RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
02/10/2022 3:38:54

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
11/13/2023

MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314-434-1200

Re: B220018
Lot 122 MN

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

Pages or sheets covered by this seal: I49888466 thru I49888505

My license renewal date for the state of Missouri is December 31, 2023.

Missouri COA: Engineering 001193

January 27,2022

Sevier, Scott ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	A1	Common Supported Gable	2	1	Job Reference (optional) I49888466

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:43 Page: 1
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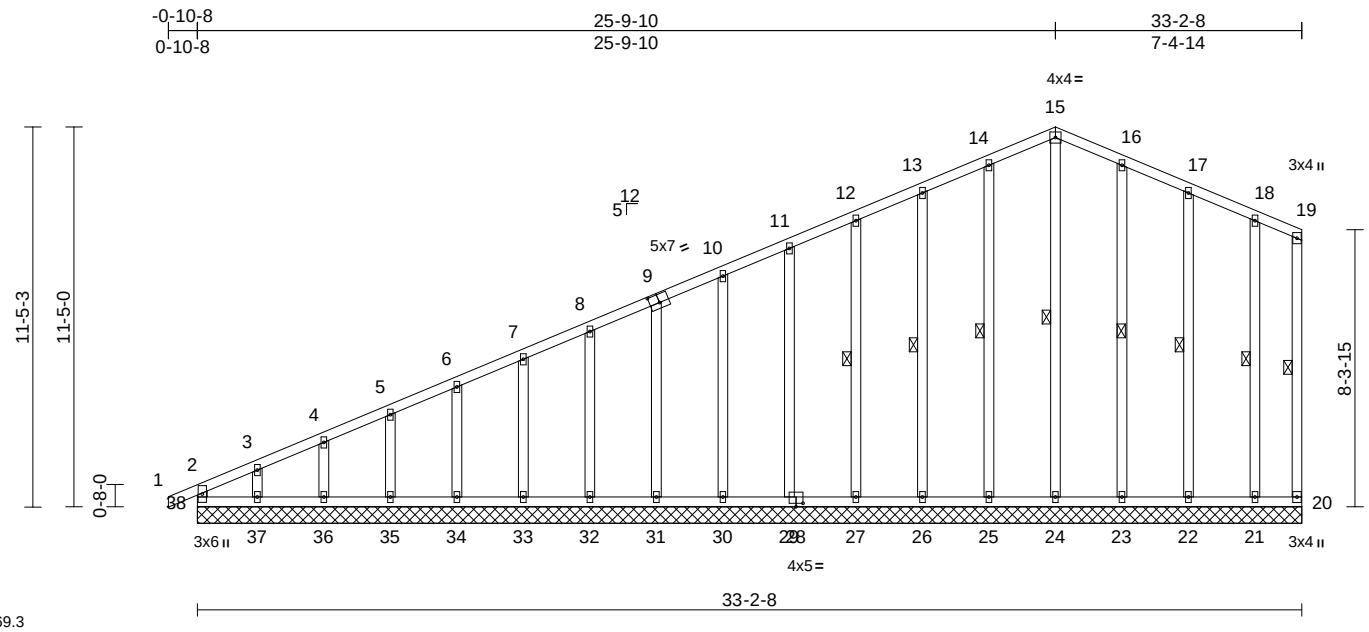

Scale = 1:69.3

Plate Offsets (X, Y): [9:0-3-8,0-3-0], [28:0-2-8,0-1-4]

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	0.29	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.15	Horz(CT)	-0.01	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 208 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 6-0-0 oc bracing.
WEBS 1 Row at midpt 19-20, 15-24, 14-25, 13-26, 12-27, 16-23, 17-22, 18-21

REACTIONS (lb/size) 20=41/33-2-8, 21=158/33-2-8, 22=185/33-2-8, 23=186/33-2-8, 24=168/33-2-8, 25=187/33-2-8, 26=179/33-2-8, 27=180/33-2-8, 29=180/33-2-8, 30=178/33-2-8, 31=180/33-2-8, 32=182/33-2-8, 33=179/33-2-8, 34=180/33-2-8, 35=178/33-2-8, 36=186/33-2-8, 37=151/33-2-8, 38=154/33-2-8
Max Horiz 38=353 (LC 5)
Max Uplift 20=-31 (LC 4), 21=-29 (LC 4), 22=-57 (LC 9), 23=-47 (LC 9), 24=-9 (LC 20), 25=-45 (LC 8), 26=-50 (LC 8), 27=-47 (LC 8), 29=-48 (LC 8), 30=-47 (LC 8), 31=-47 (LC 8), 32=-49 (LC 8), 33=-48 (LC 8), 34=-47 (LC 8), 35=-53 (LC 8), 36=-27 (LC 8), 37=-148 (LC 8)
Max Grav 20=52 (LC 16), 21=158 (LC 1), 22=185 (LC 22), 23=188 (LC 22), 24=168 (LC 15), 25=189 (LC 21), 26=179 (LC 21), 27=180 (LC 1), 29=180 (LC 21), 30=178 (LC 1), 31=180 (LC 1), 32=182 (LC 21), 33=179 (LC 21), 34=180 (LC 1), 35=178 (LC 21), 36=186 (LC 1), 37=151 (LC 21), 38=223 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-38=-184/0, 1-2=0/27, 2-3=-318/41, 3-4=-262/37, 4-5=-238/35, 5-6=-212/32, 6-7=-191/29, 7-8=-177/28, 8-10=-163/42, 10-11=-135/68, 11-12=-122/94, 12-13=-108/121, 13-14=-94/148, 14-15=-85/173, 15-16=-84/174, 16-17=-96/152, 17-18=-112/125, 18-19=-152/125, 19-20=-122/103
BOT CHORD 37-38=-116/88, 36-37=-116/88, 35-36=-116/88, 34-35=-116/88, 33-34=-116/88, 32-33=-116/88, 31-32=-116/88, 30-31=-116/87, 29-30=-116/87, 27-29=-116/87, 26-27=-116/87, 25-26=-116/87, 24-25=-116/87, 23-24=-116/87, 22-23=-116/87, 21-22=-116/87, 20-21=-116/87
WEBS 15-24=-128/46, 14-25=-149/69, 13-26=-139/74, 12-27=-140/71, 11-29=-140/72, 10-30=-138/71, 9-31=-140/71, 8-32=-142/73, 7-33=-139/72, 6-34=-140/71, 5-35=-139/74, 4-36=-145/61, 3-37=-116/126, 16-23=-148/73, 17-22=-144/73, 18-21=-122/101

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.

January 27,2022

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	A1	Common Supported Gable	2	1	Job Reference (optional) I49888466

10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 31 lb uplift at joint 20, 9 lb uplift at joint 24, 45 lb uplift at joint 25, 50 lb uplift at joint 26, 47 lb uplift at joint 27, 48 lb uplift at joint 29, 47 lb uplift at joint 30, 47 lb uplift at joint 31, 49 lb uplift at joint 32, 48 lb uplift at joint 33, 47 lb uplift at joint 34, 53 lb uplift at joint 35, 27 lb uplift at joint 36, 148 lb uplift at joint 37, 47 lb uplift at joint 23, 57 lb uplift at joint 22 and 29 lb uplift at joint 21.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888467
B220018	A2	Roof Special	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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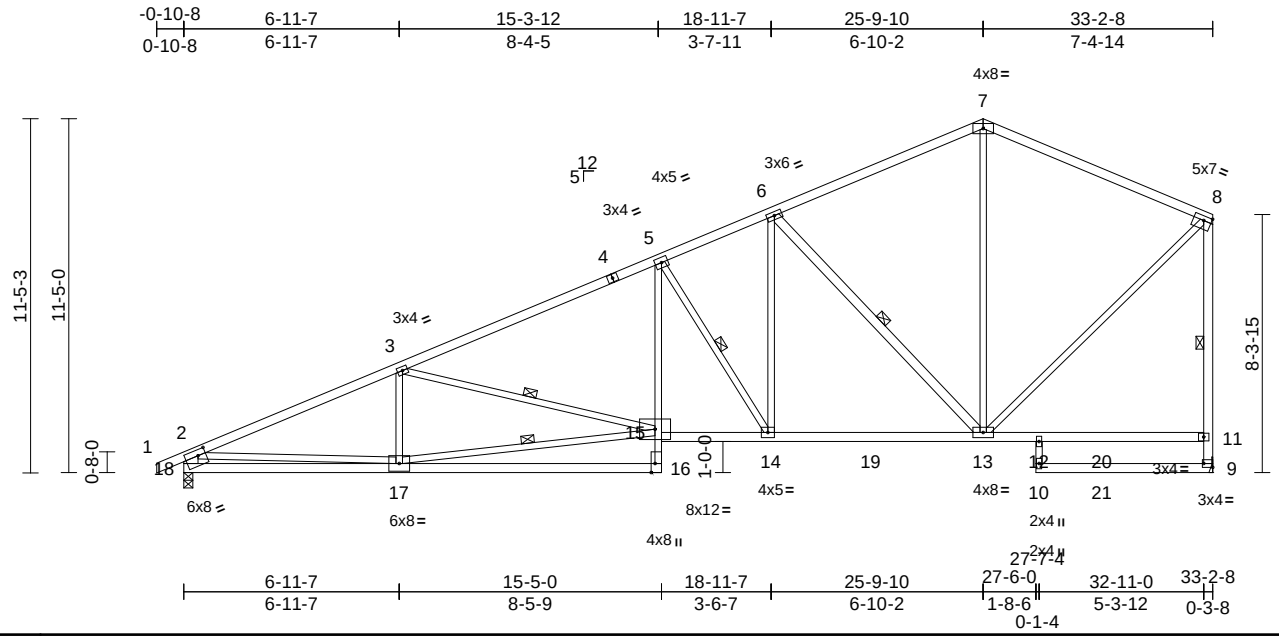

Scale = 1:74.4

Plate Offsets (X, Y): [8:0-3-0,0-1-12], [9:Edge,0-1-8], [16:0-3-8,Edge], [18:0-3-0,0-2-4]

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	0.90	Vert(LL)	-0.26	16-17	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.50	16-17	>781	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.16	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	14-15	>999	240	Weight: 161 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 1-4:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except* 16-5:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-6,9-8:2x4 SPF No.2, 18-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-1-8 oc bracing.
WEBS 1 Row at midpt 15-17, 3-15, 5-14, 6-13, 8-9

REACTIONS (lb/size) 9=1476/ Mechanical, 18=1556/0-3-8
Max Horiz 18=374 (LC 8)
Max Uplift 9=-218 (LC 8), 18=-231 (LC 8)
Max Grav 9=1720 (LC 2), 18=1614 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2975/386, 3-5=-2605/402, 5-6=-1993/335, 6-7=-1092/193, 7-8=-1094/214, 2-18=-1504/262, 9-11=-1578/252, 8-11=-1476/255
BOT CHORD 17-18=-484/797, 16-17=0/201, 15-16=0/156, 5-15=-85/678, 14-15=-527/2317, 13-14=-379/1799, 12-13=-9/33, 11-12=-9/33, 9-10=0/0
WEBS 10-12=0/120, 3-17=-302/211, 15-17=-664/2498, 3-15=-392/130, 5-14=-964/273, 6-14=-145/981, 6-13=-1265/334, 7-13=-5/448, 2-17=-171/1883, 8-13=-206/1266

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 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, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 231 lb uplift at joint 18 and 218 lb uplift at joint 9.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888468
B220018	A3	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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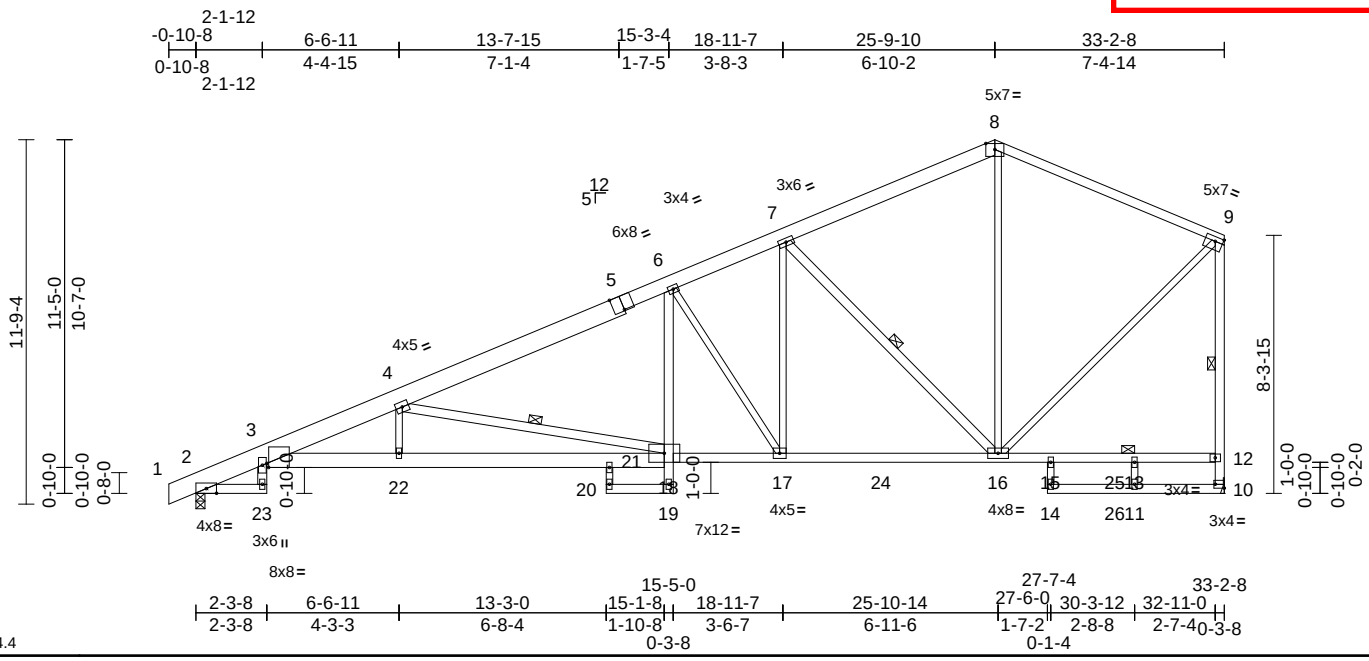

Scale = 1:74.4

Plate Offsets (X, Y): [3:0-0-11,Edge], [5:0-4-0,Edge], [9:0-3-0,0-1-12], [10:Edge,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	0.86	Vert(LL)	-0.31	21-22	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.56	21-22	>712	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.32	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.24	21-22	>999	240	Weight: 204 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SPF No.2 *Except* 8-9:2x4 SPF No.2, 1-5:2x8 SP DSS

BOT CHORD 2x4 SPF No.2 *Except* 3-18:2x6 SPF 1650F 1.4E, 21-20:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 23-3,19-6,18-4,16-7,10-9:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 8-3-0 oc bracing.

WEBS 1 Row at midpt 4-18, 7-16, 9-10

JOINTS 1 Brace at Jt(s): 13

REACTIONS (lb/size) 2=1554/0-3-8, 10=1480/ Mechanical

Max Horiz 2=388 (LC 8)

Max Uplift 2=-230 (LC 8), 10=-218 (LC 8)

Max Grav 2=1628 (LC 2), 10=1735 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-777/0, 3-4=-4381/700, 4-6=-2638/374, 6-7=-2041/335, 7-8=-1101/190, 8-9=-1100/211, 10-12=-1607/243, 9-12=-1494/254

BOT CHORD 2-23=0/0, 3-22=-1008/4216, 21-22=-1006/4216, 18-21=-998/4192, 20-21=0/41, 19-20=-8/25, 17-18=-510/2324, 16-17=-385/1850, 15-16=-8/33, 13-15=-8/33, 12-13=-8/33, 11-14=0/0, 10-11=0/0

WEBS 3-23=0/67, 18-19=0/36, 6-18=-42/608, 14-15=0/111, 4-22=0/278, 4-18=-1932/511, 6-17=-863/228, 7-17=-136/995, 7-16=-1318/341, 8-16=-6/460, 11-13=0/61, 9-16=-204/1288

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 exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are 2x4 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 230 lb uplift at joint 2 and 218 lb uplift at joint 10.
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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	A4	Roof Special	2	1	Job Reference (optional) I49888469

Wheeler Lumber, Waverly, KS - 66871,

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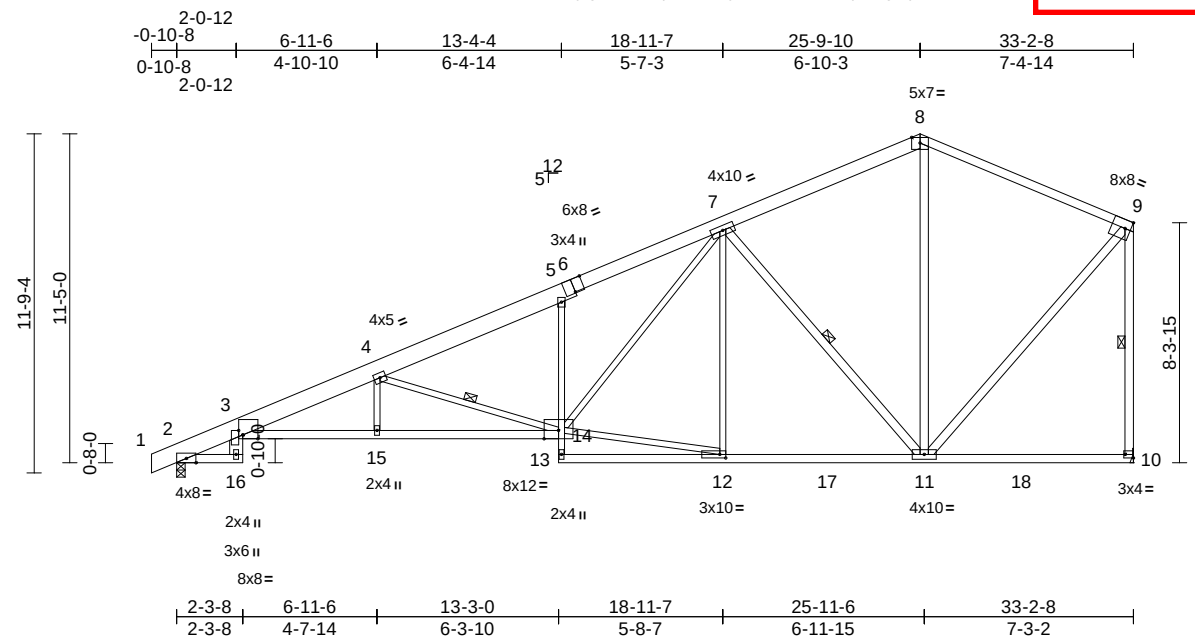

Scale = 1:80

Plate Offsets (X, Y): [3:0-6-4,Edge], [3:0-1-14,0-1-11], [6:0-4-0,Edge], [9:0-2-5,Edge], [10:Edge,0-1-8], [12:0-2-8,0-1-8]

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	0.86	Vert(LL)	-0.30	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.53	14-15	>744	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.27	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.17	14-15	>999	240	Weight: 195 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SPF No.2 *Except* 8-9:2x4 SPF No.2, 1-6:2x8 SP DSS

BOT CHORD 2x4 SPF No.2 *Except* 3-14:2x4 SPF 2100F 1.8E, 5-13:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 16-3:2x6 SPF No.2, 11-7,11-8,10-9,11-9:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.

