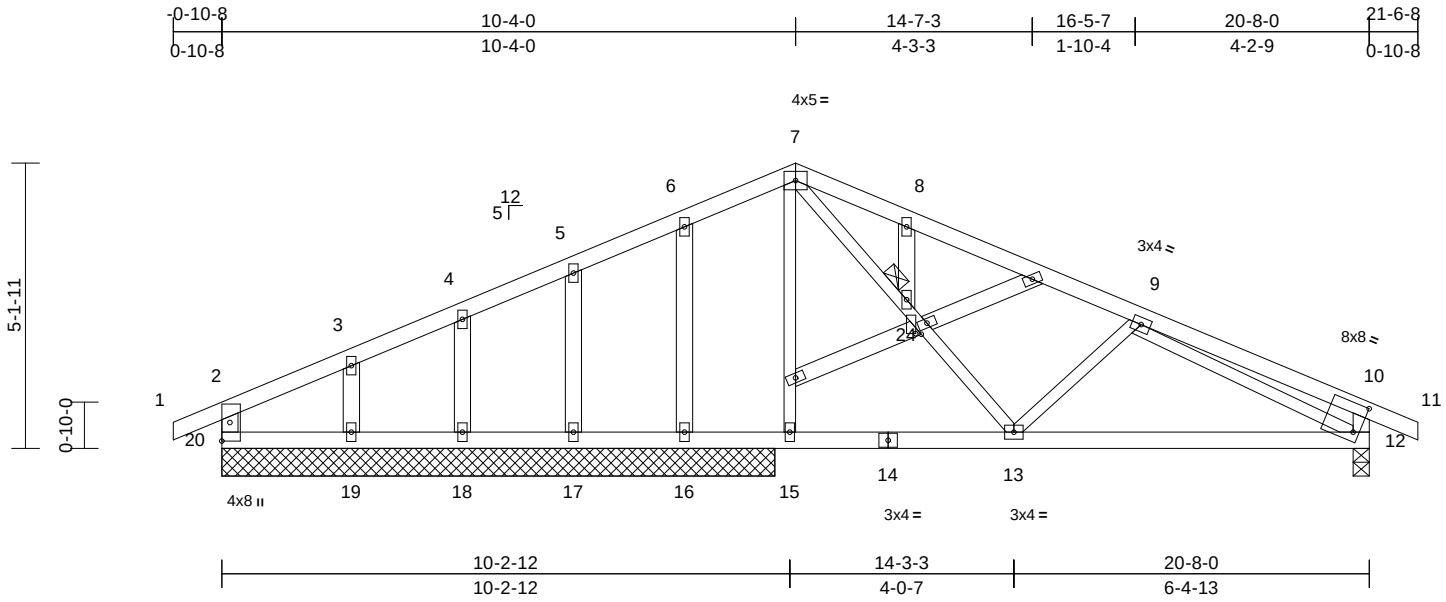

Scale = 1:41.5

Plate Offsets (X, Y): [10:0-1-4,0-6-0], [22:0-0-2,0-1-3]

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	0.34	Vert(LL)	-0.05	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.09	13-15	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.02	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	13-15	>999	240	Weight: 85 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 20-2,12-10,21-22,22-23:2x4 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 24

REACTIONS (size) 12=0-3-8, 16=9-11-8, 17=9-11-8, 18=9-11-8, 19=9-11-8, 20=9-11-8
Max Horiz 20=-62 (LC 9)
Max Uplift 12=-134 (LC 9), 16=-22 (LC 9), 17=-116 (LC 22), 18=-31 (LC 8), 19=-93 (LC 22), 20=-48 (LC 9)
Max Grav 12=735 (LC 1), 16=512 (LC 1), 17=71 (LC 21), 18=281 (LC 1), 19=89 (LC 21), 20=487 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-511/79, 3-4=-459/96, 4-5=-483/119, 5-6=-448/138, 6-7=-489/153, 7-8=-774/195, 8-9=-857/170, 9-10=-226/44, 10-11=0/27, 2-20=-407/53, 10-12=-259/80
BOT CHORD 19-20=0/413, 18-19=0/413, 17-18=0/413, 16-17=0/413, 15-16=0/413, 13-15=0/416, 12-13=-153/903
WEBS 7-24=-100/507, 13-24=-72/444, 9-13=-266/172, 9-12=-846/178, 7-15=-115/47, 6-16=-239/49, 5-17=-95/83, 4-18=-186/62, 3-19=-87/100, 8-24=-82/36

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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 SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 20, 134 lb uplift at joint 12, 22 lb uplift at joint 16, 116 lb uplift at joint 17, 31 lb uplift at joint 18 and 93 lb uplift at joint 19.
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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	A5	Common Girder	1	2	Job Reference (optional) I64632861

Wheeler Lumber, Waverly, KS - 66871,

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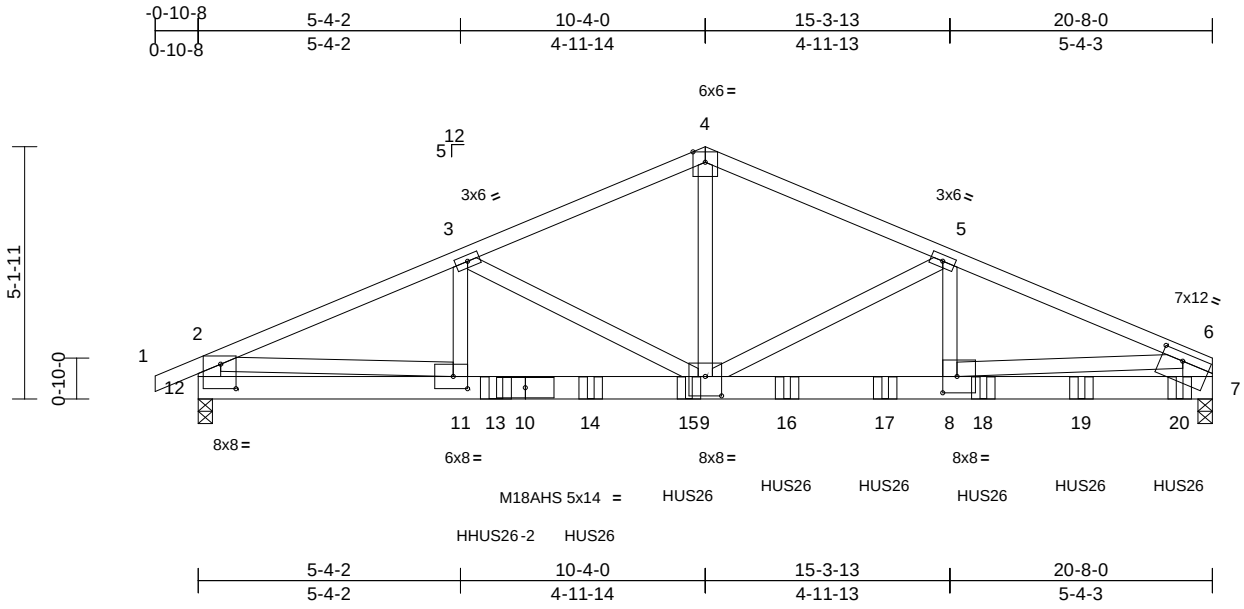

Scale = 1:46.9

Plate Offsets (X, Y): [6:0-5-4,0-2-0], [8:0-3-8,0-4-0], [9:0-4-0,0-4-12], [11:0-3-8,0-3-0], [12:0-3-12,0-6-0]

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	0.87	Vert(LL)	-0.17	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.31	9-11	>786	240	M18AHS	186/179
BCLL	0.0*	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.04	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	9-11	>999	240	Weight: 219 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 12-2:2x6 SP 2400F 2.0E, 7-6:2x8 SP 2400F 2.0E

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

REACTIONS (size) 7=0-3-8, (req. 0-5-1), 12=0-3-8, (req. 0-3-12)
Max Horiz 12=72 (LC 8)
Max Uplift 7=-984 (LC 9), 12=-842 (LC 8)
Max Grav 7=6427 (LC 1), 12=4764 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-9365/1655, 3-4=-7472/1277, 4-5=-7489/1278, 5-6=-9603/1509, 2-12=-4603/859, 6-7=-4554/749
BOT CHORD 11-12=-418/1948, 9-11=-1533/8552, 8-9=-1349/8790, 7-8=-435/2761
WEBS 2-11=-1122/6641, 6-8=-920/6068, 3-11=-259/1428, 3-9=-1975/508, 4-9=-870/5324, 5-9=-2248/360, 5-8=-121/1605

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
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) * 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) WARNING: Required bearing size at joint(s) 12, 7 greater than input bearing size.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 842 lb uplift at joint 12 and 984 lb uplift at joint 7.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 6-10d Truss) or equivalent at 6-0-13 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 8-0-0 from the left end to 20-0-0 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: 1-2=-70, 2-4=-70, 4-6=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 13=-2125 (B), 14=-1029 (B), 15=-1029 (B), 16=-1023 (B), 17=-1023 (B), 18=-1023 (B), 19=-1023 (B), 20=-1028 (B)

April 3,2024

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
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632862
240617	B1	Monopitch Supported Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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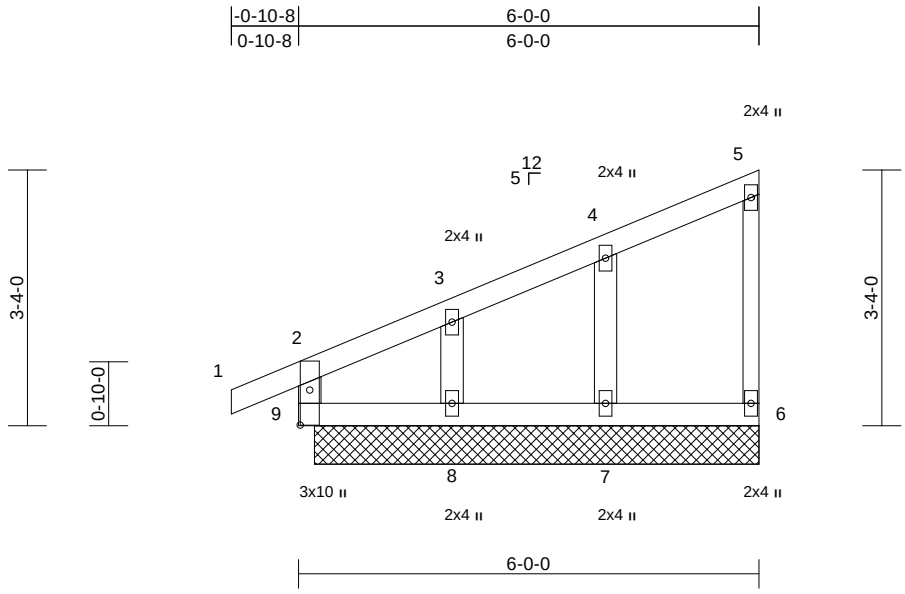

Scale = 1:30

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	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	0.02	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 22 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 5-6:2x3 SPF No.2
OTHERS 2x4 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) 6=5-9-8, 7=5-9-8, 8=5-9-8, 9=5-9-8
Max Horiz 9=136 (LC 7)
Max Uplift 6=-20 (LC 5), 7=-43 (LC 8), 8=-77 (LC 8), 9=-17 (LC 4)
Max Grav 6=68 (LC 1), 7=198 (LC 1), 8=161 (LC 1), 9=162 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-9=-144/32, 1-2=0/27, 2-3=-97/21, 3-4=-72/28, 4-5=-62/26, 5-6=-53/22
BOT CHORD 8-9=-43/32, 7-8=-43/32, 6-7=-43/32
WEBS 3-8=-123/88, 4-7=-154/66

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
4) Gable studs spaced at 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 9, 20 lb uplift at joint 6, 77 lb uplift at joint 8 and 43 lb uplift at joint 7.
9) Non Standard bearing condition. Review required.
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
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632863
240617	B2	Monopitch	7	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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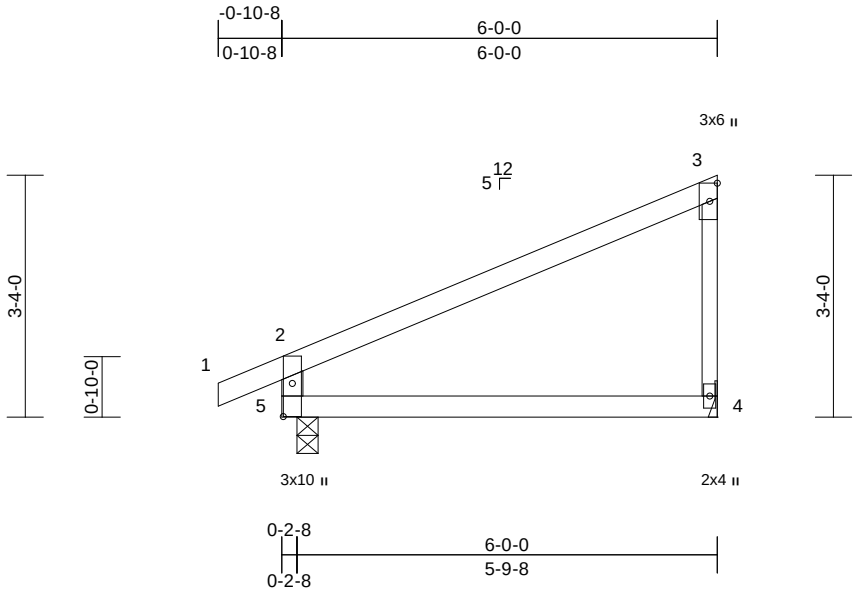

Scale = 1:31.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	-0.04	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.10	4-5	>724	240		
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-R		Wind(LL)	0.02	4-5	>999	240	Weight: 18 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 5-2:2x4 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= Mechanical, 5=0-3-8
Max Horiz 5=136 (LC 5)
Max Uplift 4=-62 (LC 8), 5=-58 (LC 8)
Max Grav 4=252 (LC 1), 5=337 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-141/33, 3-4=-180/85, 2-5=-294/104
BOT CHORD 4-5=-37/39

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 4 and 58 lb uplift at joint 5.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	D1	Common Supported Gable	1	1	Job Reference (optional)

I64632864

Wheeler Lumber, Waverly, KS - 66871,

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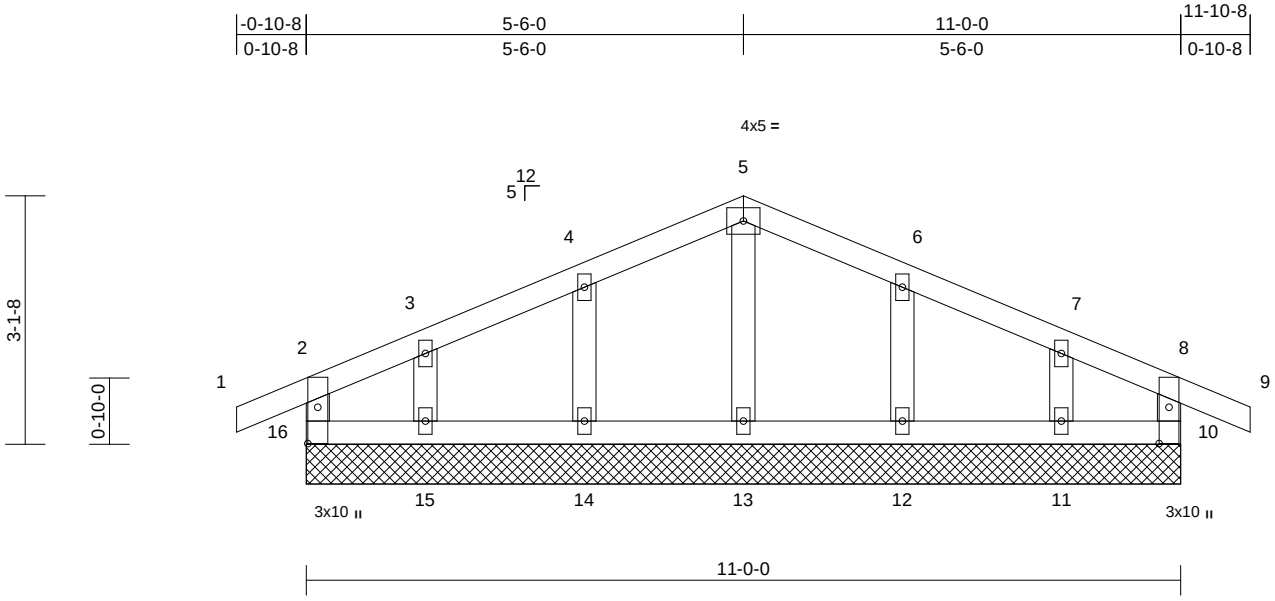

