RE: Lot 30 OS
Lot 30 OS

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

Site Information:

Customer: Project Name: Lot 30 OS
Lot/Block: Model:
Address: Subdivision:
City: State:

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: ASCE 7 - 16[Low Rise] Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 23 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I45421545	A1	3/31/2021	21	I45421565	LAY1	3/31/2021
2	I45421546	A2	3/31/2021	22	I45421566	LAY2	3/31/2021
3	I45421547	A3	3/31/2021	23	I45421567	P1	3/31/2021
4	I45421548	A4	3/31/2021				
5	I45421549	A5	3/31/2021				
6	I45421550	A6	3/31/2021				
7	I45421551	A7	3/31/2021				
8	I45421552	B1	3/31/2021				
9	I45421553	B2	3/31/2021				
10	I45421554	B3	3/31/2021				
11	I45421555	B4	3/31/2021				
12	I45421556	B5	3/31/2021				
13	I45421557	B6	3/31/2021				
14	I45421558	B7	3/31/2021				
15	I45421559	C1	3/31/2021				
16	I45421560	J1	3/31/2021				
17	I45421561	J2	3/31/2021				
18	I45421562	J3	3/31/2021				
19	I45421563	J4	3/31/2021				
20	I45421564	J5	3/31/2021				

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

Truss Design Engineer's Name: Sevier, Scott

My license renewal date for the state of Missouri is December 31, 2021.

Missouri COA: 001193

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

March 31, 2021

Sevier, Scott

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421545
Lot 30 OS	A1	HIP GIRDER	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:38 Page: 1
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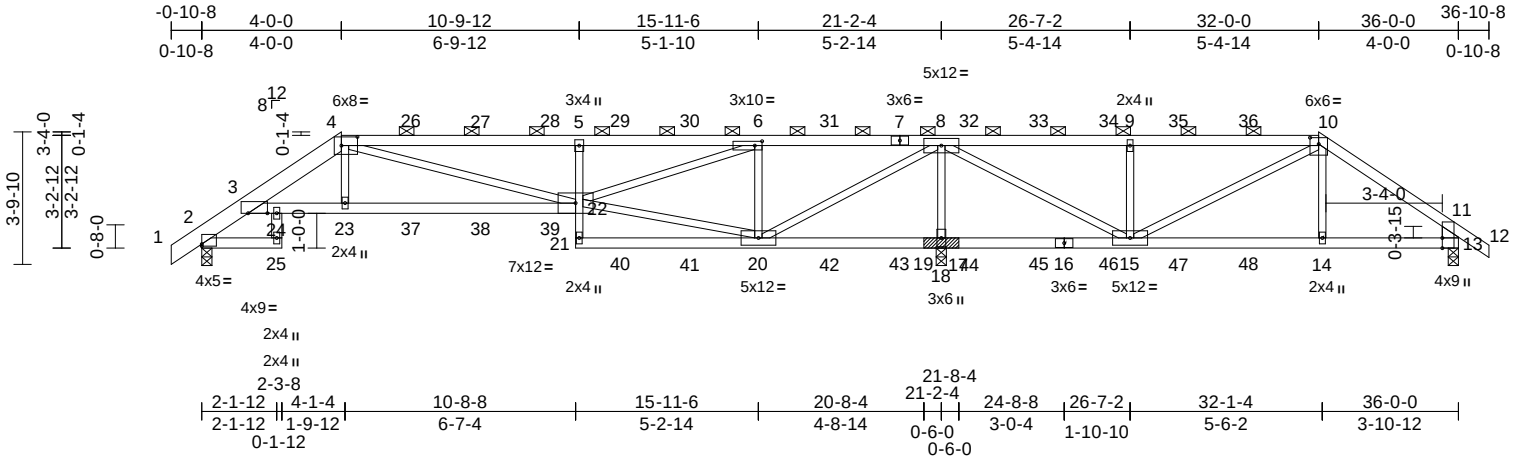

Scale = 1:66

Plate Offsets (X, Y): [2:Edge,0-0-11], [3:0-6-10,Edge], [4:0-5-8,0-3-0], [6:0-2-8,0-1-8], [10:0-3-0,0-2-3], [13:0-3-8,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	0.55	Vert(LL)	-0.18	22-23	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.37	22-23	>690	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.14	18	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.17	22-23	>999	240	Weight: 138 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 1-4:2x6 SP DSS, 4-7:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except* 5-21:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 25-24:2x4 SPF No.2, 13-11:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-5 oc purlins, except end verticals, and 2-0-0 oc purlins (4-4-14 max.): 4-10.
BOT CHORD Rigid ceiling directly applied or 4-0-10 oc bracing.

REACTIONS (size) 2=0-3-8, 13=0-3-8, 18=(0-3-8 + bearing block), (req. 0-4-11)
Max Horiz 2=98 (LC 7)
Max Uplift 2=-232 (LC 8), 13=-147 (LC 9), 18=-566 (LC 5)
Max Grav 2=1175 (LC 1), 13=653 (LC 22), 18=2991 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/22, 2-3=-735/174, 3-4=-2284/494, 4-26=-2361/512, 26-27=-2360/512, 27-28=-2360/512, 5-28=-2360/512, 5-29=-2284/499, 29-30=-2284/499, 6-30=-2284/499, 6-31=-388/127, 7-31=-388/127, 7-8=-388/127, 8-32=-65/117, 32-33=-65/117, 33-34=-65/117, 9-34=-65/117, 9-35=-65/116, 35-36=-64/117, 10-36=-65/118, 10-11=-727/157, 11-12=0/43, 11-13=-596/163
BOT CHORD 2-25=0/0, 3-24=-479/2013, 23-24=-479/2013, 23-37=-483/2042, 37-38=-483/2042, 38-39=-483/2042, 22-39=-483/2042, 21-22=0/125, 5-22=-552/217, 21-40=-10/77, 40-41=-10/77, 20-41=-10/77, 20-42=-1888/397, 42-43=-1888/397, 19-43=-1888/397, 18-19=-1888/397, 17-18=-1888/397, 17-44=-1888/397, 44-45=-1888/397, 16-45=-1888/397, 16-46=-1888/397, 15-46=-1888/397, 15-47=-59/518, 47-48=-59/518, 14-48=-59/518, 13-14=-59/529
WEBS 24-25=-3/73, 4-23=-72/559, 4-22=-157/400, 20-22=-47/318, 6-22=-484/2037, 6-20=-1171/366, 8-20=-519/2596, 8-18=-2788/648, 8-15=-388/2101, 9-15=-535/230, 10-15=-624/114, 10-14=0/333

NOTES

1) 2x4 SPF No.2 bearing block 12" long at jt. 18 attached to front face with 2 rows of 10d (0.131"x3") nails spaced 3" o.c. 8 Total fasteners. Bearing is assumed to be SPF No.2.
2) Unbalanced roof live loads have been considered for this design.
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 and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
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 232 lb uplift at joint 2, 566 lb uplift at joint 18 and 147 lb uplift at joint 13.
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.

March 31,2021

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	A1	HIP GIRDER	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:38
ID:VxWg?wA2R3MakUkj2l0tcxyD2rv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J42JC?y

10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 84 lb down and 36 lb up at 4-0-0, 92 lb down and 34 lb up at 6-0-0, 92 lb down and 34 lb up at 8-0-0, 92 lb down and 34 lb up at 10-0-0, 98 lb down and 46 lb up at 12-0-0, 98 lb down and 46 lb up at 14-0-0, 98 lb down and 46 lb up at 16-0-0, 98 lb down and 46 lb up at 18-0-0, 98 lb down and 46 lb up at 20-0-0, 98 lb down and 46 lb up at 22-0-0, 98 lb down and 46 lb up at 24-0-0, 98 lb down and 46 lb up at 26-0-0, 98 lb down and 46 lb up at 28-0-0, and 98 lb down and 46 lb up at 30-0-0, and 90 lb down and 48 lb up at 32-0-0 on top chord, and 244 lb down and 93 lb up at 4-0-0, 45 lb down and 18 lb up at 6-0-0, 45 lb down and 18 lb up at 8-0-0, 45 lb down and 18 lb up at 10-0-0, 32 lb down at 12-0-0, 32 lb down at 14-0-0, 32 lb down at 16-0-0, 32 lb down at 18-0-0, 32 lb down at 20-0-0, 32 lb down at 22-0-0, 32 lb down at 24-0-0, 32 lb down at 26-0-0, 32 lb down at 28-0-0, and 32 lb down at 30-0-0, and 226 lb down and 63 lb up at 31-11-3 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

11) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-4=-70, 4-10=-70, 10-11=-70, 11-12=-70, 2-25=-20, 22-24=-20, 13-21=-20
   Concentrated Loads (lb)
   Vert: 4=-31 (B), 7=-46 (B), 23=-236 (B), 20=-25 (B), 6=-46 (B), 10=-46 (B), 14=-221 (B), 26=-31 (B), 27=-31 (B), 28=-31 (B), 29=-46 (B), 30=-46 (B), 31=-46 (B), 32=-46 (B), 33=-46 (B), 34=-46 (B), 35=-46 (B), 36=-46 (B), 37=-40 (B), 38=-40 (B), 39=-40 (B), 40=-25 (B), 41=-25 (B), 42=-25 (B), 43=-25 (B), 44=-25 (B), 45=-25 (B), 46=-25 (B), 47=-25 (B), 48=-25 (B)

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421546
Lot 30 OS	A2	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:51 Page: 1
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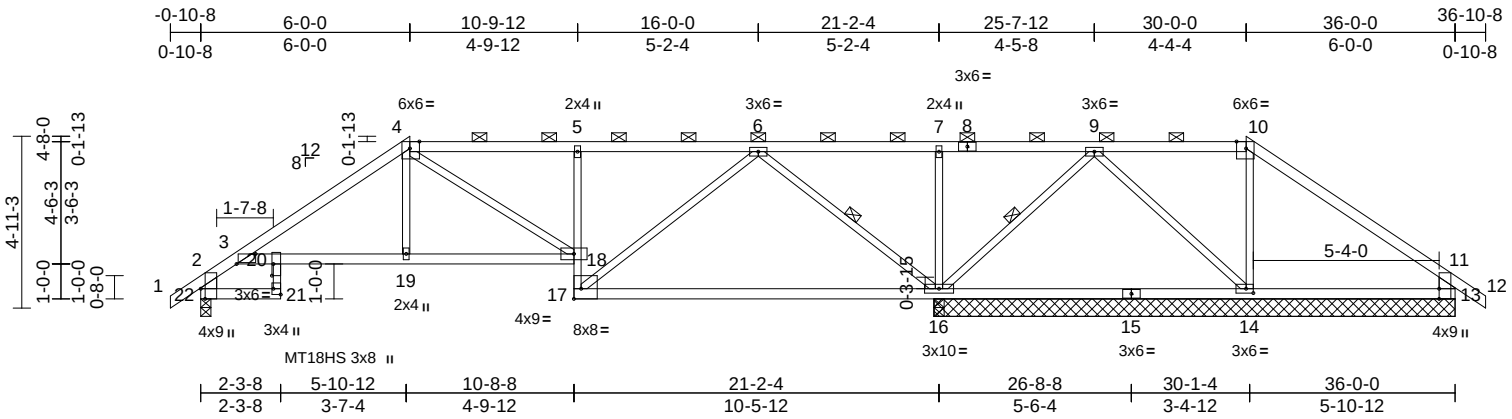

Scale = 1:66.1

Plate Offsets (X, Y): [3:0-6-9,Edge], [4:0-3-5,Edge], [10:0-3-4,Edge], [13:0-3-8,Edge], [14:0-2-8,0-1-8], [17:Edge,0-3-8], [20:0-4-0,0-0-8], [21:Edge,0-2-8], [22:0-3-8,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	0.68	Vert(LL)	-0.28	16-17	>886	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.58	16-17	>437	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.20	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	19-20	>999	240	Weight: 128 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 21-20,5-17:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 22-2,13-11:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-3-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-10.
BOT CHORD Rigid ceiling directly applied or 5-0-4 oc bracing.
WEBS 1 Row at midpt 6-16, 9-16