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

WEBS 1 Row at midpt 4-14, 7-11, 9-10

REACTIONS (lb/size) 2=1554/0-3-8, 10=1480/ Mechanical
Max Horiz 2=265 (LC 8)
Max Uplift 2=-38 (LC 8), 10=-42 (LC 8)
Max Grav 2=1606 (LC 2), 10=1608 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/12, 2-3=-758/0, 3-4=-4038/147, 4-5=-2796/94, 5-7=-2735/165, 7-8=-978/67, 8-9=-975/78, 9-10=-1463/77

BOT CHORD 2-16=0/0, 3-15=-355/3895, 14-15=-353/3891, 13-14=0/96, 5-14=-339/112, 12-13=-15/99, 11-12=-116/1597, 10-11=-3/19

WEBS 3-16=0/65, 4-15=-3/173, 4-14=-1479/156, 12-14=-103/1522, 7-14=-147/1458, 7-12=-82/162, 7-11=-1201/131, 8-11=0/375, 9-11=-47/1231

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); cantilever left and right exposed ; end vertical left 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, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 2 and 42 lb uplift at joint 10.
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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888470
B220018	A5	Common	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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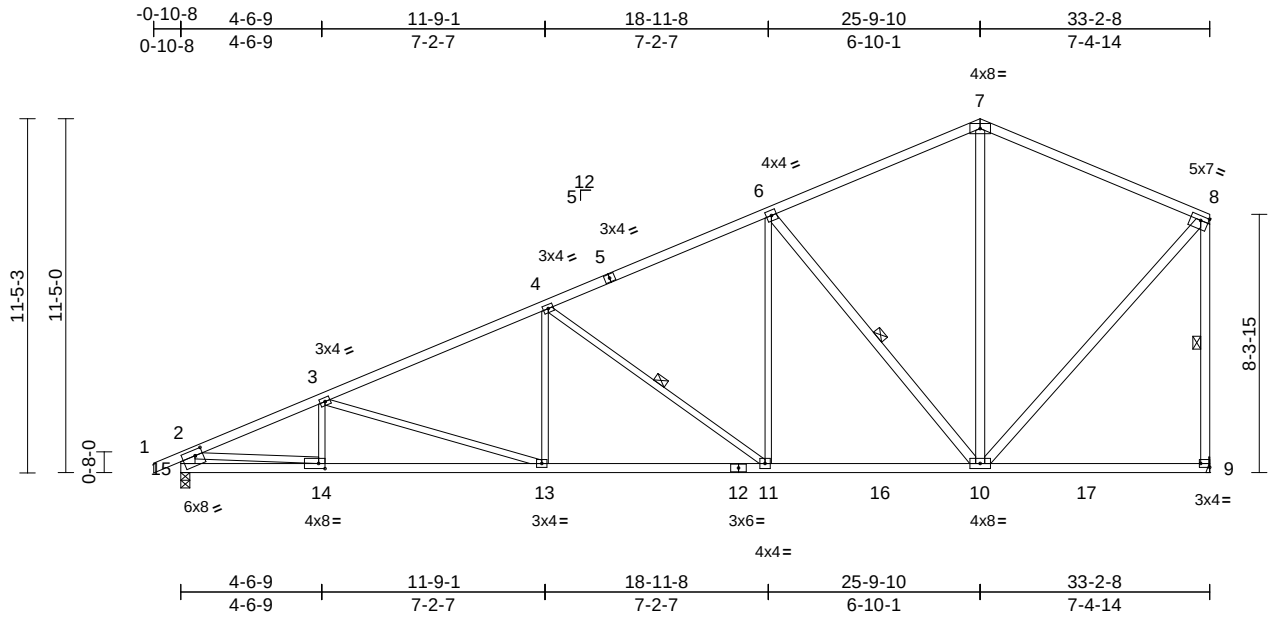

Scale = 1:74.4

Plate Offsets (X, Y): [8:0-3-0,0-1-12], [9:Edge,0-1-8], [14:0-2-8,0-2-0], [15:0-3-0,0-2-4]

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	0.91	Vert(LL)	-0.19	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.35	13-14	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.08	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.09	13-14	>999	240	Weight: 154 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-6,10-7,9-8,10-8:2x4 SPF No.2, 15-2:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11, 6-10, 8-9

REACTIONS (lb/size) 9=1476/ Mechanical, 15=1556/0-3-8
Max Horiz 15=255 (LC 8)
Max Uplift 9=-42 (LC 8), 15=-38 (LC 8)
Max Grav 9=1605 (LC 2), 15=1607 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-2911/57, 3-4=-2551/59, 4-6=-1789/67, 6-7=-985/69, 7-8=-982/80, 2-15=-1524/56, 8-9=-1455/79
BOT CHORD 14-15=-233/498, 13-14=-271/2640, 11-13=-195/2288, 10-11=-116/1577, 9-10=-3/21
WEBS 3-14=-131/81, 3-13=-380/80, 4-13=0/382, 4-11=-880/98, 6-11=0/792, 6-10=-1178/132, 7-10=0/381, 2-14=-38/2153, 8-10=-49/1219

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); cantilever left and right exposed ; end vertical left 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, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 15 and 42 lb uplift at joint 9.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888471
B220018	B1	Roof Special	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:47 Page: 1
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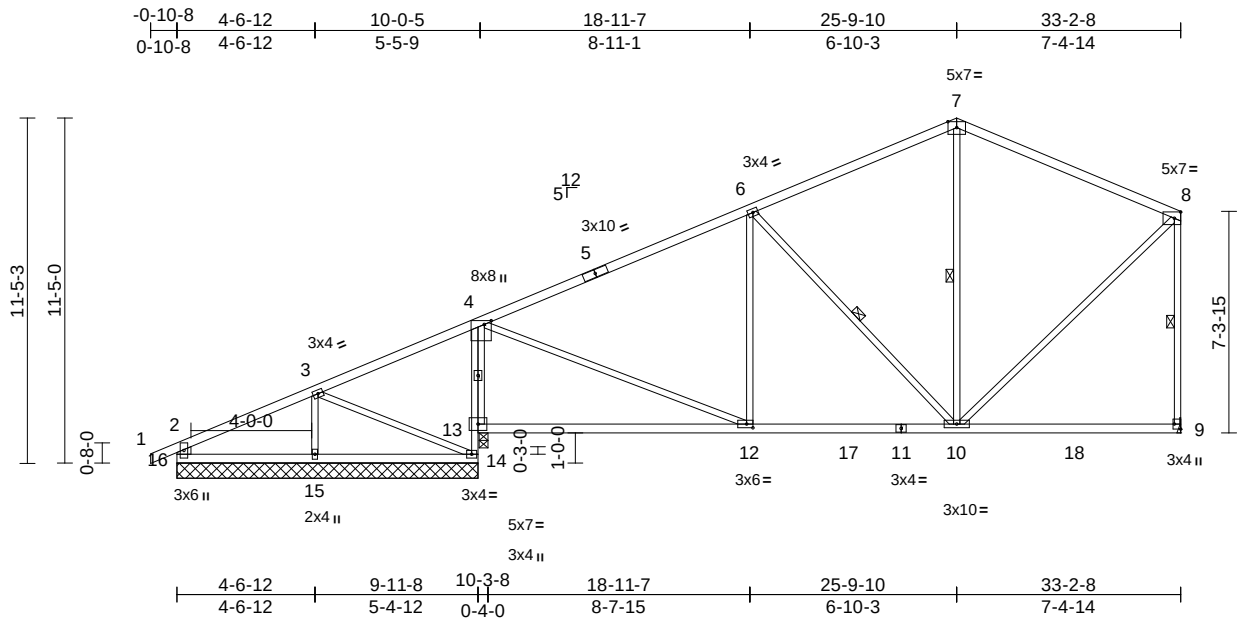

Scale = 1:76.2

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

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	0.94	Vert(LL)	-0.18	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.36	12-13	>779	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.47	Horz(CT)	-0.02	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	-0.04	9-10	>999	240	Weight: 136 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 14-4:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2:2x6 SPF No.2

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

REACTIONS (lb/size) 9=1036/ Mechanical, 13=1267/9-11-8, 14=84/9-11-8, 15=355/9-11-8, 16=294/9-11-8
Max Horiz 16=336 (LC 5)
Max Uplift 9=-109 (LC 8), 13=-274 (LC 8), 14=-52 (LC 5), 16=-52 (LC 4)
Max Grav 9=1134 (LC 2), 13=1294 (LC 2), 14=120 (LC 2), 15=422 (LC 16), 16=294 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-209/23, 3-4=-250/77, 4-6=-1090/154, 6-7=-714/169, 7-8=-688/186, 2-16=-264/76, 8-9=-986/154
BOT CHORD 15-16=-227/99, 14-15=-227/99, 13-14=0/0, 4-13=-1182/325, 12-13=-63/115, 10-12=-120/912, 9-10=-98/75
WEBS 3-14=-105/198, 4-12=-61/871, 6-12=-119/163, 6-10=-517/183, 7-10=-59/194, 8-10=-69/787, 3-15=-240/56

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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) Refer to girder(s) for truss to truss connections.
6) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 16, 274 lb uplift at joint 13, 52 lb uplift at joint 14 and 109 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.

LOAD CASE(S) Standard

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888472
B220018	B2	Roof Special	3	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:47 Page: 1
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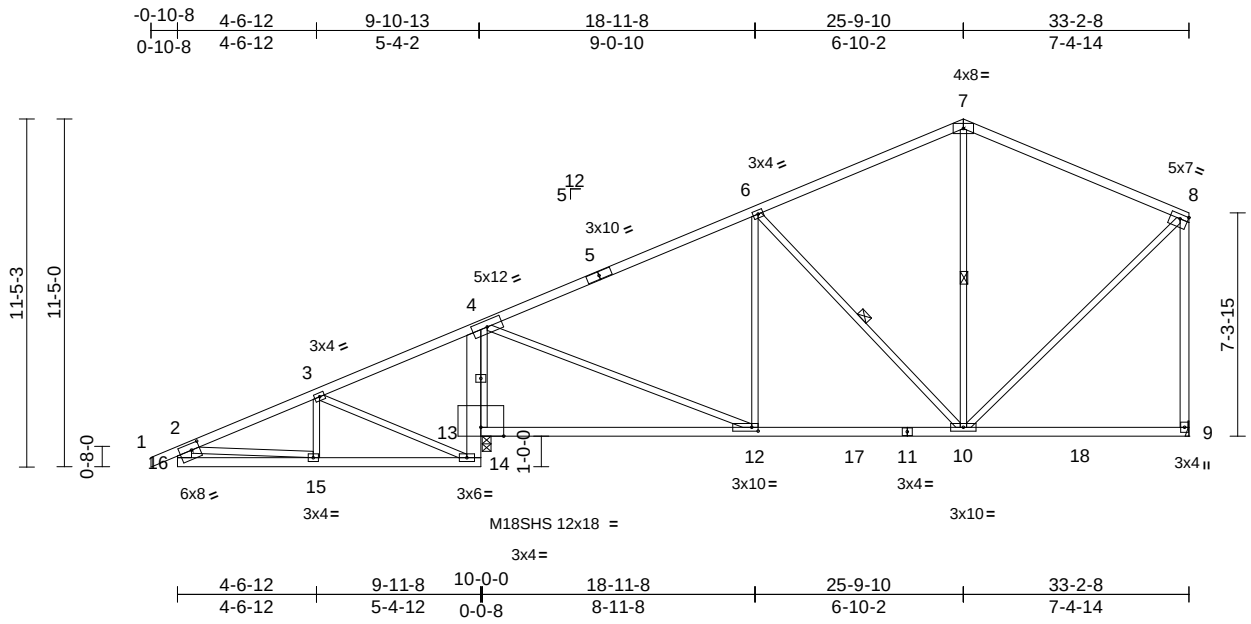

Scale = 1:75.6

Plate Offsets (X, Y): [8:0-3-0,0-1-12], [12:0-2-8,0-1-8], [16:0-3-4,0-2-8]

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	0.91	Vert(LL)	-0.18	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.35	12-13	>806	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.61	Horz(CT)	-0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.18	12-13	>999	240	Weight: 147 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 14-4:2x6 SP DSS
WEBS 2x3 SPF No.2 *Except* 16-2:2x6 SPF No.2, 9-8:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 4-6-6 oc bracing.
WEBS 1 Row at midpt 6-10, 7-10

REACTIONS (lb/size) 9=843/ Mechanical, 13=2190/0-3-8
Max Horiz 13=255 (LC 8)
Max Uplift 9=-217 (LC 5), 13=-388 (LC 4)
Max Grav 9=943 (LC 2), 13=2258 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-114/554, 3-4=-218/1222, 4-6=-690/215, 6-7=-562/173, 7-8=-555/170, 2-16=-10/64, 8-9=-792/193
BOT CHORD 15-16=-11/42, 14-15=-453/124, 13-14=-72/338, 4-13=-1794/279, 12-13=-1130/130, 10-12=-215/541, 9-10=-5/25
WEBS 3-15=-59/264, 3-14=-676/147, 4-12=-268/1788, 6-12=-460/88, 6-10=-180/153, 7-10=-140/126, 2-15=-487/114, 8-10=-148/580

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); cantilever left exposed ; end vertical left exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) WARNING: Required bearing size at joint(s) 13 greater than input bearing size.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 388 lb uplift at joint 13 and 217 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888473
B220018	B3	Roof Special	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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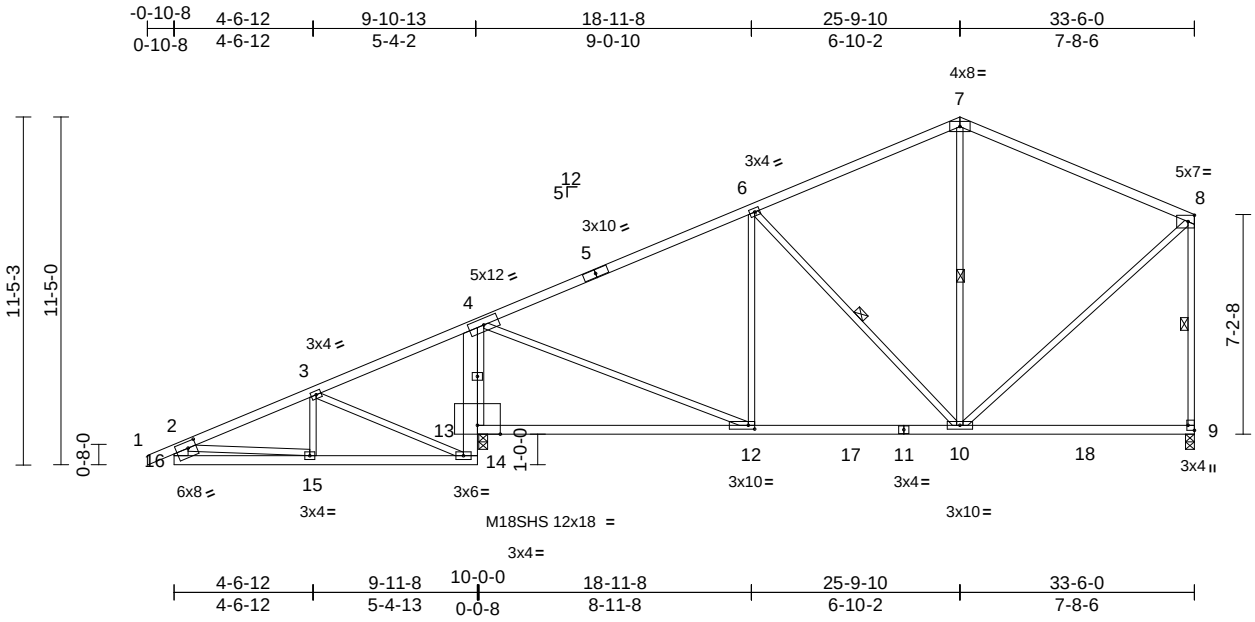

Scale = 1:75.6

Plate Offsets (X, Y): [9:Edge,0-2-8], [12:0-2-8,0-1-8], [16:0-3-4,0-2-8]

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	0.99	Vert(LL)	-0.16	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.28	12-13	>999	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.91	Horz(CT)	-0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	12-13	>999	240	Weight: 146 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 14-4:2x6 SP DSS, 13-11:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 16-2:2x6 SPF No.2

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

REACTIONS (lb/size) 9=861/0-3-8, 13=2202/0-3-8
Max Horiz 13=371 (LC 8)
Max Uplift 9=-295 (LC 5), 13=-591 (LC 4)
Max Grav 9=962 (LC 2), 13=2271 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-164/554, 3-4=-322/1222, 4-6=-706/266, 6-7=-587/235, 7-8=-565/224, 8-9=-809/270, 2-16=-9/64
BOT CHORD 15-16=-17/41, 14-15=-453/179, 13-14=-99/338, 4-13=-1805/452, 12-13=-1127/189, 10-12=-260/556, 9-10=-5/17
WEBS 7-10=-145/134, 3-15=-69/264, 6-12=-468/153, 6-10=-169/166, 2-15=-487/174, 8-10=-190/606, 4-12=-401/1799, 3-14=-677/220

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 exposed ; end vertical left exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 591 lb uplift at joint 13 and 295 lb uplift at joint 9.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	B4	Roof Special	2	1	Job Reference (optional) I49888474

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:48 Page: 1
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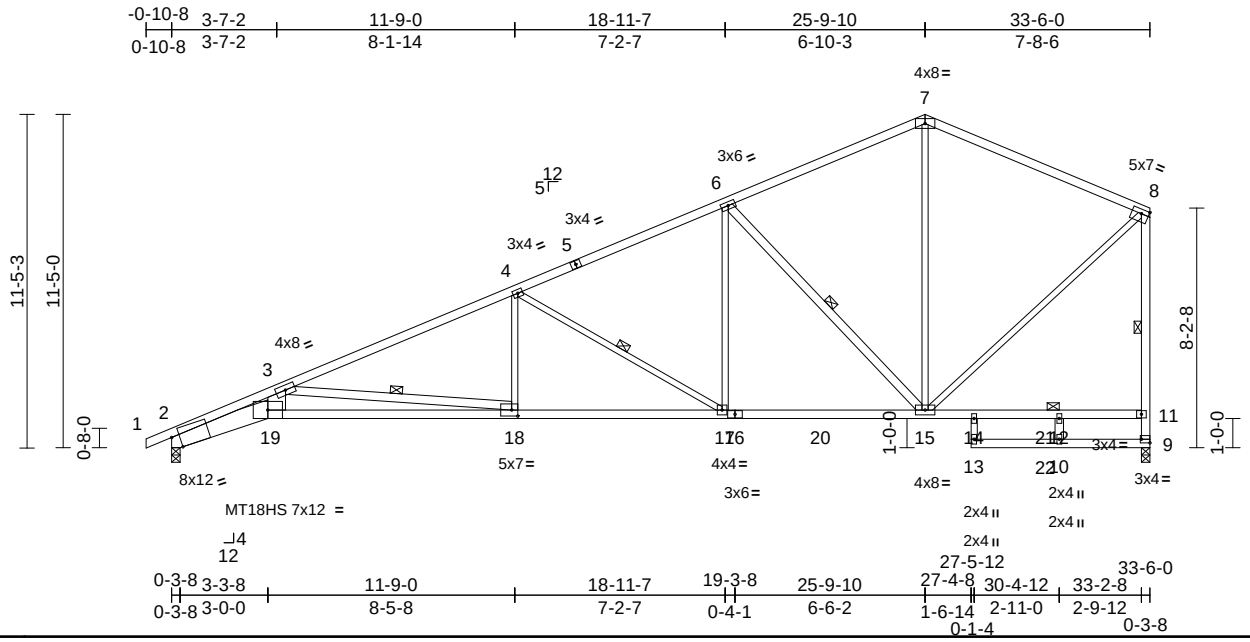

Scale = 1:78.9

Plate Offsets (X, Y): [2:0-3-3,Edge], [8:0-3-0,0-1-12], [9:Edge,0-1-8], [18:0-2-8,0-2-8]

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	0.78	Vert(LL)	-0.55	18-19	>725	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.99	18-19	>402	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.41	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.39	18-19	>999	240	Weight: 159 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 5-7:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 2-19:2x8 SP DSS, 19-16:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 19-3:2x8 SP DSS, 9-8,12-10,6-15,18-3:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-1-3 oc bracing: 2-19
1-4-12 oc bracing: 18-19.