Scale = 1:29

Plate Offsets (X, Y): [10:0-5-8,0-1-8], [16:0-5-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 38 lb	FT = 10%

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

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

REACTIONS (size) 10=11-0-0, 11=11-0-0, 12=11-0-0, 13=11-0-0, 14=11-0-0, 15=11-0-0, 16=11-0-0
Max Horiz 16=-27 (LC 9)
Max Uplift 10=-41 (LC 5), 11=-47 (LC 9), 12=-53 (LC 9), 14=-52 (LC 8), 15=-50 (LC 8), 16=-42 (LC 4)
Max Grav 10=138 (LC 22), 11=136 (LC 1), 12=200 (LC 22), 13=175 (LC 1), 14=200 (LC 21), 15=136 (LC 1), 16=138 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-125/49, 1-2=0/27, 2-3=-25/41, 3-4=-15/57, 4-5=-22/70, 5-6=-22/65, 6-7=-15/54, 7-8=-20/37, 8-9=0/27, 8-10=-125/48
BOT CHORD 15-16=-14/28, 14-15=-14/28, 13-14=-14/28, 12-13=-14/28, 11-12=-14/28, 10-11=-14/28
WEBS 5-13=-135/0, 4-14=-158/78, 3-15=-102/65, 6-12=-158/78, 7-11=-102/64

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss 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.
10) All bearings are assumed to be SPF No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 16, 41 lb uplift at joint 10, 52 lb uplift at joint 14, 50 lb uplift at joint 15, 53 lb uplift at joint 12 and 47 lb uplift at joint 11.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632865
240617	D2	Common	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:51 Page: 1
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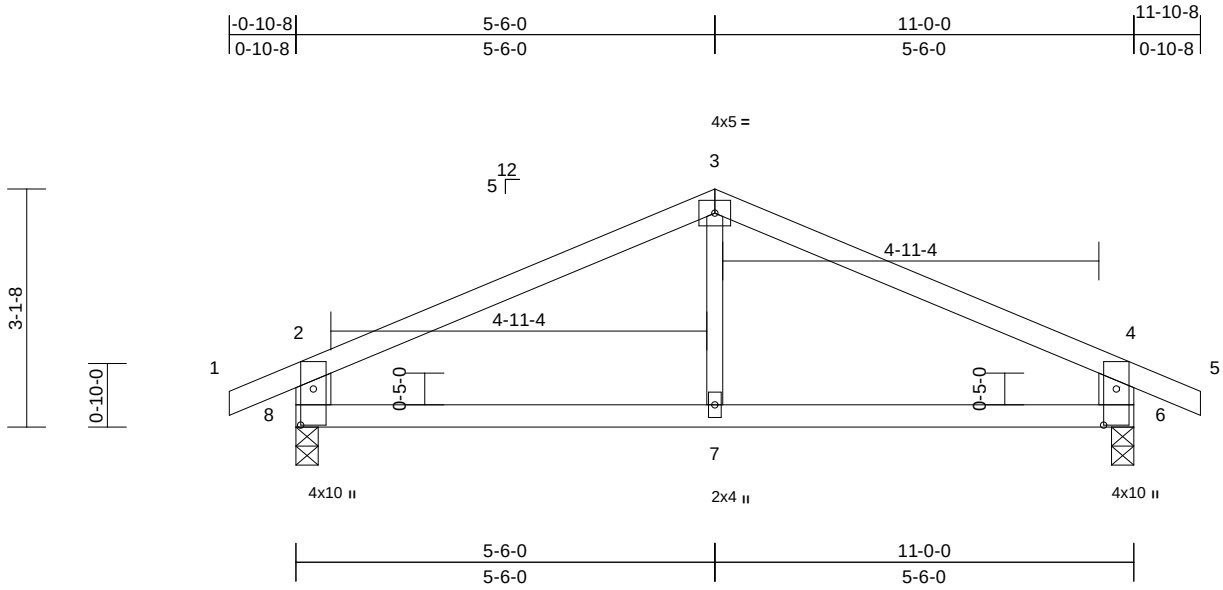

Scale = 1:30.2

Plate Offsets (X, Y): [6:0-5-11,0-2-0], [8:0-5-11,0-2-0]

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	0.45	Vert(LL)	-0.02	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.05	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	7-8	>999	240	Weight: 32 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x6 SPF No.2 *Except* 7-3:2x3 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) 6=0-3-8, 8=0-3-8
Max Horiz 8=-26 (LC 13)
Max Uplift 6=-86 (LC 9), 8=-86 (LC 8)
Max Grav 6=552 (LC 1), 8=552 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-576/79, 3-4=-576/79, 4-5=0/30, 2-8=-489/122, 4-6=-489/122
BOT CHORD 7-8=-16/453, 6-7=-16/453
WEBS 3-7=0/205

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 86 lb uplift at joint 8 and 86 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632866
240617	E1	Half Hip Girder	1	2	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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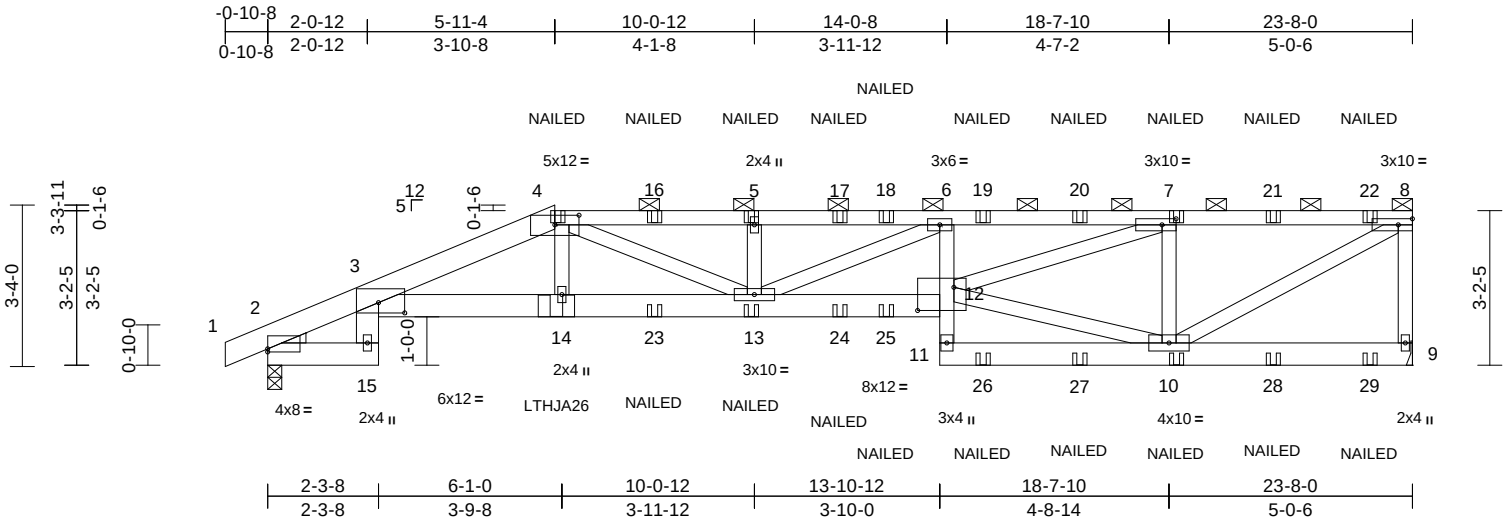

Scale = 1:47.6

Plate Offsets (X, Y): [2:Edge,0-0-12], [3:0-6-8,0-2-9], [4:0-6-0,0-2-6], [7:0-3-8,0-1-8], [12:0-9-0,0-5-12]

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	0.82	Vert(LL)	-0.28	12-13	>996	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.51	12-13	>547	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.59	Horz(CT)	0.27	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.24	12-13	>999	240	Weight: 251 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 4-8:2x4 SPF No.2
BOT CHORD 2x6 SPF No.2 *Except* 3-12:2x6 SP 2400F 2.0E, 6-11:2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 15-3:2x6 SPF No.2
WEDGE Left: 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-1-8 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 2=2069/0-3-8, 9=2145/ Mechanical
Max Horiz 2=123 (LC 7)
Max Uplift 2=-370 (LC 4), 9=-435 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/1, 2-3=-1219/209, 3-4=-6018/1142, 4-16=-6904/1300, 5-16=-6904/1300, 5-17=-6904/1300, 17-18=-6904/1300, 6-18=-6904/1300, 6-19=-7595/1489, 19-20=-7595/1489, 7-20=-7595/1489, 7-21=-3052/625, 21-22=-3052/625, 8-22=-3052/625, 8-9=-2009/473
BOT CHORD 2-15=0/0, 3-14=-1158/5718, 14-23=-1166/5796, 13-23=-1166/5796, 13-24=-1581/7867, 24-25=-1578/7872, 12-25=-1575/7879, 11-12=0/183, 6-12=-76/144, 11-26=-123/615, 26-27=-123/615, 10-27=-123/615, 10-28=-44/67, 28-29=-44/67, 9-29=-44/67
WEBS 3-15=-52/317, 10-12=-523/2527, 7-12=-959/4797, 7-10=-2231/632, 8-10=-673/3448, 4-14=-87/839, 6-13=-1076/250, 4-13=-214/1320, 5-13=-492/231

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 435 lb uplift at joint 9 and 370 lb uplift at joint 2.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Left Hand Hip) or equivalent at 5-11-10 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 3-10d (0.148"x3") or 3-12d (0.148"x3.25") 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: 1-4=-70, 4-8=-70, 2-15=-20, 3-12=-20, 9-11=-20
Concentrated Loads (lb)
Vert: 4=-96 (F), 7=-110 (F), 10=-51 (F), 14=-456 (F), 13=-71 (F), 5=-96 (F), 16=-96 (F), 17=-96 (F), 18=-96 (F), 19=-110 (F), 20=-110 (F), 21=-110 (F), 22=-120 (F), 23=-71 (F), 24=-71 (F), 25=-71 (F), 26=-51 (F), 27=-51 (F), 28=-51 (F), 29=-54 (F)

STATE OF MISSOURI
JUAN GARCIA
NUMBER
E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632867
240617	E2	Half Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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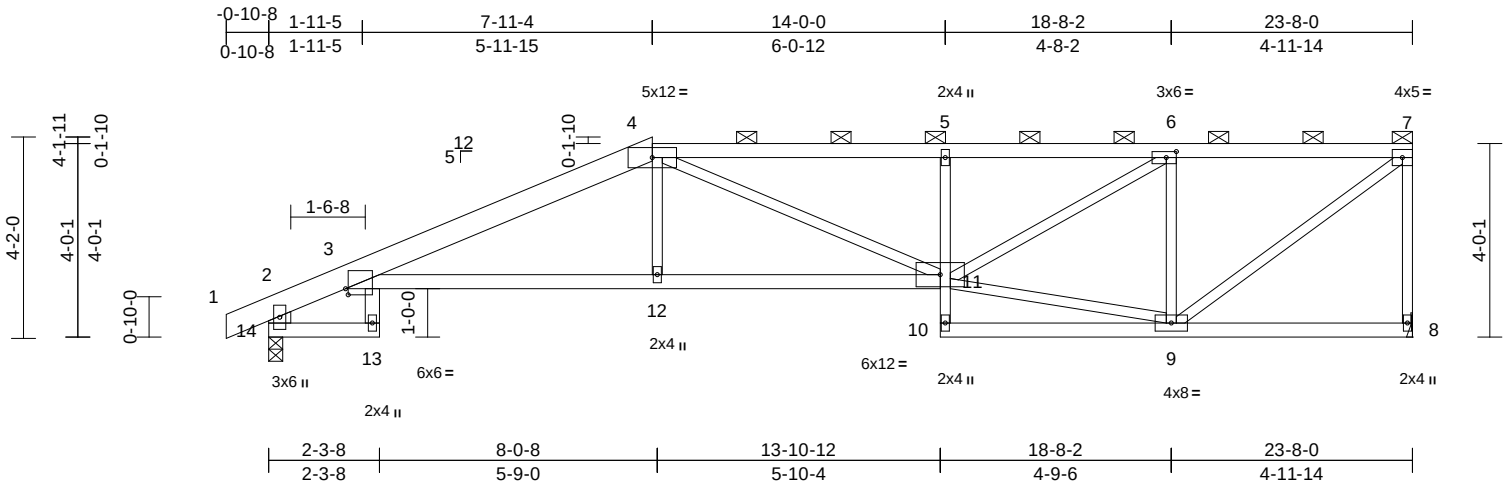

Scale = 1:47.7

Plate Offsets (X, Y): [3:0-0-10,0-1-8], [6:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.20	3-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.39	3-12	>724	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.27	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	3-12	>999	240	Weight: 98 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 4-7:2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 5-10:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-3:2x4 SPF No.2, 14-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-3-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-4-7 max.): 4-7.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=169 (LC 5)
Max Uplift 8=-191 (LC 5), 14=-148 (LC 4)
Max Grav 8=1049 (LC 1), 14=1141 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-390/48, 3-4=-2258/317, 4-5=-2238/408, 5-6=-2209/402, 6-7=-1139/233, 7-8=-1003/210, 2-14=-1135/163
BOT CHORD 13-14=-27/0, 3-12=-391/2086, 11-12=-388/2092, 10-11=0/80, 5-11=-387/162, 9-10=-25/90, 8-9=-51/37
WEBS 3-13=0/53, 4-12=0/296, 4-11=-94/336, 6-11=-245/1236, 7-9=-252/1414, 6-9=-981/273, 9-11=-214/1073

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 191 lb uplift at joint 8 and 148 lb uplift at joint 14.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632868
240617	E3	Half Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:52 Page: 1
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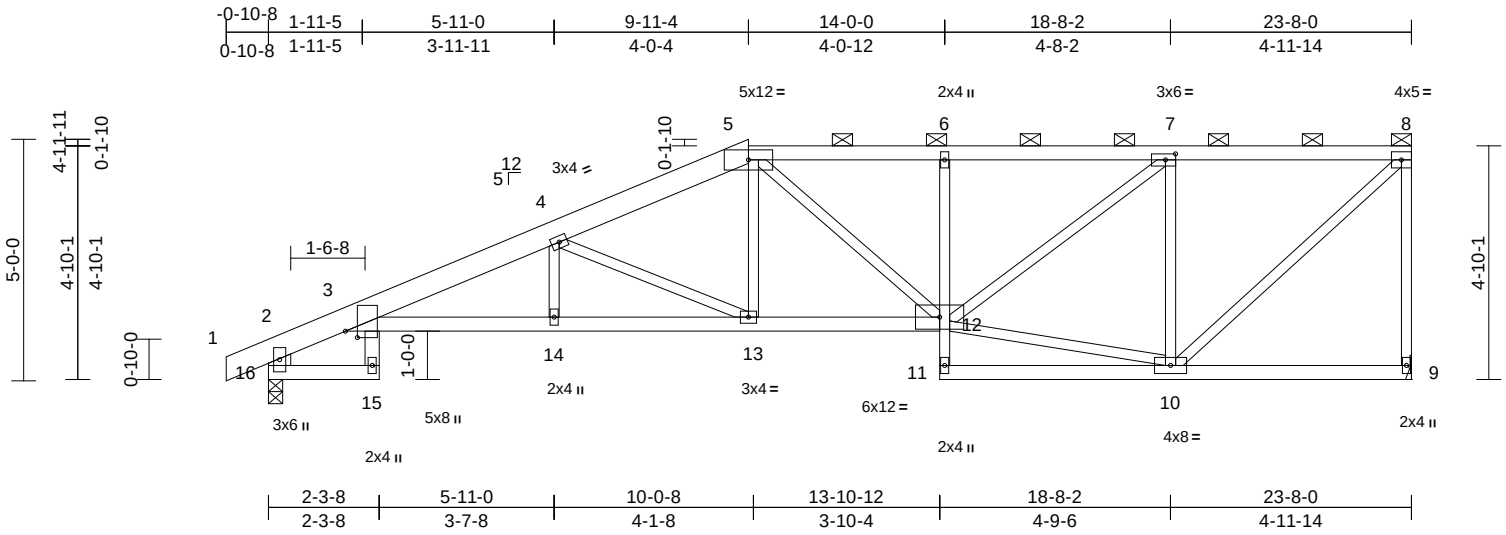