REACTIONS (size) 13=14-11-8, 14=14-11-8, 16=14-11-8, 22=0-3-8
Max Horiz 22=137 (LC 7)
Max Uplift 13=-239 (LC 9), 14=-291 (LC 1), 16=-466 (LC 5), 22=-88 (LC 8)
Max Grav 13=474 (LC 16), 14=169 (LC 9), 16=2559 (LC 1), 22=673 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-507/75, 3-4=-854/72, 4-5=-390/118, 5-6=-342/111, 6-7=-423/1663, 7-8=-423/1663, 8-9=-423/1663, 9-10=-265/304, 10-11=-385/299, 11-12=0/43, 2-22=-706/119, 11-13=-441/271
BOT CHORD 21-22=-63/217, 20-21=-13/81, 3-20=-27/459, 19-20=-85/662, 18-19=-86/654, 17-18=-526/151, 5-18=-359/161, 16-17=-430/100, 15-16=-684/190, 14-15=-684/190, 13-14=-133/202
WEBS 4-19=0/314, 4-18=-357/71, 6-17=-154/987, 6-16=-1590/398, 7-16=-348/141, 9-16=-1456/302, 9-14=-100/1020, 10-14=-249/98

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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 88 lb uplift at joint 22, 466 lb uplift at joint 16, 291 lb uplift at joint 14 and 239 lb uplift at joint 13.
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

March 31,2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	A3	Hip	1	1	Job Reference (optional) I45421547

Wheeler Lumber, Waverly, KS - 66871,

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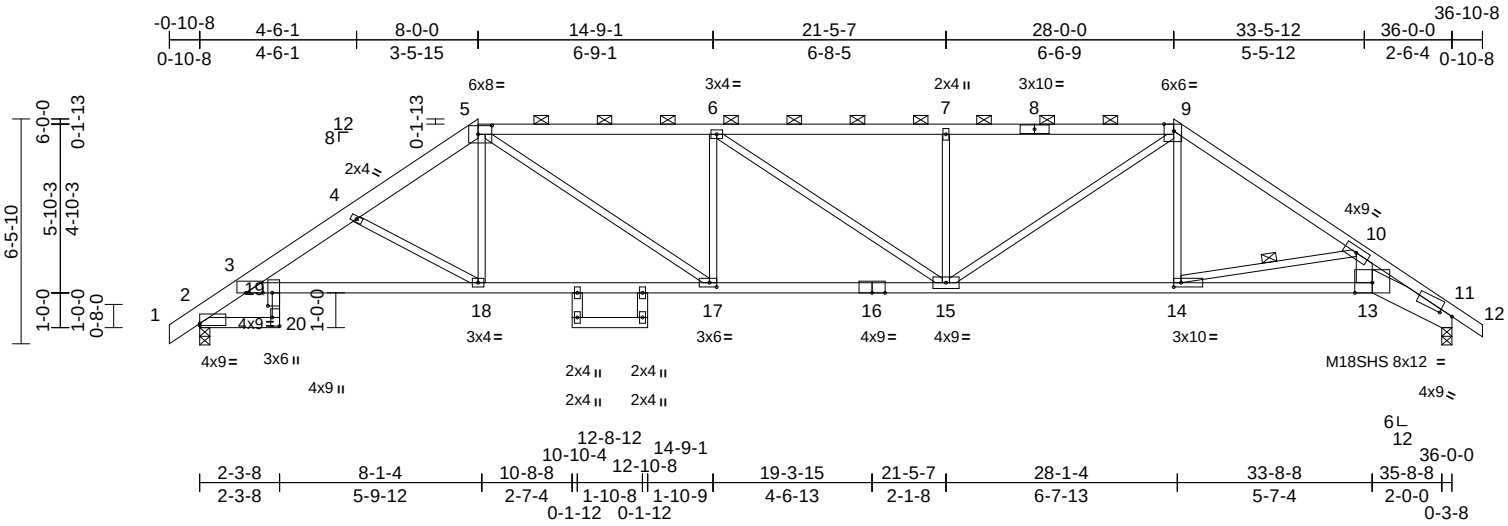

Scale = 1:66.2

Plate Offsets (X, Y): [2:Edge,0-0-11], [3:0-5-14,Edge], [5:0-4-12,0-3-0], [9:0-3-5,Edge], [11:0-4-7,0-0-10], [14:0-2-8,0-1-8], [17:0-2-8,0-1-8], [19:0-4-8,0-1-8], [20: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	0.81	Vert(LL)	-0.28	15-17	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.52	15-17	>823	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.38	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.19	15-17	>999	240	Weight: 155 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 1-5:2x6 SP 2400F 2.0E, 9-12:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 20-19:2x3 SPF No.2, 3-16,16-13:2x4 SPF 2100F 1.8E, 13-11:2x8 SP DSS

WEBS 2x3 SPF No.2 *Except* 21-22,23-24:2x4 SPF No.2, 13-10:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except
2-0-0 oc purlins (3-10-4 max.): 5-9.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
10-0-0 oc bracing: 17-18

WEBS 1 Row at midpt 10-14

REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=155 (LC 7)
Max Uplift 2=-133 (LC 5), 11=-133 (LC 4)
Max Grav 2=1678 (LC 1), 11=1678 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/22, 2-3=-1234/119, 3-4=-3147/374, 4-5=-2724/346, 5-6=-3104/435, 6-7=-3095/402, 7-8=-3095/402, 8-9=-3095/403, 9-10=-2687/295, 10-11=-5266/418, 11-12=0/24

BOT CHORD 2-20=-49/199, 19-20=-8/109, 3-19=-379/2604, 18-19=-428/2802, 17-18=-324/2211, 16-17=-449/3104, 15-16=-449/3104, 14-15=-164/2180, 13-14=-280/3626, 11-13=-326/4452

WEBS 5-18=-22/538, 9-14=0/426, 10-14=-1463/271, 10-13=-81/1906, 5-17=-279/1159, 9-15=-288/1209, 6-17=-530/235, 7-15=-522/213, 6-15=-83/63, 4-18=-689/200

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.
7) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 133 lb uplift at joint 2 and 133 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

March 31,2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	A4	Hip	1	1	Job Reference (optional) I45421548

Wheeler Lumber, Waverly, KS - 66871,

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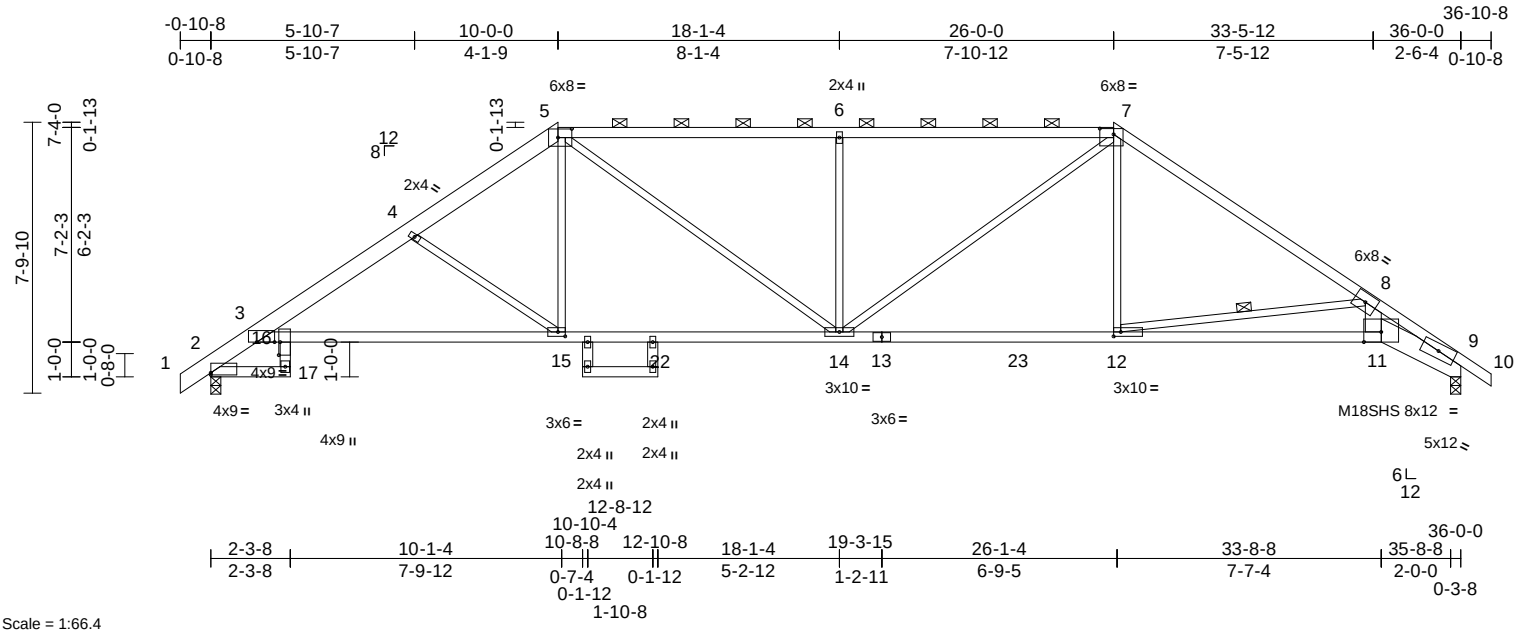


Scale = 1:66.4

Plate Offsets (X, Y): [2:Edge,0-0-11], [3:0-6-2,Edge], [5:0-4-12,0-3-0], [7:0-4-12,0-2-0], [12:0-2-8,0-1-8], [15:0-2-8,0-1-8], [16:0-4-8,0-0-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.34	15-16	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.63	15-16	>679	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.43	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.19	15-16	>999	240	Weight: 158 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 1-5:2x6 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 3-13,13-11:2x4 SPF 2100F 1.8E, 11-9:2x8 SP DSS

WEBS 2x3 SPF No.2 *Except* 11-8:2x6 SPF No.2, 18-20,19-21:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (4-0-12 max.): 5-7.

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

WEBS 1 Row at midpt 8-12

REACTIONS (size) 2=0-3-8, 9=0-3-8
Max Horiz 2=190 (LC 7)
Max Uplift 2=-147 (LC 8), 9=-147 (LC 9)
Max Grav 2=1764 (LC 2), 9=1754 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/22, 2-3=-1328/144, 3-4=-3044/255, 4-5=-2664/244, 5-6=-2668/267, 6-7=-2669/268, 7-8=-2660/190, 8-9=-5783/434, 9-10=0/24

BOT CHORD 2-17=-88/278, 16-17=-8/119, 3-16=-249/2421, 15-16=-336/2676, 15-22=-244/2147, 14-22=-244/2147, 13-14=-89/2119, 13-23=-89/2119, 12-23=-89/2119, 11-12=-326/3983, 9-11=-350/4935

WEBS 5-15=-41/827, 5-14=-233/752, 6-14=-659/275, 7-14=-246/800, 7-12=0/590, 8-12=-1959/435, 8-11=-43/2206, 4-15=-755/236

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) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 147 lb uplift at joint 2 and 147 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

March 31,2021

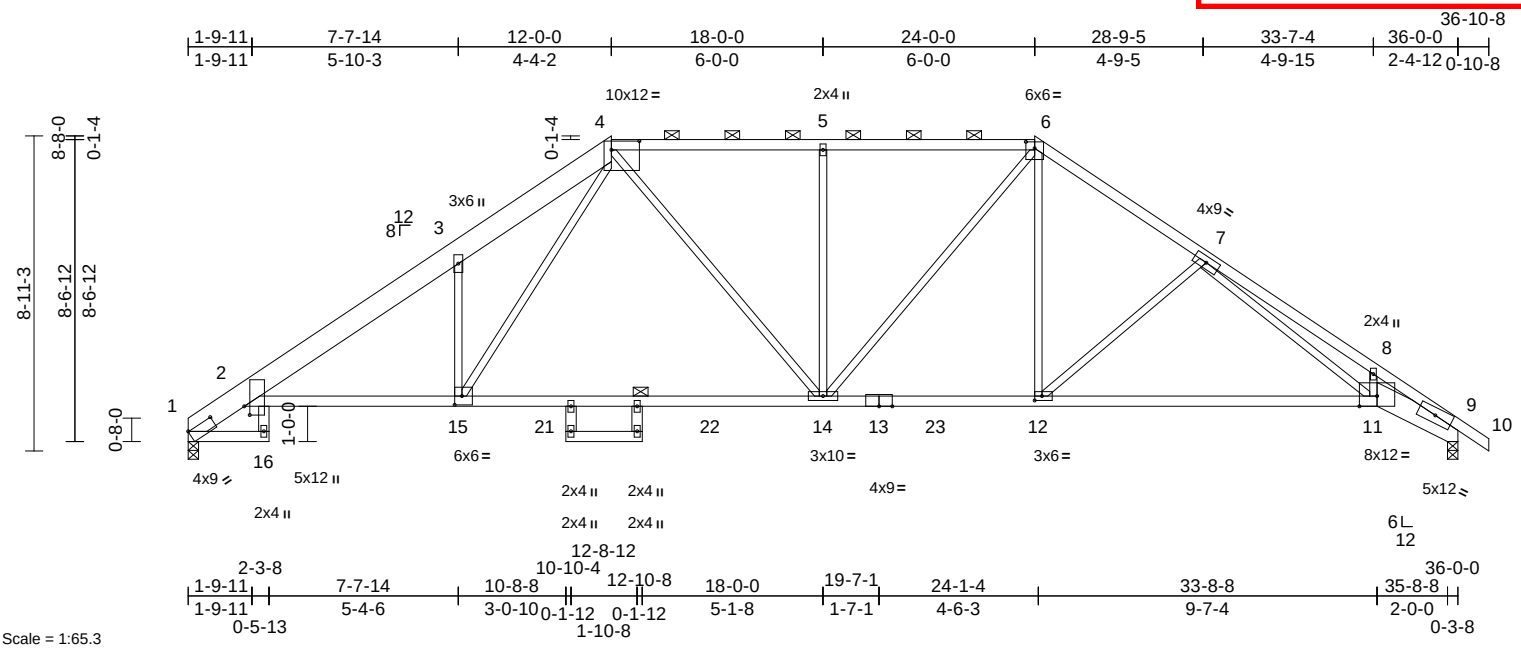
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	A5	Hip	1	1	Job Reference (optional) I45421549