WEBS 1 Row at midpt 8-9, 6-15, 3-18, 4-17

JOINTS 1 Brace at Jt(s): 12

REACTIONS (lb/size) 2=1567/0-3-8, 9=1493/0-3-8
Max Horiz 2=341 (LC 7)
Max Uplift 2=-253 (LC 8), 9=-196 (LC 8)
Max Grav 2=1627 (LC 2), 9=1743 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/9, 2-3=-7667/1393, 3-4=-3256/500, 4-6=-2094/353, 6-7=-1140/238, 7-8=-1143/257, 9-11=-1608/223, 8-11=-1489/244

BOT CHORD 2-19=-1489/7107, 18-19=-1295/5917, 17-18=-526/2958, 15-17=-254/1851, 14-15=-130/100, 12-14=-130/100, 11-12=-130/100, 10-13=0/0, 9-10=0/0

WEBS 13-14=0/116, 3-19=-367/2419, 7-15=-46/483, 8-15=-164/1283, 10-12=0/65, 6-15=-1279/330, 3-18=-2974/773, 4-18=0/595, 4-17=-1286/316, 6-17=-77/899

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) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 253 lb uplift at joint 2 and 196 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.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888475
B220018	B5	Roof Special	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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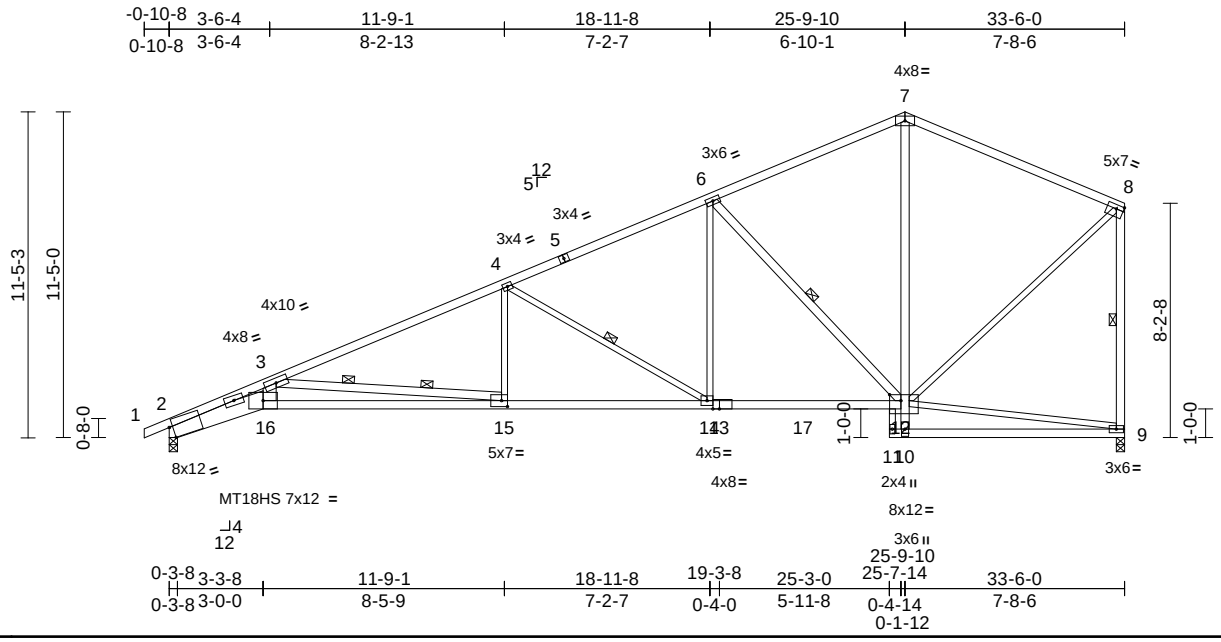

Scale = 1:80.8

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

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	0.78	Vert(LL)	-0.53	15-16	>747	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.96	15-16	>413	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.35	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.41	15-16	>983	240	Weight: 161 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 5-7:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 2-16:2x8 SP DSS, 16-13:2x4 SPF 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 16-3:2x6 SPF No.2, 15-3,12-6,9-8,10-7:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 6-7-5 oc bracing.

WEBS 1 Row at midpt 4-14, 6-12, 8-9

WEBS 2 Rows at 1/3 pts 3-15

REACTIONS (lb/size) 2=1568/0-3-8, 9=1498/0-3-8
Max Horiz 2=380 (LC 8)
Max Uplift 2=-233 (LC 8), 9=-211 (LC 8)
Max Grav 2=1617 (LC 2), 9=1573 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/9, 2-3=-7522/1515, 3-4=-3223/481, 4-6=-2073/317, 6-7=-1103/208, 7-8=-1099/225, 8-9=-1433/258

BOT CHORD 2-16=-1766/6967, 15-16=-1566/5984, 14-15=-667/2927, 12-14=-379/1831, 10-11=0/146, 9-10=0/243

WEBS 11-12=-510/0, 3-16=-438/2307, 3-15=-3071/903, 4-15=0/582, 4-14=-1274/335, 6-14=-76/943, 6-12=-1316/326, 10-12=0/686, 7-12=-18/450, 9-12=-233/0, 8-12=-212/1242

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 exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 233 lb uplift at joint 2 and 211 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.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888476
B220018	B6	Roof Special	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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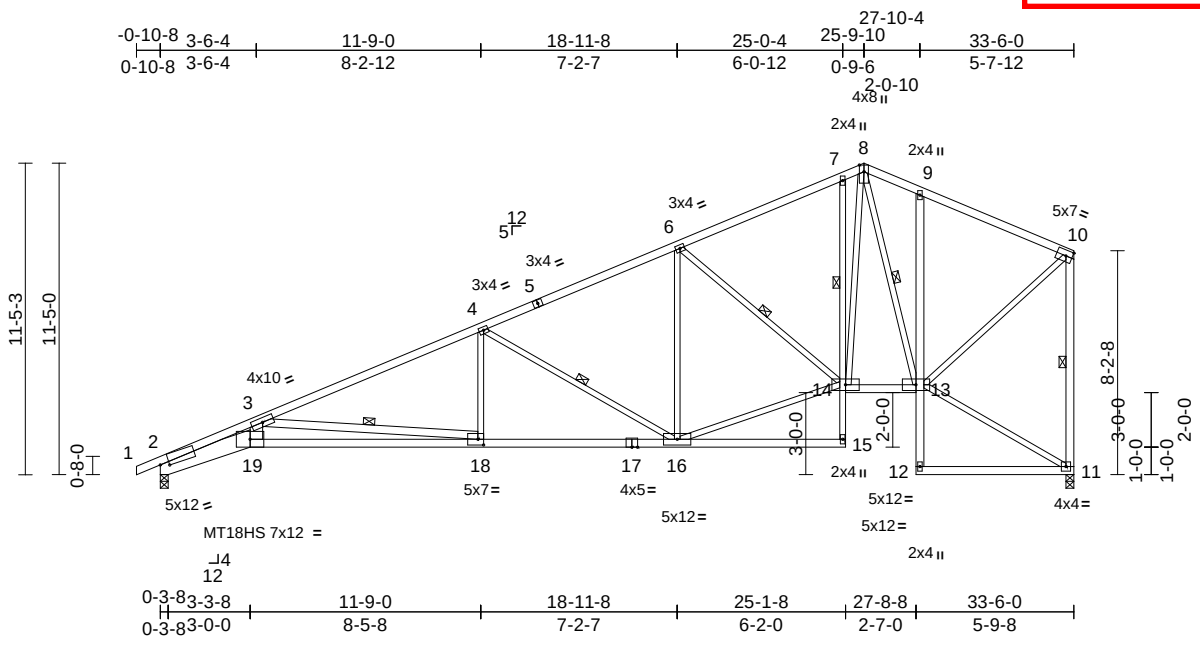

Scale = 1:84.5

Plate Offsets (X, Y): [2:0-3-15,0-1-6], [18:0-2-8,0-2-8]

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	0.78	Vert(LL)	-0.46	18-19	>869	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.91	18-19	>438	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.40	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.42	18-19	>938	240	Weight: 177 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 1-5:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 2-19:2x8 SP DSS, 19-17:2x4 SPF 2100F 1.8E, 15-7:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 19-3:2x6 SPF No.2, 18-3,11-10:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.

BOT CHORD Rigid ceiling directly applied or 6-2-13 oc bracing. Except:

1 Row at midpt 7-14

WEBS 1 Row at midpt 3-18, 4-16, 6-14, 8-13, 10-11

REACTIONS (lb/size) 2=1567/0-3-8, 11=1493/0-3-8
Max Horiz 2=380 (LC 8)
Max Uplift 2=-234 (LC 8), 11=-214 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/9, 2-3=-7214/1520, 3-4=-3094/483, 4-6=-1969/320, 6-7=-1396/273, 7-8=-1326/337, 8-9=-1093/249, 9-10=-1115/214, 10-11=-1440/249

BOT CHORD 2-19=-1770/6670, 18-19=-1568/5762, 16-18=-671/2794, 15-16=-1/35, 14-15=0/107, 7-14=-249/161, 13-14=-191/1077, 12-13=0/113, 9-13=-352/185, 11-12=0/16

WEBS 3-19=-443/2120, 3-18=-2982/901, 4-18=0/526, 4-16=-1252/338, 6-16=0/320, 14-16=-399/1771, 6-14=-710/202, 8-14=-368/1317, 8-13=-560/123, 11-13=-11/5, 10-13=-218/1293

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 exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 234 lb uplift at joint 2 and 214 lb uplift at joint 11.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	C1	GABLE	1	1	Job Reference (optional) I49888477

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:50 Page: 1
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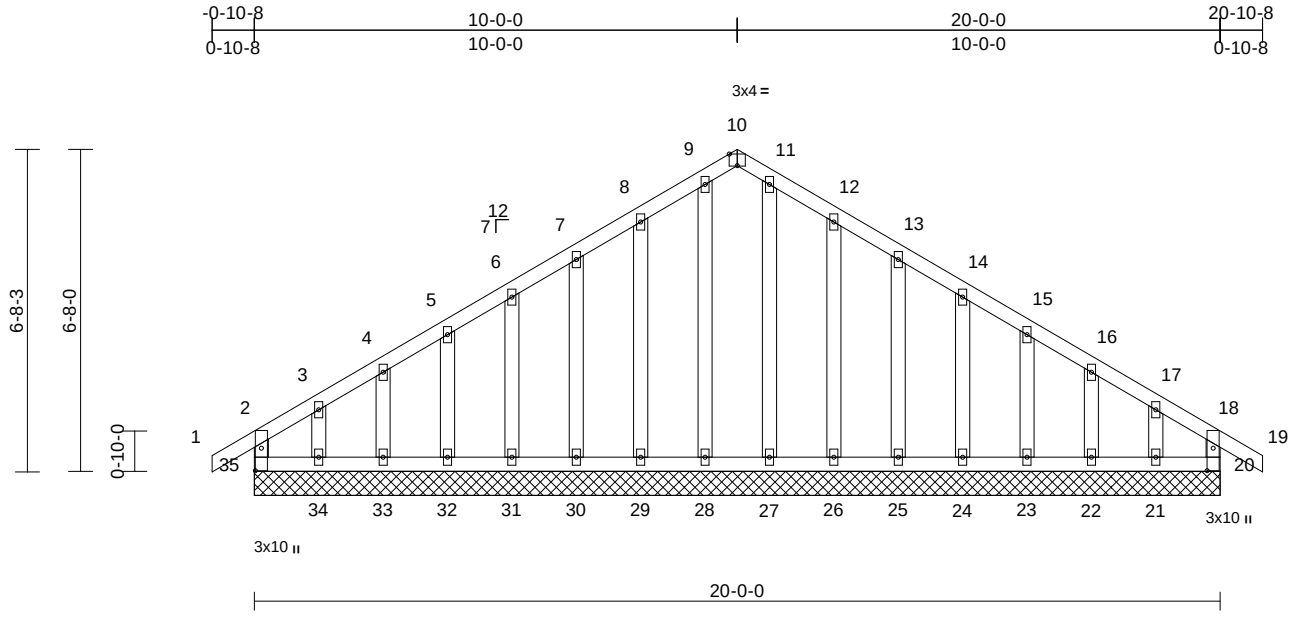

Scale = 1:47.7

Plate Offsets (X, Y): [10:0-2-0,Edge], [20:0-5-10,0-1-8], [35:0-5-10,0-1-8]

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	20	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 107 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 6-0-0 oc bracing.

REACTIONS (lb/size) 20=146/20-0-0, 21=84/20-0-0, 22=127/20-0-0, 23=119/20-0-0, 24=120/20-0-0, 25=120/20-0-0, 26=119/20-0-0, 27=123/20-0-0, 28=123/20-0-0, 29=119/20-0-0, 30=120/20-0-0, 31=120/20-0-0, 32=119/20-0-0, 33=127/20-0-0, 34=84/20-0-0, 35=146/20-0-0
Max Horiz 35=-189 (LC 6)
Max Uplift 20=-42 (LC 5), 21=-97 (LC 9), 22=-29 (LC 9), 23=-44 (LC 9), 24=-40 (LC 9), 25=-41 (LC 9), 26=-58 (LC 9), 29=-56 (LC 8), 30=-41 (LC 8), 31=-40 (LC 8), 32=-44 (LC 8), 33=-26 (LC 8), 34=-110 (LC 8), 35=-81 (LC 4)
Max Grav 20=152 (LC 15), 21=130 (LC 16), 22=127 (LC 22), 23=124 (LC 16), 24=123 (LC 16), 25=123 (LC 16), 26=126 (LC 16), 27=127 (LC 17), 28=136 (LC 18), 29=123 (LC 15), 30=123 (LC 15), 31=123 (LC 15), 32=125 (LC 15), 33=127 (LC 21), 34=150 (LC 15), 35=184 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-35=-149/64, 1-2=0/36, 2-3=-134/122, 3-4=-95/94, 4-5=-89/89, 5-6=-78/94, 6-7=-67/114, 7-8=-57/135, 8-9=-47/164, 9-10=-36/131, 10-11=-32/128, 11-12=-30/148, 12-13=-24/116, 13-14=-32/95, 14-15=-40/74, 15-16=-48/53, 16-17=-56/60, 17-18=-98/76, 18-19=0/36, 18-20=-133/34
BOT CHORD 34-35=-81/97, 33-34=-81/97, 32-33=-81/97, 31-32=-81/97, 30-31=-81/97, 29-30=-81/97, 28-29=-81/97, 27-28=-81/97, 26-27=-81/97, 25-26=-81/97, 24-25=-81/97, 23-24=-81/97, 22-23=-81/97, 21-22=-81/97, 20-21=-81/97
WEBS 3-34=-100/89, 4-33=-99/51, 5-32=-96/58, 6-31=-96/57, 7-30=-96/57, 8-29=-96/72, 9-28=-110/5, 11-27=-101/0, 12-26=-99/74, 13-25=-96/57, 14-24=-96/57, 15-23=-96/58, 16-22=-99/52, 17-21=-89/82

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 1-4-0 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 35, 42 lb uplift at joint 20, 110 lb uplift at joint 34, 26 lb uplift at joint 33, 44 lb uplift at joint 32, 40 lb uplift at joint 31, 41 lb uplift at joint 30, 56 lb uplift at joint 29, 58 lb uplift at joint 26, 41 lb uplift at joint 25, 40 lb uplift at joint 24, 44 lb uplift at joint 23, 29 lb uplift at joint 22 and 97 lb uplift at joint 21.
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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888478
B220018	C2	Common	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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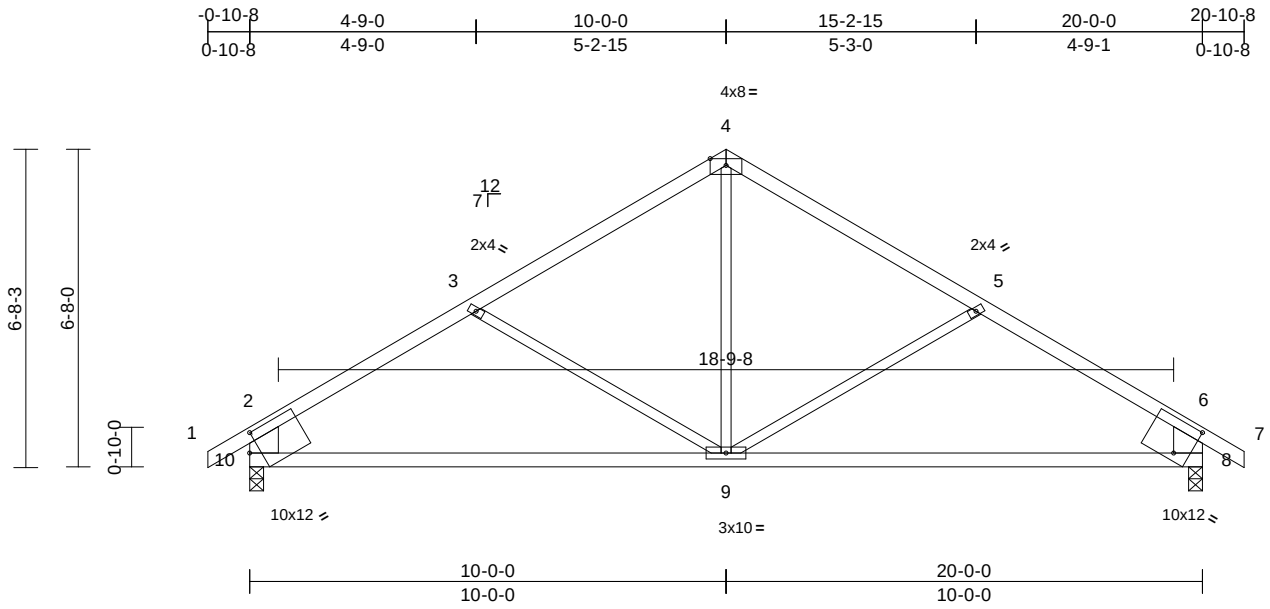