Scale = 1:47.7

Plate Offsets (X, Y): [3:0-1-9,0-2-15], [7:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.15	14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.27	3-14	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.21	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.12	3-14	>999	240	Weight: 108 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 5-8:2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 6-11:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-3:2x4 SPF No.2, 16-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-2-3 oc purlins, except end verticals, and 2-0-0 oc purlins (4-4-0 max.): 5-8.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 16=0-3-8
Max Horiz 16=205 (LC 5)
Max Uplift 9=-187 (LC 5), 16=-135 (LC 8)
Max Grav 9=1049 (LC 1), 16=1141 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-413/36, 3-4=-2634/310, 4-5=-1884/275, 5-6=-1692/301, 6-7=-1683/300, 7-8=-934/200, 8-9=-1005/205, 2-16=-1135/153
BOT CHORD 15-16=-27/0, 3-14=-445/2485, 13-14=-445/2485, 12-13=-325/1691, 11-12=0/79, 6-12=-313/129, 10-11=-13/67, 9-10=-64/47
WEBS 3-15=0/53, 5-12=-45/153, 7-12=-178/940, 8-10=-221/1264, 5-13=-39/469, 4-13=-889/214, 7-10=-944/268, 10-12=-193/887, 4-14=0/171

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 187 lb uplift at joint 9 and 135 lb uplift at joint 16.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632869
240617	E4	Common	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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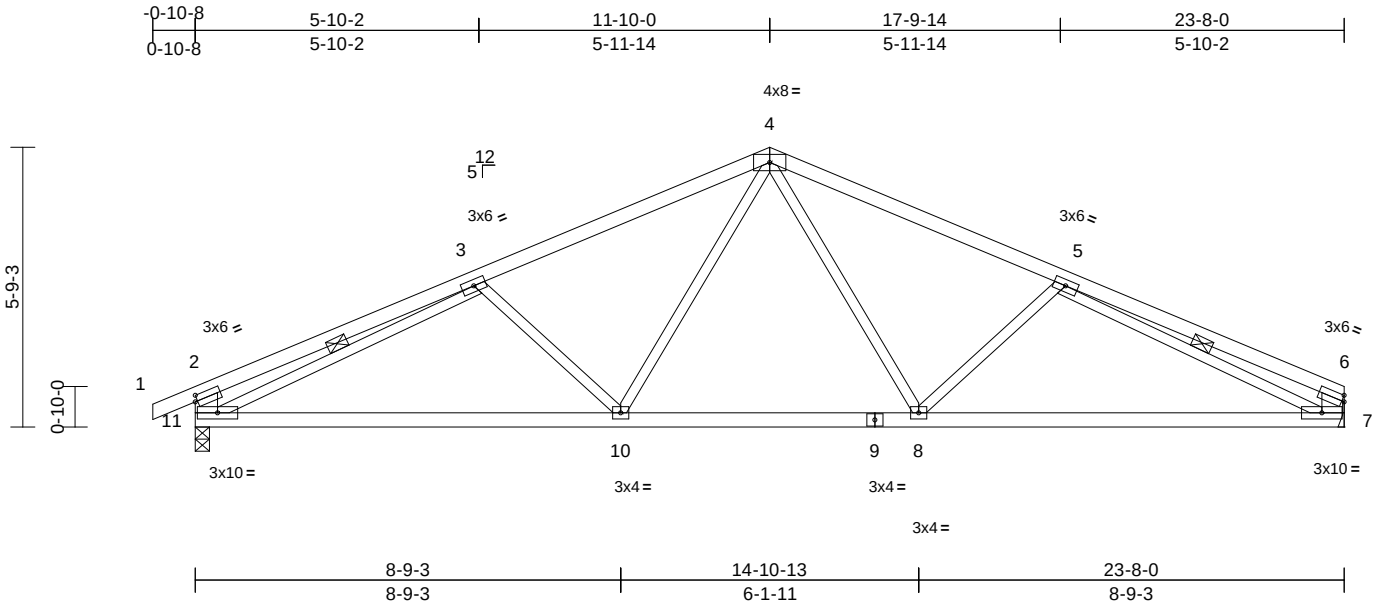

Scale = 1:47.5

Plate Offsets (X, Y): [2:0-0-10,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	-0.15	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.31	10-11	>904	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.05	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 85 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2,7-6:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-11, 5-7

REACTIONS (size) 7= Mechanical, 11=0-3-8
Max Horiz 11=80 (LC 8)
Max Uplift 7=-133 (LC 9), 11=-159 (LC 8)
Max Grav 7=1043 (LC 1), 11=1124 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-535/105, 3-4=-1519/204, 4-5=-1526/207, 5-6=-450/62, 2-11=-450/134, 6-7=-323/85
BOT CHORD 10-11=-253/1531, 8-10=-67/1128, 7-8=-193/1546
WEBS 4-8=-68/441, 5-8=-347/217, 4-10=-65/432, 3-10=-333/213, 3-11=-1253/157, 5-7=-1351/205

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 159 lb uplift at joint 11 and 133 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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632870
240617	E4A	Roof Special	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:52 Page: 1
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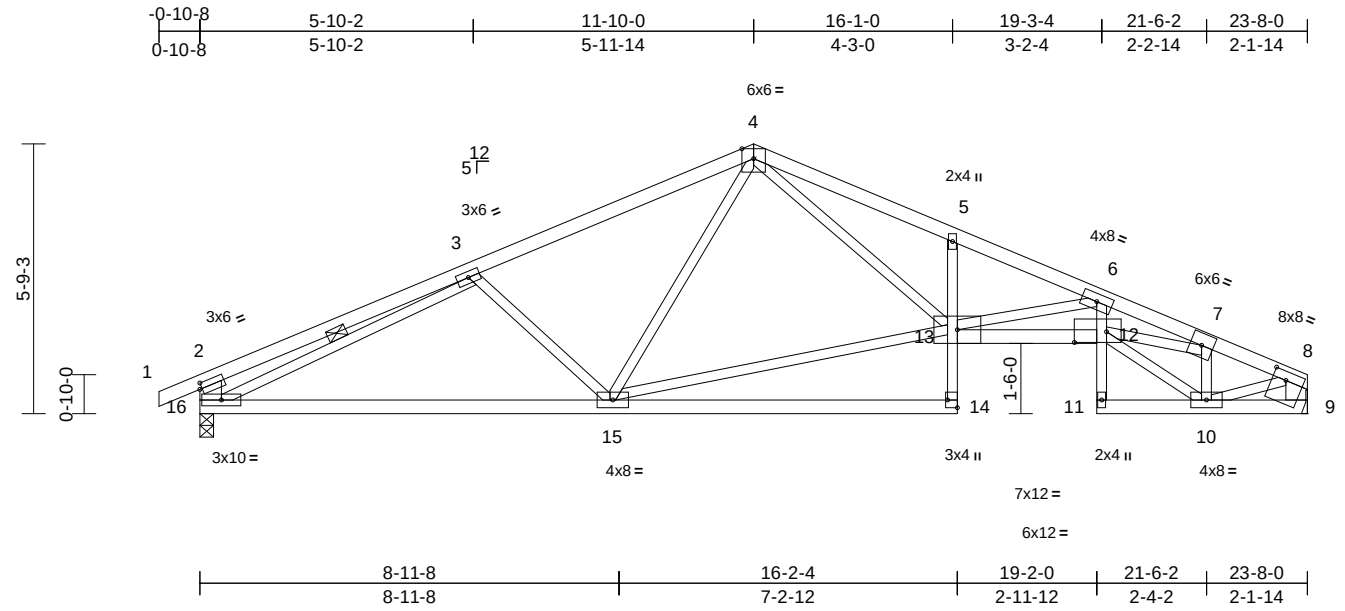

Scale = 1:49.2

Plate Offsets (X, Y): [2:0-0-10,0-1-8], [8:0-3-8,0-2-4], [12:0-8-4,0-2-12], [14: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	0.56	Vert(LL)	-0.22	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.39	12-13	>711	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.23	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	12-13	>999	240	Weight: 95 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 14-5,6-11:2x3 SPF No.2, 13-12:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 9-8,16-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-3-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-16

REACTIONS (size) 9= Mechanical, 16=0-3-8
Max Horiz 16=80 (LC 8)
Max Uplift 9=-133 (LC 9), 16=-159 (LC 8)
Max Grav 9=1043 (LC 1), 16=1124 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-521/111, 3-4=-1522/198, 4-5=-2643/380, 5-6=-2642/300, 6-7=-4395/510, 7-8=-1432/182, 8-9=-986/137, 2-16=-444/136
BOT CHORD 15-16=-250/1538, 14-15=0/76, 13-14=0/117, 5-13=-324/154, 12-13=-424/4089, 11-12=0/59, 6-12=-87/1066, 10-11=-16/128, 9-10=-25/138
WEBS 3-15=-332/216, 4-15=-22/266, 13-15=-89/1201, 4-13=-246/1556, 6-13=-1716/246, 7-10=-1209/180, 7-12=-265/2705, 10-12=-172/1421, 8-10=-139/1219, 3-16=-1275/147

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 133 lb uplift at joint 9 and 159 lb uplift at joint 16.
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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632871
240617	E5	Common	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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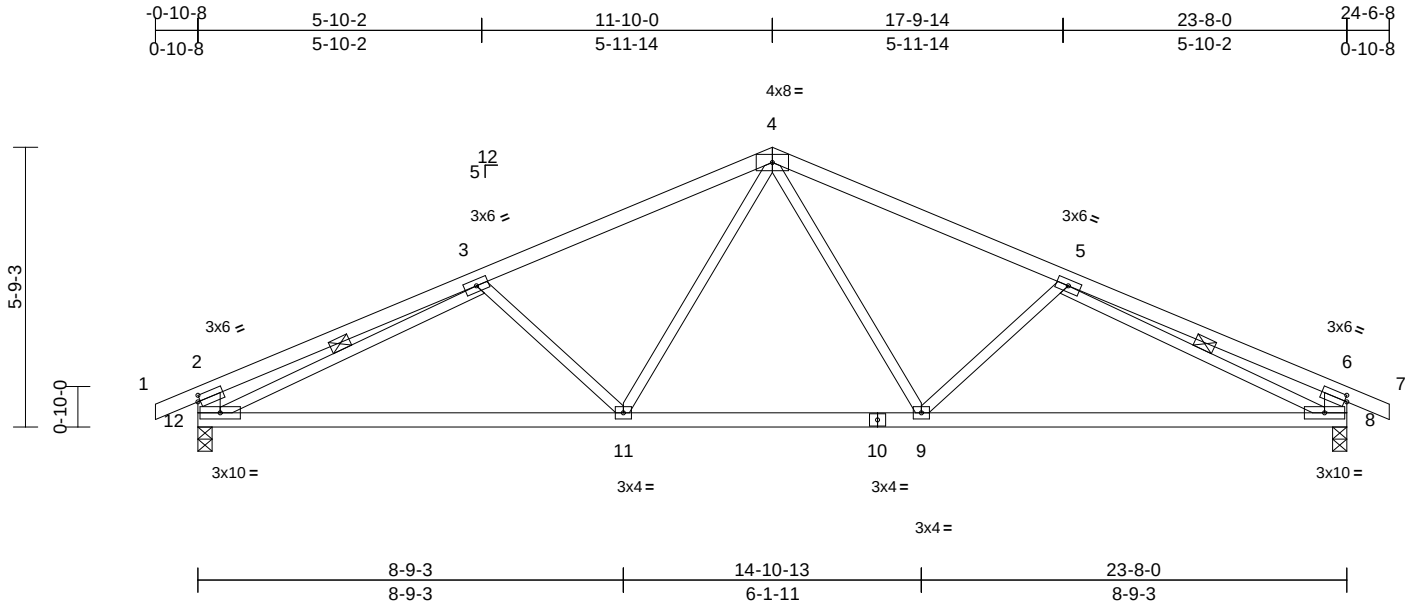

Scale = 1:47.5

Plate Offsets (X, Y): [2:0-0-10,0-1-8], [6:0-0-10,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.47	Vert(LL)	-0.15	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.31	11-12	>904	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.05	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-11	>999	240	Weight: 86 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-12, 5-8

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=72 (LC 8)
Max Uplift 8=-159 (LC 9), 12=-159 (LC 8)
Max Grav 8=1122 (LC 1), 12=1122 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-535/105, 3-4=-1515/204, 4-5=-1515/204, 5-6=-535/105, 6-7=0/30, 2-12=-450/134, 6-8=-450/133
BOT CHORD 11-12=-245/1528, 9-11=-59/1125, 8-9=-173/1528
WEBS 4-9=-65/432, 5-9=-333/213, 4-11=-65/432, 3-11=-333/213, 3-12=-1248/157, 5-8=-1248/157

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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.
5) All bearings are assumed to be SPF No.2 .
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 159 lb uplift at joint 12 and 159 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632872
240617	E6	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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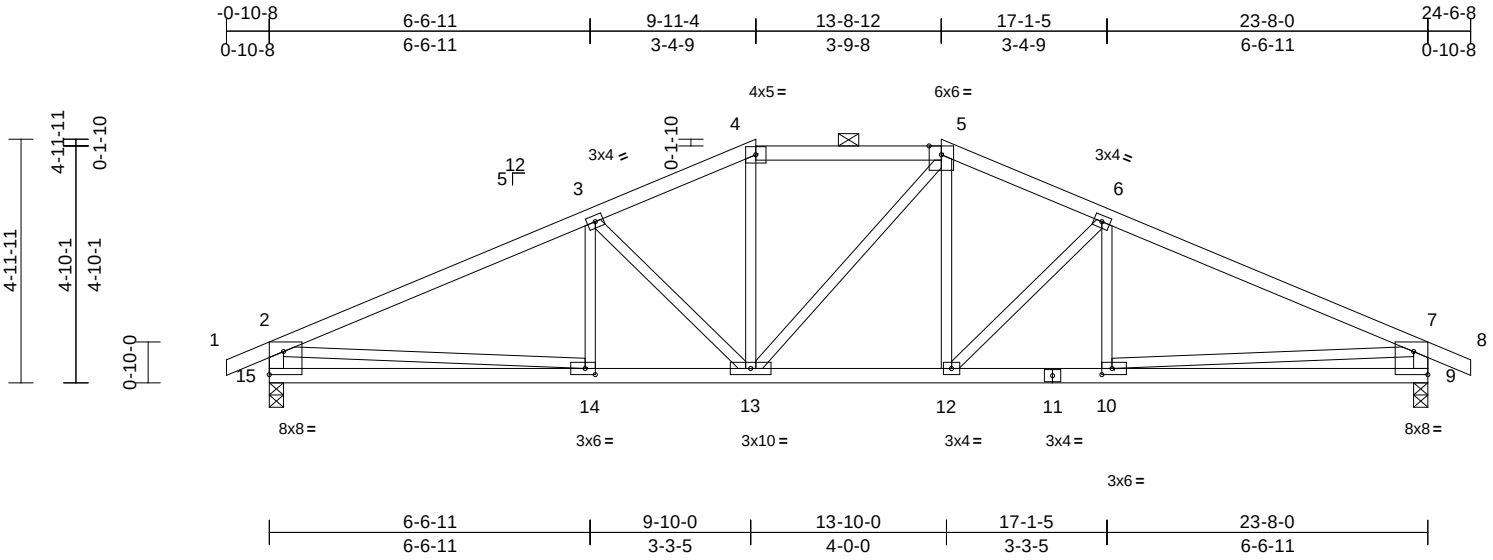