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:42 Page: 1
ID:VxWg?wA2R3MakUkj2l0tcxyD2rv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC?f



Scale = 1:65.3

Plate Offsets (X, Y): [1:0-8-14,0-0-2], [2:0-2-15,0-1-14], [4:0-9-8,0-3-0], [6:0-3-0,0-2-3], [12:0-2-8,0-1-8], [15:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.43	14-15	>987	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.77	11-12	>555	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.76	Horz(CT)	0.40	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	11-12	>999	240	Weight: 176 lb	FT = 10%

LUMBER

TOP CHORD 2x8 SP DSS *Except* 4-6:2x4 SPF No.2, 6-10:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 2-13:2x4 SPF 2400F 2.0E, 11-9:2x8 SP DSS, 13-11:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 16-2,17-19,18-20:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-7-15 oc purlins, except 2-0-0 oc purlins (3-6-3 max.): 4-6.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 1-16. 10-0-0 oc bracing: 14-15

REACTIONS (size) 1=0-3-8, 9=0-3-8
Max Horiz 1=-220 (LC 6)
Max Uplift 1=-134 (LC 8), 9=-166 (LC 9)
Max Grav 1=1737 (LC 2), 9=1764 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1104/159, 2-3=-3020/212, 3-4=-3280/441, 4-5=-2193/184, 5-6=-2194/185, 6-7=-2401/197, 7-8=-4898/412, 8-9=-5496/285, 9-10=0/24

BOT CHORD 1-16=-34/0, 2-15=-222/2625, 15-21=-179/1875, 21-22=-179/1875, 14-22=-179/1875, 13-14=-30/1917, 13-23=-30/1917, 12-23=-30/1917, 11-12=-48/2367, 9-11=-177/4598

WEBS 2-16=0/61, 4-15=-291/1567, 4-14=-148/597, 5-14=-489/201, 6-14=-184/535, 6-12=-64/739, 7-12=-659/244, 7-11=-180/2229, 8-11=0/723, 3-15=-966/363

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) Bearing at joint(s) 9 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 134 lb uplift at joint 1 and 166 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	A6	Hip	1	1	Job Reference (optional) I45421550

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:43 Page: 1
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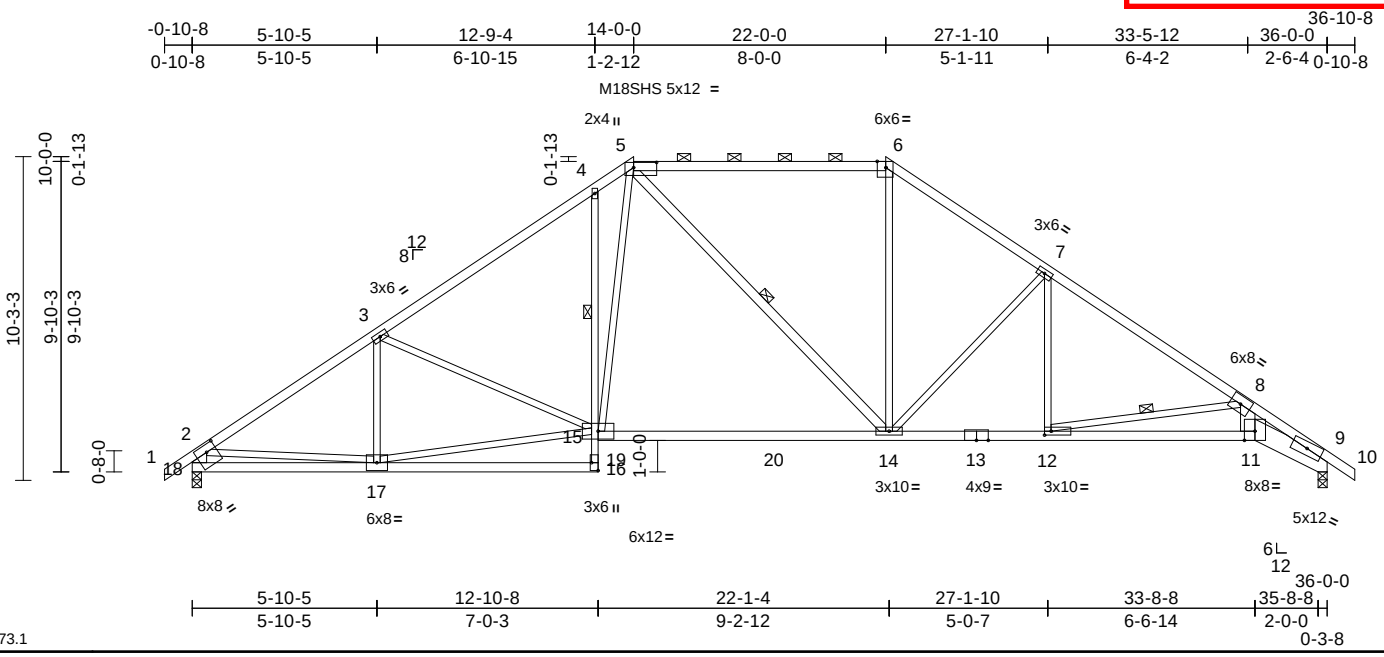

Scale = 1:73.1

Plate Offsets (X, Y): [5:0-8-12,0-2-0], [6:0-3-4,Edge], [12:0-2-8,0-1-8], [16:Edge,0-2-8], [18:0-3-12,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.40	14-15	>999	360	M18SHS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.70	14-15	>614	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.25	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.13	11-12	>999	240	Weight: 167 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 5-6:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF 2100F 1.8E *Except* 18-16:2x4 SPF No.2, 16-4:2x3 SPF No.2, 11-9:2x8 SP DSS

WEBS 2x3 SPF No.2 *Except* 14-5:2x4 SPF No.2, 11-8,18-2:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-12 max.): 5-6.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 16-17.

1 Row at midpt 4-15

WEBS 1 Row at midpt 5-14, 8-12

REACTIONS (size) 9=0-3-8, 18=0-3-8
Max Horiz 18=-267 (LC 6)
Max Uplift 9=-183 (LC 9), 18=-184 (LC 8)
Max Grav 9=1739 (LC 2), 18=1753 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-2439/229, 3-4=-2275/244, 4-5=-2089/377, 5-6=-1716/237, 6-7=-2149/231, 7-8=-2675/235, 8-9=-5635/463, 9-10=0/24, 2-18=-1660/211

BOT CHORD 17-18=-259/680, 16-17=-60/43, 15-16=0/127, 4-15=-222/242, 15-19=-96/1704, 19-20=-96/1704, 14-20=-96/1704, 13-14=-13/2172, 12-13=-13/2172, 11-12=-315/3860, 9-11=-352/4794

WEBS 3-17=-261/120, 15-17=-226/2110, 3-15=-267/188, 5-15=-269/949, 5-14=-177/191, 6-14=-34/802, 7-14=-757/242, 7-12=0/427, 8-12=-1787/314, 8-11=-63/2162, 2-17=0/1488

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) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 184 lb uplift at joint 18 and 183 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421551
Lot 30 OS	A7	Hip	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:44 Page: 1
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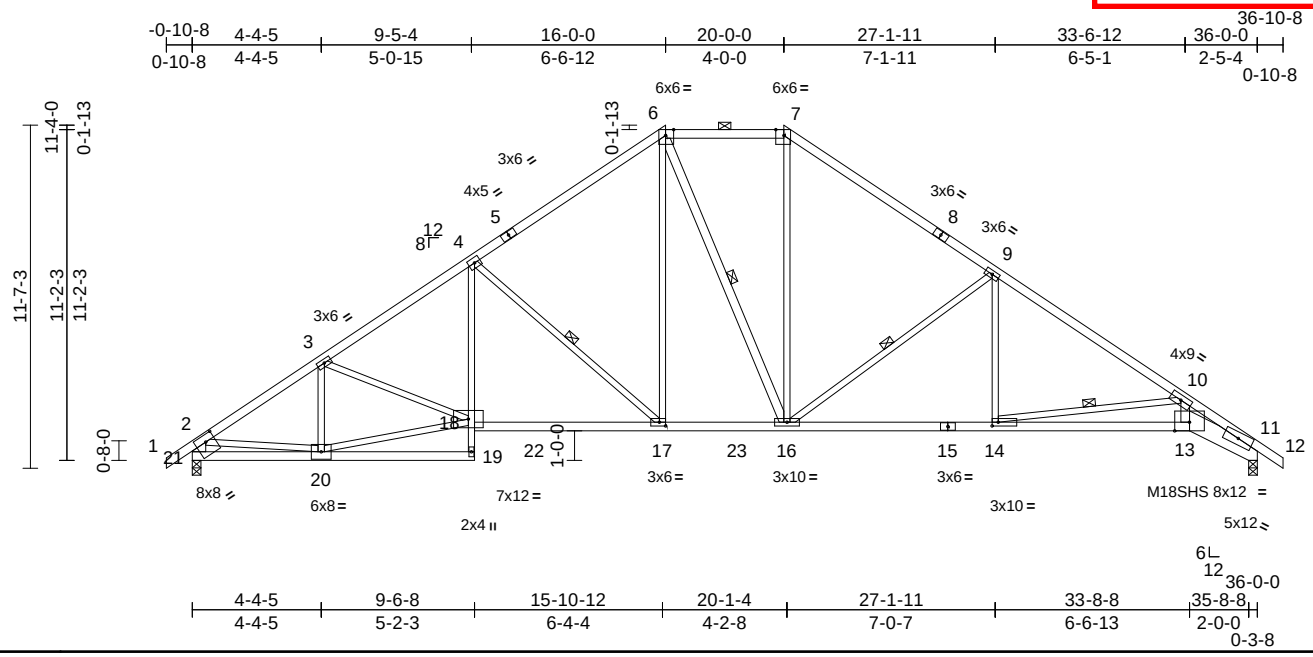

Scale = 1:77.9

Plate Offsets (X, Y): [6:0-3-5,Edge], [7:0-3-4,Edge], [14:0-2-8,0-1-8], [17:0-2-8,0-1-8], [21:0-3-12,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.25	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.44	13-14	>977	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.28	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	13-14	>999	240	Weight: 169 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 19-4:2x3 SPF No.2, 13-11:2x8 SP DSS, 15-13:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 16-6,13-10:2x4 SPF No.2, 21-2:2x6 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-8-0 max.): 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-17, 6-16, 9-16, 10-14

REACTIONS (size) 11=0-3-8, 21=0-3-8
Max Horiz 21=-304 (LC 6)
Max Uplift 11=-197 (LC 9), 21=-198 (LC 8)
Max Grav 11=1770 (LC 16), 21=1790 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-2408/241, 3-4=-2686/319, 4-5=-1945/230, 5-6=-1829/268, 6-7=-1515/268, 7-8=-1820/258, 8-9=-1951/216, 9-10=-2696/263, 10-11=-5537/504, 11-12=0/24, 2-21=-1711/217
BOT CHORD 20-21=-258/614, 19-20=-21/59, 18-19=0/97, 4-18=-33/667, 18-22=-250/2362, 17-22=-252/2359, 17-23=-27/1605, 16-23=-27/1605, 15-16=-50/2198, 14-15=-50/2198, 13-14=-343/3938, 11-13=-385/4677
WEBS 3-20=-509/139, 18-20=-289/2135, 3-18=0/256, 4-17=-989/295, 6-17=-120/832, 6-16=-208/209, 7-16=-81/760, 9-16=-967/277, 9-14=0/518, 10-14=-1817/310, 10-13=-89/2051, 2-20=-58/1545

