RE: W0137
Lot 137 W0

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

Site Information:

Customer: Project Name: W0137
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 51 individual, dated Truss Design Drawings and 0 Additional Drawings.

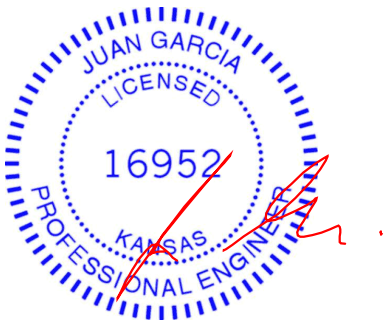
No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I47856934	A1	9/10/2021	21	I47856954	D9	9/10/2021
2	I47856935	A2	9/10/2021	22	I47856955	D10	9/10/2021
3	I47856936	A3	9/10/2021	23	I47856956	D11	9/10/2021
4	I47856937	B1	9/10/2021	24	I47856957	E1	9/10/2021
5	I47856938	B2	9/10/2021	25	I47856958	E2	9/10/2021
6	I47856939	C1	9/10/2021	26	I47856959	G1	9/10/2021
7	I47856940	C2	9/10/2021	27	I47856960	G2	9/10/2021
8	I47856941	C3	9/10/2021	28	I47856961	G3	9/10/2021
9	I47856942	C4	9/10/2021	29	I47856962	H1	9/10/2021
10	I47856943	C5	9/10/2021	30	I47856963	H2	9/10/2021
11	I47856944	C6	9/10/2021	31	I47856964	J1	9/10/2021
12	I47856945	C7	9/10/2021	32	I47856965	J2	9/10/2021
13	I47856946	D1	9/10/2021	33	I47856966	J3	9/10/2021
14	I47856947	D2	9/10/2021	34	I47856967	J4	9/10/2021
15	I47856948	D3	9/10/2021	35	I47856968	J5	9/10/2021
16	I47856949	D4	9/10/2021	36	I47856969	J8	9/10/2021
17	I47856950	D5	9/10/2021	37	I47856970	J9	9/10/2021
18	I47856951	D6	9/10/2021	38	I47856971	J10	9/10/2021
19	I47856952	D7	9/10/2021	39	I47856972	K1	9/10/2021
20	I47856953	D8	9/10/2021	40	I47856973	K2	9/10/2021

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: Garcia, Juan

My license renewal date for the state of Kansas is April 30, 2022.

Kansas COA: E-943



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

September 10, 2021

Garcia, Juan

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

RE: W0137 - Lot 137 W0

Site Information:

Project Customer: Project Name: W0137
Lot/Block: Subdivision:
Address:
City, County: State:

No.	Seal#	Truss Name	Date
41	I47856974	K3	9/10/2021
42	I47856975	LAY2	9/10/2021
43	I47856976	R1	9/10/2021
44	I47856977	V1	9/10/2021
45	I47856978	V2	9/10/2021
46	I47856979	V3	9/10/2021
47	I47856980	V4	9/10/2021
48	I47856981	V5	9/10/2021
49	I47856982	V6	9/10/2021
50	I47856983	V7	9/10/2021
51	I47856984	V8	9/10/2021

RE: W0137
Lot 137 W0

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

Site Information:

Customer: Project Name: W0137
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 51 individual, dated Truss Design Drawings and 0 Additional Drawings.