Scale = 1:47.1

Plate Offsets (X, Y): [9:Edge,0-5-11], [10:0-2-8,0-1-8], [14:0-2-8,0-1-8], [15:Edge,0-5-11]

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	0.52	Vert(LL)	-0.07	10-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.13	12-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.04	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	12	>999	240	Weight: 93 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2,9-7:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-7 oc purlins, except end verticals, and 2-0-0 oc purlins (4-10-6 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=58 (LC 12)
Max Uplift 9=-143 (LC 9), 15=-143 (LC 8)
Max Grav 9=1123 (LC 1), 15=1123 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1768/183, 3-4=-1466/182, 4-5=-1302/178, 5-6=-1465/183, 6-7=-1769/183, 7-8=0/27, 2-15=-1053/179, 7-9=-1053/179
BOT CHORD 14-15=-185/527, 13-14=-152/1546, 12-13=-51/1301, 10-12=-94/1546, 9-10=-131/526
WEBS 3-13=-361/133, 4-13=-17/304, 5-13=-131/134, 5-12=-58/321, 6-12=-363/132, 2-14=-20/1023, 7-10=-20/1024, 3-14=0/149, 6-10=0/150

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 143 lb uplift at joint 15 and 143 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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632873
240617	E7	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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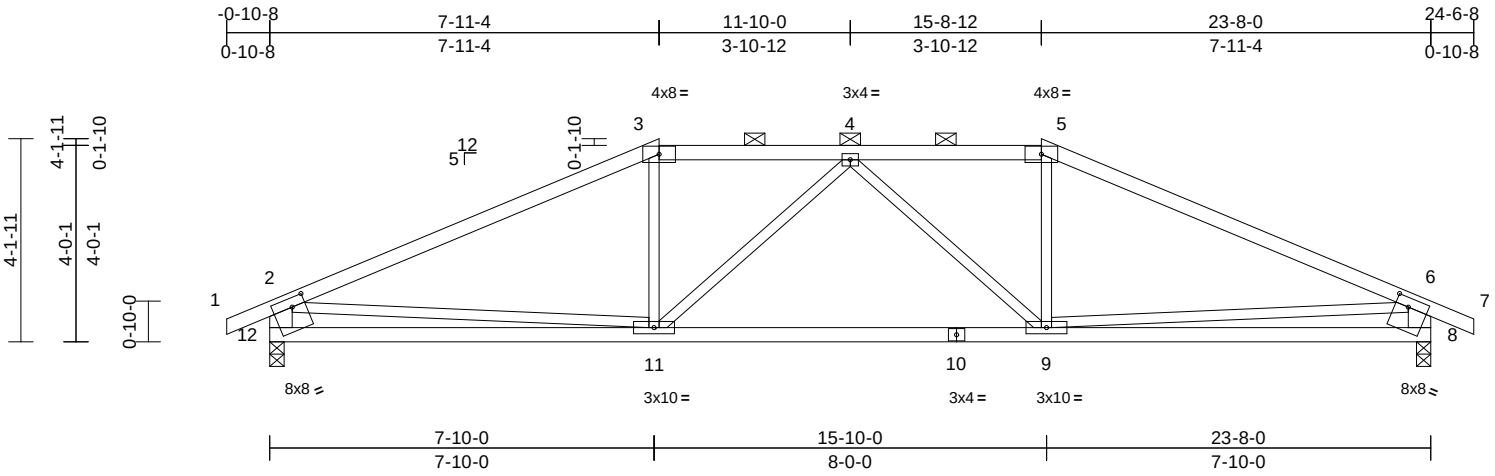

Scale = 1:47

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

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	0.83	Vert(LL)	-0.08	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.18	9-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-11	>999	240	Weight: 85 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x6 SPF No.2

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

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=42 (LC 12)
Max Uplift 8=-138 (LC 5), 12=-138 (LC 4)
Max Grav 8=1122 (LC 1), 12=1122 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-1710/202, 3-4=-1469/213, 4-5=-1469/213, 5-6=-1710/202, 6-7=0/30, 2-12=-1051/179, 6-8=-1051/179
BOT CHORD 11-12=-281/747, 9-11=-169/1618, 8-9=-242/747
WEBS 3-11=0/324, 5-9=0/324, 2-11=0/862, 6-9=0/862, 4-9=-334/88, 4-11=-334/88

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 12 and 138 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	E8	Hip Girder	1	**2**	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I64632874
04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

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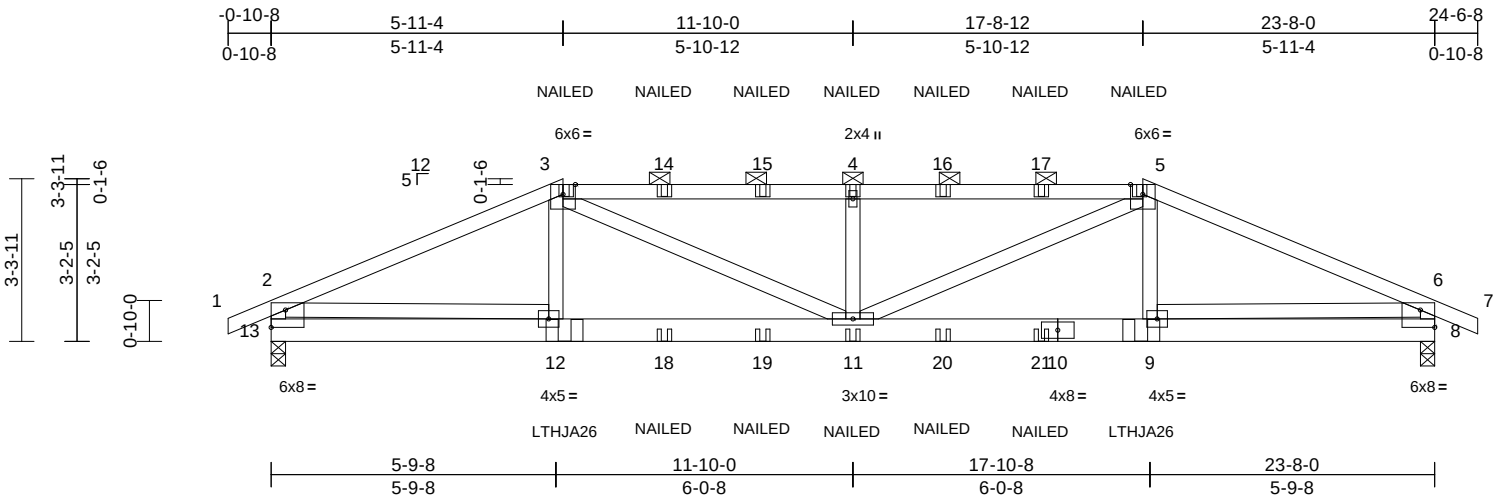

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Plate Offsets (X, Y): [8:Edge,0-4-4], [13:Edge,0-4-4]

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	0.64	Vert(LL)	-0.11	11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.20	11	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.33	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	11	>999	240	Weight: 217 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-0-8 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 13=0-3-8
Max Horiz 13=32 (LC 12)
Max Uplift 8=-419 (LC 5), 13=-419 (LC 4)
Max Grav 8=2042 (LC 1), 13=2042 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-3824/812, 3-4=-4717/1065, 4-5=-4717/1065, 5-6=-3824/812, 6-7=0/27, 2-13=-1945/434, 6-8=-1945/434
BOT CHORD 12-13=-267/875, 11-12=-693/3446, 9-11=-697/3446, 8-9=-238/875
WEBS 3-12=0/390, 3-11=-328/1491, 4-11=-943/435, 5-11=-328/1491, 5-9=0/390, 2-12=-526/2665, 6-9=-526/2665

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: 2x4 - 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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 419 lb uplift at joint 13 and 419 lb uplift at joint 8.
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 LTHJA26 (LTHJA26 on 2 ply, Right Hand Hip) or equivalent at 5-11-10 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Left Hand Hip) or equivalent at 17-8-6 from the left end to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-5=-70, 5-6=-70, 6-7=-70, 8-13=-20
Concentrated Loads (lb)
Vert: 3=-110 (B), 5=-110 (B), 12=-405 (B), 11=-51 (B), 4=-110 (B), 9=-405 (B), 14=-110 (B), 15=-110 (B), 16=-110 (B), 17=-110 (B), 18=-51 (B), 19=-51 (B), 20=-51 (B), 21=-51 (B)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	G1	Hip Girder	1	1	Job Reference (optional) I64632875

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:53 Page: 1
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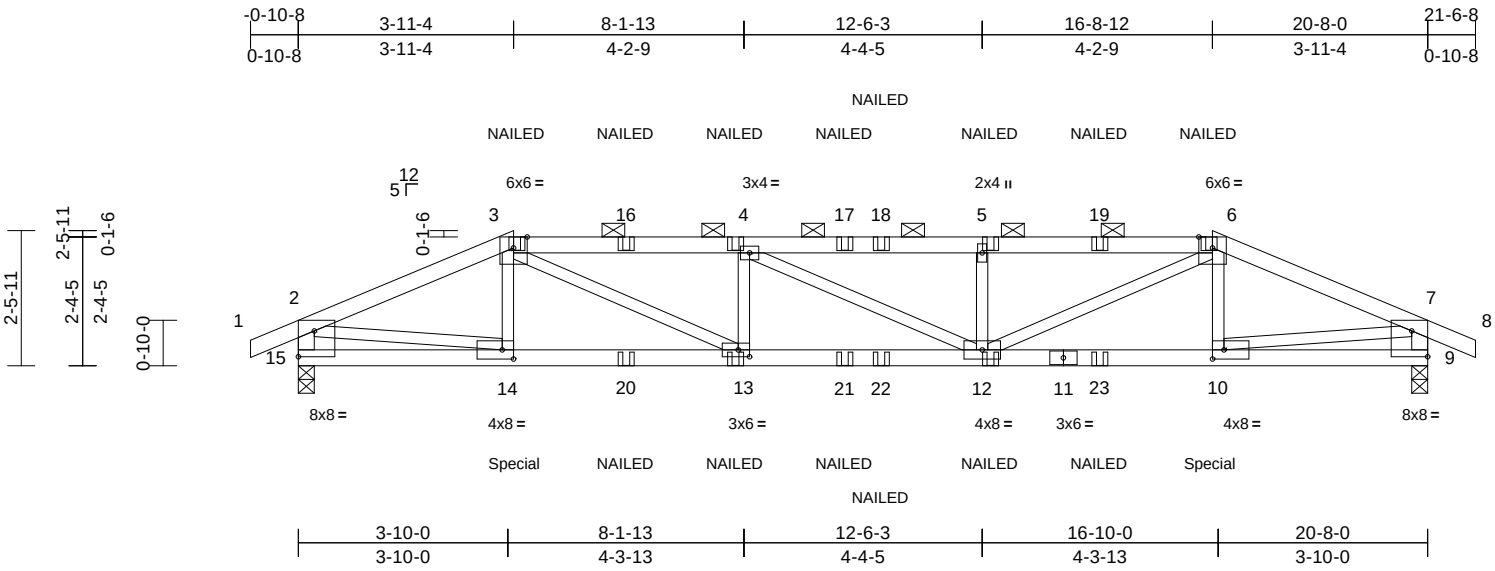

Scale = 1:42.2

Plate Offsets (X, Y): [9:Edge,0-5-11], [10:0-2-8,0-2-0], [13:0-2-8,0-1-8], [14:0-2-8,0-2-0], [15:Edge,0-5-11]

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	0.69	Vert(LL)	-0.18	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.33	12-13	>732	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.64	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	12-13	>999	240	Weight: 74 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2,9-7:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-11 oc purlins, except end verticals, and 2-0-0 oc purlins (2-8-8 max.): 3-6.
BOT CHORD Rigid ceiling directly applied or 6-9-14 oc bracing.

REACTIONS (size) 9=0-3-8, 15=0-3-8
Max Horiz 15=-18 (LC 6)
Max Uplift 9=-319 (LC 5), 15=-319 (LC 4)
Max Grav 9=1451 (LC 1), 15=1451 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-2384/537, 3-4=-3397/806, 4-5=-3392/803, 5-6=-3395/804, 6-7=-2384/537, 7-8=0/27, 2-15=-1399/332, 7-9=-1399/332
BOT CHORD 14-15=-93/303, 13-14=-459/2155, 12-13=-753/3394, 10-12=-461/2155, 9-10=-79/303
WEBS 3-14=-10/97, 6-10=-10/97, 2-14=-408/1875, 7-10=-409/1875, 3-13=-328/1421, 6-12=-327/1418, 4-13=-489/226, 4-12=-28/23, 5-12=-478/225

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 319 lb uplift at joint 15 and 319 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.
10) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 214 lb down and 55 lb up at 3-11-4, and 214 lb down and 55 lb up at 16-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
12) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-6=-70, 6-7=-70, 7-8=-70, 9-15=-20
Concentrated Loads (lb)
Vert: 3=-45 (F), 6=-45 (F), 14=-214 (F), 10=-214 (F), 13=-23 (F), 12=-23 (F), 4=-45 (F), 5=-45 (F), 16=-45 (F), 17=-45 (F), 18=-45 (F), 19=-45 (F), 20=-23 (F), 21=-23 (F), 22=-23 (F), 23=-23 (F)

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632876
240617	G2	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:53 Page: 1
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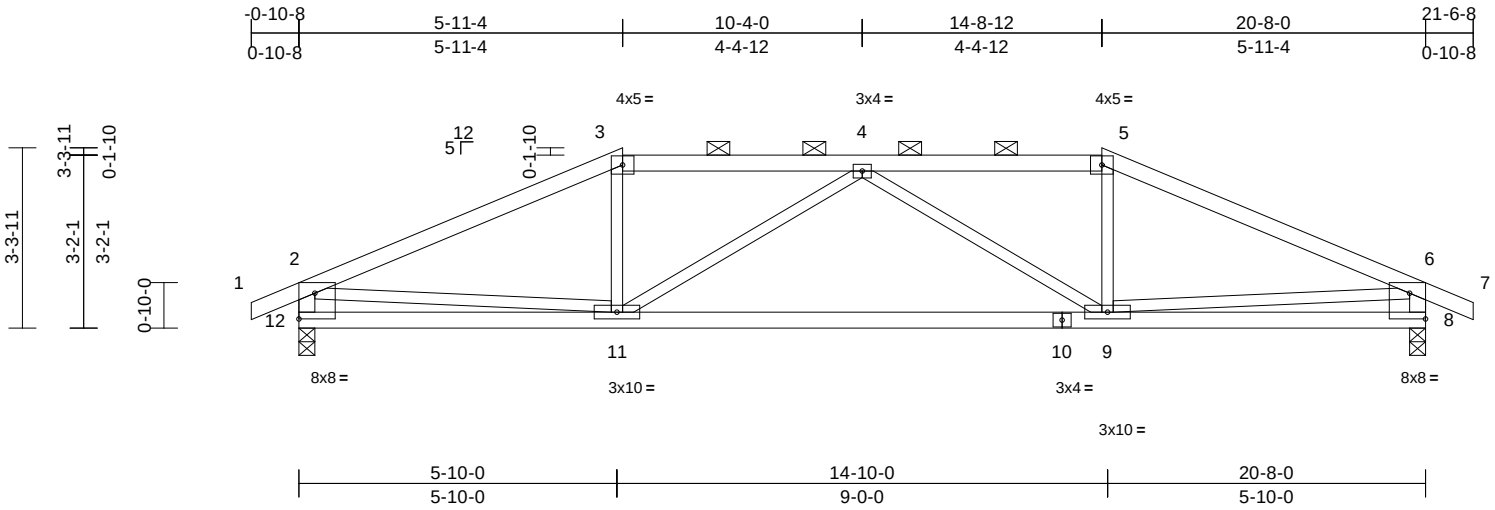