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) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 198 lb uplift at joint 21 and 197 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

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

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	B1	Piggyback Base	6	1	Job Reference (optional) I45421552

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:44 Page: 1
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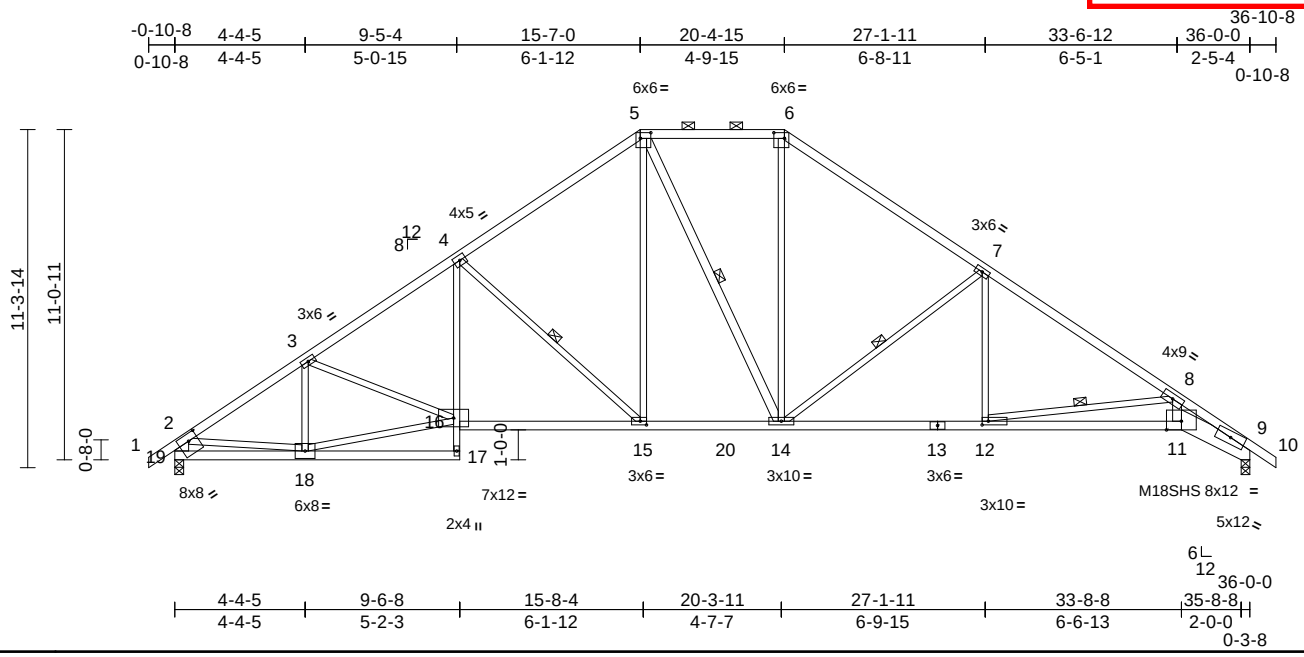

Scale = 1:77.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.24	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.44	11-12	>974	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.28	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	11-12	>999	240	Weight: 168 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 17-4:2x3 SPF No.2, 11-9:2x8 SP DSS, 13-11:2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 14-5,11-8:2x4 SPF No.2, 19-2:2x6 SPF No.2

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

REACTIONS (size) 9=0-3-8, 19=0-3-8
Max Horiz 19=-299 (LC 6)
Max Uplift 9=-194 (LC 9), 19=-195 (LC 8)
Max Grav 9=1754 (LC 16), 19=1760 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-2364/237, 3-4=-2622/311, 4-5=-1939/264, 5-6=-1526/260, 6-7=-1950/248, 7-8=-2678/256, 8-9=-5490/498, 9-10=0/24, 2-19=-1682/214
BOT CHORD 18-19=-254/601, 17-18=-19/64, 16-17=0/97, 4-16=-35/632, 15-16=-240/2300, 15-20=-27/1599, 14-20=-27/1599, 13-14=-42/2181, 12-13=-42/2181, 11-12=-340/3906, 9-11=-381/4640
WEBS 3-18=-504/138, 16-18=-285/2084, 3-16=0/245, 4-15=-952/287, 5-15=-118/819, 5-14=-197/197, 6-14=-73/755, 7-14=-956/270, 7-12=0/512, 8-12=-1817/315, 8-11=-85/2037, 2-18=-58/1527

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) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 195 lb uplift at joint 19 and 194 lb uplift at joint 9.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	B2	Piggyback Base	3	1	Job Reference (optional) I45421553

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:45 Page: 1
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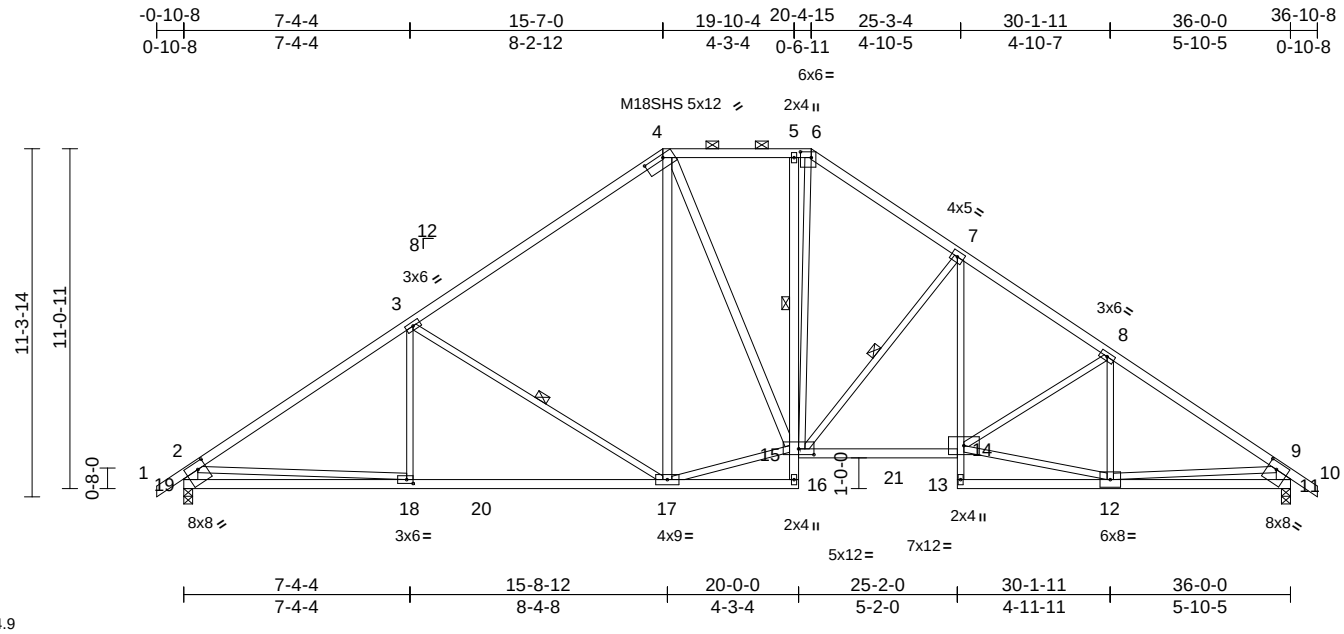


Scale = 1:74.9

Plate Offsets (X, Y): [4:0-7-12,0-1-4], [6:0-4-4,0-2-4], [11:0-3-8,0-2-12], [15:0-6-0,0-2-4], [18:0-2-8,0-1-8], [19:0-3-4,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.19	17-18	>999	360	M18SHS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.35	17-18	>999	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.11	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	14-15	>999	240	Weight: 185 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E *Except* 4-6:2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-13:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-4,15-4:2x4 SPF No.2, 19-2,11-9:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-3-8 oc purlins, except end verticals, and 2-0-0 oc purlins (4-6-13 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 16-17.
1 Row at midpt 5-15
WEBS 1 Row at midpt 3-17, 7-15

REACTIONS (size) 11=0-3-8, 19=0-3-8
Max Horiz 19=306 (LC 7)
Max Uplift 11=-195 (LC 9), 19=-195 (LC 8)
Max Grav 11=1765 (LC 16), 19=1772 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-2424/248, 3-4=-1807/240, 4-5=-1513/253, 5-6=-1520/254, 6-7=-1860/254, 7-8=-2457/262, 8-9=-2389/241, 9-10=0/43, 2-19=-1663/232, 9-11=-1664/226
BOT CHORD 18-19=-326/889, 18-20=-259/2111, 17-20=-259/2111, 16-17=-44/10, 15-16=0/39, 5-15=-77/244, 15-21=-16/1986, 14-21=-15/1989, 13-14=0/84, 7-14=-41/687, 12-13=-11/49, 11-12=-149/619
WEBS 3-18=0/314, 3-17=-776/285, 4-17=-64/313, 15-17=-1/1515, 4-15=-91/438, 6-15=-34/594, 7-15=-889/234, 12-14=-81/1916, 8-14=-92/171, 8-12=-434/86, 2-18=0/1298, 9-12=0/1333

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 195 lb uplift at joint 19 and 195 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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

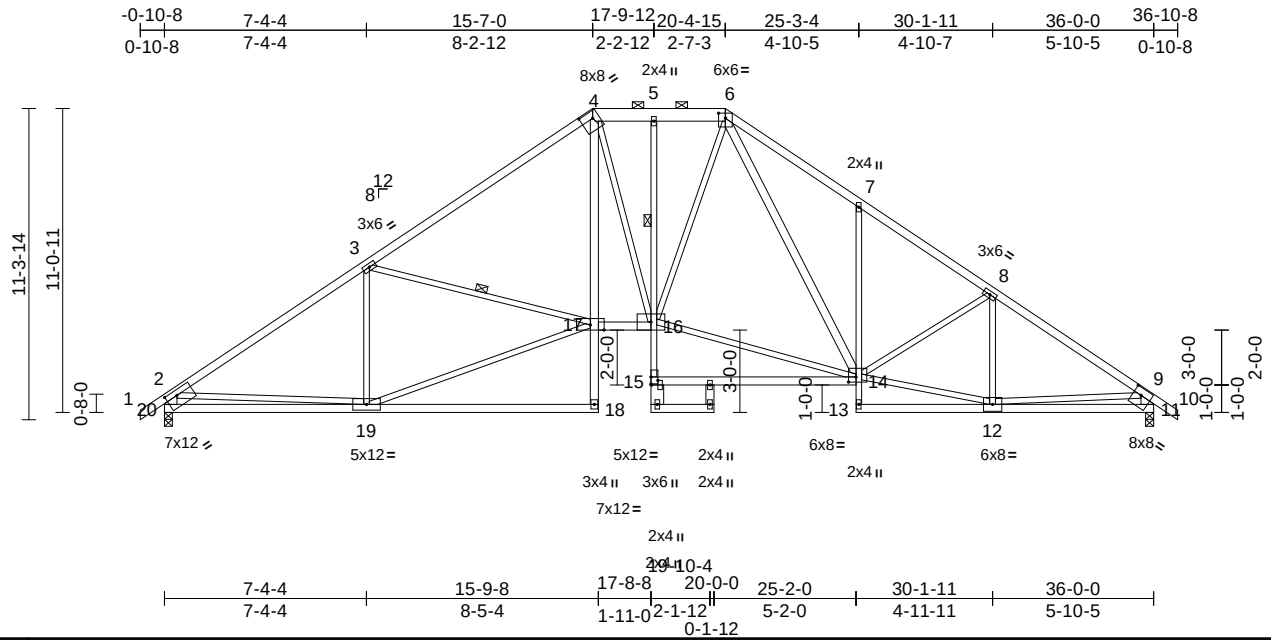
STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER PE-2001018807
PROFESSIONAL ENGINEER
March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421554
Lot 30 OS	B3	Piggyback Base	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:45 Page: 1
ID:VxWg?wA2R3MakUkj2l0tcxyD2rv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC?I



Scale = 1:83.8

Plate Offsets (X, Y): [4:0-5-4,0-3-0], [6:0-3-0,0-2-3], [11:0-3-8,0-3-0], [14:0-3-4,0-2-4], [15:0-2-0,0-3-0], [20:0-5-0,0-2-4]

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	0.72	Vert(LL)	-0.16	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.37	14-15	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.16	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	7	>999	240	Weight: 196 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 4-6:2x6 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 5-15,7-13:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 14-6,22-23:2x4 SPF No.2, 20-2,11-9,21-15:2x6 SPF No.2

BRACING

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

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 12-13.