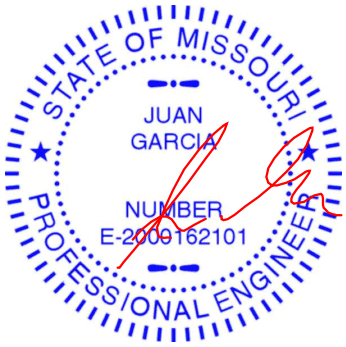
No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I47856934	A1	9/10/2021	21	I47856954	D9	9/10/2021
2	I47856935	A2	9/10/2021	22	I47856955	D10	9/10/2021
3	I47856936	A3	9/10/2021	23	I47856956	D11	9/10/2021
4	I47856937	B1	9/10/2021	24	I47856957	E1	9/10/2021
5	I47856938	B2	9/10/2021	25	I47856958	E2	9/10/2021
6	I47856939	C1	9/10/2021	26	I47856959	G1	9/10/2021
7	I47856940	C2	9/10/2021	27	I47856960	G2	9/10/2021
8	I47856941	C3	9/10/2021	28	I47856961	G3	9/10/2021
9	I47856942	C4	9/10/2021	29	I47856962	H1	9/10/2021
10	I47856943	C5	9/10/2021	30	I47856963	H2	9/10/2021
11	I47856944	C6	9/10/2021	31	I47856964	J1	9/10/2021
12	I47856945	C7	9/10/2021	32	I47856965	J2	9/10/2021
13	I47856946	D1	9/10/2021	33	I47856966	J3	9/10/2021
14	I47856947	D2	9/10/2021	34	I47856967	J4	9/10/2021
15	I47856948	D3	9/10/2021	35	I47856968	J5	9/10/2021
16	I47856949	D4	9/10/2021	36	I47856969	J8	9/10/2021
17	I47856950	D5	9/10/2021	37	I47856970	J9	9/10/2021
18	I47856951	D6	9/10/2021	38	I47856971	J10	9/10/2021
19	I47856952	D7	9/10/2021	39	I47856972	K1	9/10/2021
20	I47856953	D8	9/10/2021	40	I47856973	K2	9/10/2021

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: Garcia, Juan

My license renewal date for the state of Missouri is December 31, 2022.

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.

September 10, 2021

Garcia, Juan

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

RE: W0137 - Lot 137 W0

Site Information:

Project Customer: Project Name: W0137
Lot/Block: Subdivision:
Address:
City, County: State:

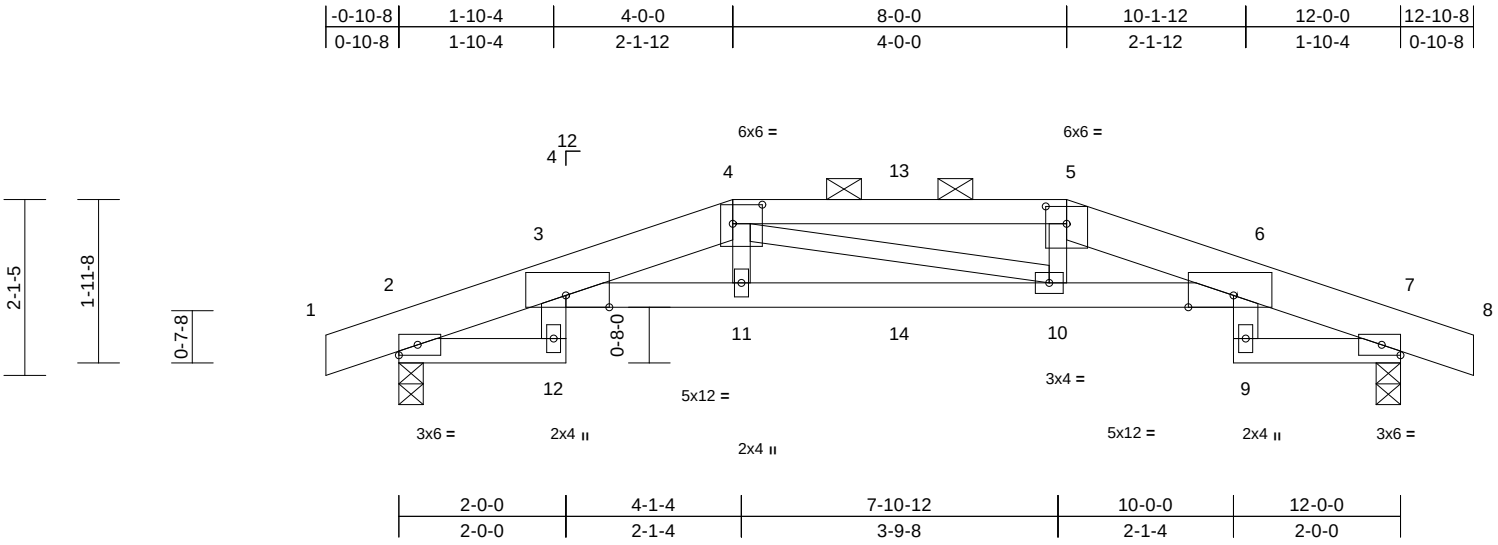
No.	Seal#	Truss Name	Date
41	I47856974	K3	9/10/2021
42	I47856975	LAY2	9/10/2021
43	I47856976	R1	9/10/2021
44	I47856977	V1	9/10/2021
45	I47856978	V2	9/10/2021
46	I47856979	V3	9/10/2021
47	I47856980	V4	9/10/2021
48	I47856981	V5	9/10/2021
49	I47856982	V6	9/10/2021
50	I47856983	V7	9/10/2021
51	I47856984	V8	9/10/2021