Scale = 1:42.3

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

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	0.46	Vert(LL)	-0.15	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.34	9-11	>723	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	9-11	>999	240	Weight: 73 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-7 oc purlins, except end verticals, and 2-0-0 oc purlins (4-10-15 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 12=0-3-8
Max Horiz 12=-29 (LC 13)
Max Uplift 8=-135 (LC 5), 12=-135 (LC 4)
Max Grav 8=988 (LC 1), 12=988 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1533/188, 3-4=-1333/194, 4-5=-1333/194, 5-6=-1533/188, 6-7=0/27, 2-12=-943/157, 6-8=-943/157
BOT CHORD 11-12=-163/422, 9-11=-226/1613, 8-9=-136/422
WEBS 3-11=0/310, 4-11=-427/136, 4-9=-427/136, 5-9=0/310, 2-11=-38/932, 6-9=-38/932

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 135 lb uplift at joint 12 and 135 lb uplift at joint 8.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632877
240617	G3	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:53 Page: 1
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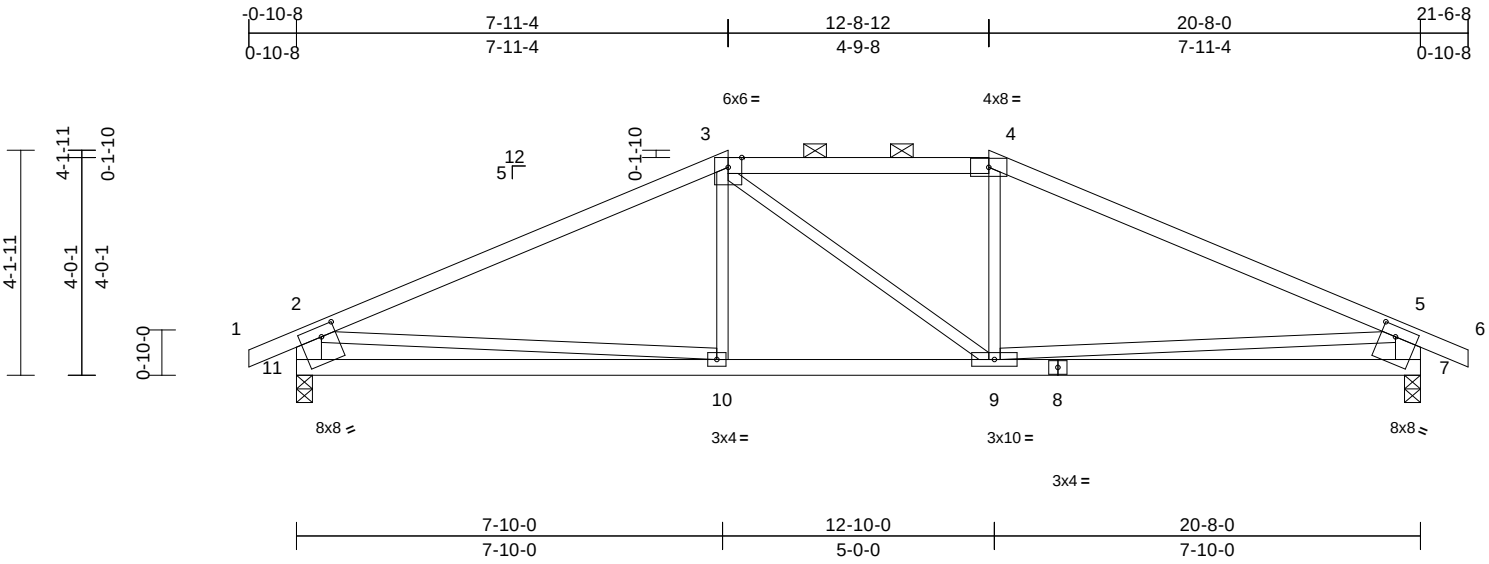

Scale = 1:42.4

Plate Offsets (X, Y): [7:0-3-4,0-2-4], [11:0-3-4,0-2-4]

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	0.80	Vert(LL)	-0.10	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.20	10-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	9-10	>999	240	Weight: 75 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-2,7-5:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-15 oc purlins, except end verticals, and 2-0-0 oc purlins (5-2-10 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 11=0-3-8
Max Horiz 11=42 (LC 8)
Max Uplift 7=-122 (LC 9), 11=-122 (LC 8)
Max Grav 7=987 (LC 1), 11=987 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-1404/152, 3-4=-1189/169, 4-5=-1405/152, 5-6=0/30, 2-11=-911/168, 5-7=-912/167
BOT CHORD 10-11=-276/731, 9-10=-62/1189, 7-9=-237/730
WEBS 3-10=0/221, 3-9=-150/150, 4-9=0/221, 2-10=0/619, 5-9=0/620

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 11 and 122 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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	G4	Hip Girder	1	**2**	Job Reference (optional)

I64632878

Wheeler Lumber, Waverly, KS - 66871,

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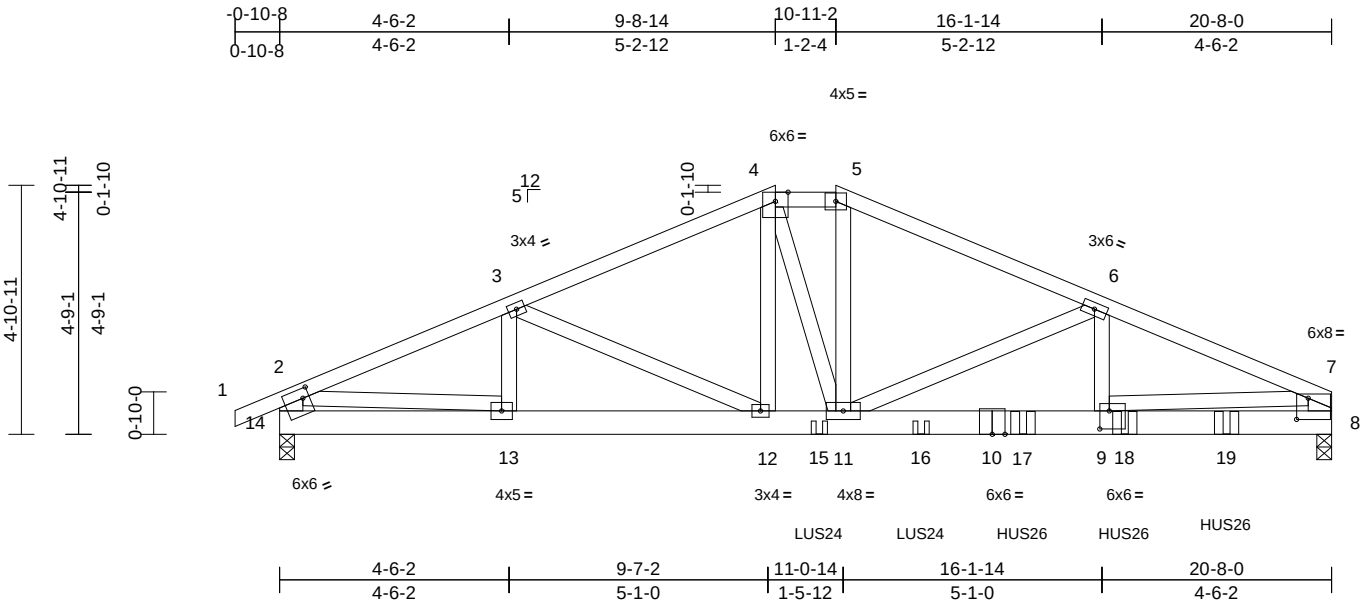

Scale = 1:45.3

Plate Offsets (X, Y): [7:0-2-12,0-5-0], [9:0-2-4,0-4-4], [14:0-1-8,0-2-4]

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	0.32	Vert(LL)	-0.09	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.16	9-11	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.49	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	9-11	>999	240	Weight: 208 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF No.2 *Except* 14-2,8-7:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-1-3 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8=0-3-8, 14=0-3-8
Max Horiz 14=66 (LC 8)
Max Uplift 8=-503 (LC 9), 14=-271 (LC 8)
Max Grav 8=3538 (LC 1), 14=1851 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-3185/443, 3-4=-3203/451, 4-5=-3234/501, 5-6=-3596/512, 6-7=-5804/827, 2-14=-1727/282, 7-8=-2865/434
BOT CHORD 13-14=-152/617, 12-13=-423/2883, 11-12=-347/2907, 9-11=-729/5301, 8-9=-204/1373
WEBS 3-13=-311/113, 3-12=-134/320, 4-12=-222/109, 4-11=-239/1295, 5-11=-170/1137, 6-11=-2279/415, 6-9=-158/1565, 2-13=-273/2284, 7-9=-530/3959

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, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 271 lb uplift at joint 14 and 503 lb uplift at joint 8.
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 LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 10-7-4 from the left end to 12-7-4 to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 14-7-4 from the left end to 18-7-4 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: 1-2=-70, 2-4=-70, 4-5=-70, 5-7=-70, 8-14=-20
Concentrated Loads (lb)
Vert: 15=-404 (B), 16=-404 (B), 17=-895 (B), 18=-895 (B), 19=-895 (B)

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632879
240617	J1	Diagonal Hip Girder	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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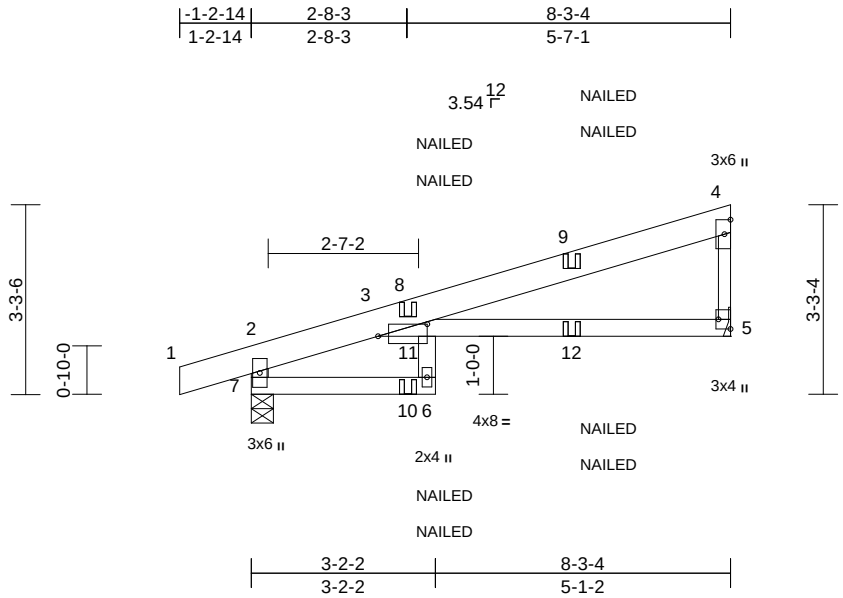

Scale = 1:39.8

Plate Offsets (X, Y): [3:0-10-3,0-2-8], [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	0.69	Vert(LL)	-0.14	6	>669	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.27	6	>352	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.11	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.15	6	>631	240	Weight: 31 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 4-5:2x3 SPF No.2

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

REACTIONS (size) 5= Mechanical, 7=0-4-9
Max Horiz 7=114 (LC 5)
Max Uplift 5=-103 (LC 8), 7=-127 (LC 4)
Max Grav 5=413 (LC 1), 7=504 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-479/149, 1-2=0/27, 2-3=-138/24, 3-4=-157/28, 4-5=-293/110
BOT CHORD 6-7=-49/0, 3-5=-31/95
WEBS 3-6=0/76

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 127 lb uplift at joint 7 and 103 lb uplift at joint 5.
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 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
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: 1-2=-70, 2-4=-70, 6-7=-20, 3-5=-20
Concentrated Loads (lb)
Vert: 9=-11 (F=-5, B=-5), 10=4 (F=2, B=2), 12=-73 (F=-36, B=-36)

April 3,2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632880
240617	J2	Jack-Open	5	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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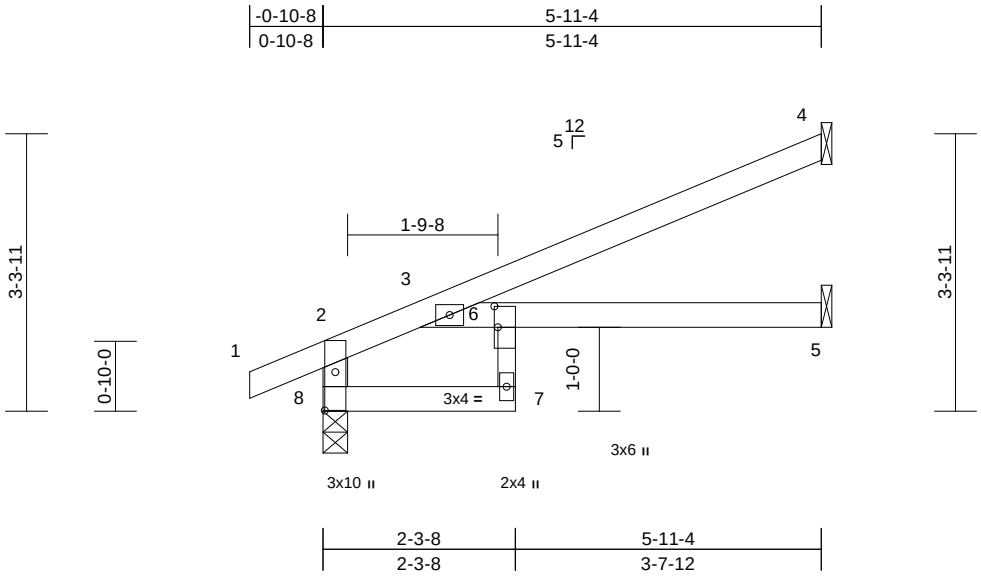

Scale = 1:27.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.06	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.13	5-6	>527	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.06	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.07	5-6	>932	240	Weight: 18 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-6:2x3 SPF No.2
WEBS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-11-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=104 (LC 8)
Max Uplift 4=-77 (LC 8), 8=-34 (LC 8)
Max Grav 4=166 (LC 1), 5=114 (LC 3), 8=351 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-342/66, 1-2=0/27, 2-3=-200/0, 3-4=-63/51
BOT CHORD 7-8=-65/107, 6-7=-8/48, 3-6=-107/65, 5-6=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 8 and 77 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632881
240617	J3	Jack-Open	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:53 Page: 1
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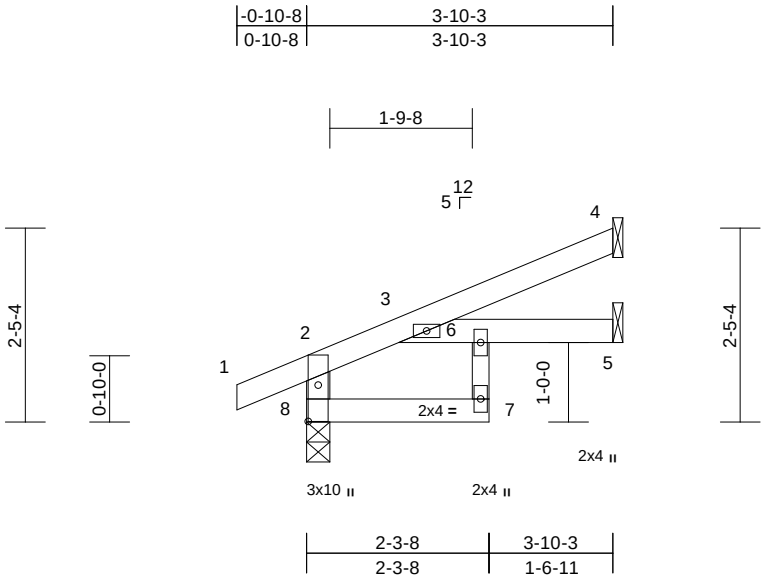

Scale = 1:29

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	-0.01	3-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	3-6	>999	240	Weight: 13 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-6:2x3 SPF No.2
WEBS 2x4 SPF No.2

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=68 (LC 8)
Max Uplift 4=-44 (LC 8), 5=-2 (LC 8), 8=-26 (LC 8)
Max Grav 4=98 (LC 1), 5=82 (LC 3), 8=257 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-241/50, 1-2=0/27, 2-3=-108/0, 3-4=-34/31
BOT CHORD 7-8=-29/47, 6-7=0/44, 3-6=-47/29, 5-6=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 8, 44 lb uplift at joint 4 and 2 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632882
240617	J4	Jack-Open	6	1	Job Reference (optional)	