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Plate Offsets (X, Y): [8:0-3-11,0-8-1], [10:0-2-9,0-4-7]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.17	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.35	8-9	>667	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	9	>999	240	Weight: 70 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-2,8-6:2x8 SP DSS

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

REACTIONS (lb/size) 8=955/0-3-8, 10=955/0-3-8
Max Horiz 10=-192 (LC 6)
Max Uplift 8=-130 (LC 9), 10=-130 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/42, 2-3=-1148/182, 3-4=-875/141, 4-5=-875/141, 5-6=-1148/183, 6-7=0/42, 2-10=-852/178, 6-8=-852/178
BOT CHORD 9-10=-167/901, 8-9=-79/881
WEBS 4-9=-6/460, 5-9=-255/206, 3-9=-254/206

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 10 and 130 lb uplift at joint 8.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888479
B220018	C3	GABLE	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:50 Page: 1
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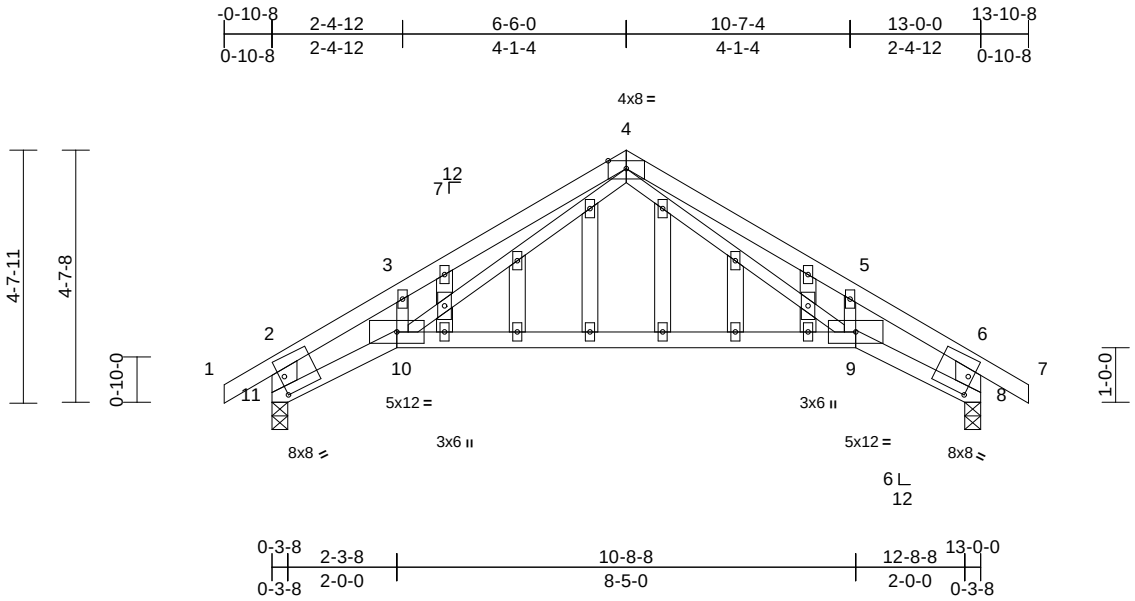

Scale = 1:42.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.21	9-10	>716	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.48	9-10	>312	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.19	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	9-10	>999	240	Weight: 59 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 10-9:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 11-2,8-6:2x6 SP DSS
OTHERS 2x4 SPF No.2

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

REACTIONS (lb/size) 8=642/0-3-8, 11=642/0-3-8
Max Horiz 11=-138 (LC 6)
Max Uplift 8=-91 (LC 9), 11=-91 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/39, 2-3=-1244/144, 3-4=-1083/252, 4-5=-1075/203, 5-6=-1244/83, 6-7=0/39, 2-11=-962/130, 6-8=-962/88
BOT CHORD 10-11=-135/1066, 9-10=-21/507, 8-9=-26/989
WEBS 4-9=-124/539, 5-9=0/226, 4-10=-160/608, 3-10=0/226

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 1-4-0 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) Bearing at joint(s) 11, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 91 lb uplift at joint 11 and 91 lb uplift at joint 8.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	C4	Piggyback Base Structural Gable	1	1	Job Reference (optional) I49888480

Wheeler Lumber, Waverly, KS - 66871,

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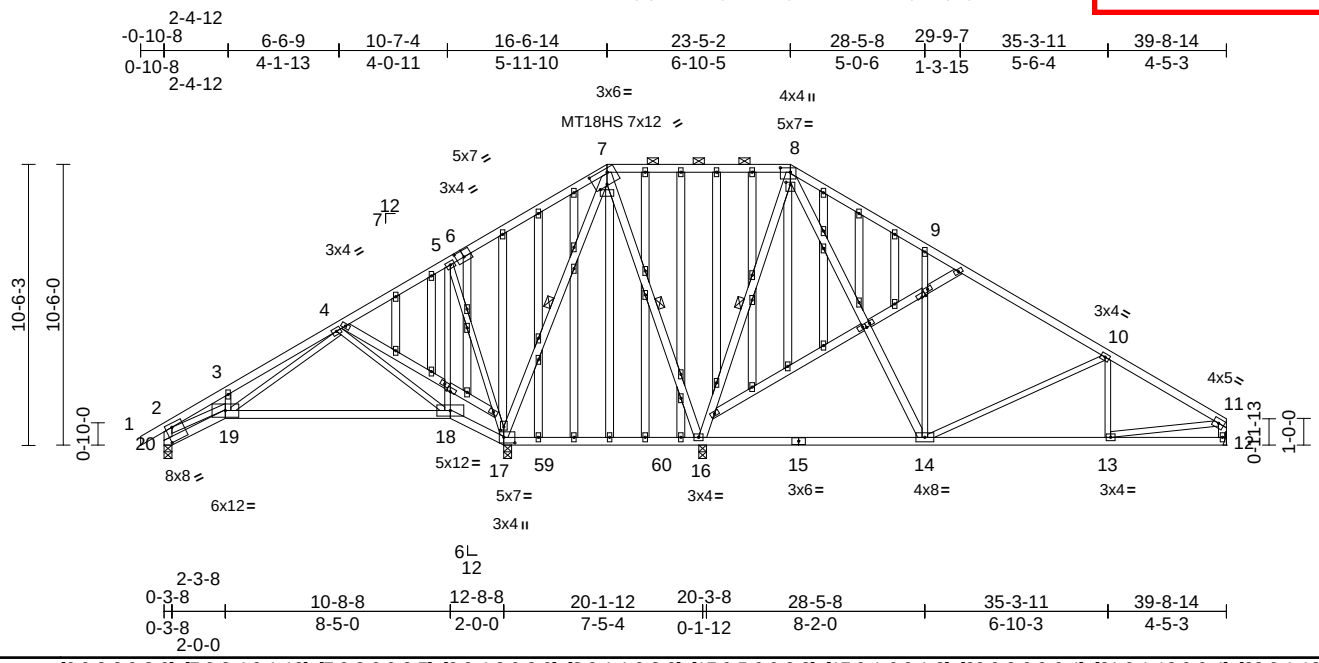

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Plate Offsets (X, Y): [6:0-3-8,0-3-0], [7:0-8-4,0-1-12], [7:0-3-0,0-2-7], [8:0-4-8,0-2-0], [8:0-1-1,0-2-0], [17:0-5-0,0-2-8], [17:0-1-6,0-1-8], [20:0-3-0,0-6-4], [21:0-1-12,0-0-4], [23:0-1-12,0-0-4], [24:0-1-8,0-1-0]

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	0.76	Vert(LL)	-0.18	18-19	>835	360	MT18HS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.37	18-19	>409	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.03	17	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	13-14	>999	240	Weight: 321 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 19-3,18-5,17-5,18-4,19-4,19-2,14-9,13-10,14-10,13-11:2x3 SPF No.2
OTHERS 2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-6 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 7-8.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 8-16, 7-16, 7-17

REACTIONS (lb/size) 12=628/ Mechanical, 16=1567/0-3-8, 17=1109/0-3-8, 20=317/0-3-8
Max Horiz 20=287 (LC 5)
Max Uplift 12=-138 (LC 9), 16=-144 (LC 9), 17=-327 (LC 8), 20=-49 (LC 9)
Max Grav 12=733 (LC 16), 16=1662 (LC 2), 17=1393 (LC 15), 20=352 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-661/65, 3-4=-706/180, 4-5=-131/690, 5-7=-79/860, 7-8=0/560, 8-9=-501/358, 9-10=-515/187, 10-11=-938/202, 2-20=-374/73, 11-12=-671/155
BOT CHORD 19-20=-302/321, 18-19=-239/132, 17-18=-504/196, 16-17=-462/197, 14-16=-227/159, 13-14=-136/747, 12-13=-23/81
WEBS 3-19=-211/152, 5-18=-18/263, 5-17=-593/194, 4-18=-431/188, 4-19=-242/1015, 8-16=-1096/193, 7-16=-382/70, 2-19=-20/523, 7-17=-550/168, 9-14=-466/279, 8-14=-294/1080, 10-13=-10/167, 10-14=-549/182, 11-13=-114/676

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 MT20 plates unless otherwise indicated.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Bearing at joint(s) 20 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 20, 327 lb uplift at joint 17, 138 lb uplift at joint 12 and 144 lb uplift at joint 16.
14) 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.
15) 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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	C5	Piggyback Base	3	1	Job Reference (optional) I49888481

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:5L Page: 1
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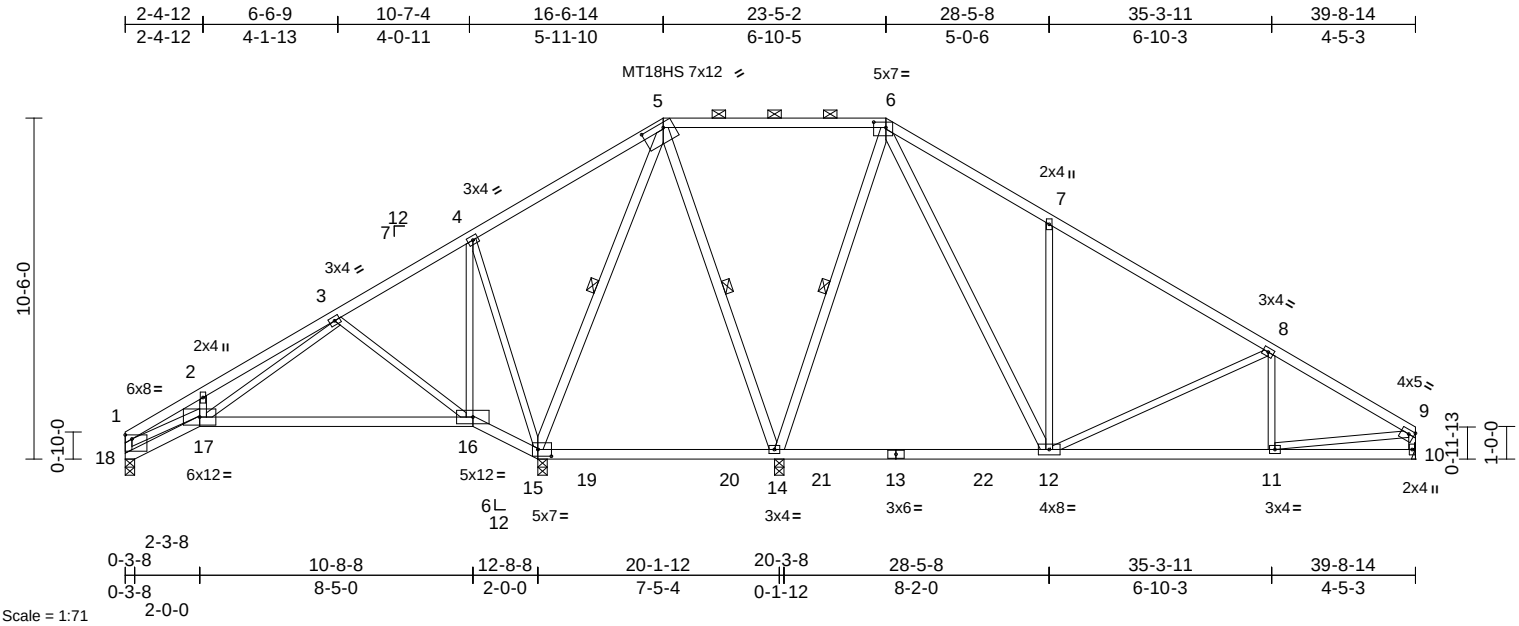

Scale = 1:71

Plate Offsets (X, Y): [1:Edge,0-1-8], [5:0-8-4,0-1-12], [6:0-4-8,0-2-0], [9:Edge,0-1-8], [15:0-5-0,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.18	16-17	>840	360	MT18HS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.37	16-17	>410	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.03	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	11-12	>999	240	Weight: 185 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-5,14-6,5-15,6-12:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-2 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-14, 6-14, 5-15

REACTIONS (lb/size) 10=624/ Mechanical, 14=1575/0-3-8, 15=1124/0-3-8, 18=235/0-3-8
Max Horiz 18=277 (LC 5)
Max Uplift 10=-138 (LC 9), 14=-146 (LC 9), 15=-330 (LC 8), 18=-45 (LC 9)
Max Grav 10=738 (LC 16), 14=1750 (LC 2), 15=1398 (LC 15), 18=285 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-667/67, 2-3=-722/185, 3-4=-135/716, 4-5=-79/886, 5-6=0/580, 6-7=-514/358, 7-8=-509/187, 8-9=-946/204, 1-18=-299/47, 9-10=-673/156
BOT CHORD 17-18=-299/325, 16-17=-254/132, 15-16=-522/196, 14-15=-479/198, 12-14=-235/160, 11-12=-136/754, 10-11=-22/78
WEBS 2-17=-227/157, 3-17=-250/1055, 3-16=-436/189, 4-16=-18/261, 4-15=-591/193, 5-14=-387/72, 6-14=-1109/194, 1-17=-26/522, 5-15=-565/171, 6-12=-294/1125, 7-12=-465/279, 8-12=-544/184, 8-11=-5/167, 9-11=-116/685

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) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 18 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 18, 330 lb uplift at joint 15, 146 lb uplift at joint 14 and 138 lb uplift at joint 10.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) 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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888482
B220018	C6	Piggyback Base	2	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:52 Page: 1
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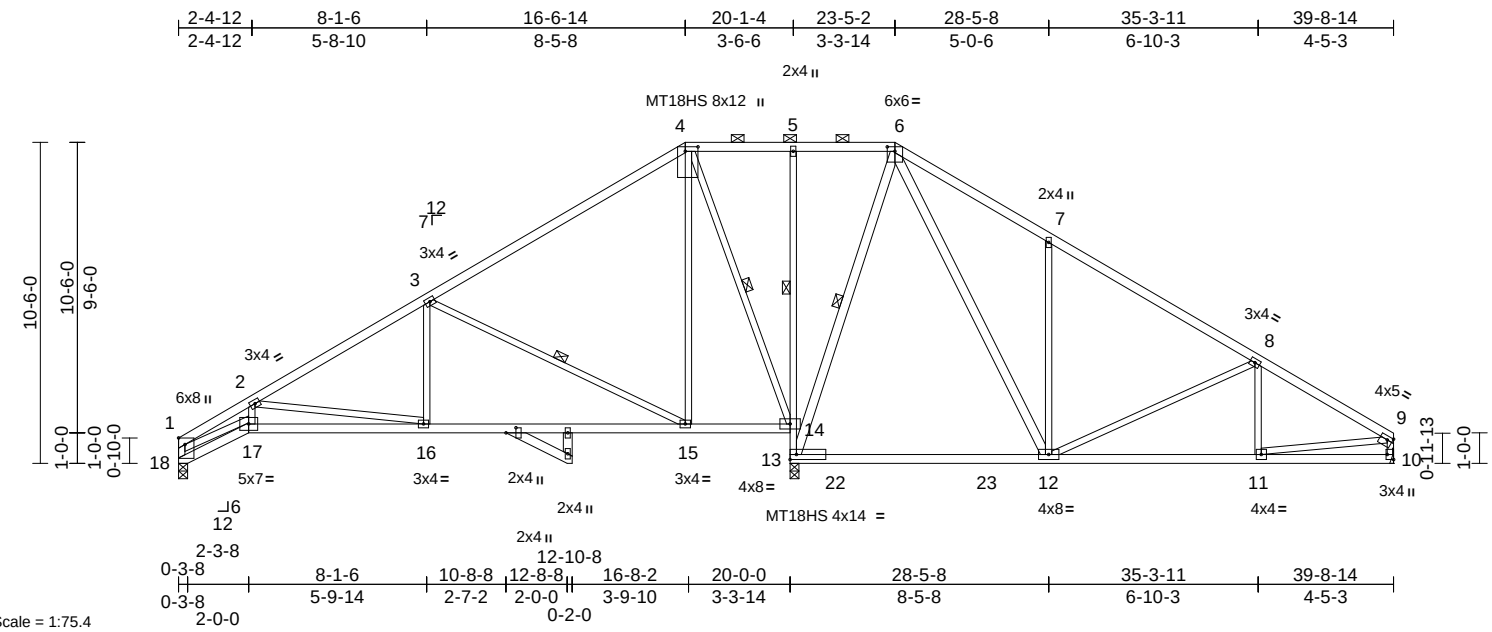

Scale = 1:75.4

Plate Offsets (X, Y): [1:Edge,0-2-8], [4:0-1-12,0-5-0], [6:0-3-0,0-1-12], [9:Edge,0-1-8], [10:Edge,0-2-8], [19:0-2-0,0-3-15]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.27	12-13	>879	360	MT18HS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.42	12-13	>556	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	16-17	>999	240	Weight: 184 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 5-13:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-6,12-6:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-12 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
3-7-9 oc bracing: 13-14
6-0-0 oc bracing: 12-13.
1 Row at midpt 5-14
WEBS 1 Row at midpt 4-14, 6-13, 3-15

REACTIONS (lb/size) 10=779/ Mechanical, 13=1977/0-3-8, 18=802/0-3-8
Max Horiz 18=222 (LC 5)
Max Uplift 10=-76 (LC 9), 18=-28 (LC 8)
Max Grav 10=961 (LC 14), 13=2061 (LC 13), 18=880 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-2450/192, 2-3=-1279/95, 3-4=-432/164, 4-5=-79/211, 5-6=-81/209, 6-7=-933/284, 7-8=-898/167, 8-9=-1280/134, 1-18=-944/82, 9-10=-886/95
BOT CHORD 17-18=-236/315, 16-17=-232/2156, 15-16=-84/1207, 14-15=-2/230, 13-14=-1165/86, 5-14=-264/71, 12-13=-14/181, 11-12=-82/1045, 10-11=-10/100
WEBS 2-17=-57/577, 3-16=0/454, 4-15=0/689, 4-14=-1049/42, 1-17=-141/1974, 7-12=-463/171, 8-11=-43/119, 9-11=-73/958, 8-12=-454/86, 6-13=-837/18, 6-12=-119/1140, 2-16=-961/150, 3-15=-1100/154