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	A1	Hip Girder	1	1	I47856934
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:17
ID:tqN7sT75_x0NUjjqCBNgM1yf1Fr-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:27.6

Plate Offsets (X, Y): [3:0-6-4,Edge], [4:0-4-4,0-2-12], [5:0-3-0,0-2-8], [6:0-6-8,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	0.81	Vert(LL)	-0.16	10-11	>872	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.30	10-11	>475	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.23	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.13	10-11	>999	240	Weight: 43 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SPF 1650F 1.4E *Except* 4-5:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 3-6:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 12-3,6-9:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-0-10 oc purlins, except 2-0-0 oc purlins (3-2-7 max.): 4-5.

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

REACTIONS (lb/size) 2=902/0-3-8, 7=902/0-3-8
Max Horiz 2=30 (LC 27)
Max Uplift 2=-197 (LC 4), 7=-197 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/4, 2-3=-386/94, 3-4=-2613/471, 4-5=-2691/477, 5-6=-2690/468, 6-7=-386/89, 7-8=0/4

BOT CHORD 2-12=0/0, 3-11=-439/2595, 10-11=-434/2612, 6-10=-428/2679, 7-9=0/0

WEBS 3-12=0/65, 6-9=0/65, 4-11=0/219, 4-10=-47/162, 5-10=0/177

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 197 lb uplift at joint 2 and 197 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 81 lb down and 47 lb up at 4-0-0, and 81 lb down and 46 lb up at 6-0-0, and 81 lb down and 47 lb up at 8-0-0 on top chord, and 231 lb down and 45 lb up at 4-0-0, and 34 lb down at 6-0-0, and 231 lb down and 45 lb up at 7-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
10) 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, 4-5=-70, 5-8=-70, 2-12=-20, 3-6=-20, 7-9=-20
   Concentrated Loads (lb)
   Vert: 4=-37 (F), 5=-37 (F), 11=-231 (F), 10=-231 (F), 13=-37 (F), 14=-34 (F)