1 Row at midpt 5-16

WEBS 1 Row at midpt 3-17

REACTIONS (size) 11=0-3-8, 20=0-3-8
Max Horiz 20=-364 (LC 13)
Max Uplift 11=-110 (LC 9)
Max Grav 11=1678 (LC 22), 20=1677 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/43, 2-3=-2325/0, 3-4=-2402/0, 4-5=-1841/0, 5-6=-1835/0, 6-7=-2309/255, 7-8=-2302/96, 8-9=-2297/107, 9-10=0/43, 2-20=-1611/0, 9-11=-1614/142

BOT CHORD 19-20=0/795, 18-19=0/51, 17-18=0/149, 4-17=0/837, 16-17=0/1875, 15-16=0/148, 5-16=-8/115, 14-15=0/58, 13-14=0/84, 7-14=-365/231, 12-13=-35/31, 11-12=-128/565

WEBS 3-19=-586/6, 17-19=0/1907, 3-17=-87/50, 4-16=-266/0, 14-16=0/1664, 6-16=0/660, 6-14=-382/545, 12-14=0/1816, 8-14=-80/183, 8-12=-379/48, 2-19=0/1192, 9-12=0/1250

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 110 lb uplift at joint 11.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	B4	Piggyback Base	6	1	Job Reference (optional) I45421555

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:46 Page: 1
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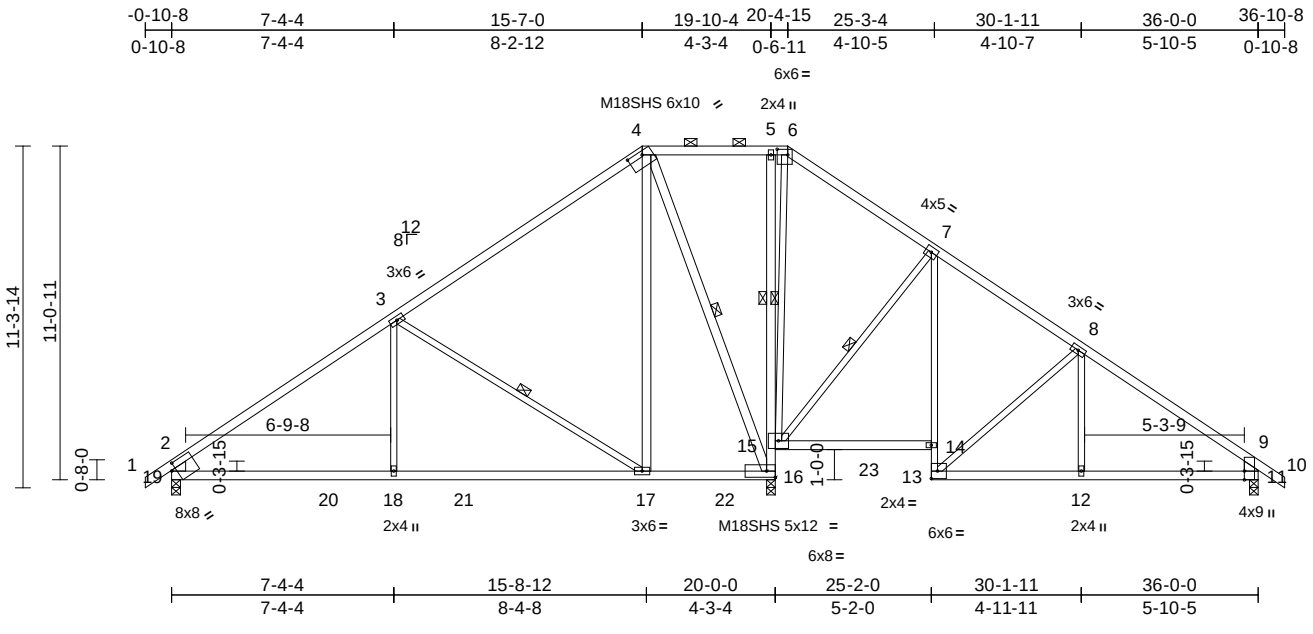

Scale = 1:76.3

Plate Offsets (X, Y): [4:0-6-0,0-1-8], [6:0-4-4,0-2-4], [11:0-3-8,Edge], [19:0-1-12,0-2-10]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.12	17-18	>999	360	M18SHS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.23	17-18	>999	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.02	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	18-19	>999	240	Weight: 170 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-13:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-4,16-4:2x4 SPF No.2, 19-2,11-9:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-1 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:
6-0-0 oc bracing: 16-17
5-0-1 oc bracing: 15-16.
1 Row at midpt 5-15
WEBS 1 Row at midpt 3-17, 4-16, 6-15, 7-15

REACTIONS (size) 11=0-3-8, 16=0-3-8, 19=0-3-8
Max Horiz 19=306 (LC 7)
Max Uplift 11=-241 (LC 9), 19=-195 (LC 8)
Max Grav 11=707 (LC 16), 16=2107 (LC 2), 19=894 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1030/249, 3-4=-371/305, 4-5=0/449, 5-6=0/457, 6-7=0/559, 7-8=-290/349, 8-9=-704/314, 9-10=0/43, 2-19=-799/235, 9-11=-612/272
BOT CHORD 19-20=-261/905, 18-20=-261/905, 18-21=-261/905, 17-21=-261/905, 17-22=-118/172, 16-22=-118/172, 15-16=-1095/55, 5-15=-280/93, 15-23=-39/134, 14-23=-39/134, 13-14=-77/402, 7-14=-35/488, 12-13=-150/470, 11-12=-150/470
WEBS 3-18=0/409, 3-17=-879/286, 4-17=-68/775, 4-16=-1194/113, 6-15=-319/0, 7-15=-728/229, 8-13=-490/149, 8-12=0/231

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 195 lb uplift at joint 19 and 241 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.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	B5	Piggyback Base	3	1	Job Reference (optional)

I45421556

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:47 Page: 1
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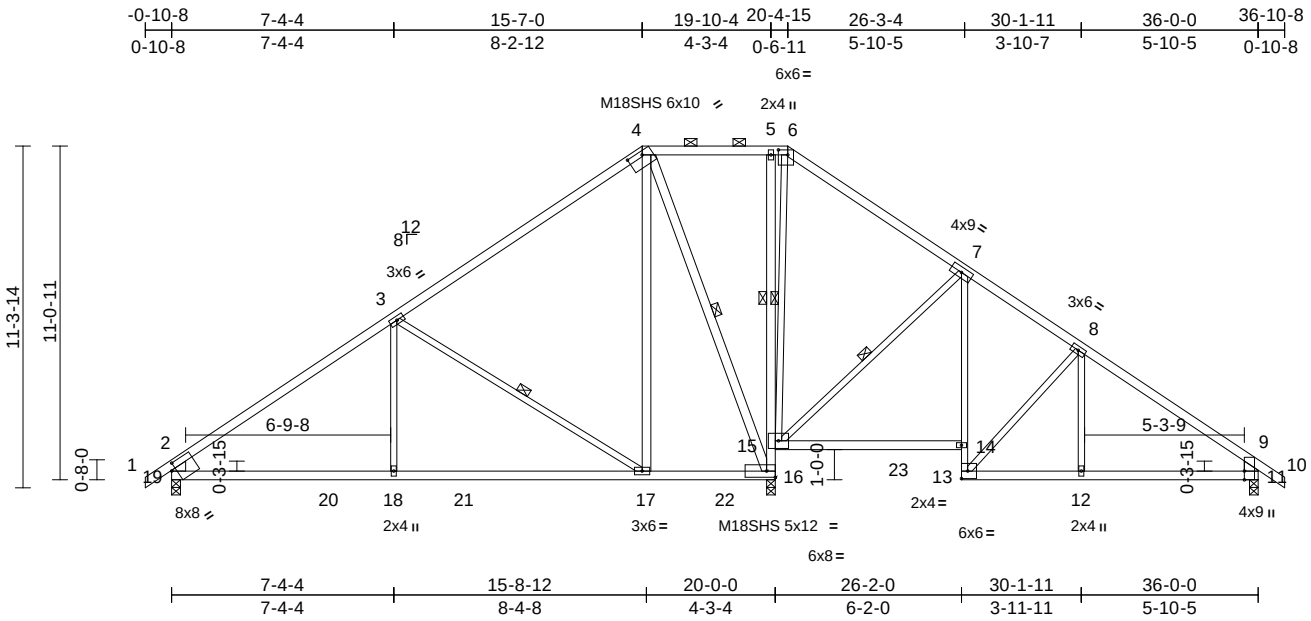

Scale = 1:76.3

Plate Offsets (X, Y): [4:0-6-0,0-1-8], [6:0-3-12,0-2-0], [11:0-3-8,Edge], [19:0-1-12,0-2-10]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.12	17-18	>999	360	M18SHS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.23	17-18	>999	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.02	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	13	>999	240	Weight: 169 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-13:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 17-4,16-4:2x4 SPF No.2, 19-2,11-9:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-10 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:
6-0-0 oc bracing: 16-17
4-9-14 oc bracing: 15-16.
1 Row at midpt 5-15
WEBS 1 Row at midpt 3-17, 4-16, 6-15, 7-15

REACTIONS (size) 11=0-3-8, 16=0-3-8, 19=0-3-8
Max Horiz 19=306 (LC 7)
Max Uplift 11=-242 (LC 9), 19=-198 (LC 8)
Max Grav 11=679 (LC 16), 16=2156 (LC 2), 19=875 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1000/254, 3-4=-352/307, 4-5=0/484, 5-6=0/492, 6-7=0/607, 7-8=-315/361, 8-9=-651/314, 9-10=0/43, 2-19=-789/238, 9-11=-585/274
BOT CHORD 19-20=-265/877, 18-20=-265/877, 18-21=-265/877, 17-21=-265/877, 17-22=-137/154, 16-22=-137/154, 15-16=-1127/56, 5-15=-242/102, 15-23=-71/183, 14-23=-71/183, 13-14=-77/378, 7-14=-30/486, 12-13=-147/425, 11-12=-147/425
WEBS 3-18=0/410, 3-17=-882/285, 4-17=-68/779, 4-16=-1216/109, 6-15=-427/35, 7-15=-752/236, 8-13=-418/118, 8-12=0/209

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 198 lb uplift at joint 19 and 242 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.
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

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	B6	Piggyback Base	2	1	Job Reference (optional) I45421557

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:47 Page: 1
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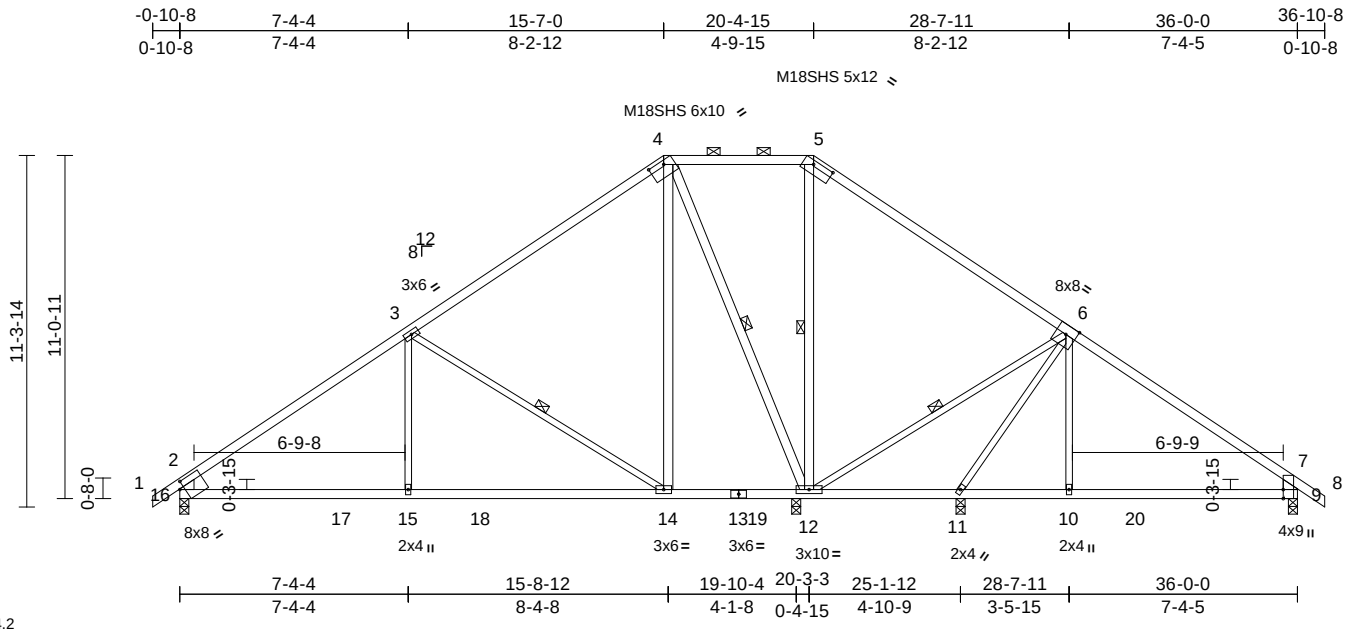