04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

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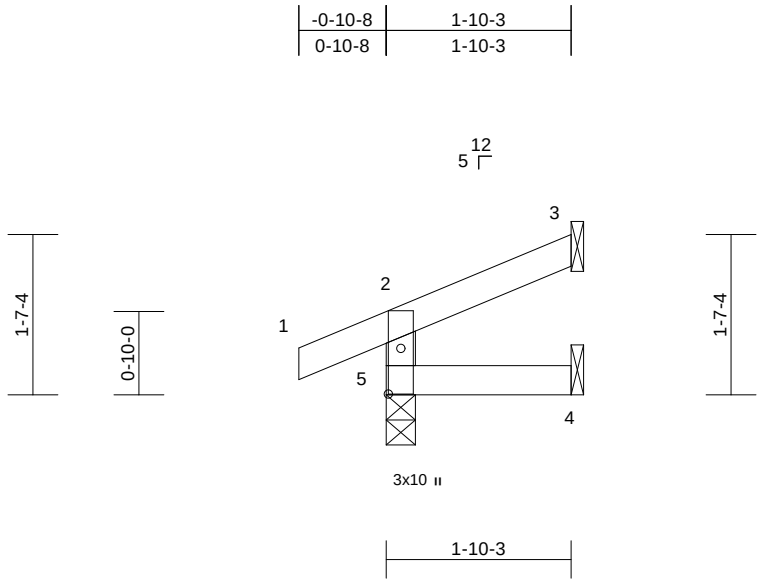

Scale = 1:23

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 6 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=41 (LC 5)
Max Uplift 3=-28 (LC 8), 5=-32 (LC 4)
Max Grav 3=41 (LC 1), 4=30 (LC 3), 5=169 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-148/46, 1-2=0/27, 2-3=-31/11
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 5 and 28 lb uplift at joint 3.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632883
240617	J5	Jack-Open	12	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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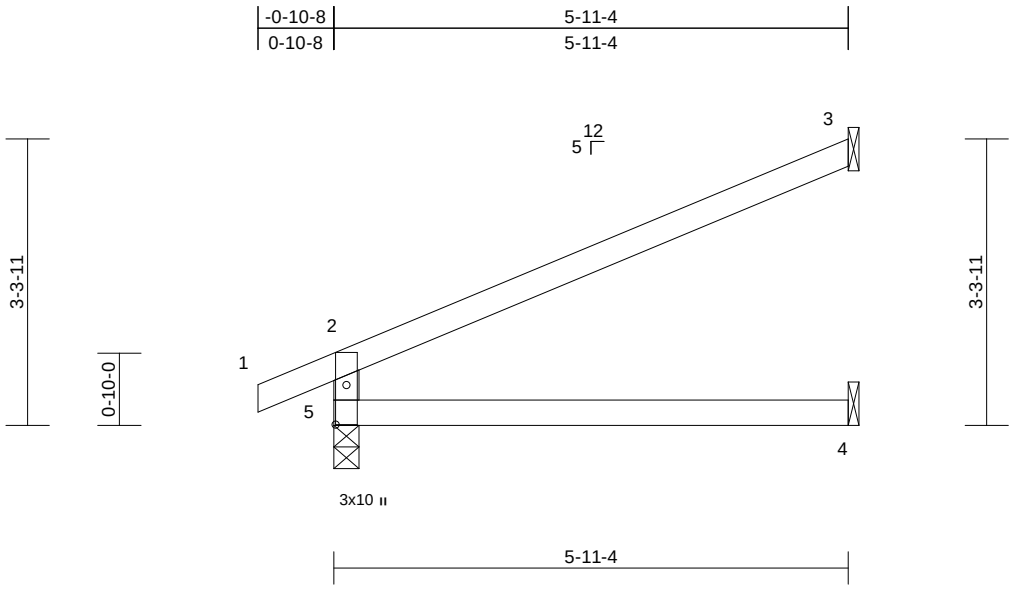

Scale = 1:26.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.05	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.11	4-5	>613	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.04	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.05	4-5	>999	240	Weight: 16 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=104 (LC 8)
Max Uplift 3=-92 (LC 8), 5=-43 (LC 8)
Max Grav 3=180 (LC 1), 4=108 (LC 3), 5=336 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-292/97, 1-2=0/27, 2-3=-95/54
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 5 and 92 lb uplift at joint 3.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
ARKANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632884
240617	J6	Diagonal Hip Girder	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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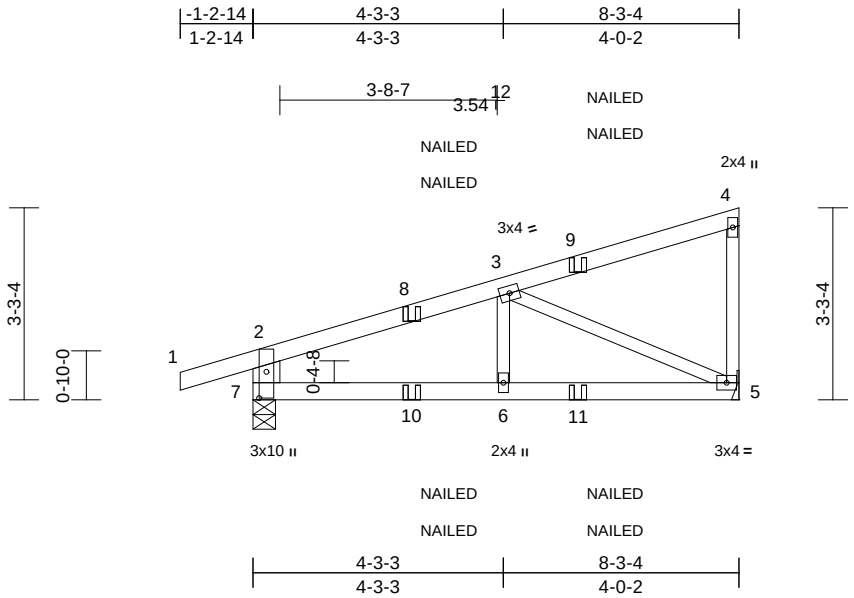

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Plate Offsets (X, Y): [7:0-5-6,0-1-8]

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	0.47	Vert(LL)	-0.02	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.05	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.21	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	5-6	>999	240	Weight: 28 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 7-2:2x6 SPF No.2

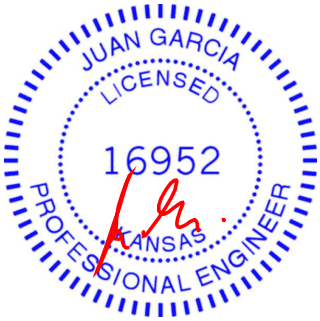
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-4-9
Max Horiz 7=135 (LC 5)
Max Uplift 5=-94 (LC 8), 7=-134 (LC 4)
Max Grav 5=382 (LC 1), 7=485 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-417/147, 1-2=0/29, 2-3=-521/97, 3-4=-103/29, 4-5=-135/57
BOT CHORD 6-7=-126/429, 5-6=-126/429
WEBS 3-6=0/169, 3-5=-455/137

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 7 and 94 lb uplift at joint 5.
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 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
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: 1-2=-70, 2-4=-70, 5-7=-20
Concentrated Loads (lb)
Vert: 9=-26 (F=-13, B=-13), 10=4 (F=2, B=2), 11=-28 (F=-14, B=-14)



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632885
240617	J7	Jack-Open	4	1	Job Reference (optional)	

04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

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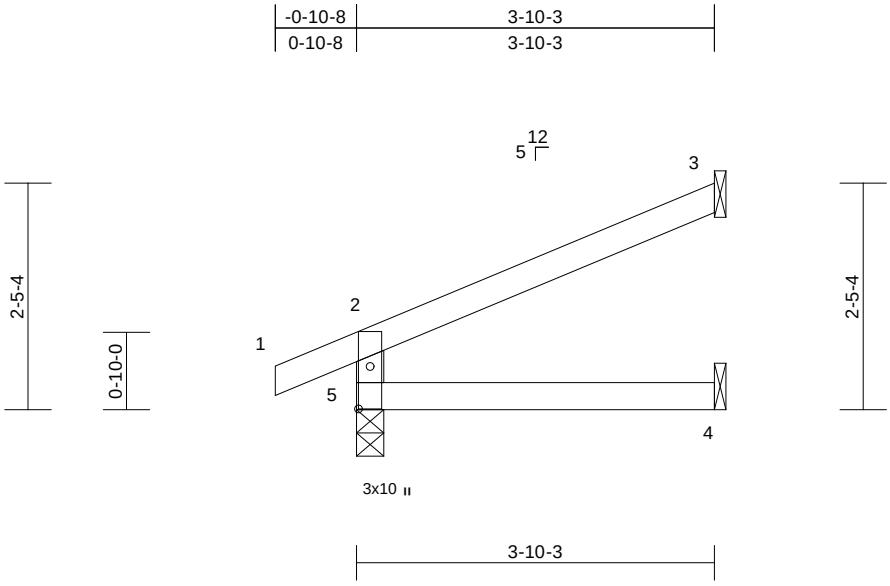

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Plate Offsets (X, Y): [5:0-5-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

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

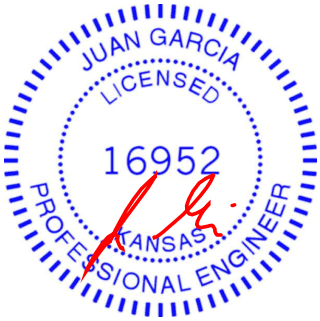
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=68 (LC 8)
Max Uplift 3=-60 (LC 8), 5=-33 (LC 8)
Max Grav 3=112 (LC 1), 4=68 (LC 3), 5=245 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-215/69, 1-2=0/27, 2-3=-61/33
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 5 and 60 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632886
240617	J9	Diagonal Hip Girder	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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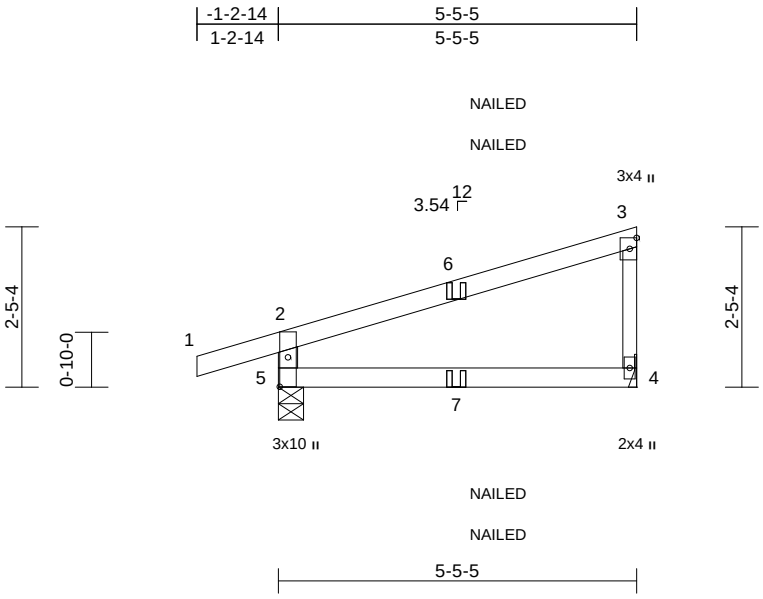

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Plate Offsets (X, Y): [5:0-5-6,0-1-8]

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	0.38	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.06	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 16 lb	FT = 10%

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

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

REACTIONS (size) 4= Mechanical, 5=0-4-9
Max Horiz 5=98 (LC 5)
Max Uplift 4=-48 (LC 8), 5=-102 (LC 4)
Max Grav 4=219 (LC 1), 5=342 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-302/140, 1-2=0/27, 2-3=-126/14, 3-4=-158/71
BOT CHORD 4-5=-26/49

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 102 lb uplift at joint 5 and 48 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
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: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 7=4 (F=2, B=2)

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	J10	Jack-Open	4	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I64632887
04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:54 Page: 1
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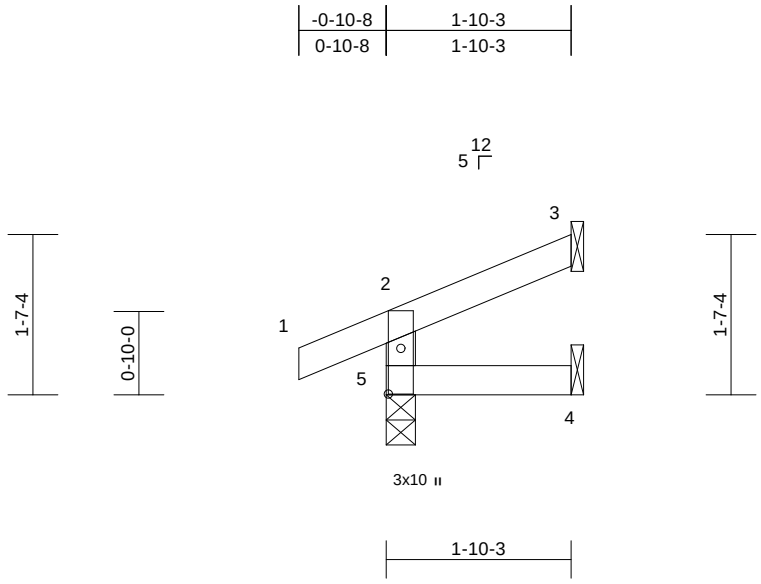

Scale = 1:23

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 6 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=41 (LC 5)
Max Uplift 3=-28 (LC 8), 5=-32 (LC 4)
Max Grav 3=41 (LC 1), 4=30 (LC 3), 5=169 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-148/46, 1-2=0/27, 2-3=-31/11
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 5 and 28 lb uplift at joint 3.
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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632888
240617	J11	Jack-Open	8	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:54 Page: 1
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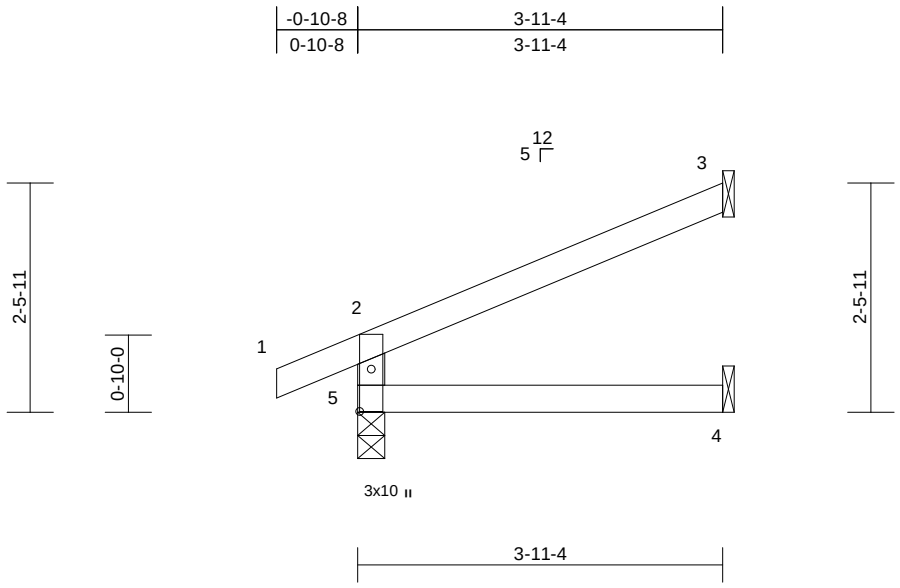
04/22/2024



Scale = 1:24.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=70 (LC 8)
Max Uplift 3=-61 (LC 8), 5=-34 (LC 8)
Max Grav 3=115 (LC 1), 4=70 (LC 3), 5=249 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-218/70, 1-2=0/27, 2-3=-63/34
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 5 and 61 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	LAY1	Lay-In Gable	1	1	Job Reference (optional) I64632889

Wheeler Lumber, Waverly, KS - 66871,

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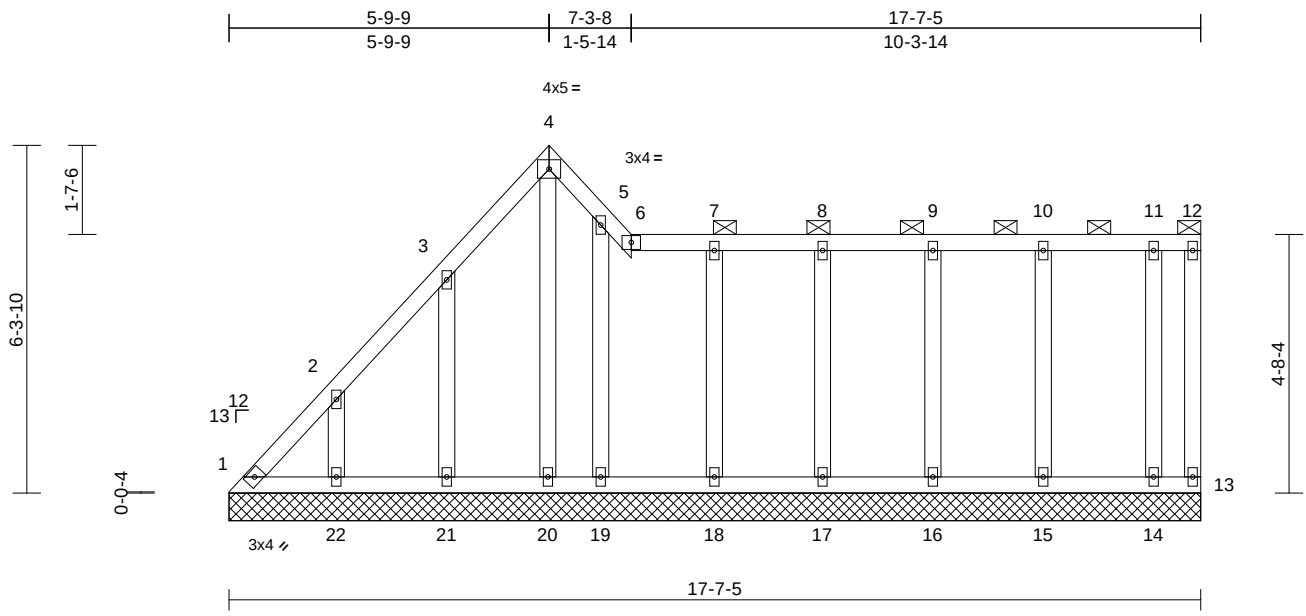

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 90 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 1-22,21-22,20-21.