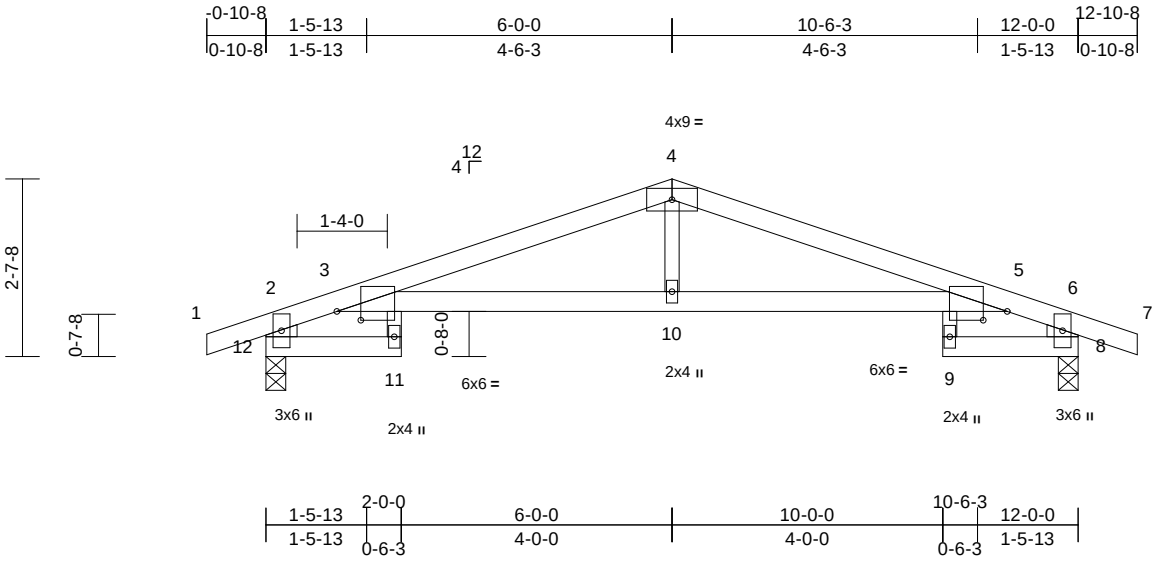
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	A2	Roof Special	1	1	I47856935
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:20
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:34

Plate Offsets (X, Y): [3:0-4-4,0-1-9], [5:0-4-4,0-1-9]

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	0.63	Vert(LL)	-0.15	11	>953	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.27	11	>514	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.24	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.12	11	>999	240	Weight: 35 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (lb/size) 8=614/0-3-8, 12=614/0-3-8
Max Horiz 12=-27 (LC 9)
Max Uplift 8=-113 (LC 5), 12=-113 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-132/66, 3-4=-1143/105, 4-5=-1143/116, 5-6=-132/53, 6-7=0/24, 2-12=-610/124, 6-8=-610/122
BOT CHORD 11-12=-57/0, 3-10=-55/1062, 5-10=-55/1062, 8-9=-57/0
WEBS 3-11=0/72, 5-9=0/72, 4-10=0/300

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 113 lb uplift at joint 12 and 113 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

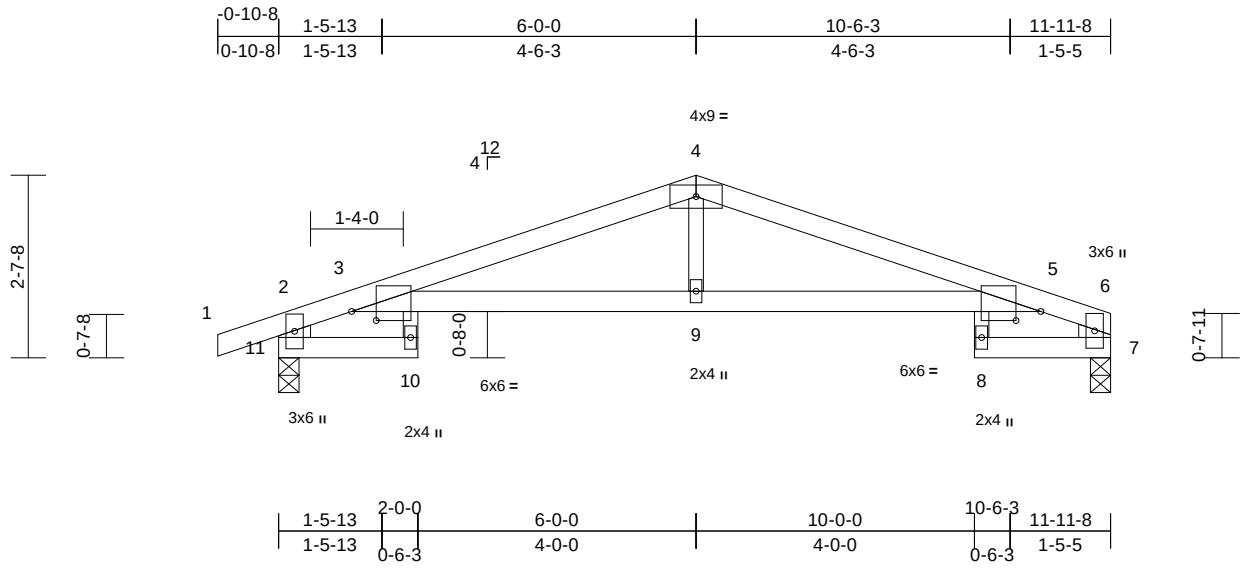
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	A3	Roof Special	2	1	I47856936
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:20 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.1