Scale = 1:74.2

Plate Offsets (X, Y): [4:0-6-0,0-1-8], [5:0-8-0,0-1-8], [9:0-3-8,Edge], [16:0-1-12,0-2-10]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.12	14-15	>999	360	M18SHS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.24	14-15	>986	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.02	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	15-16	>999	240	Weight: 159 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-4,12-5,4-14:2x4 SPF No.2, 16-2,9-7:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 11-12.
WEBS 1 Row at midpt 3-14, 4-12, 5-12, 6-12

REACTIONS (size) 9=0-3-8, 11=0-3-8, 12=0-3-8, 16=0-3-8
Max Horiz 16=306 (LC 7)
Max Uplift 9=-173 (LC 9), 11=-61 (LC 9), 12=-61 (LC 8), 16=-170 (LC 8)
Max Grav 9=554 (LC 16), 11=386 (LC 24), 12=1883 (LC 2), 16=916 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-1014/209, 3-4=-323/237, 4-5=0/411, 5-6=-17/540, 6-7=-478/222, 7-8=0/43, 2-16=-802/211, 7-9=-489/219
BOT CHORD 16-17=-228/946, 15-17=-228/946, 15-18=-228/946, 14-18=-228/946, 13-14=-133/226, 13-19=-133/226, 12-19=-133/226, 11-12=-11/82, 10-11=-62/301, 10-20=-63/300, 9-20=-63/300
WEBS 3-15=0/411, 3-14=-879/290, 4-12=-1141/124, 5-12=-595/44, 6-12=-476/173, 6-11=-384/130, 6-10=0/312, 4-14=-68/741

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 170 lb uplift at joint 16, 61 lb uplift at joint 12, 61 lb uplift at joint 11 and 173 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421558
Lot 30 OS	B7	GABLE COMMON	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:58 Page: 1
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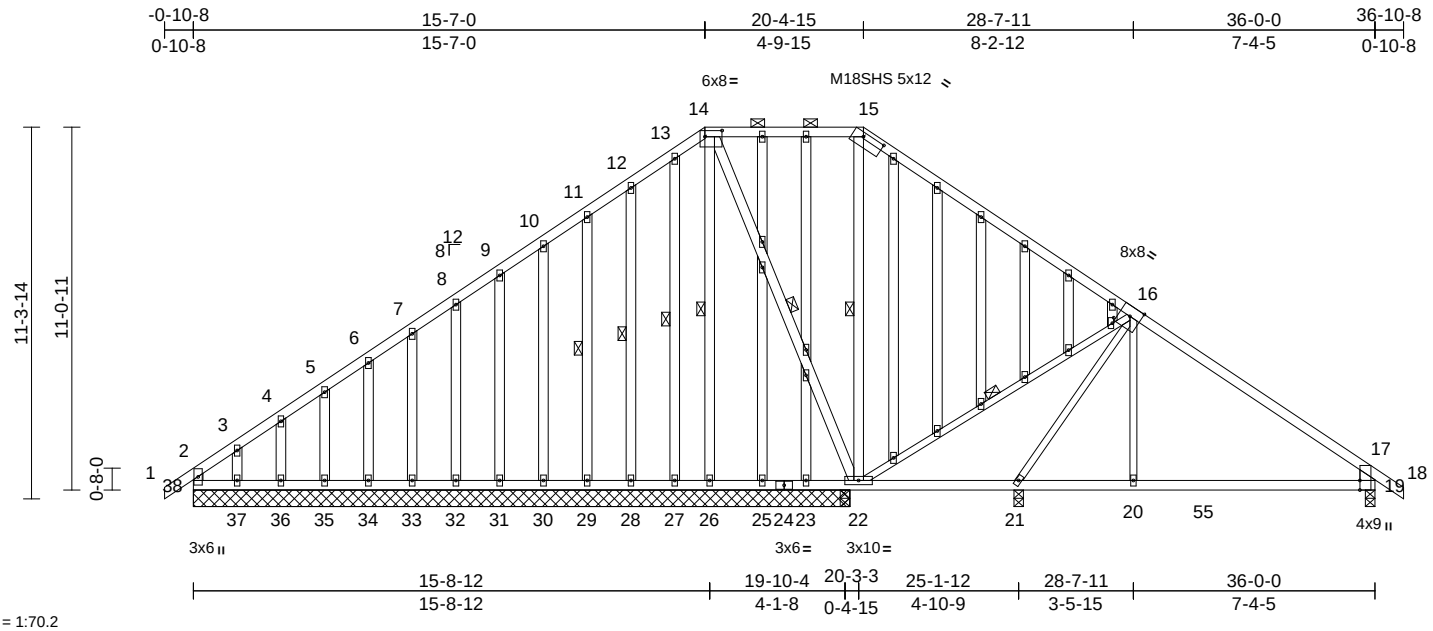

Scale = 1:70.2

Plate Offsets (X, Y): [14:0-6-4,0-2-4], [15:0-8-0,0-1-8], [19:0-3-8,Edge], [53:0-2-0,0-0-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.08	19-20	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.15	19-20	>846	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.01	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	19-20	>999	240	Weight: 273 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 22-16,21-16,16-20:2x3 SPF No.2, 19-17:2x6 SPF No.2
OTHERS 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 14-15.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 21-22,20-21,19-20.
WEBS 1 Row at midpt 14-26, 14-22, 15-22, 16-22, 11-29, 12-28, 13-27

REACTIONS (size) 19=0-3-8, 21=0-3-8, 22=20-0-0, 23=20-0-0, 25=20-0-0, 26=20-0-0, 27=20-0-0, 28=20-0-0, 29=20-0-0, 30=20-0-0, 31=20-0-0, 32=20-0-0, 33=20-0-0, 34=20-0-0, 35=20-0-0, 36=20-0-0, 37=20-0-0, 38=20-0-0
Max Horiz 38=305 (LC 7)
Max Uplift 19=-175 (LC 9), 21=-63 (LC 9), 22=-14 (LC 4), 23=-14 (LC 3), 26=-22 (LC 4), 27=-18 (LC 8), 28=-56 (LC 8), 29=-47 (LC 8), 30=-46 (LC 8), 31=-47 (LC 8), 32=-47 (LC 8), 33=-47 (LC 8), 34=-45 (LC 8), 35=-52 (LC 8), 36=-24 (LC 8), 37=-153 (LC 8), 38=-162 (LC 4)
Max Grav 19=692 (LC 16), 21=533 (LC 16), 22=740 (LC 1), 23=-3 (LC 4), 25=115 (LC 14), 26=197 (LC 17), 27=96 (LC 15), 28=149 (LC 15), 29=145 (LC 15), 30=145 (LC 15), 31=145 (LC 15), 32=145 (LC 15), 33=145 (LC 15), 34=144 (LC 15), 35=147 (LC 15), 36=134 (LC 15), 37=191 (LC 15), 38=238 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/40, 2-3=-265/249, 3-4=-194/208, 4-5=-166/197, 5-6=-148/182, 6-7=-136/179, 7-8=-123/175, 8-9=-111/174, 9-10=-99/198, 10-11=-87/223, 11-12=-75/248, 12-13=-66/276, 13-14=-66/294, 14-15=-64/280, 15-16=-152/253, 16-17=-632/224, 17-18=0/43, 2-38=-191/134, 17-19=-575/220
BOT CHORD 37-38=-138/189, 36-37=-138/189, 35-36=-138/189, 34-35=-138/189, 33-34=-138/189, 32-33=-138/189, 31-32=-138/189, 30-31=-138/189, 29-30=-138/189, 28-29=-138/189, 27-28=-138/189, 26-27=-138/189, 25-26=-137/188, 24-25=-137/188, 23-24=-137/188, 22-23=-137/188, 21-22=0/129, 20-21=-64/409, 20-55=-64/408, 19-55=-64/408
WEBS 14-26=-158/39, 14-22=-129/88, 15-22=-470/59, 16-22=-253/173, 16-21=-518/129, 16-20=0/299, 3-37=-113/114, 4-36=-101/53, 5-35=-98/64, 6-34=-98/62, 7-33=-98/63, 8-32=-98/63, 9-31=-98/63, 10-30=-98/62, 11-29=-99/63, 12-28=-100/72, 13-27=-58/32

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.

March 31,2021

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421558
Lot 30 OS	B7	GABLE COMMON	1	1	Job Reference (optional)	

11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 162 lb uplift at joint 38, 22 lb uplift at joint 26, 14 lb uplift at joint 22, 63 lb uplift at joint 21, 175 lb uplift at joint 19, 153 lb uplift at joint 37, 24 lb uplift at joint 36, 52 lb uplift at joint 35, 45 lb uplift at joint 34, 47 lb uplift at joint 33, 47 lb uplift at joint 32, 47 lb uplift at joint 31, 46 lb uplift at joint 30, 47 lb uplift at joint 29, 56 lb uplift at joint 28, 18 lb uplift at joint 27 and 14 lb uplift at joint 23.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421559
Lot 30 OS	C1	GABLE	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

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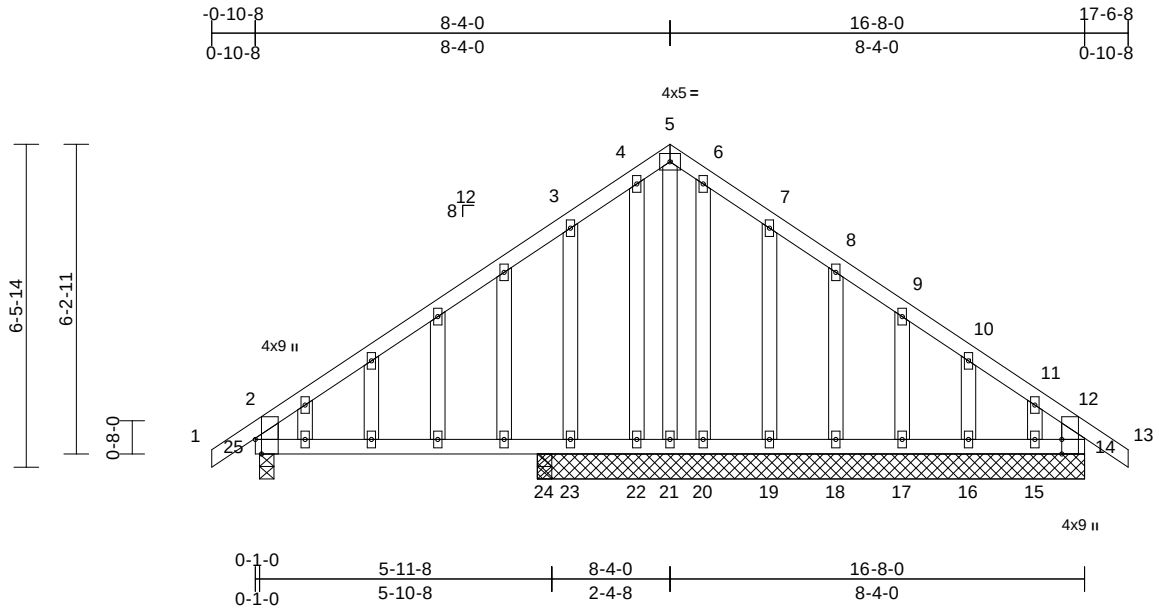

Scale = 1:46.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [14:0-3-8,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	0.37	Vert(LL)	-0.02	24-25	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.05	24-25	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.01	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.02	24-25	>999	240	Weight: 93 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x6 SPF No.2 *Except* 21-5:2x4 SPF No.2
OTHERS 2x4 SPF No.2