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); 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) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 18 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 18 and 76 lb uplift at joint 10.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) 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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	C7	Piggyback Base	1	1	Job Reference (optional) I49888483

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:52 Page: 1
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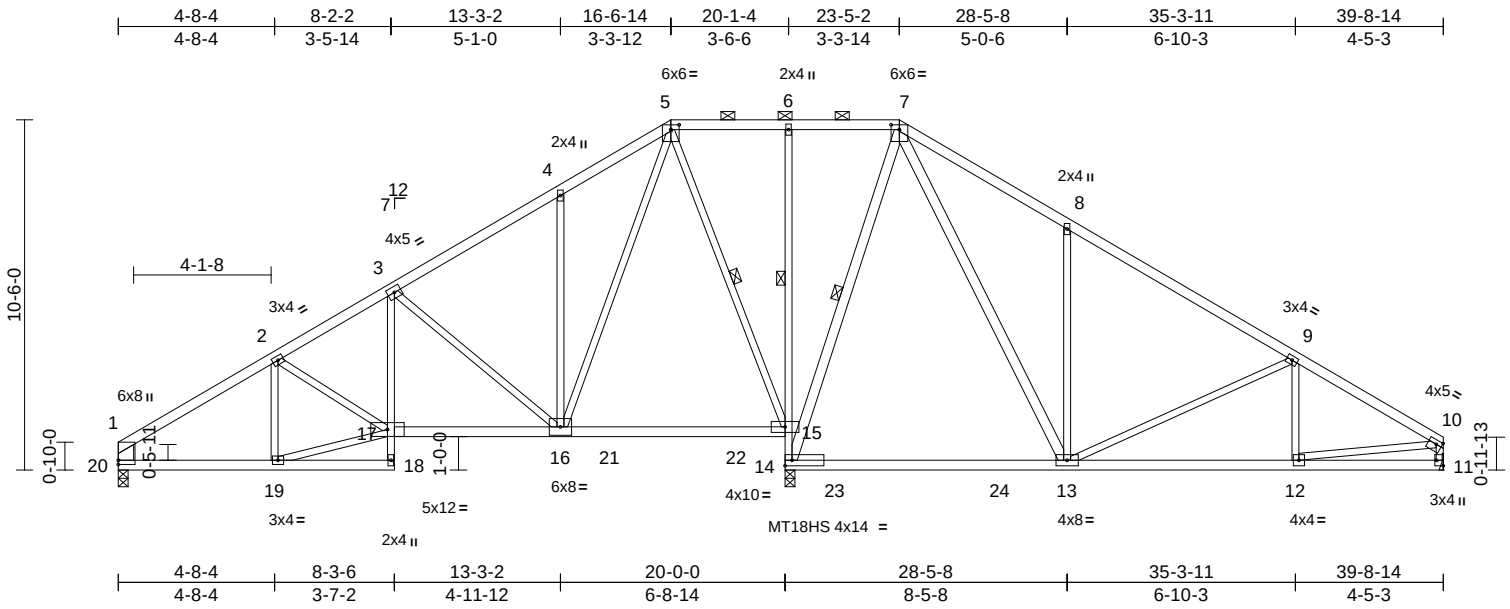

Scale = 1:69.1

Plate Offsets (X, Y): [5:0-3-0,0-1-12], [7:0-3-0,0-1-12], [10:Edge,0-1-8], [11: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	0.48	Vert(LL)	-0.27	13-14	>874	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.43	13-14	>550	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.85	Horz(CT)	-0.08	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	18-19	>999	240	Weight: 187 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 18-3,6-14:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 20-1:2x6 SPF No.2, 14-7,13-7:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-7 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-10-9 oc bracing: 14-15
6-0-0 oc bracing: 13-14.
1 Row at midpt 6-15
WEBS 1 Row at midpt 5-15, 7-14

REACTIONS (lb/size) 11=770/ Mechanical, 14=1989/0-3-8, 20=788/0-3-8
Max Horiz 20=220 (LC 5)
Max Uplift 11=-85 (LC 9), 20=-45 (LC 8)
Max Grav 11=923 (LC 14), 14=2148 (LC 13), 20=861 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1080/81, 2-3=-1079/138, 3-4=-618/145, 4-5=-586/215, 5-6=-34/266, 6-7=-37/261, 7-8=-866/300, 8-9=-830/183, 9-10=-1221/147, 1-20=-708/69, 10-11=-848/104
BOT CHORD 19-20=-112/989, 18-19=-9/59, 17-18=0/91, 3-17=-3/384, 16-17=-99/1039, 15-16=-43/158, 14-15=-1241/68, 6-15=-293/65, 13-14=-34/133, 12-13=-93/994, 11-12=-10/98
WEBS 2-17=0/66, 3-16=-676/107, 2-19=-240/86, 17-19=-107/967, 4-16=-316/122, 5-16=-111/1078, 5-15=-960/46, 8-13=-464/172, 9-12=-42/125, 10-12=-84/908, 9-13=-462/84, 7-14=-870/7, 7-13=-119/1148

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); 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) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 20 and 85 lb uplift at joint 11.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888484
B220018	C8	Piggyback Base	3	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:52 Page: 1
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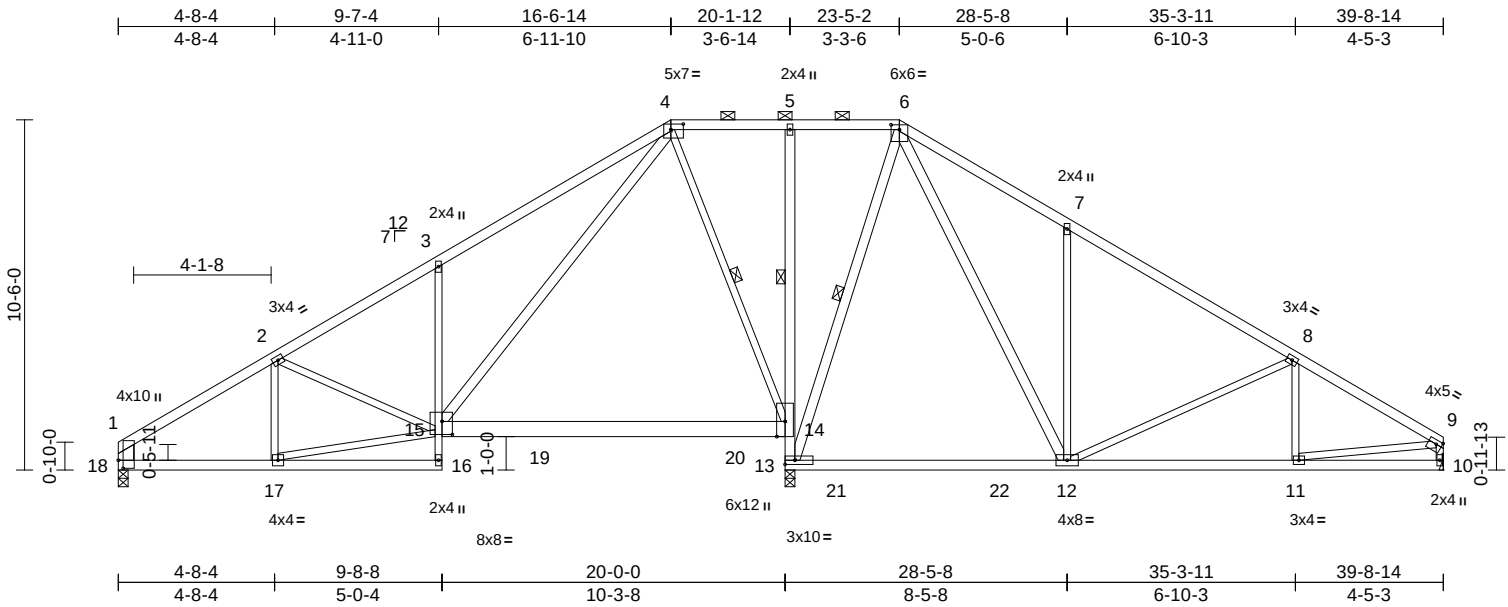

Scale = 1:69.1

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

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	0.57	Vert(LL)	-0.20	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.33	14-15	>733	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.87	Horz(CT)	-0.06	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	16-17	>999	240	Weight: 194 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 16-3:2x3 SPF No.2, 15-14:2x6 SPF No.2, 13-10:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 18-1:2x6 SPF No.2, 13-6,12-6,15-4:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-11 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing. Except:
1 Row at midpt 5-14
WEBS 1 Row at midpt 6-13, 4-14

REACTIONS (lb/size) 10=688/ Mechanical, 13=2147/0-3-8, 18=712/0-3-8
Max Horiz 18=220 (LC 5)
Max Uplift 10=-91 (LC 9), 18=-52 (LC 8)
Max Grav 10=803 (LC 14), 13=2391 (LC 13), 18=763 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-949/89, 2-3=-788/144, 3-4=-911/275, 4-5=0/468, 5-6=0/462, 6-7=-651/311, 7-8=-639/194, 8-9=-1038/156, 1-18=-630/72, 9-10=-729/109
BOT CHORD 17-18=-119/883, 16-17=-97/37, 15-16=0/97, 3-15=-501/176, 14-15=-150/67, 13-14=-1367/45, 5-14=-273/68, 12-13=-171/44, 11-12=-101/836, 10-11=-12/92
WEBS 2-15=-142/30, 2-17=-135/85, 15-17=-88/934, 6-13=-993/2, 6-12=-120/1156, 7-12=-463/172, 8-12=-493/82, 8-11=-29/145, 9-11=-90/756, 4-15=-147/1320, 4-14=-1022/69

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); 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, with BCDL = 10.0psf.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 18 and 91 lb uplift at joint 10.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	C9	Piggyback Base Girder	1	4	Job Reference (optional) I49888485

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:58 Page: 1
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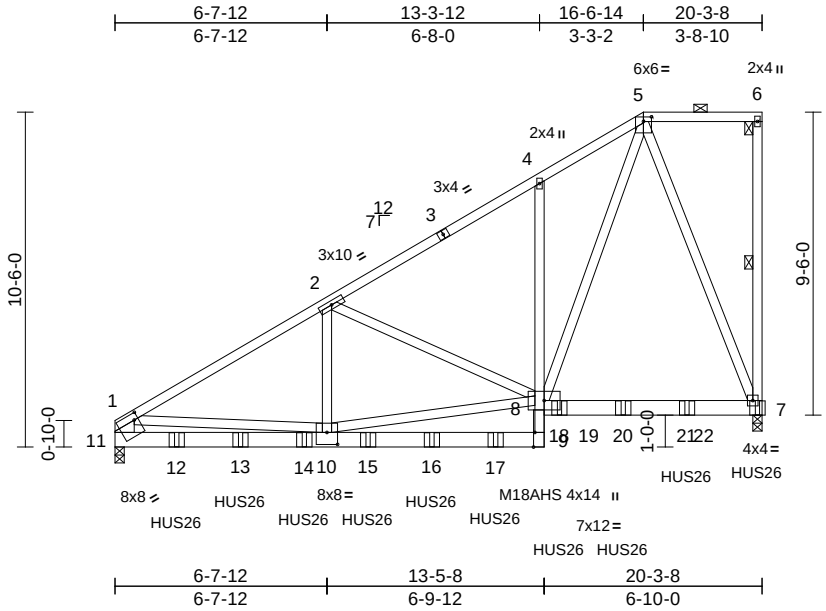

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Plate Offsets (X, Y): [5:0-3-0,0-1-12], [9:0-5-8,Edge], [10:0-4-0,0-4-8], [11:0-1-8,0-2-8]

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	0.64	Vert(LL)	-0.12	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.21	9-10	>999	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	7-8	>999	240	Weight: 567 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 9-4:2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 11-1:2x8 SP DSS

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

REACTIONS (lb/size) 7=6728/0-3-8, 11=7303/0-3-8
Max Horiz 11=314 (LC 20)
Max Uplift 7=-967 (LC 5), 11=-765 (LC 8)
Max Grav 7=7842 (LC 13), 11=8648 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-11359/883, 2-4=-6042/541, 4-5=-6070/637, 5-6=-122/85, 6-7=-129/50, 1-11=-6465/505
BOT CHORD 10-11=-691/3856, 9-10=0/1119, 8-9=-12/2264, 4-8=-401/147, 7-8=-267/2226
WEBS 2-10=-329/4603, 8-10=-948/8827, 2-8=-5191/458, 5-8=-865/8938, 5-7=-5947/557, 1-10=-254/6049

NOTES
1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 3 rows staggered at 0-4-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 967 lb uplift at joint 7 and 765 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 1-11-4 from the left end to 5-11-4 to connect truss(es) to back face of bottom chord.
12) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 7-11-4 from the left end to 11-11-4 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 2-2-8 oc max. starting at 13-11-4 from the left end to 20-1-12 to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-70, 5-6=-70, 9-11=-20, 7-8=-20
Concentrated Loads (lb)
Vert: 7=-831 (B), 12=-1456 (B), 13=-1460 (B), 14=-1460 (B), 15=-1460 (B), 16=-1460 (B), 17=-1456 (B), 18=-1016 (B), 20=-823 (B), 21=-823 (B)

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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	D1	Common Supported Gable	1	1	Job Reference (optional) I49888486

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:58 Page: 1
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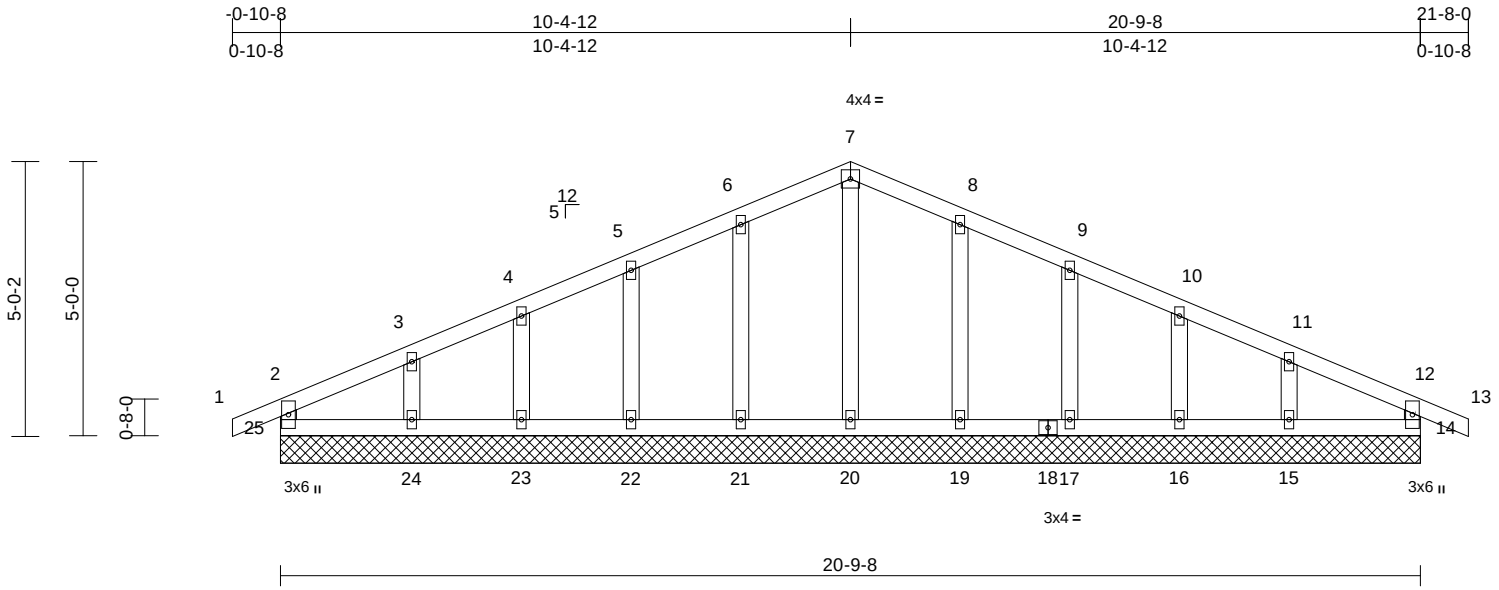

Scale = 1:42

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: 79 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 (lb/size) 14=177/20-9-8, 15=192/20-9-8, 16=177/20-9-8, 17=179/20-9-8, 19=188/20-9-8, 20=162/20-9-8, 21=188/20-9-8, 22=179/20-9-8, 23=177/20-9-8, 24=192/20-9-8, 25=177/20-9-8
Max Horiz 25=-68 (LC 9)
Max Uplift 14=-33 (LC 5), 15=-66 (LC 9), 16=-42 (LC 9), 17=-49 (LC 9), 19=-50 (LC 9), 21=-50 (LC 8), 22=-49 (LC 8), 23=-41 (LC 8), 24=-72 (LC 8), 25=-33 (LC 4)
Max Grav 14=177 (LC 1), 15=192 (LC 22), 16=177 (LC 22), 17=179 (LC 1), 19=191 (LC 22), 20=162 (LC 1), 21=191 (LC 21), 22=179 (LC 1), 23=177 (LC 21), 24=192 (LC 21), 25=177 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-25=-157/47, 1-2=0/27, 2-3=-72/50, 3-4=-45/68, 4-5=-33/89, 5-6=-33/110, 6-7=-36/130, 7-8=-36/123, 8-9=-33/90, 9-10=-33/69, 10-11=-34/48, 11-12=-57/35, 12-13=0/27, 12-14=-157/47
BOT CHORD 24-25=-8/57, 23-24=-8/57, 22-23=-8/57, 21-22=-8/57, 20-21=-8/57, 19-20=-8/57, 17-19=-8/57, 16-17=-8/57, 15-16=-8/57, 14-15=-8/57
WEBS 7-20=-122/0, 6-21=-151/74, 5-22=-139/73, 4-23=-139/67, 3-24=-146/90, 8-19=-151/74, 9-17=-139/73, 10-16=-139/68, 11-15=-146/87