Plate Offsets (X, Y): [3:0-4-4,0-1-9], [5:0-4-4,0-1-9]

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	0.66	Vert(LL)	-0.15	8	>911	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.27	8	>504	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.24	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.12	10	>999	240	Weight: 34 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (lb/size) 7=531/0-3-8, 11=616/0-3-8
Max Horiz 11=33 (LC 12)
Max Uplift 7=-64 (LC 5), 11=-114 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-133/50, 3-4=-1151/123, 4-5=-1151/122, 5-6=-126/36, 2-11=-612/125, 6-7=-531/76
BOT CHORD 10-11=-57/0, 3-9=-69/1071, 5-9=-69/1071, 7-8=-57/0
WEBS 3-10=0/72, 5-8=0/72, 4-9=0/299

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 114 lb uplift at joint 11 and 64 lb uplift at joint 7.
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

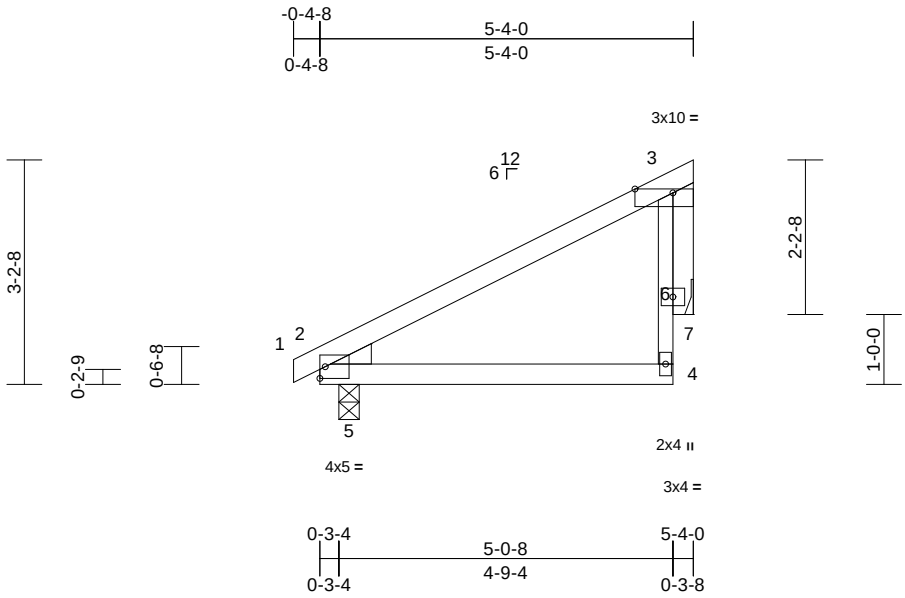
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	B1	MONOPITCH	7	1	I47856937
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:20
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:32.9

Plate Offsets (X, Y): [3:0-6-8,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	0.23	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.03	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 18 lb	FT = 10%

LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x3 SPF No.2
OTHERS	2x4 SPF No.2
WEDGE	Left: 2x4 SP No.3