REACTIONS (lb/size) 1=55/17-7-5, 13=7/17-7-5, 14=140/17-7-5, 15=188/17-7-5, 16=179/17-7-5, 17=175/17-7-5, 18=189/17-7-5, 19=144/17-7-5, 20=101/17-7-5, 21=185/17-7-5, 22=181/17-7-5
Max Horiz 1=216 (LC 7)
Max Uplift 1=-95 (LC 6), 13=-22 (LC 7), 14=-17 (LC 4), 15=-39 (LC 5), 16=-33 (LC 9), 17=-38 (LC 5), 18=-31 (LC 9), 19=-60 (LC 4), 20=-132 (LC 7), 21=-127 (LC 8), 22=-132 (LC 8)
Max Grav 1=177 (LC 5), 13=16 (LC 4), 14=141 (LC 22), 15=188 (LC 1), 16=179 (LC 22), 17=175 (LC 1), 18=189 (LC 22), 19=171 (LC 16), 20=185 (LC 4), 21=214 (LC 15), 22=205 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-243/189, 2-3=-190/148, 3-4=-150/126, 4-5=-120/108, 5-6=-60/51, 6-7=-60/46, 7-8=-60/46, 8-9=-60/46, 9-10=-60/46, 10-11=-60/46, 11-12=-60/46, 12-13=-29/25
BOT CHORD 1-22=-64/49, 21-22=-64/49, 20-21=-64/49, 19-20=-65/49, 18-19=-65/49, 17-18=-65/49, 16-17=-65/49, 15-16=-65/49, 14-15=-65/49, 13-14=-65/49
WEBS 2-22=-160/151, 3-21=-175/153, 4-20=-171/156, 5-19=-141/78, 11-14=-107/61, 10-15=-147/61, 9-16=-139/57, 8-17=-136/61, 7-18=-147/56

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 1, 22 lb uplift at joint 13, 132 lb uplift at joint 22, 127 lb uplift at joint 21, 132 lb uplift at joint 20, 60 lb uplift at joint 19, 17 lb uplift at joint 14, 39 lb uplift at joint 15, 33 lb uplift at joint 16, 38 lb uplift at joint 17 and 31 lb uplift at joint 18.
12) 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.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632890
240617	LAY2	Lay-In Gable	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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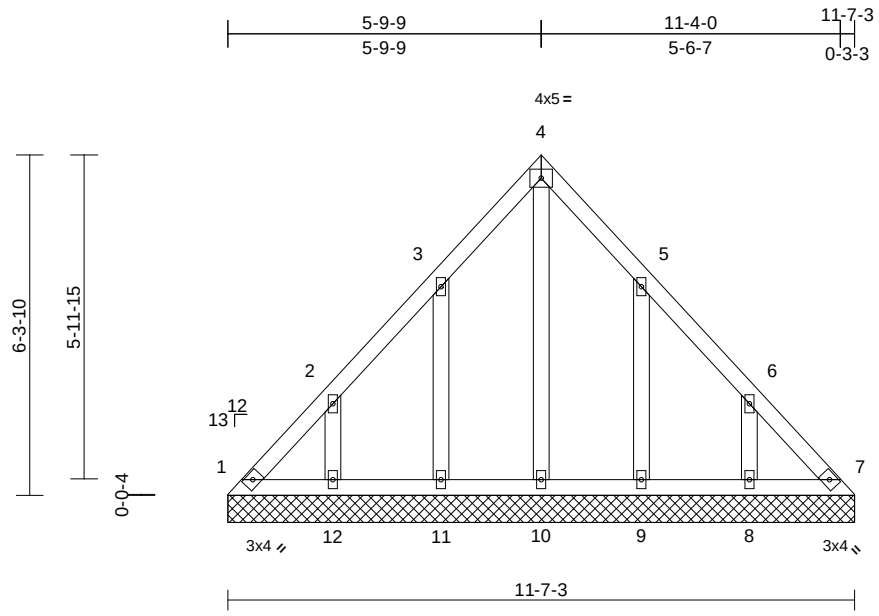

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 50 lb	FT = 10%

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

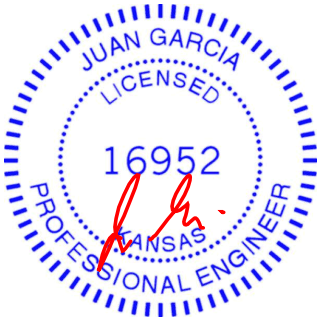
REACTIONS (lb/size) 1=77/11-7-3, 7=77/11-7-3, 8=182/11-7-3, 9=180/11-7-3, 10=109/11-7-3, 11=180/11-7-3, 12=182/11-7-3
Max Horiz 1=-159 (LC 6)
Max Uplift 1=-54 (LC 6), 7=-28 (LC 7), 8=-132 (LC 9), 9=-128 (LC 9), 11=-129 (LC 8), 12=-132 (LC 8)
Max Grav 1=135 (LC 17), 7=122 (LC 18), 8=208 (LC 16), 9=207 (LC 16), 10=147 (LC 18), 11=208 (LC 15), 12=207 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-196/133, 2-3=-126/86, 3-4=-97/119, 4-5=-83/98, 5-6=-99/50, 6-7=-173/98
BOT CHORD 1-12=-68/143, 11-12=-68/143, 10-11=-68/143, 9-10=-68/143, 8-9=-68/143, 7-8=-68/143

WEBS 2-12=-162/151, 3-11=-170/153, 6-8=-162/151, 5-9=-169/152, 4-10=-112/10

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 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 SPF No.2 crushing capacity of 425 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 1, 28 lb uplift at joint 7, 132 lb uplift at joint 12, 129 lb uplift at joint 11, 132 lb uplift at joint 8 and 128 lb uplift at joint 9.
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



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632891
240617	LAY4	Lay-In Gable	1	1	Job Reference (optional)	

04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

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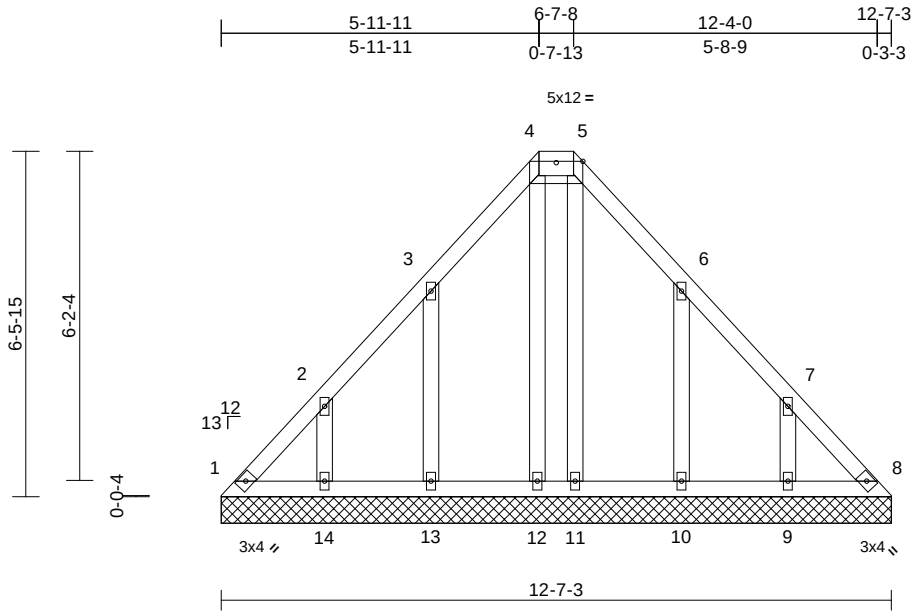

Scale = 1:43.3

Plate Offsets (X, Y): [4:0-6-0,0-0-5]

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	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
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	0.06	Horiz(TL)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 60 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 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.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-7-3, 8=12-7-3, 9=12-7-3, 10=12-7-3, 11=12-7-3, 12=12-7-3, 13=12-7-3, 14=12-7-3
Max Horiz 1=-164 (LC 4)
Max Uplift 1=-63 (LC 6), 8=-29 (LC 7), 9=-130 (LC 9), 10=-135 (LC 9), 12=-18 (LC 5), 13=-136 (LC 8), 14=-130 (LC 8)
Max Grav 1=132 (LC 17), 8=115 (LC 18), 9=204 (LC 16), 10=218 (LC 16), 11=111 (LC 17), 12=127 (LC 18), 13=219 (LC 15), 14=204 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-188/145, 2-3=-129/99, 3-4=-104/144, 4-5=-31/117, 5-6=-85/119, 6-7=-94/54, 7-8=-158/99
BOT CHORD 1-14=-68/133, 13-14=-68/133, 12-13=-68/133, 11-12=-68/133, 10-11=-68/133, 9-10=-68/133, 8-9=-68/133
WEBS 2-14=-159/148, 3-13=-178/162, 4-12=-102/41, 7-9=-160/148, 6-10=-177/162, 5-11=-85/8

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) All bearings are assumed to be SPF No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 63 lb uplift at joint 1, 29 lb uplift at joint 8, 130 lb uplift at joint 14, 136 lb uplift at joint 13, 18 lb uplift at joint 12, 130 lb uplift at joint 9 and 135 lb uplift at joint 10.
12) 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.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632892
240617	V1	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:54 Page: 1
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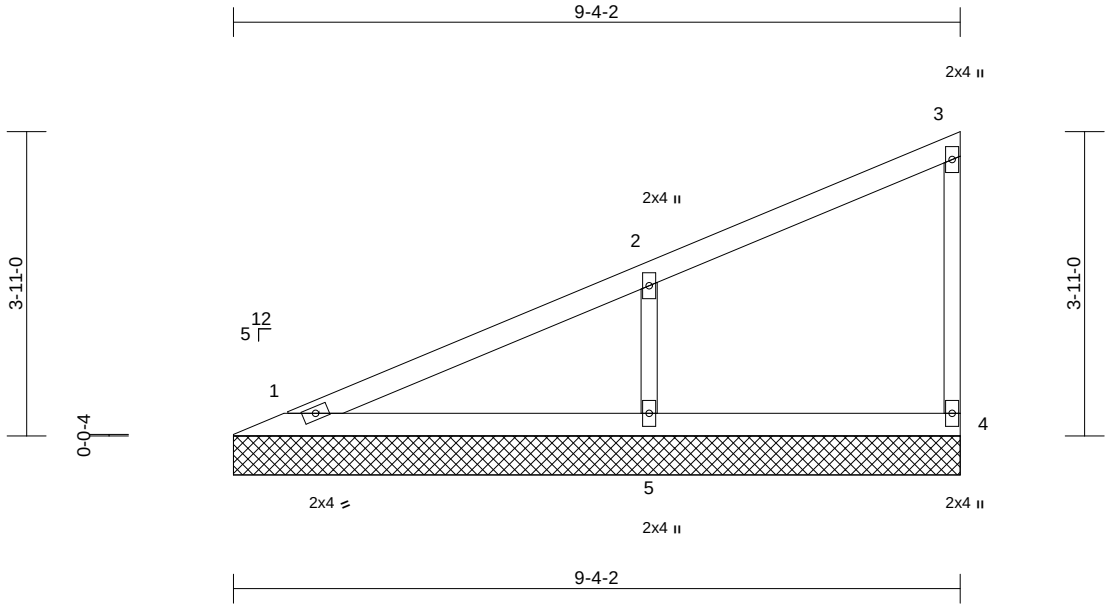


Scale = 1:29.6

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	0.28	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 25 lb	FT = 10%

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

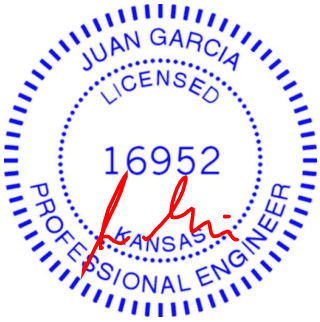
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=9-4-2, 4=9-4-2, 5=9-4-2
Max Horiz 1=156 (LC 5)
Max Uplift 4=-23 (LC 5), 5=-127 (LC 8)
Max Grav 1=166 (LC 1), 4=125 (LC 1), 5=477 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-121/69, 2-3=-105/28, 3-4=-98/40
BOT CHORD 1-5=-50/38, 4-5=-50/38
WEBS 2-5=-363/179

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint 4 and 127 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



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632893
240617	V2	Valley	1	1	Job Reference (optional)	

04/22/2024

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Mar 21 2024 Print: 8.730 S Mar 21 2024 MiTek Industries, Inc. Tue Apr 02 10:47:54 Page: 1
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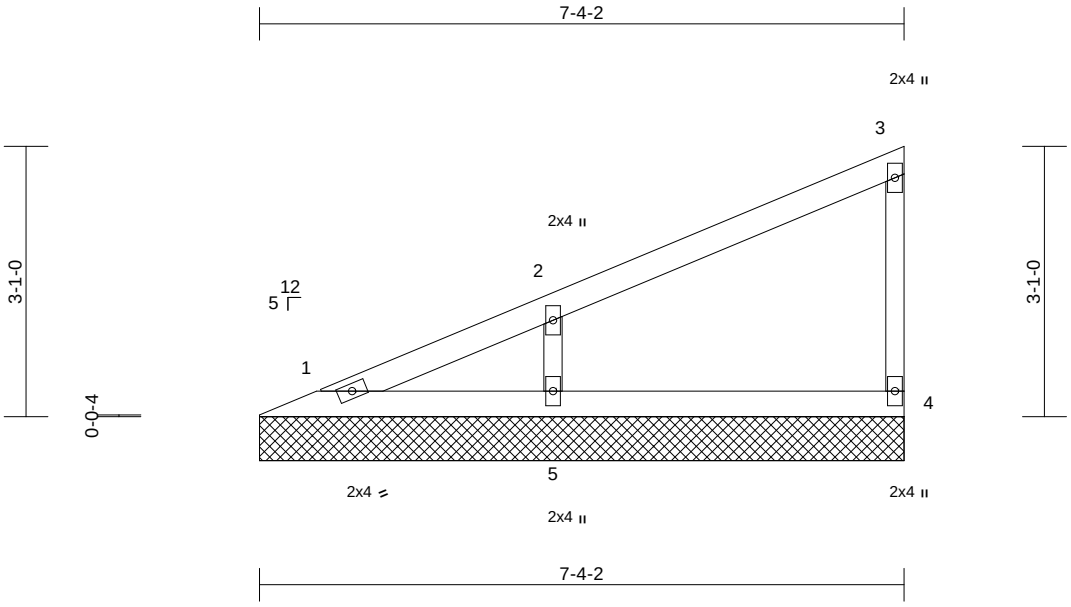