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

REACTIONS (size) 14=11-0-0, 15=11-0-0, 16=11-0-0, 17=11-0-0, 18=11-0-0, 19=11-0-0, 20=11-0-0, 21=11-0-0, 22=11-0-0, 23=11-0-0, 24=0-3-8, 25=0-3-8
Max Horiz 25=-179 (LC 6)
Max Uplift 14=-196 (LC 8), 15=-184 (LC 15), 16=-46 (LC 9), 17=-47 (LC 9), 18=-46 (LC 9), 19=-57 (LC 9), 20=-8 (LC 4), 21=-135 (LC 15), 22=-148 (LC 15), 23=-333 (LC 8), 25=-144 (LC 8)
Max Grav 14=471 (LC 15), 15=133 (LC 5), 16=148 (LC 1), 17=121 (LC 16), 18=124 (LC 16), 19=135 (LC 16), 20=81 (LC 22), 21=193 (LC 8), 22=180 (LC 8), 23=284 (LC 15), 24=422 (LC 3), 25=442 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/43, 2-3=-334/161, 3-4=-367/343, 4-5=-215/257, 5-6=-246/278, 6-7=-287/295, 7-8=-290/265, 8-9=-299/240, 9-10=-310/216, 10-11=-307/188, 11-12=-385/198, 12-13=0/43, 2-25=-406/186, 12-14=-361/154
BOT CHORD 24-25=-119/268, 23-24=-119/268, 22-23=-119/268, 21-22=-119/268, 20-21=-119/268, 19-20=-119/268, 18-19=-119/268, 17-18=-119/268, 16-17=-119/268, 15-16=-119/268, 14-15=-119/268
WEBS 5-21=-191/129, 3-23=-476/311, 4-22=-162/196, 6-20=-56/27, 7-19=-107/73, 8-18=-97/62, 9-17=-96/62, 10-16=-107/64, 11-15=-71/90

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 196 lb uplift at joint 14, 135 lb uplift at joint 21, 333 lb uplift at joint 23, 148 lb uplift at joint 22, 8 lb uplift at joint 20, 57 lb uplift at joint 19, 46 lb uplift at joint 18, 47 lb uplift at joint 17, 46 lb uplift at joint 16, 184 lb uplift at joint 15 and 144 lb uplift at joint 25.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	J1	Diagonal Hip Girder	1	1	Job Reference (optional) I45421560

Wheeler Lumber, Waverly, KS - 66871,

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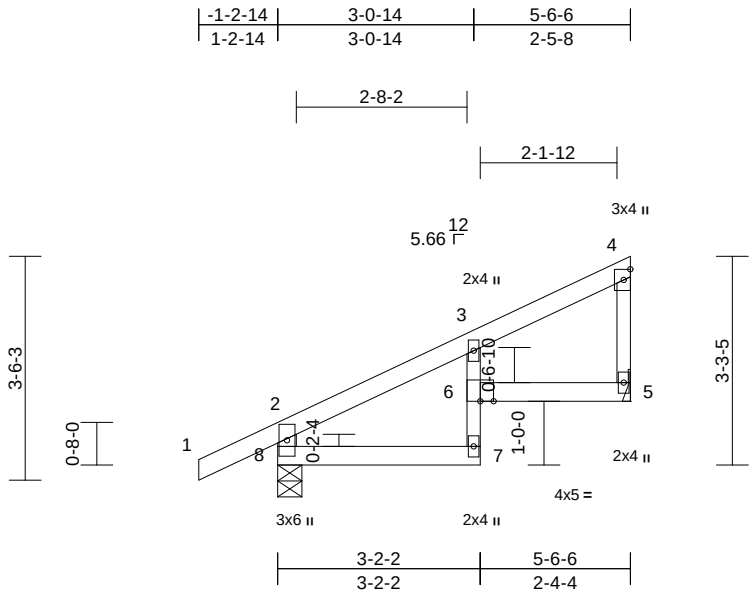

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	-0.04	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.07	7	>946	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.03	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.04	6	>999	240	Weight: 18 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-3:2x3 SPF No.2
WEBS 2x4 SPF No.2 *Except* 4-5:2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8=0-4-9
Max Horiz 8=118 (LC 5)
Max Uplift 5=-58 (LC 8), 8=-62 (LC 8)
Max Grav 5=224 (LC 1), 8=346 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-322/88, 1-2=0/41, 2-3=-249/25, 3-4=-71/18, 4-5=-130/48
BOT CHORD 7-8=-48/137, 6-7=0/62, 3-6=-15/62, 5-6=-26/50

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 8 and 58 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 79 lb down and 43 lb up at 2-9-8, and 79 lb down and 43 lb up at 2-9-8 on top chord, and 6 lb down and 1 lb up at 3-0-14, and 6 lb down and 1 lb up at 3-0-14 on bottom chord. The design/selection of such connection device (s) is the responsibility of others.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 7-8=-20, 5-6=-20
Concentrated Loads (lb)
Vert: 7=2 (F=1, B=1)

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

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	J2	Diagonal Hip Girder	1	1	Job Reference (optional) I45421561

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:50 Page: 1
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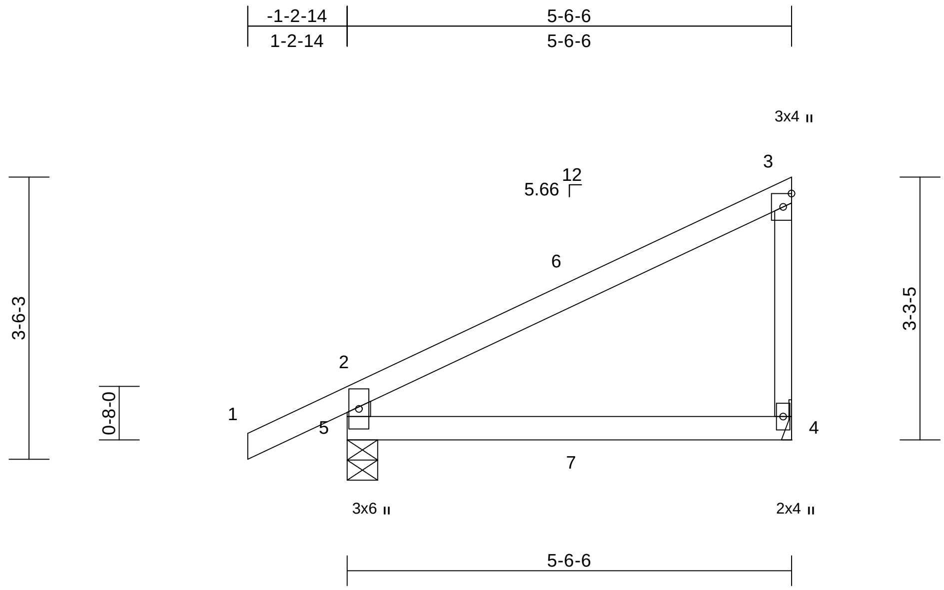

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.07	4-5	>929	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.02	4-5	>999	240	Weight: 17 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5=0-4-9
Max Horiz 5=135 (LC 5)
Max Uplift 4=-57 (LC 8), 5=-64 (LC 8)
Max Grav 4=224 (LC 1), 5=346 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-306/106, 1-2=0/41, 2-6=-160/25, 3-6=-69/44, 3-4=-160/78
BOT CHORD 5-7=-32/44, 4-7=-32/44

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 64 lb uplift at joint 5 and 57 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 79 lb down and 43 lb up at 2-9-8, and 79 lb down and 43 lb up at 2-9-8 on top chord, and 6 lb down and 1 lb up at 2-9-8, and 6 lb down and 1 lb up at 2-9-8 on bottom chord. The design/selection of such connection device (s) is the responsibility of others.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 7=2 (F=1, B=1)

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

March 31,2021

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	J3	Jack-Open	4	1	I45421562 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

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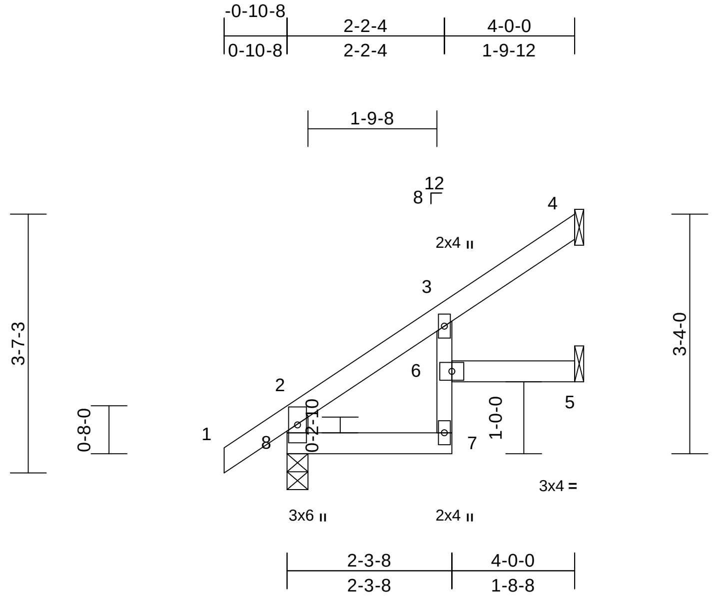

Scale = 1:32

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	-0.01	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.02	7	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	6	>999	240	Weight: 13 lb	FT = 10%

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

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=84 (LC 8)
Max Uplift 4=-34 (LC 8), 5=-6 (LC 8)
Max Grav 4=104 (LC 13), 5=64 (LC 13), 8=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-235/11, 1-2=0/40, 2-3=-143/0, 3-4=-29/52
BOT CHORD 7-8=-26/70, 6-7=0/43, 3-6=-2/51, 5-6=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 4 and 6 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	J4	Jack-Open	11	1	Job Reference (optional)

I45421563

Wheeler Lumber, Waverly, KS - 66871,

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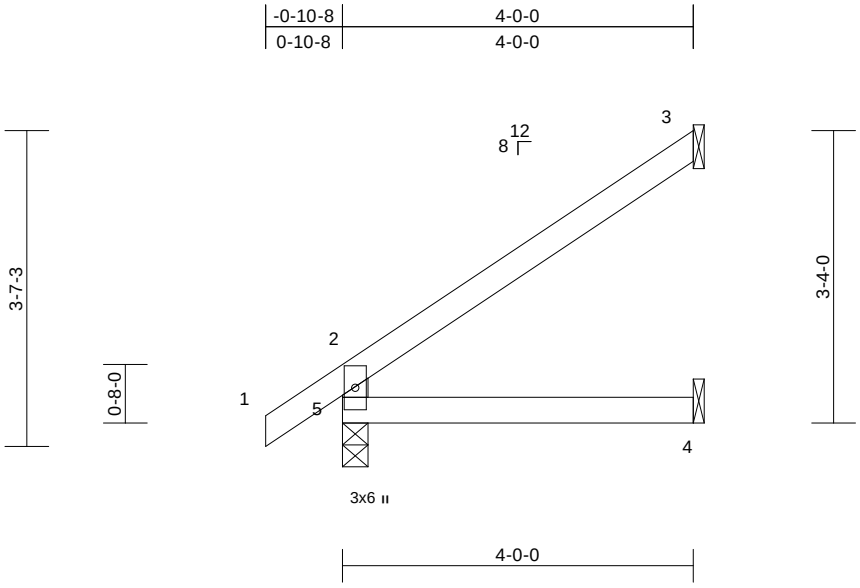

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 12 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=84 (LC 8)
Max Uplift 3=-49 (LC 8)
Max Grav 3=120 (LC 13), 4=72 (LC 3), 5=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-221/24, 1-2=0/40, 2-3=-85/54
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

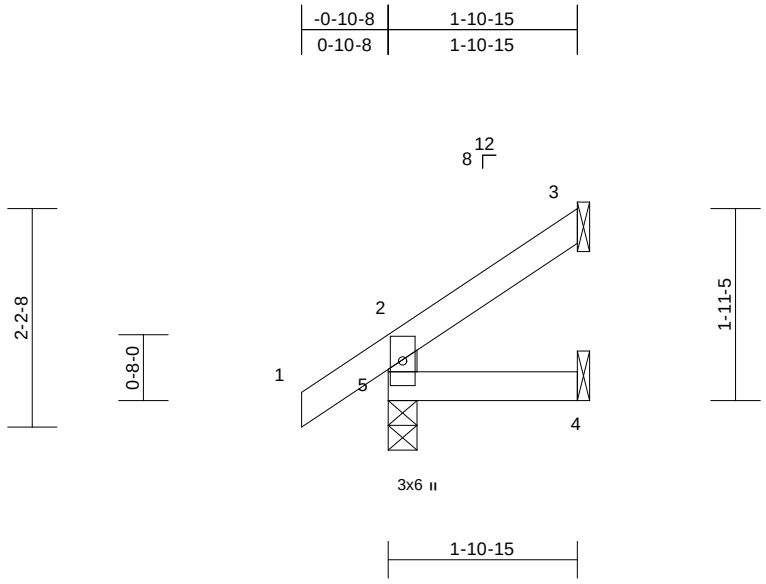
March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS	I45421564
Lot 30 OS	J5	Jack-Open	4	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:51 Page: 1
ID:VxWg?wA2R3MakUkj2l0tcxyD2rv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC?f