BRACING

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

REACTIONS (lb/size) 5=286/0-3-8, 7=185/ Mechanical
Max Horiz 5=92 (LC 8)
Max Uplift 5=-28 (LC 8), 7=-63 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-3/0, 2-3=-180/0, 4-6=0/94, 3-6=-151/125
BOT CHORD	2-5=0/101, 4-5=-26/87
WEBS	3-7=-52/11

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 28 lb uplift at joint 5 and 63 lb uplift at joint 7.
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

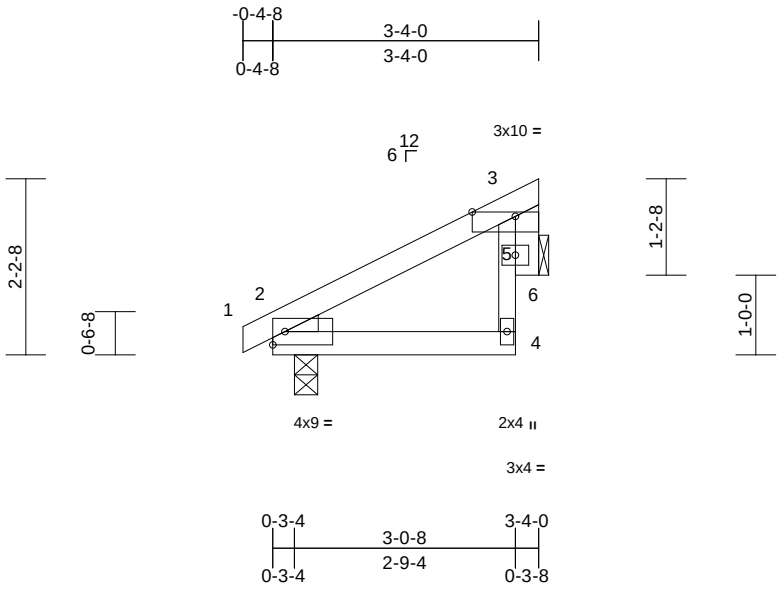
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	B2	Monopitch	6	1	I47856938 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:21
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:28.9

Plate Offsets (X, Y): [3:0-6-8,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	0.11	Vert(LL)	0.00	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	2-4	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	2-4	>999	240	Weight: 11 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
WEDGE Left: 2x3 SPF No.2

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

REACTIONS (lb/size) 2=179/0-3-8, 6=109/ Mechanical
Max Horiz 2=56 (LC 5)
Max Uplift 2=-22 (LC 8), 6=-37 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-3/0, 2-3=-118/0, 4-5=0/60, 3-5=-69/54
BOT CHORD 2-4=-20/59
WEBS 3-6=-22/0

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 22 lb uplift at joint 2 and 37 lb uplift at joint 6.
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