Scale = 1:26.3

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	197/144
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	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 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=7-4-2, 4=7-4-2, 5=7-4-2
Max Horiz 1=119 (LC 5)
Max Uplift 4=-26 (LC 8), 5=-101 (LC 8)
Max Grav 1=74 (LC 16), 4=141 (LC 1), 5=379 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-98/51, 2-3=-91/32, 3-4=-110/45
BOT CHORD 1-5=-39/29, 4-5=-39/29
WEBS 2-5=-294/151

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 4 and 101 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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632894
240617	V3	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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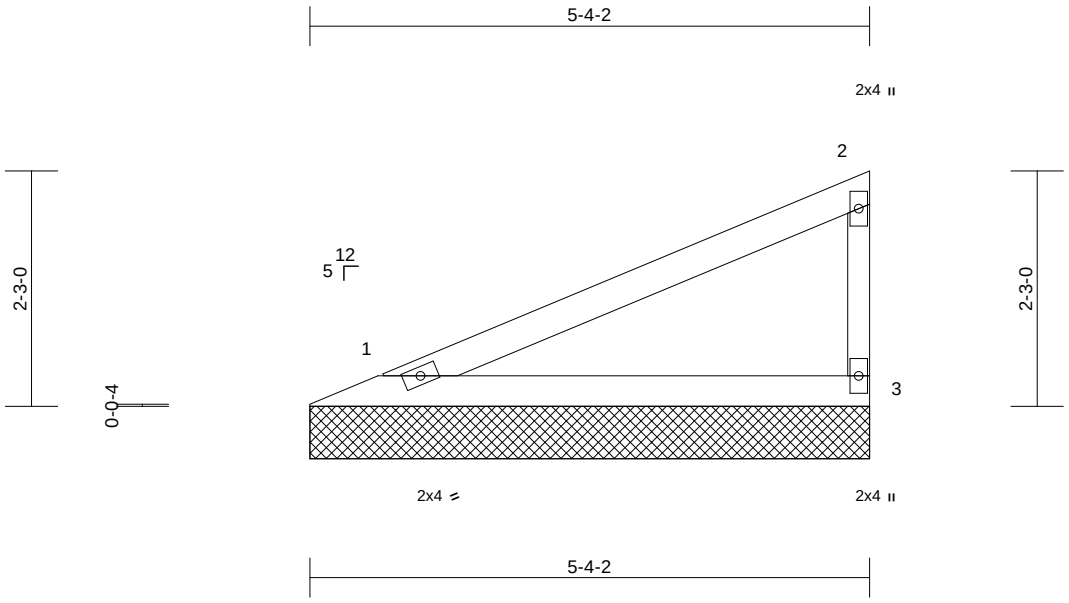


Scale = 1:22

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)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 13 lb	FT = 10%

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

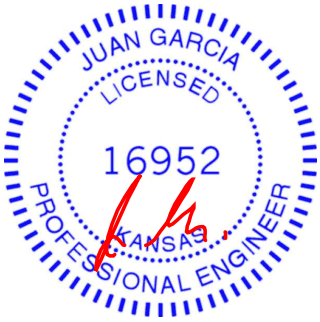
BRACING
TOP CHORD Structural wood sheathing directly applied or 5-4-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-4-2, 3=5-4-2
Max Horiz 1=83 (LC 5)
Max Uplift 1=-30 (LC 8), 3=-46 (LC 8)
Max Grav 1=204 (LC 1), 3=204 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-74/49, 2-3=-159/74
BOT CHORD 1-3=-27/20

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 1 and 46 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



April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632895
240617	V4	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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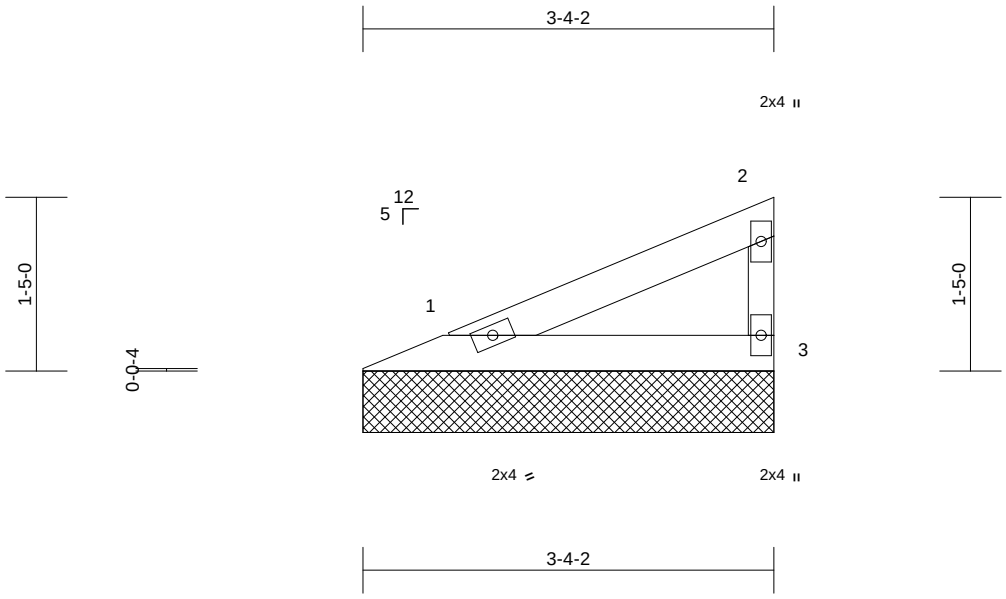

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 10%

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

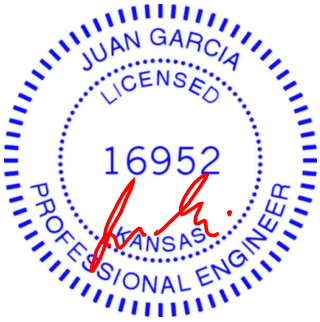
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-4-2, 3=3-4-2
Max Horiz 1=47 (LC 5)
Max Uplift 1=-17 (LC 8), 3=-26 (LC 8)
Max Grav 1=114 (LC 1), 3=114 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-42/28, 2-3=-89/41
BOT CHORD 1-3=-15/12

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 1 and 26 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



April 3,2024

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I64632896
04/22/2024

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN
240617	V5	Valley	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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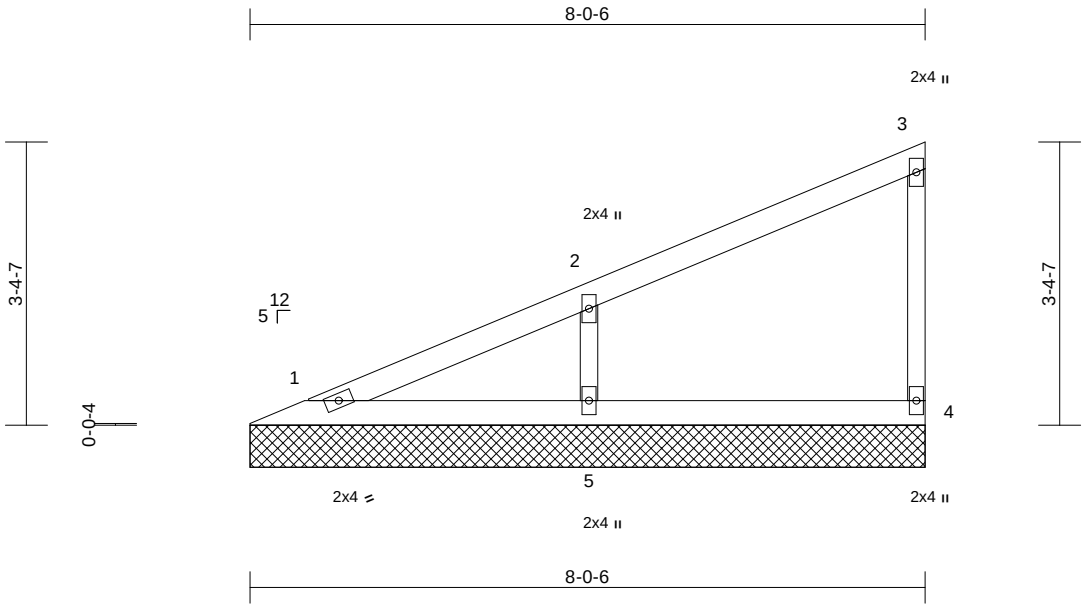


Scale = 1:27.4

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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	197/144
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	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 21 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 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=8-0-6, 4=8-0-6, 5=8-0-6
Max Horiz 1=132 (LC 5)
Max Uplift 4=-24 (LC 8), 5=-108 (LC 8)
Max Grav 1=105 (LC 1), 4=137 (LC 1), 5=408 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-105/59, 2-3=-95/31, 3-4=-107/42
BOT CHORD 1-5=-43/33, 4-5=-43/33
WEBS 2-5=-317/163

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 4 and 108 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

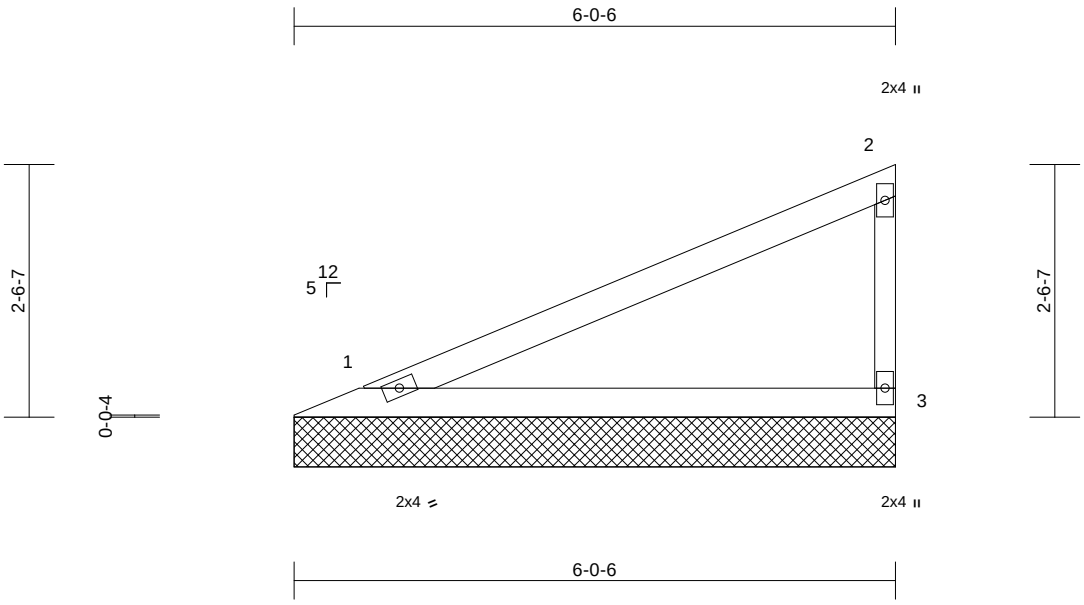
STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632897
240617	V6	Valley	1	1	Job Reference (optional)	



Scale = 1:23.1

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	0.53	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.29	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 = 10%

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

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

REACTIONS (size) 1=6-0-6, 3=6-0-6
Max Horiz 1=96 (LC 5)
Max Uplift 1=-34 (LC 8), 3=-53 (LC 8)
Max Grav 1=235 (LC 1), 3=235 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-85/56, 2-3=-183/85
BOT CHORD 1-3=-31/24

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1 and 53 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

April 3,2024

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

Job	Truss	Truss Type	Qty	Ply	Lot 134 MN	I64632898
240617	V7	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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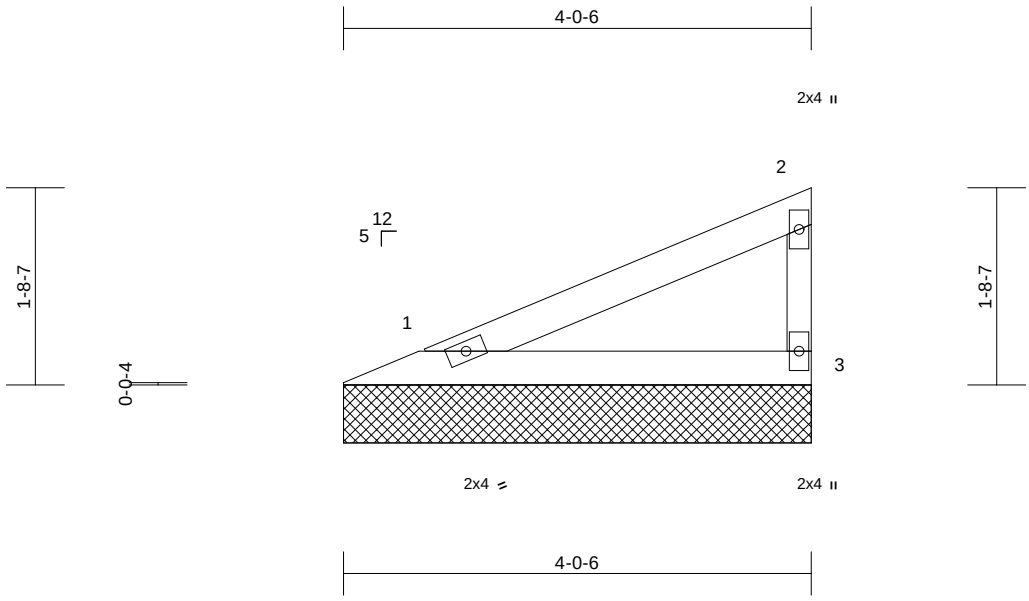


Scale = 1:19.9

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	197/144
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	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 10%

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

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

REACTIONS (size) 1=4-0-6, 3=4-0-6
Max Horiz 1=59 (LC 5)
Max Uplift 1=-21 (LC 8), 3=-33 (LC 8)
Max Grav 1=145 (LC 1), 3=145 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-53/35, 2-3=-113/52
BOT CHORD 1-3=-19/15

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; 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) * 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.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1 and 33 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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

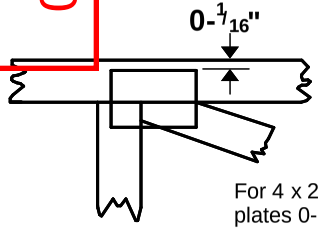
April 3,2024

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.

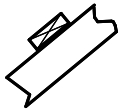
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

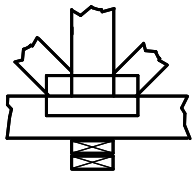
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

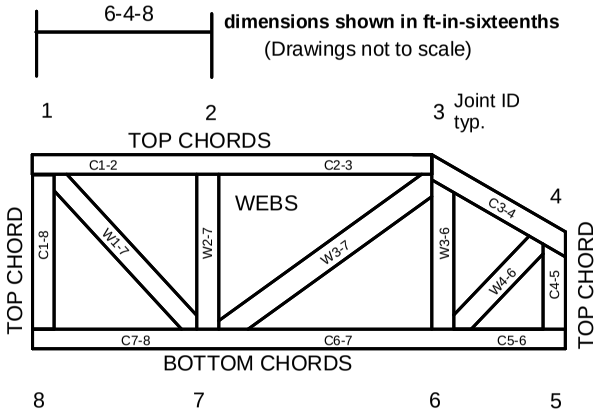


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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®

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.