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 25, 33 lb uplift at joint 14, 50 lb uplift at joint 21, 49 lb uplift at joint 22, 41 lb uplift at joint 23, 72 lb uplift at joint 24, 50 lb uplift at joint 19, 49 lb uplift at joint 17, 42 lb uplift at joint 16 and 66 lb uplift at joint 15.
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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	D2	Common	4	1	I49888487 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:25:54 Page: 1
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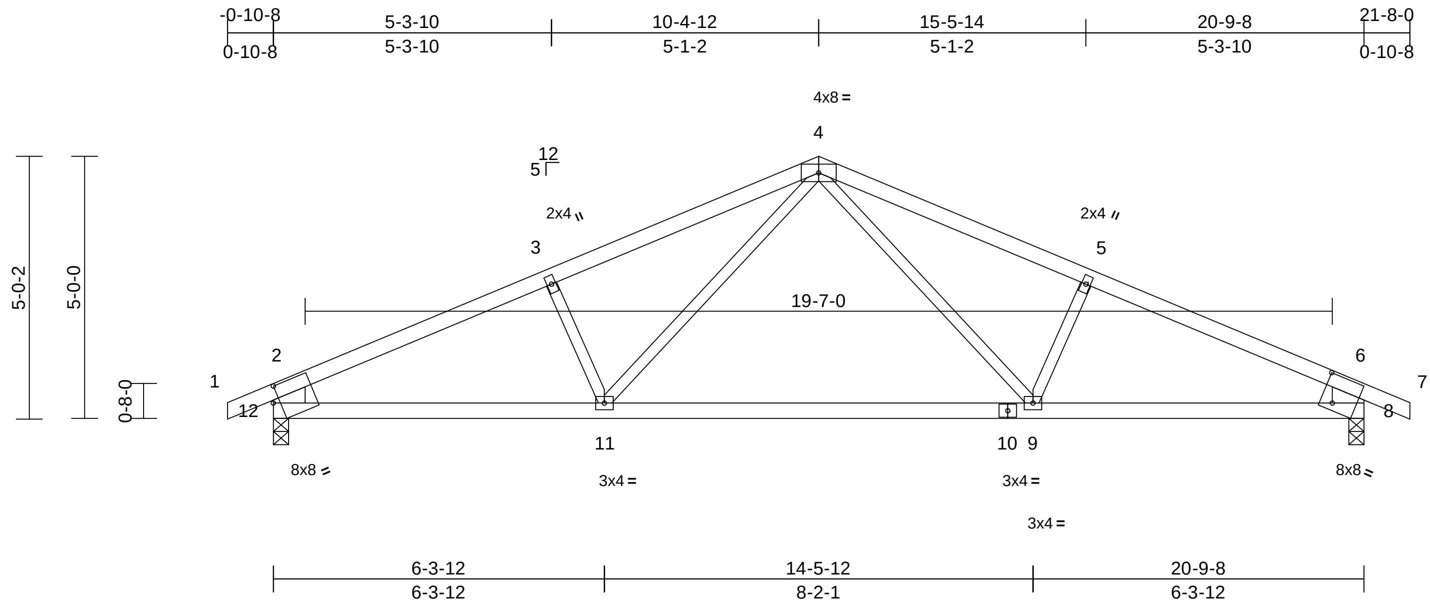

Scale = 1:43.9

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

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	0.91	Vert(LL)	-0.17	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.39	9-11	>621	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.16	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	9-11	>999	240	Weight: 68 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,8-6:2x8 SP DSS

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

REACTIONS (lb/size) 8=991/0-3-8, 12=991/0-3-8
Max Horiz 12=-66 (LC 9)
Max Uplift 8=-143 (LC 9), 12=-143 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-1541/197, 3-4=-1394/220, 4-5=-1394/220, 5-6=-1541/197, 6-7=0/32, 2-12=-907/170, 6-8=-907/170
BOT CHORD 11-12=-185/1326, 9-11=-59/968, 8-9=-119/1326
WEBS 4-9=-89/469, 5-9=-251/176, 4-11=-88/469, 3-11=-251/176

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 143 lb uplift at joint 12 and 143 lb uplift at joint 8.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	D3	Roof Special Girder	1	2	Job Reference (optional) I49888488

Wheeler Lumber, Waverly, KS - 66871,

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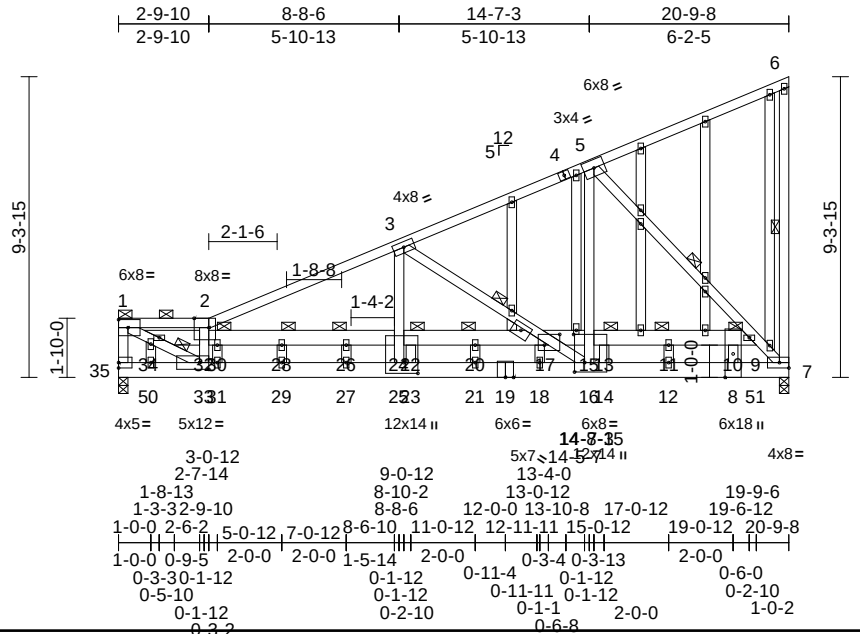

Scale = 1:71.5

Plate Offsets (X, Y): [2:0-5-8,Edge], [16:0-3-8,0-3-12], [17:0-5-11,0-4-0], [25:0-4-0,0-5-4], [33:0-3-8,0-2-8], [39:0-1-8,0-1-0]

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	0.60	Vert(LL)	-0.14	27-29	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.24	26-28	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.83	Horz(CT)	0.04	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	27-29	>999	240	Weight: 365 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-2:2x4 SPF 2100F 1.8E
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 33-1:2x4 SPF 2100F 1.8E
OTHERS 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-5-8 oc purlins, except end verticals, and 2-0-0 oc purlins (4-8-5 max.): 1-2.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-7, 3-16, 5-7
JOINTS 1 Brace at Jt(s): 1, 30, 28, 26, 22, 20, 13, 11, 10, 34

REACTIONS (lb/size) 7=4878/0-3-8, (req. 0-4-2), 35=5161/0-3-8, (req. 0-4-6)
Max Horiz 35=282 (LC 8)
Max Uplift 7=-682 (LC 8), 35=-730 (LC 8)
Max Grav 7=5236 (LC 18), 35=5607 (LC 18)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-35=-4813/587, 1-2=-7099/815, 2-3=-8207/858, 3-5=-4279/380, 5-6=-111/56, 6-7=-179/91
BOT CHORD 33-35=-325/206, 31-33=-1341/8921, 29-31=-1341/8921, 27-29=-1341/8921, 25-27=-1341/8921, 23-25=-1184/8456, 21-23=-1184/8456, 18-21=-1184/8456, 16-18=-1158/8277, 14-16=-539/4363, 12-14=-539/4363, 8-12=-539/4363, 7-8=-539/4363, 32-34=-1546/197, 30-32=-1431/302, 28-30=-1431/302, 26-28=-1431/302, 24-26=-1431/302, 22-24=-987/154, 20-22=-987/154, 17-20=-987/154, 15-17=-533/76, 13-15=-513/57, 11-13=-513/57, 10-11=-513/57, 9-10=-513/57
WEBS 1-34=-962/8312, 33-34=-1124/9589, 32-33=-3676/403, 2-32=-3240/390, 24-25=-310/2180, 3-24=-345/3483, 3-17=-4277/643, 16-17=-4804/733, 15-16=-337/3306, 5-15=-479/5288, 5-9=-5540/703, 7-9=-6610/807, 30-31=-32/68, 28-29=-118/694, 26-27=-109/482, 22-23=-34/188, 20-21=-43/329, 13-14=-146/1106, 11-12=-36/116, 8-10=-131/1038, 17-18=-146/989

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 0-6-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-4-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) 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.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) WARNING: Required bearing size at joint(s) 35, 7 greater than input bearing size.

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

January 27,2022

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	D3	Roof Special Girder	1	**2**	Job Reference (optional) I49888488

12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 730 lb uplift at joint 35 and 682 lb uplift at joint 7.
13) 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 763 lb down and 149 lb up at 0-11-3, 769 lb down and 150 lb up at 3-0-12, 769 lb down and 150 lb up at 5-0-12, 769 lb down and 150 lb up at 7-0-12, 976 lb down and 88 lb up at 9-0-12, 976 lb down and 88 lb up at 11-0-12, 937 lb down and 97 lb up at 13-2-15, 837 lb down and 103 lb up at 15-0-12, 837 lb down and 103 lb up at 17-0-12, 837 lb down and 103 lb up at 19-0-12, and 291 lb down and 57 lb up at 5-0-12, and 291 lb down and 57 lb up at 7-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
16) Studding applied to ply: 1(Front)

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, 2-6=-70, 7-35=-20, 9-34=-20
   Concentrated Loads (lb)
   Vert: 31=-671 (B), 29=-920 (F=-249, B=-671), 27=-920 (F=-249, B=-671), 23=-806 (B), 21=-806 (B), 14=-741 (B), 12=-741 (B), 8=-741 (B), 18=-797 (B), 50=-674 (B)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
11/13/2023

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	P1	Piggyback	1	1	I49888489 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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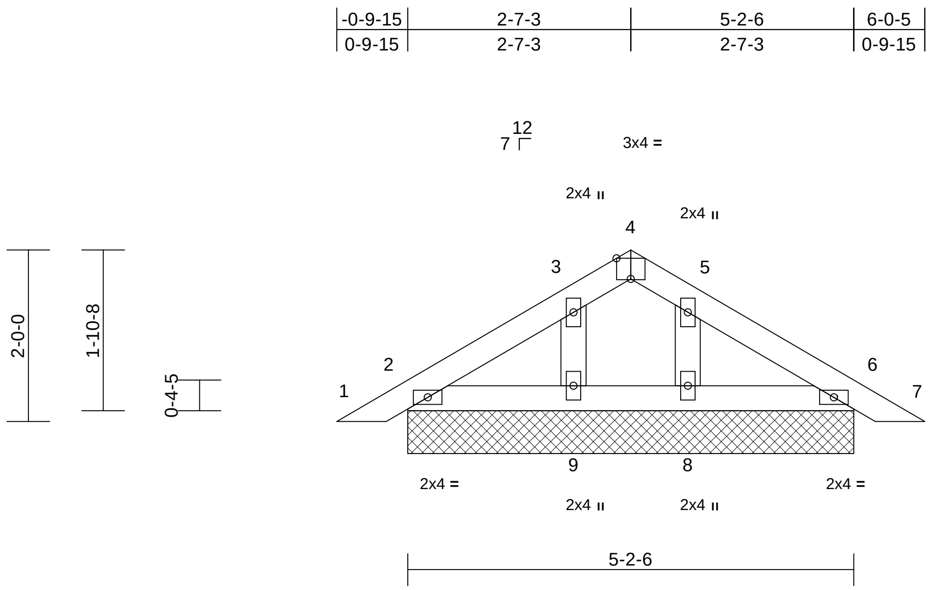

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Plate Offsets (X, Y): [4:0-2-0,Edge], [5:0-0-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	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	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 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 6-0-0 oc bracing.

REACTIONS (lb/size) 2=113/5-2-6, 6=113/5-2-6, 8=159/5-2-6, 9=159/5-2-6
Max Horiz 2=-48 (LC 6)
Max Uplift 2=-5 (LC 8), 6=-8 (LC 9), 8=-49 (LC 9), 9=-52 (LC 8)
Max Grav 2=114 (LC 21), 6=114 (LC 22), 8=164 (LC 16), 9=166 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-51/54, 3-4=-20/6, 4-5=-20/7, 5-6=-47/50, 6-7=0/17
BOT CHORD 2-9=-26/68, 8-9=-26/68, 6-8=-26/68
WEBS 3-9=-130/73, 5-8=-128/71

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 1-4-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 2, 8 lb uplift at joint 6, 52 lb uplift at joint 9 and 49 lb uplift at joint 8.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	P2	Piggyback	9	1	Job Reference (optional) I49888490

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:55 Page: 1
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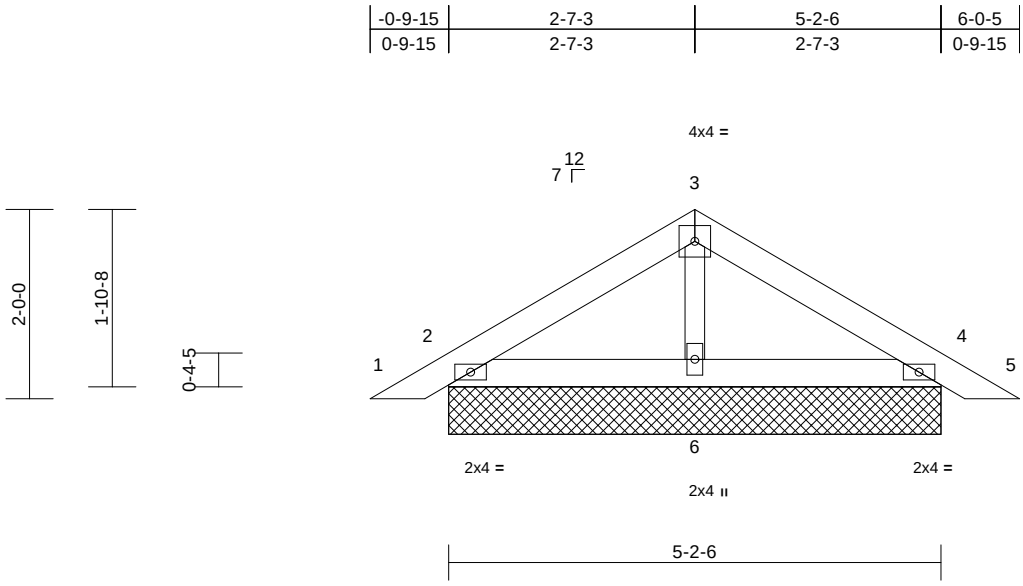

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 lb	FT = 10%

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

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

REACTIONS (lb/size) 2=168/5-2-6, 4=168/5-2-6, 6=207/5-2-6
Max Horiz 2=-48 (LC 6)
Max Uplift 2=-43 (LC 8), 4=-49 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-74/41, 3-4=-71/29, 4-5=0/17
BOT CHORD 2-6=-8/36, 4-6=-8/36
WEBS 3-6=-142/35

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 2 and 49 lb uplift at joint 4.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V1	Valley	1	1	Job Reference (optional) I49888491

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:55 Page: 1
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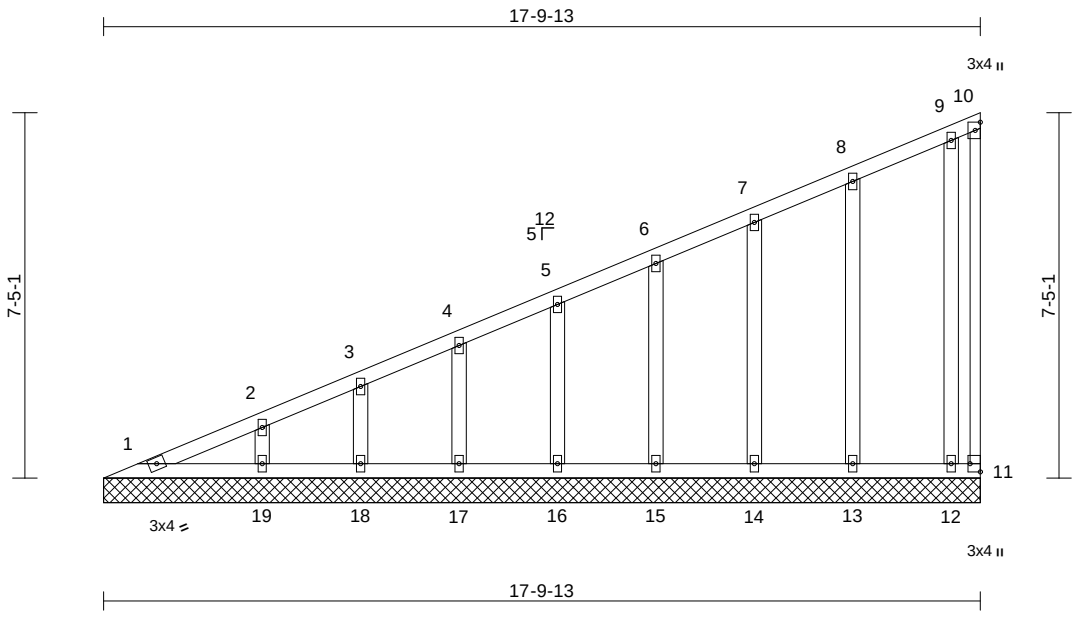

Scale = 1:46.8

Plate Offsets (X, Y): [11: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	0.44	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	0.10	Horiz(TL)	0.00	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 81 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 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 (lb/size) 1=91/17-9-13, 11=-5/17-9-13, 12=129/17-9-13, 13=191/17-9-13, 14=178/17-9-13, 15=181/17-9-13, 16=179/17-9-13, 17=185/17-9-13, 18=162/17-9-13, 19=238/17-9-13
Max Horiz 1=309 (LC 7)
Max Uplift 11=-113 (LC 7), 12=-84 (LC 8), 13=-35 (LC 8), 14=-52 (LC 8), 15=-47 (LC 8), 16=-48 (LC 8), 17=-49 (LC 8), 18=-43 (LC 8), 19=-63 (LC 8)
Max Grav 1=130 (LC 16), 11=76 (LC 4), 12=157 (LC 16), 13=191 (LC 1), 14=178 (LC 1), 15=181 (LC 1), 16=179 (LC 1), 17=185 (LC 1), 18=162 (LC 1), 19=238 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-262/38, 2-3=-232/23, 3-4=-208/28, 4-5=-184/27, 5-6=-168/27, 6-7=-154/27, 7-8=-142/42, 8-9=-121/64, 9-10=-68/49, 10-11=-71/55
BOT CHORD 1-19=-101/76, 18-19=-101/76, 17-18=-101/76, 16-17=-101/76, 15-16=-101/76, 14-15=-101/76, 13-14=-101/76, 12-13=-101/76, 11-12=-101/76
WEBS 2-19=-179/90, 3-18=-128/66, 4-17=-143/73, 5-16=-139/72, 6-15=-141/71, 7-14=-138/74, 8-13=-150/65, 9-12=-95/97

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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 113 lb uplift at joint 11, 63 lb uplift at joint 19, 43 lb uplift at joint 18, 49 lb uplift at joint 17, 48 lb uplift at joint 16, 47 lb uplift at joint 15, 52 lb uplift at joint 14, 35 lb uplift at joint 13 and 84 lb uplift at joint 12.
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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V2	Valley	1	1	Job Reference (optional) I49888492