September 10,2021

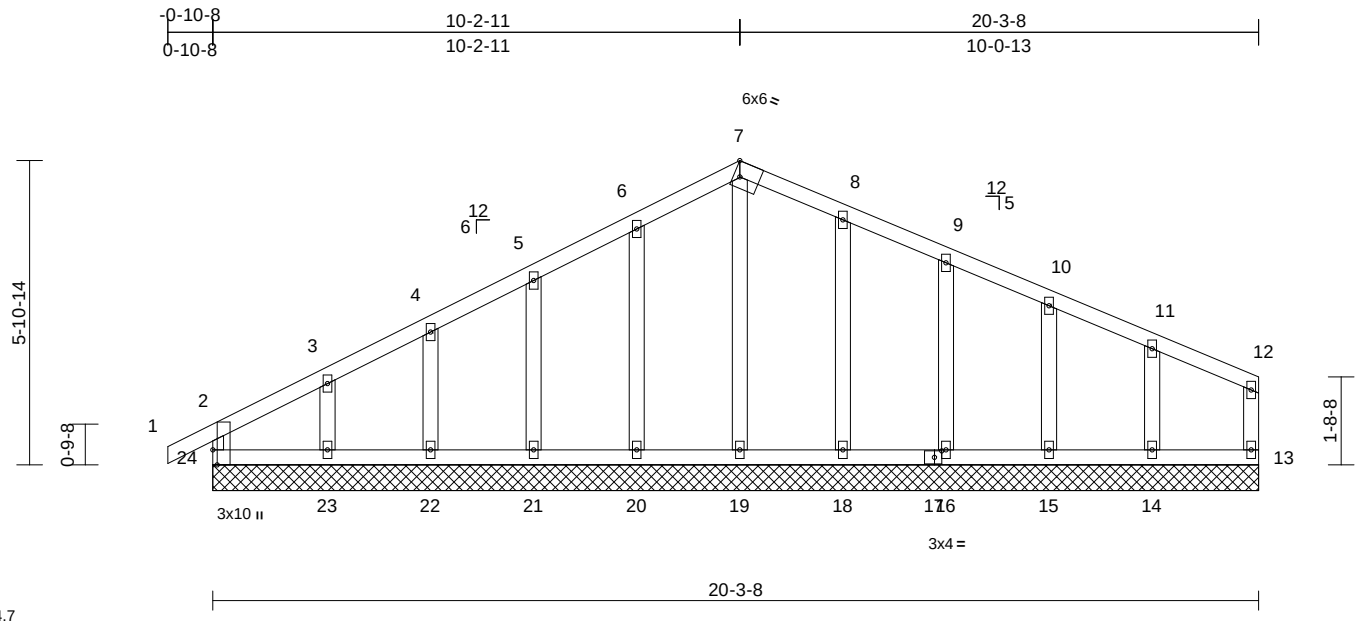
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C1	GABLE	1	1	I47856939
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:21 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:44.7

Plate Offsets (X, Y): [7:Edge,0-3-8], [17:0-1-11,0-1-8], [24:0-3-8,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	0.08	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	0.07	Horz(CT)	0.00	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 86 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-13:2x4 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) 13=77/20-3-8, 14=190/20-3-8, 15=178/20-3-8, 16=179/20-3-8, 18=188/20-3-8, 19=161/20-3-8, 20=188/20-3-8, 21=179/20-3-8, 22=179/20-3-8, 23=183/20-3-8, 24=170/20-3-8
Max Horiz 24=91 (LC 8)
Max Uplift 13=-19 (LC 8), 14=-64 (LC 9), 15=-44 (LC 9), 16=-50 (LC 9), 18=-48 (LC 9), 20=-56 (LC 8), 21=-57 (LC 8), 22=-43 (LC 8), 23=-94 (LC 8), 24=-53 (LC 4)
Max Grav 13=77 (LC 1), 14=190 (LC 22), 15=178 (LC 22), 16=179 (LC 1), 18=190 (LC 22), 19=168 (LC 18), 20=191 (LC 21), 21=179 (LC 1), 22=179 (LC 1), 23=185 (LC 21), 24=170 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-24=-151/56, 1-2=0/31, 2-3=-98/78, 3-4=-63/84, 4-5=-41/106, 5-6=-38/133, 6-7=-42/157, 7-8=-37/147, 8-9=-34/110, 9-10=-34/80, 10-11=-35/59, 11-12=-40/39, 12-13=-60/25
BOT CHORD 23-24=-18/29, 22-23=-18/29, 21-22=-18/29, 20-21=-18/29, 19-20=-18/29, 18-19=-18/29, 16-18=-18/29, 15-16=-18/29, 14-15=-18/29, 13-14=-18/29
WEBS 7-19=-128/0, 6-20=-151/80, 5-21=-138/80, 4-22=-141/71, 3-23=-140/103, 8-18=-151/72, 9-16=-139/73, 10-15=-139/69, 11-14=-148/84