Scale = 1:23.3

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	0.07	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 6 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=65 (LC 8)
Max Uplift 3=-37 (LC 8), 5=-16 (LC 8)
Max Grav 3=50 (LC 15), 4=31 (LC 3), 5=171 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-150/37, 1-2=0/40, 2-3=-48/22
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 5 and 37 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	LAY1	GABLE	1	1	Job Reference (optional) I45421565

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:51 Page: 1
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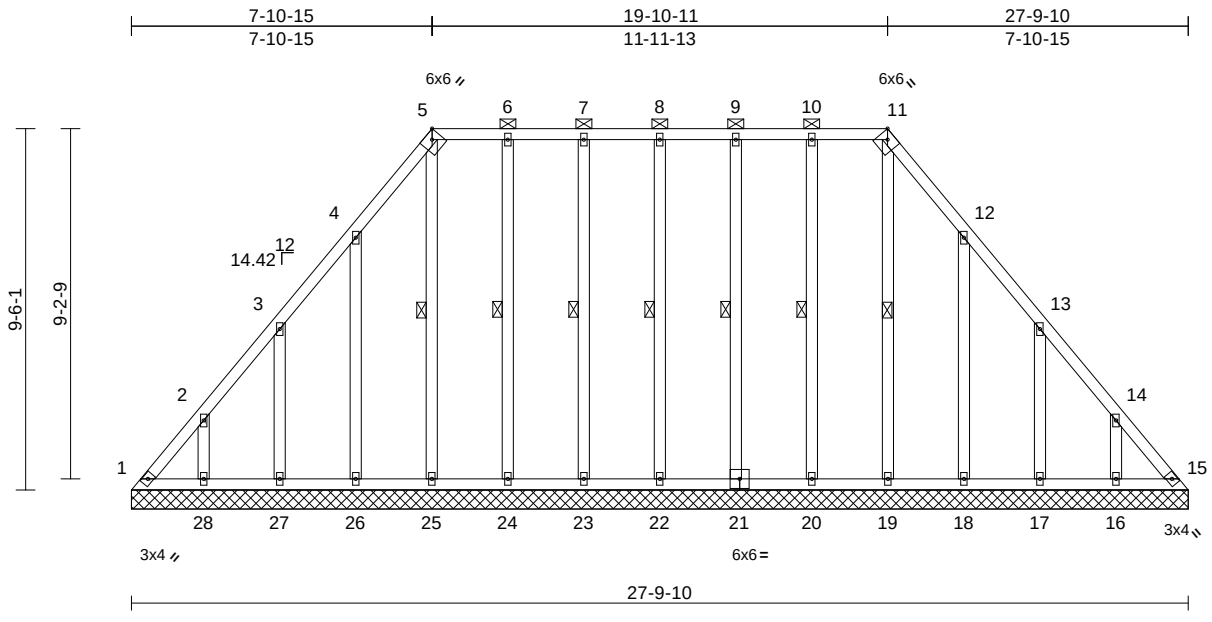

Scale = 1:60.6

Plate Offsets (X, Y): [5:0-2-11,Edge], [11:0-2-11,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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.01	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 172 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, except 2-0-0 oc purlins (6-0-0 max.): 5-11.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 8-22, 7-23, 6-24, 5-25, 9-21, 10-20, 11-19

REACTIONS (size) 1=27-9-10, 15=27-9-10, 16=27-9-10, 17=27-9-10, 18=27-9-10, 19=27-9-10, 20=27-9-10, 21=27-9-10, 22=27-9-10, 23=27-9-10, 24=27-9-10, 25=27-9-10, 26=27-9-10, 27=27-9-10, 28=27-9-10
Max Horiz 1=-252 (LC 4)
Max Uplift 1=-150 (LC 6), 15=-82 (LC 7), 16=-151 (LC 9), 17=-152 (LC 9), 18=-161 (LC 9), 20=-39 (LC 5), 21=-35 (LC 4), 22=-32 (LC 5), 23=-35 (LC 4), 24=-34 (LC 5), 25=-24 (LC 5), 26=-162 (LC 8), 27=-152 (LC 8), 28=-151 (LC 8)
Max Grav 1=249 (LC 8), 15=206 (LC 9), 16=214 (LC 16), 17=214 (LC 16), 18=226 (LC 16), 19=162 (LC 17), 20=187 (LC 21), 21=179 (LC 1), 22=182 (LC 22), 23=179 (LC 1), 24=188 (LC 22), 25=191 (LC 18), 26=227 (LC 15), 27=213 (LC 15), 28=215 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-337/251, 2-3=-200/193, 3-4=-164/152, 4-5=-135/226, 5-6=-46/167, 6-7=-45/167, 7-8=-45/167, 8-9=-45/167, 9-10=-44/166, 10-11=-46/166, 11-12=-98/196, 12-13=-96/81, 13-14=-147/105, 14-15=-282/164
BOT CHORD 1-28=-108/208, 27-28=-108/208, 26-27=-108/208, 25-26=-108/208, 24-25=-108/209, 23-24=-108/209, 22-23=-108/209, 21-22=-108/209, 20-21=-108/209, 19-20=-108/209, 18-19=-108/209, 17-18=-108/209, 16-17=-108/209, 15-16=-108/209
WEBS 8-22=-140/57, 7-23=-139/59, 6-24=-148/58, 5-25=-151/63, 4-26=-187/185, 3-27=-174/177, 2-28=-170/168, 9-21=-139/59, 10-20=-148/62, 11-19=-122/0, 12-18=-186/184, 13-17=-175/178, 14-16=-170/168

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 150 lb uplift at joint 1, 82 lb uplift at joint 15, 32 lb uplift at joint 22, 35 lb uplift at joint 23, 34 lb uplift at joint 24, 24 lb uplift at joint 25, 162 lb uplift at joint 26, 152 lb uplift at joint 27, 151 lb uplift at joint 28, 35 lb uplift at joint 21, 39 lb uplift at joint 20, 161 lb uplift at joint 18, 152 lb uplift at joint 17 and 151 lb uplift at joint 16.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

March 31,2021

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/31/2021

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	LAY2	GABLE	1	1	Job Reference (optional) I45421566

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:52 Page: 1
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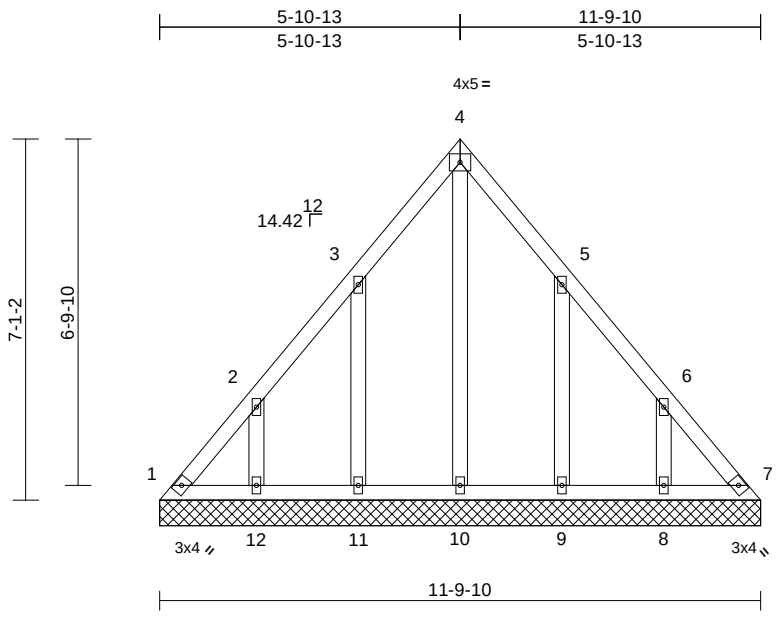

Scale = 1:45.2

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 54 lb	FT = 10%

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

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

REACTIONS (size) 1=11-9-10, 7=11-9-10, 8=11-9-10, 9=11-9-10, 10=11-9-10, 11=11-9-10, 12=11-9-10
Max Horiz 1=-185 (LC 4)
Max Uplift 1=-80 (LC 6), 7=-53 (LC 7), 8=-151 (LC 9), 9=-157 (LC 9), 11=-158 (LC 8), 12=-151 (LC 8)
Max Grav 1=175 (LC 8), 7=158 (LC 9), 8=212 (LC 16), 9=226 (LC 16), 10=158 (LC 18), 11=228 (LC 15), 12=212 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-242/161, 2-3=-143/104, 3-4=-112/129, 4-5=-94/106, 5-6=-117/68, 6-7=-220/125
BOT CHORD 1-12=-84/169, 11-12=-84/169, 10-11=-84/169, 9-10=-84/169, 8-9=-84/169, 7-8=-84/169
WEBS 4-10=-125/13, 3-11=-188/184, 2-12=-167/168, 5-9=-187/183, 6-8=-167/169

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 0-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 80 lb uplift at joint 1, 53 lb uplift at joint 7, 158 lb uplift at joint 11, 151 lb uplift at joint 12, 157 lb uplift at joint 9 and 151 lb uplift at joint 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

March 31,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 30 OS
Lot 30 OS	P1	Piggyback	22	1	I45421567 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Mar 22 2021 Print: 8.430 S Mar 22 2021 MiTek Industries, Inc. Tue Mar 30 11:24:52 Page: 1
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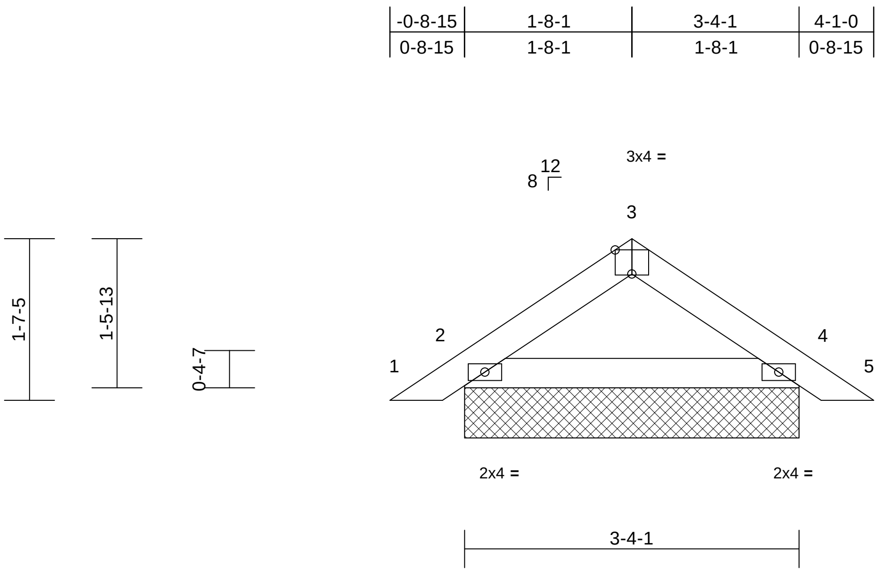


Scale = 1:23

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 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 4-9-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=3-4-1, 4=3-4-1
Max Horiz 2=37 (LC 7)
Max Uplift 2=-29 (LC 8), 4=-29 (LC 9)
Max Grav 2=184 (LC 1), 4=184 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-130/38, 3-4=-130/38, 4-5=0/17
BOT CHORD 2-4=-9/79

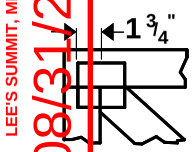
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber 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 29 lb uplift at joint 2 and 29 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

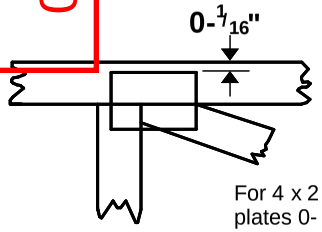
March 31,2021

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.

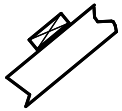
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

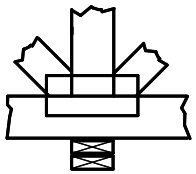
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

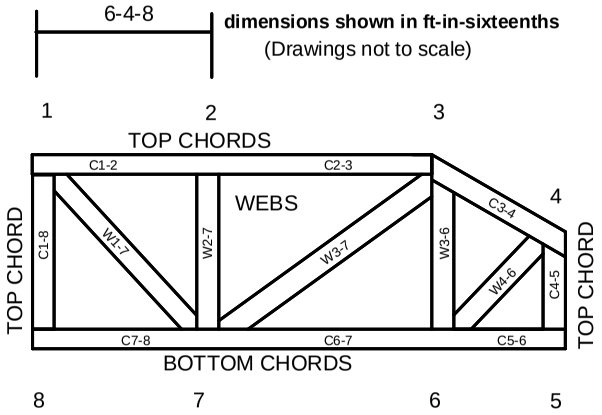


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.