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:55 Page: 1
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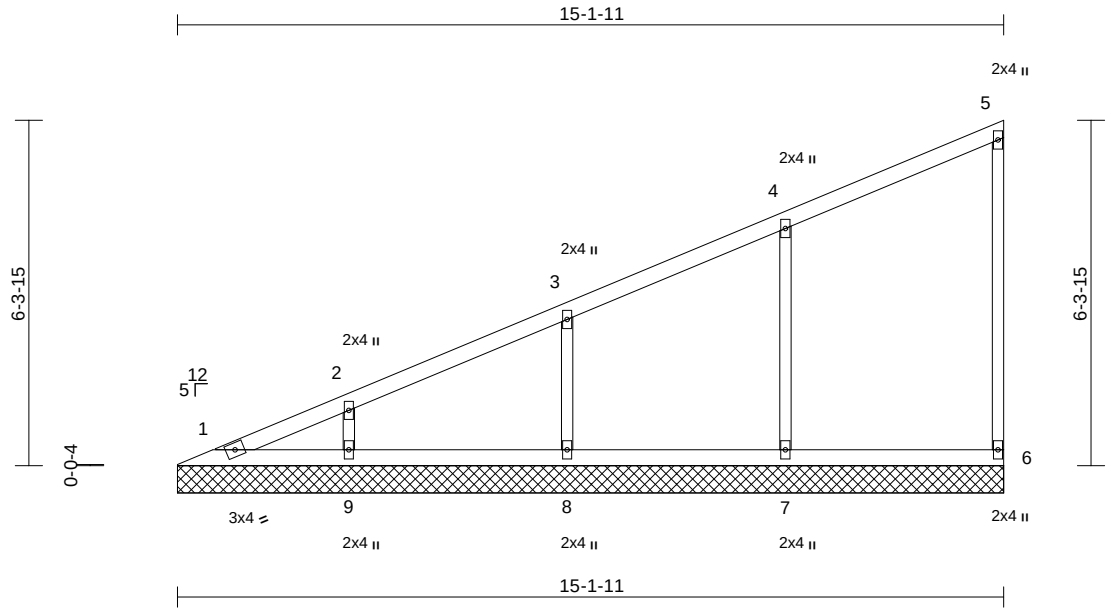

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 46 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 (lb/size) 1=70/15-1-11, 6=142/15-1-11, 7=392/15-1-11, 8=360/15-1-11, 9=326/15-1-11
Max Horiz 1=261 (LC 5)
Max Uplift 6=-33 (LC 5), 7=-104 (LC 8), 8=-96 (LC 8), 9=-87 (LC 8)
Max Grav 1=117 (LC 16), 6=172 (LC 2), 7=440 (LC 2), 8=364 (LC 2), 9=336 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-223/42, 2-3=-184/53, 3-4=-150/53, 4-5=-126/52, 5-6=-110/43
BOT CHORD 1-9=-85/64, 8-9=-85/64, 7-8=-85/64, 6-7=-85/64
WEBS 4-7=-306/143, 3-8=-280/147, 2-9=-251/128

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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 6, 104 lb uplift at joint 7, 96 lb uplift at joint 8 and 87 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888493
B220018	V3	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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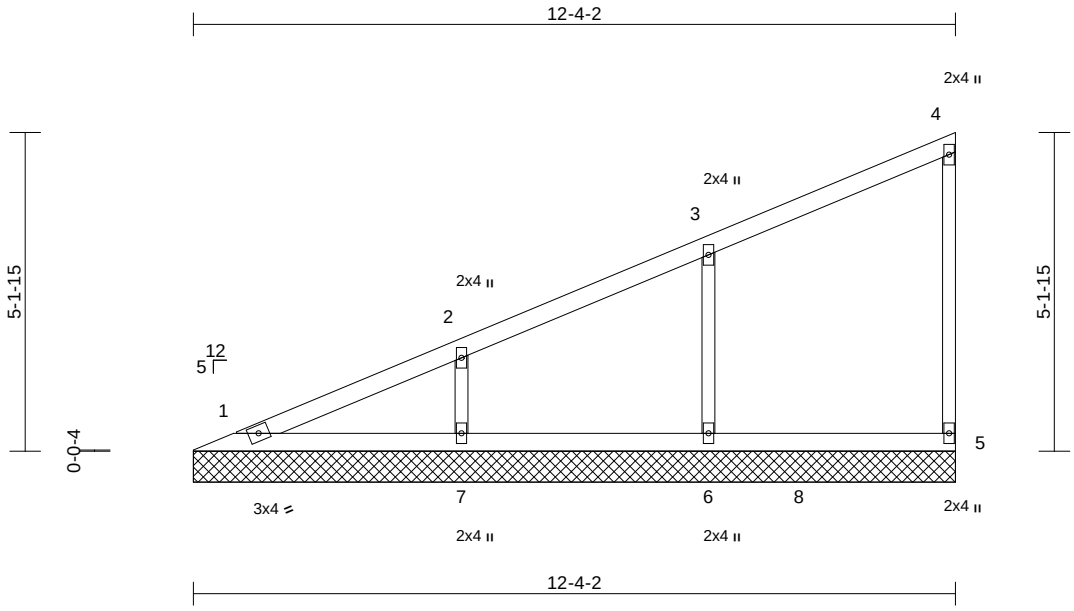

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 36 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 (lb/size) 1=130/12-4-2, 5=143/12-4-2, 6=388/12-4-2, 7=377/12-4-2
Max Horiz 1=210 (LC 5)
Max Uplift 5=-29 (LC 5), 6=-103 (LC 8), 7=-101 (LC 8)
Max Grav 1=159 (LC 16), 5=170 (LC 2), 6=415 (LC 2), 7=384 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-172/54, 2-3=-135/51, 3-4=-116/40, 4-5=-110/43
BOT CHORD 1-7=-68/51, 6-7=-68/51, 5-6=-68/51
WEBS 3-6=-304/148, 2-7=-287/147

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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 5, 103 lb uplift at joint 6 and 101 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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888494
B220018	V4	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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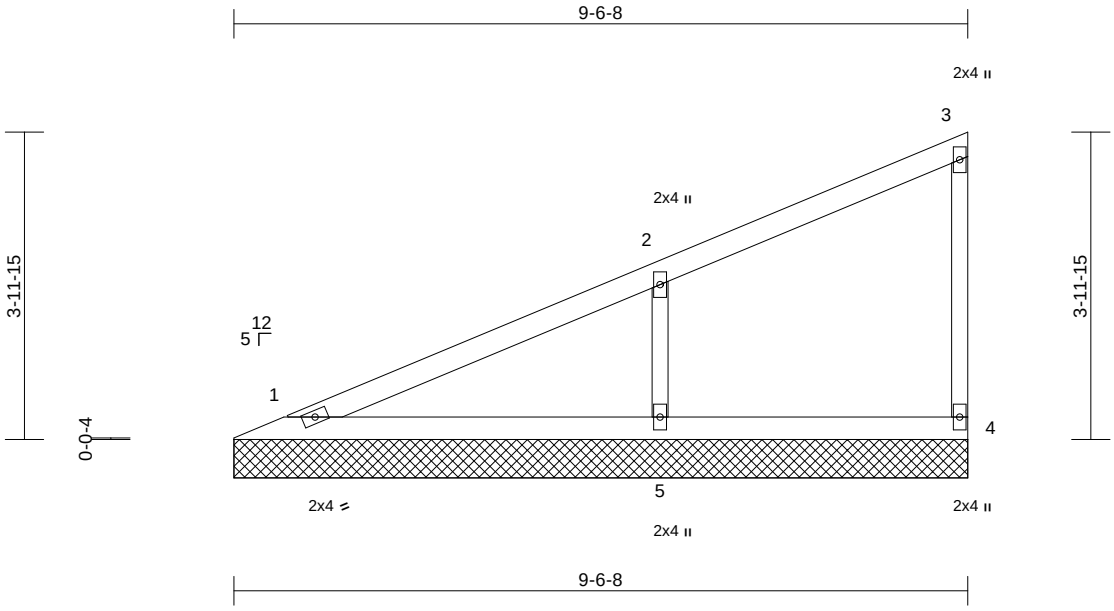

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 26 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 (lb/size) 1=174/9-6-8, 4=121/9-6-8, 5=491/9-6-8
Max Horiz 1=159 (LC 5)
Max Uplift 4=-23 (LC 5), 5=-130 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-123/72, 2-3=-106/29, 3-4=-96/39
BOT CHORD 1-5=-51/39, 4-5=-51/39
WEBS 2-5=-372/183

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint 4 and 130 lb uplift at joint 5.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V5	Valley	1	1	Job Reference (optional) I49888495

Wheeler Lumber, Waverly, KS - 66871,

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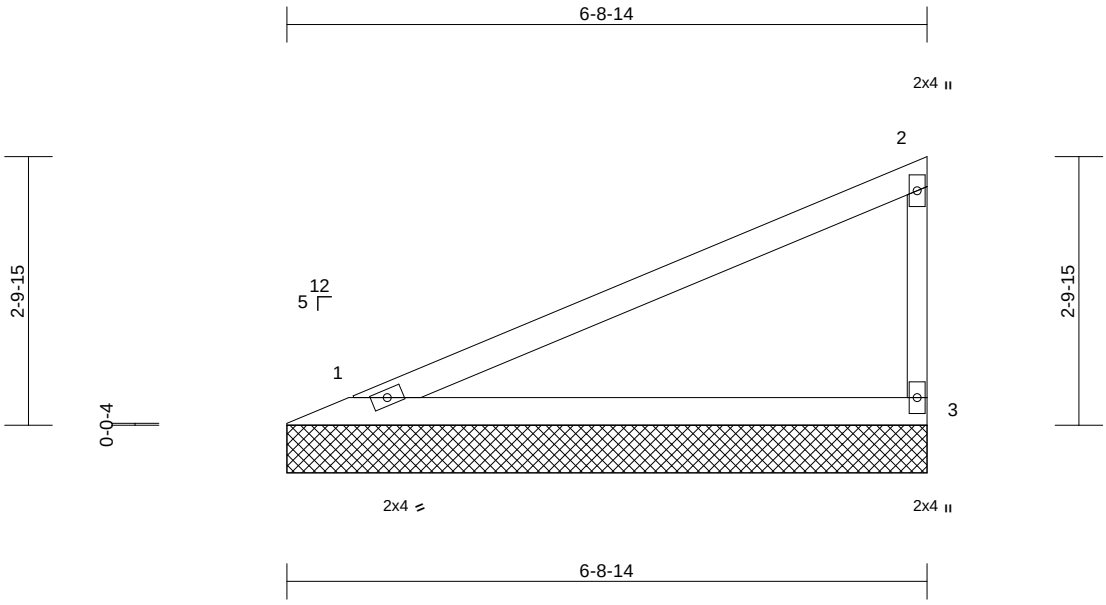

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.38	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 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 6-9-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=267/6-8-14, 3=267/6-8-14
Max Horiz 1=108 (LC 5)
Max Uplift 1=-39 (LC 8), 3=-61 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-97/64, 2-3=-208/96
BOT CHORD 1-3=-35/27

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1 and 61 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V6	Valley	1	1	Job Reference (optional) I49888496

Wheeler Lumber, Waverly, KS - 66871,

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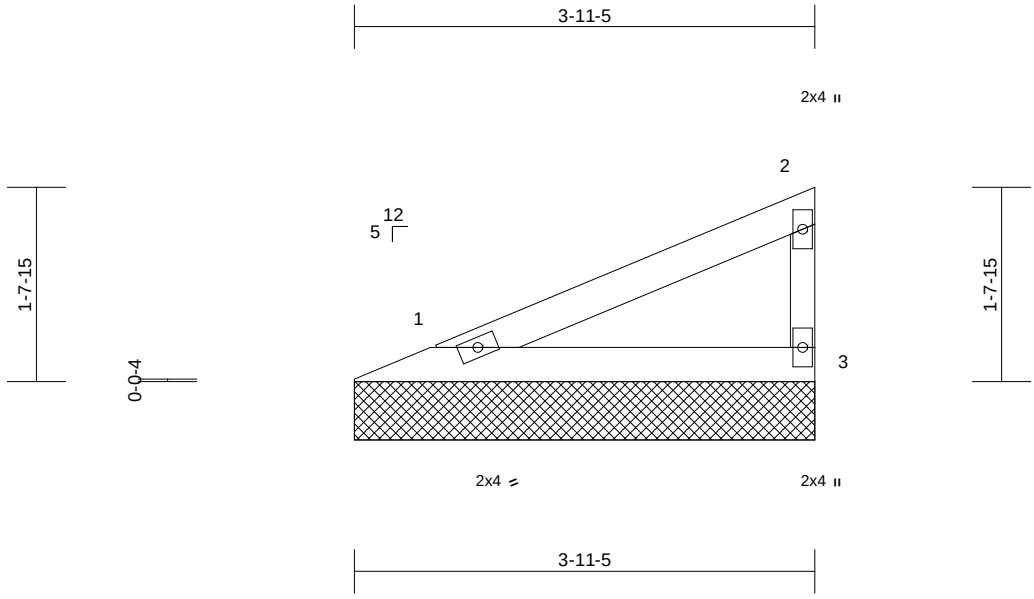

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 9 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 3-11-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=141/3-11-5, 3=141/3-11-5
Max Horiz 1=57 (LC 5)
Max Uplift 1=-21 (LC 8), 3=-32 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-51/34, 2-3=-110/51
BOT CHORD 1-3=-19/14

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1 and 32 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888497
B220018	V7	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:56 Page: 1
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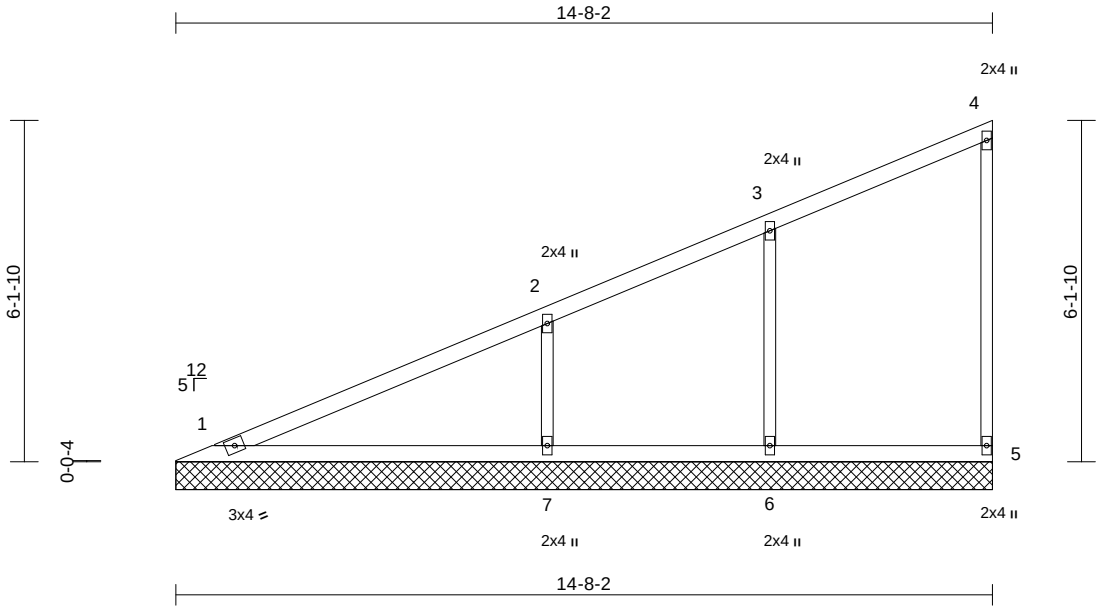

Scale = 1:41.4

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	0.45	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 44 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 (lb/size) 1=221/14-8-2, 5=154/14-8-2, 6=326/14-8-2, 7=547/14-8-2
Max Horiz 1=253 (LC 5)
Max Uplift 5=-34 (LC 5), 6=-86 (LC 8), 7=-145 (LC 8)
Max Grav 1=248 (LC 16), 5=185 (LC 2), 6=371 (LC 2), 7=557 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-200/88, 2-3=-155/37, 3-4=-123/49, 4-5=-118/46
BOT CHORD 1-7=-82/62, 6-7=-82/62, 5-6=-82/62
WEBS 3-6=-260/123, 2-7=-410/207

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, with BCDL = 10.0psf.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 5, 86 lb uplift at joint 6 and 145 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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888498
B220018	V8	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:56 Page: 1
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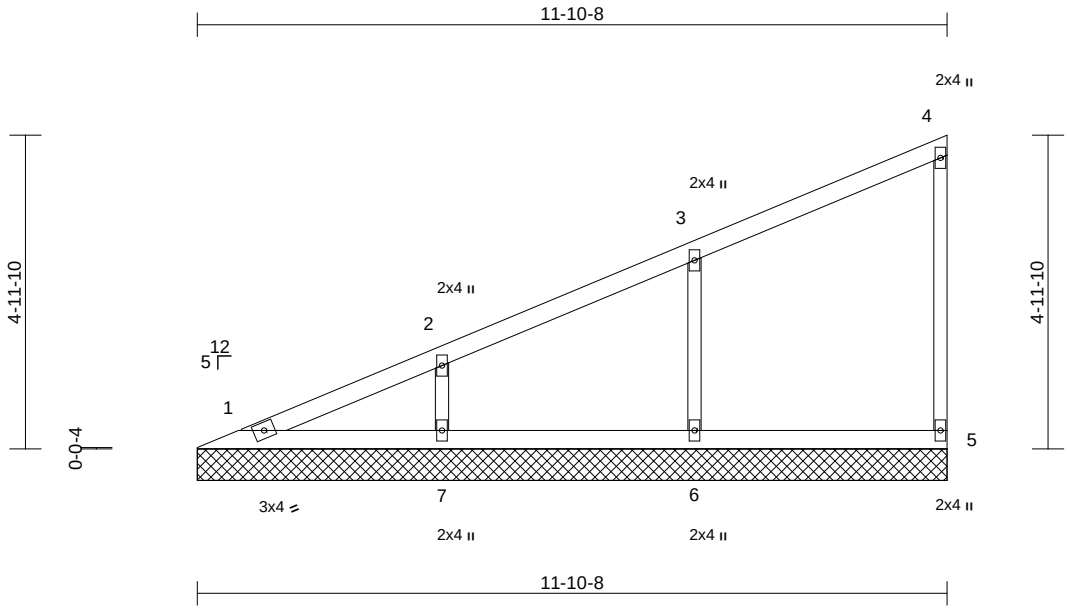

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 34 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 (lb/size) 1=109/11-10-8, 5=142/11-10-8, 6=395/11-10-8, 7=350/11-10-8
Max Horiz 1=202 (LC 5)
Max Uplift 5=-29 (LC 5), 6=-104 (LC 8), 7=-93 (LC 8)
Max Grav 1=121 (LC 16), 5=142 (LC 1), 6=395 (LC 1), 7=350 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-166/48, 2-3=-130/52, 3-4=-113/38, 4-5=-109/43
BOT CHORD 1-7=-65/49, 6-7=-65/49, 5-6=-65/49
WEBS 3-6=-309/151, 2-7=-267/138

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 5, 104 lb uplift at joint 6 and 93 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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V9	Valley	1	1	I49888499 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:25:57 Page: 1

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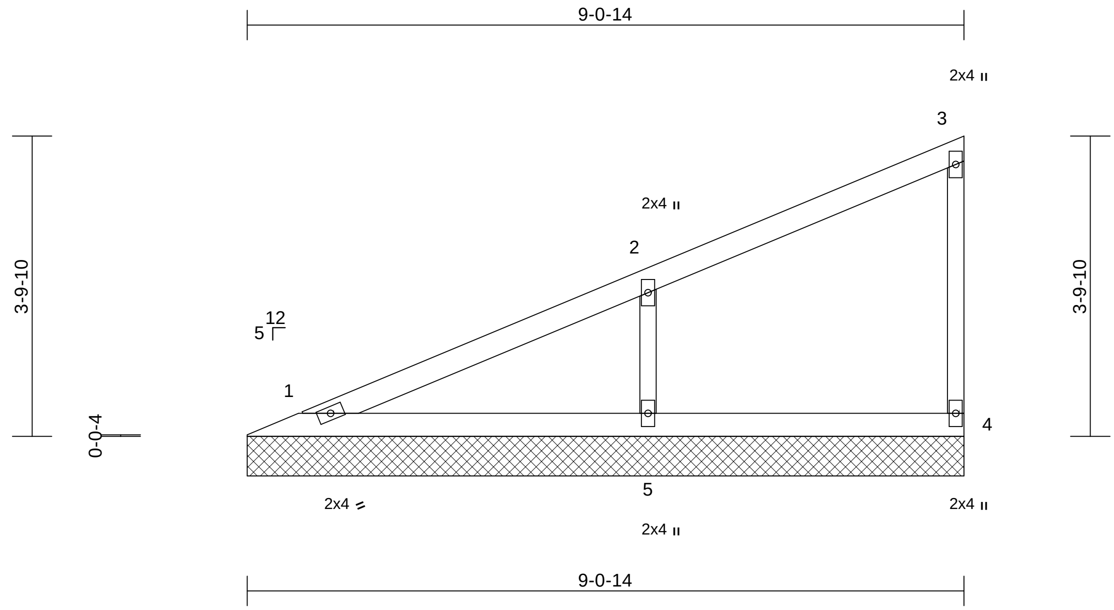

Scale = 1:29.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	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 (lb/size) 1=155/9-0-14, 4=129/9-0-14, 5=460/9-0-14
Max Horiz 1=151 (LC 5)
Max Uplift 4=-23 (LC 5), 5=-122 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-117/64, 2-3=-103/27, 3-4=-101/42
BOT CHORD 1-5=-48/37, 4-5=-48/37
WEBS 2-5=-350/173

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 23 lb uplift at joint 4 and 122 lb uplift at joint 5.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V10	Valley	1	1	I49888500

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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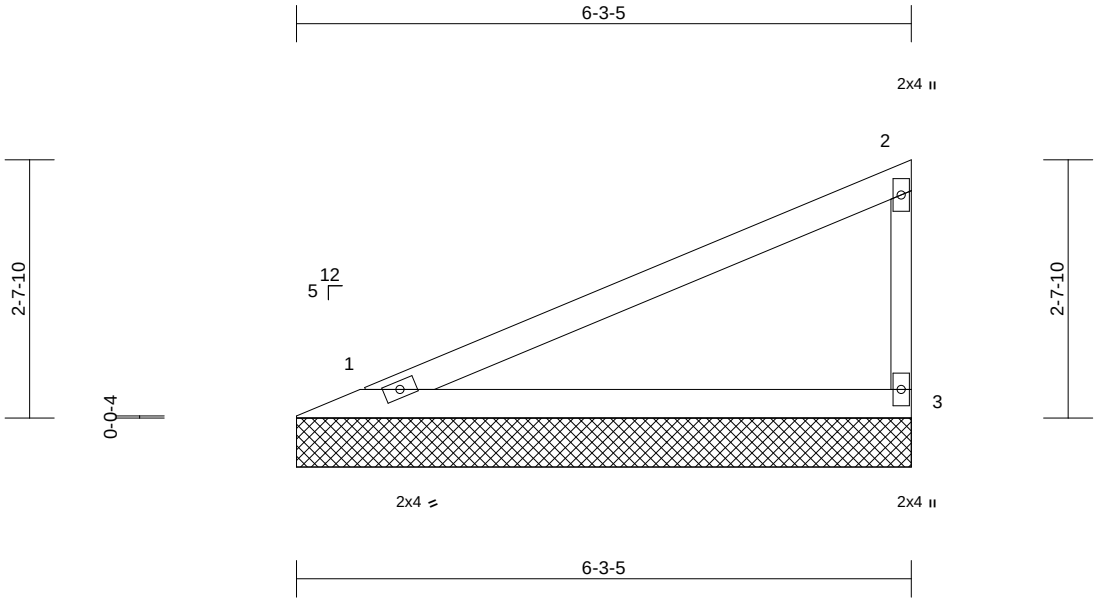

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.58	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 16 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 6-3-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=246/6-3-5, 3=246/6-3-5
Max Horiz 1=100 (LC 5)
Max Uplift 1=-36 (LC 8), 3=-56 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-89/59, 2-3=-191/89
BOT CHORD 1-3=-32/25

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 1 and 56 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V11	Valley	1	1	Job Reference (optional) I49888501

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:57 Page: 1
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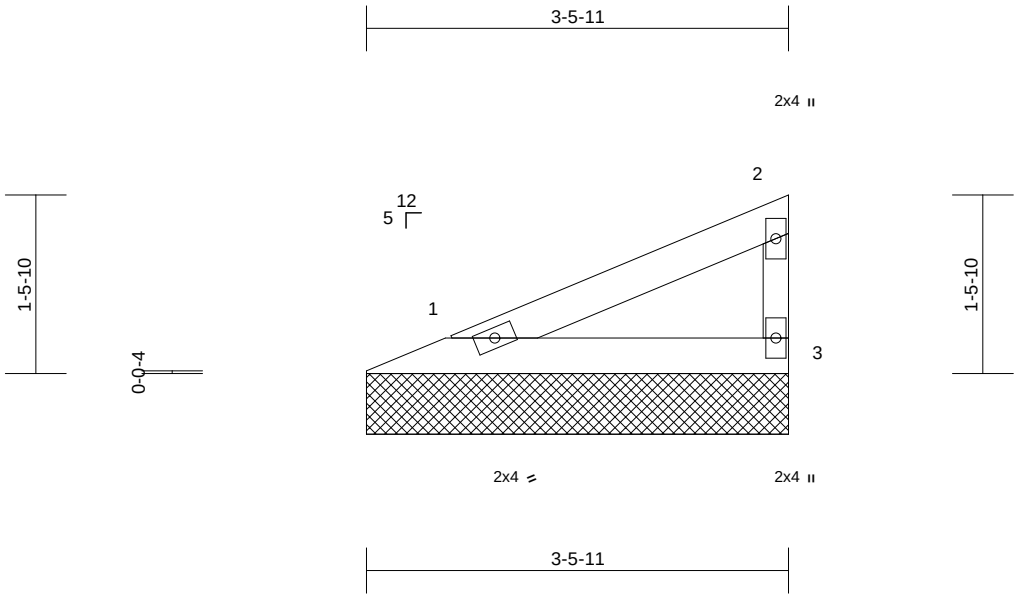

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	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 3-6-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=120/3-5-11, 3=120/3-5-11
Max Horiz 1=49 (LC 5)
Max Uplift 1=-17 (LC 8), 3=-27 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-44/29, 2-3=-93/43
BOT CHORD 1-3=-16/12

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 1 and 27 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V12	Valley	1	1	I49888502 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:25:57 Page: 1

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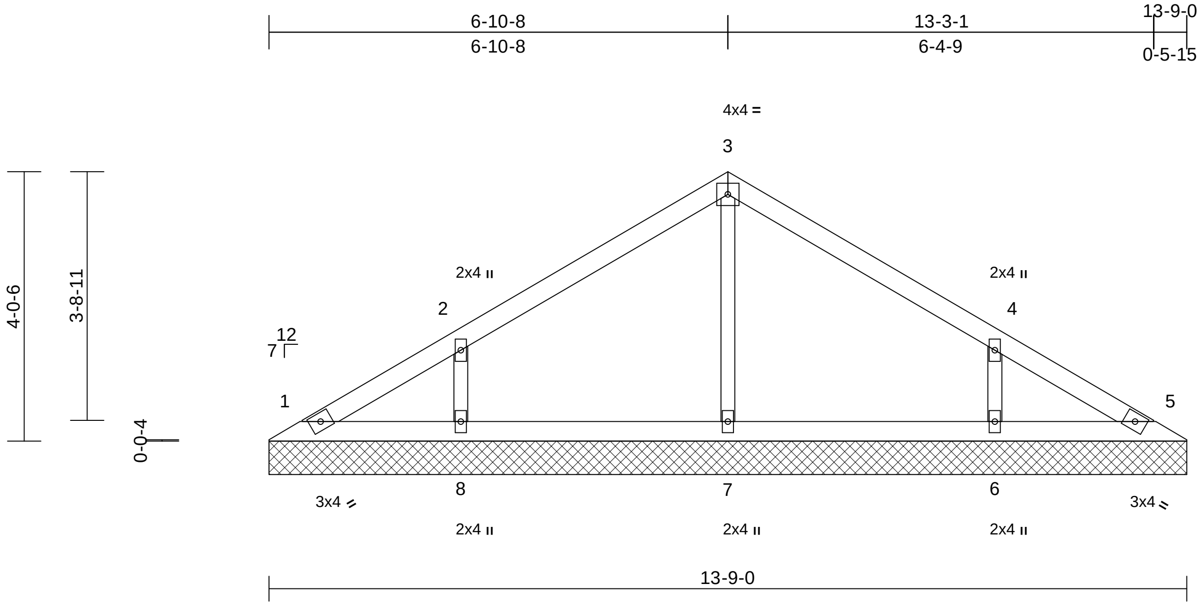

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 37 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=85/13-9-0, 5=85/13-9-0, 6=340/13-9-0, 7=298/13-9-0, 8=340/13-9-0
Max Horiz 1=97 (LC 5)
Max Uplift 1=-11 (LC 9), 6=-125 (LC 9), 8=-126 (LC 8)
Max Grav 1=94 (LC 16), 5=85 (LC 1), 6=353 (LC 16), 7=298 (LC 1), 8=353 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-104/74, 2-3=-128/93, 3-4=-124/73, 4-5=-77/37
BOT CHORD 1-8=-22/63, 7-8=-22/63, 6-7=-22/63, 5-6=-22/63
WEBS 3-7=-214/28, 2-8=-282/167, 4-6=-282/167

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 1, 126 lb uplift at joint 8 and 125 lb uplift at joint 6.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN	I49888503
B220018	V13	Valley	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:57 Page: 1
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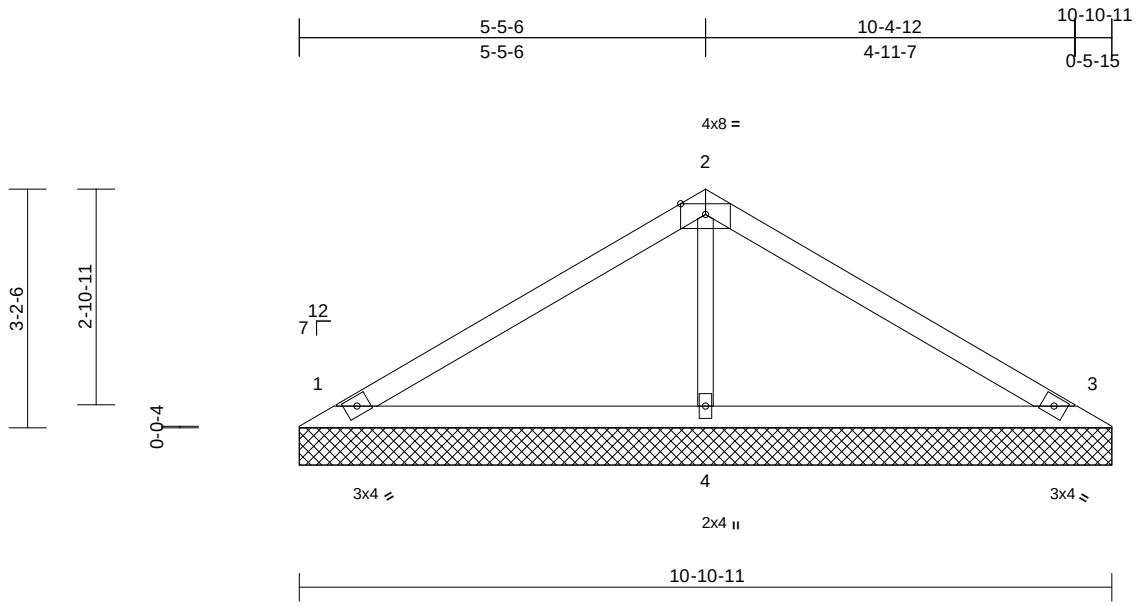

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 28 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=218/10-10-11, 3=218/10-10-11, 4=452/10-10-11
Max Horiz 1=75 (LC 5)
Max Uplift 1=-43 (LC 8), 3=-53 (LC 9), 4=-21 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-151/73, 2-3=-150/54
BOT CHORD 1-4=-14/68, 3-4=-14/68
WEBS 2-4=-302/78

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 1, 53 lb uplift at joint 3 and 21 lb uplift at joint 4.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 27,2022

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V14	Valley	1	1	Job Reference (optional) I49888504

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:58 Page: 1
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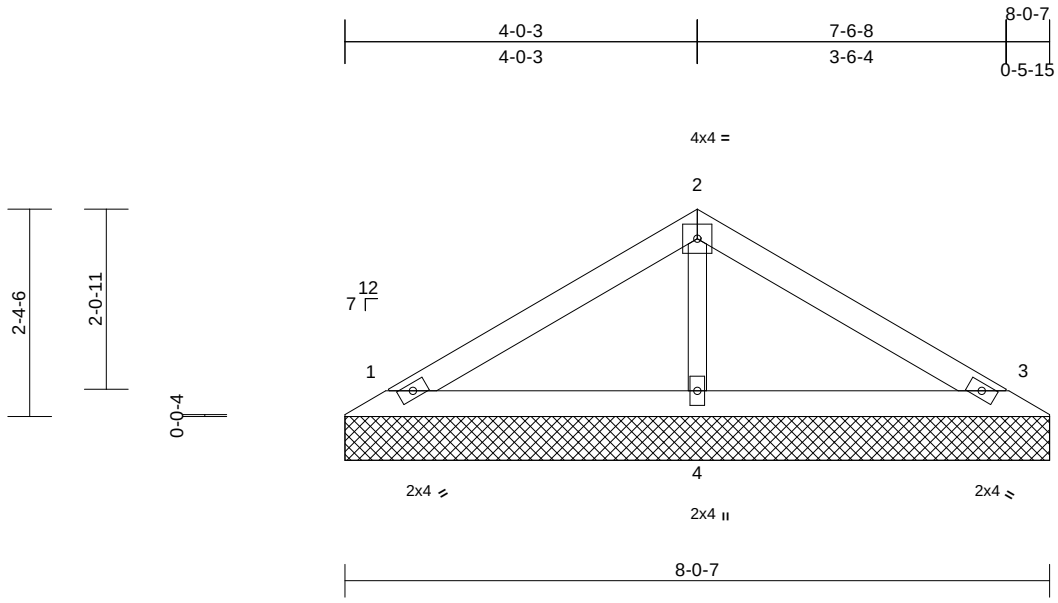

Scale = 1:26.3

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	0.23	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	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 20 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=171/8-0-7, 3=171/8-0-7, 4=290/8-0-7
Max Horiz 1=-54 (LC 4)
Max Uplift 1=-39 (LC 8), 3=-45 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-97/50, 2-3=-93/37
BOT CHORD 1-4=-10/44, 3-4=-10/44
WEBS 2-4=-202/52

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) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 1 and 45 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
SCOTT M. SEVIER
NUMBER
PE-2001018807
PROFESSIONAL ENGINEER

January 27,2022

Job	Truss	Truss Type	Qty	Ply	Lot 122 MN
B220018	V15	Valley	1	1	Job Reference (optional) I49888505

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Oct 11 2021 Print: 8.430 S Oct 11 2021 MiTek Industries, Inc. Tue Jan 25 15:26:58 Page: 1
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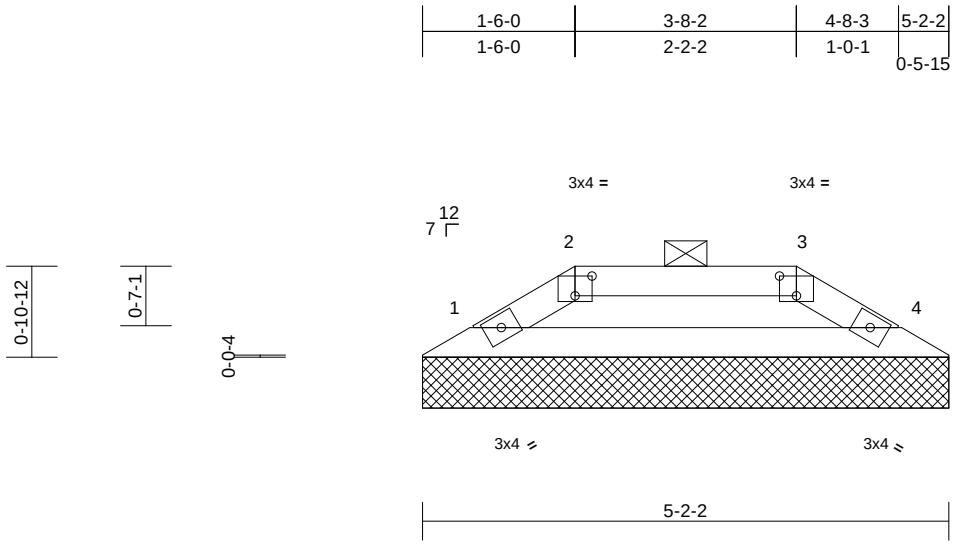


Scale = 1:22.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 11 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=188/5-2-2, 4=188/5-2-2
Max Horiz 1=-16 (LC 4)
Max Uplift 1=-13 (LC 5), 4=-13 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-261/54, 2-3=-221/43, 3-4=-261/54
BOT CHORD 1-4=-44/221

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) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 13 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

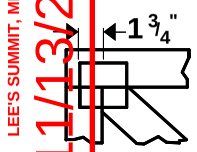
LOAD CASE(S) Standard

January 27,2022

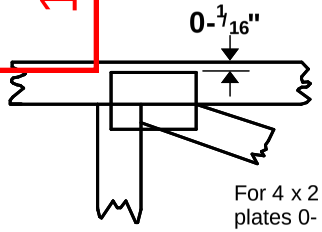
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

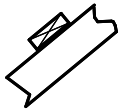
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

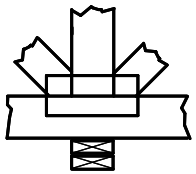
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

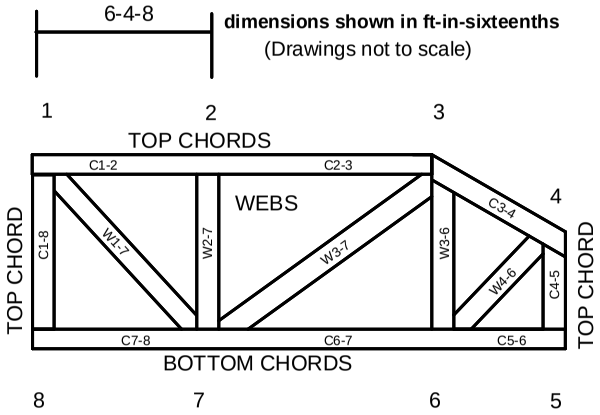


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & 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-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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