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 53 lb uplift at joint 24, 19 lb uplift at joint 13, 56 lb uplift at joint 20, 57 lb uplift at joint 21, 43 lb uplift at joint 22, 94 lb uplift at joint 23, 48 lb uplift at joint 18, 50 lb uplift at joint 16, 44 lb uplift at joint 15 and 64 lb uplift at joint 14.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

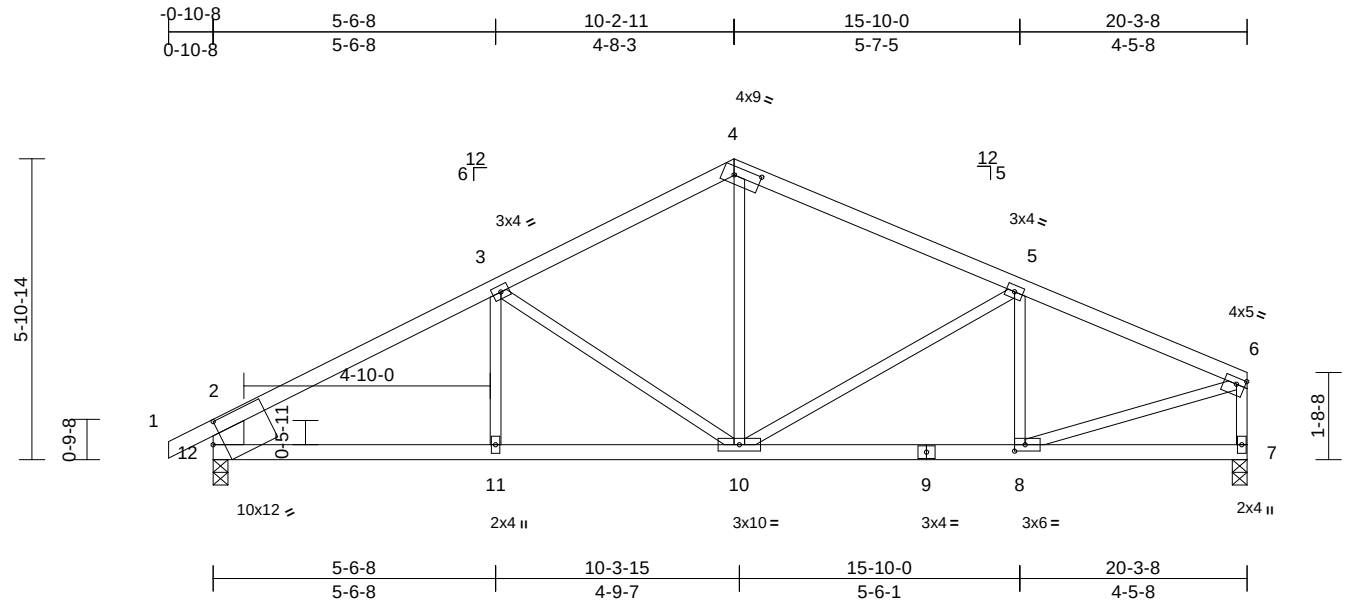
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C2	Roof Special	1	1	I47856940 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:21 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.2

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

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)	-0.09	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.17	10-11	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	10-11	>999	240	Weight: 75 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2:2x8 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) 7=892/0-3-8, 12=980/0-3-8
Max Horiz 12=-90 (LC 6)
Max Uplift 7=-112 (LC 9), 12=-137 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1285/161, 3-4=-965/158, 4-5=-974/155, 5-6=-1121/147, 2-12=-874/167, 6-7=-850/131
BOT CHORD 11-12=-156/1041, 10-11=-156/1041, 8-10=-118/992, 7-8=-17/38
WEBS 3-11=0/152, 3-10=-327/150, 4-10=-26/388, 5-10=-269/127, 5-8=-226/101, 6-8=-106/1005

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 137 lb uplift at joint 12 and 112 lb uplift at joint 7.
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

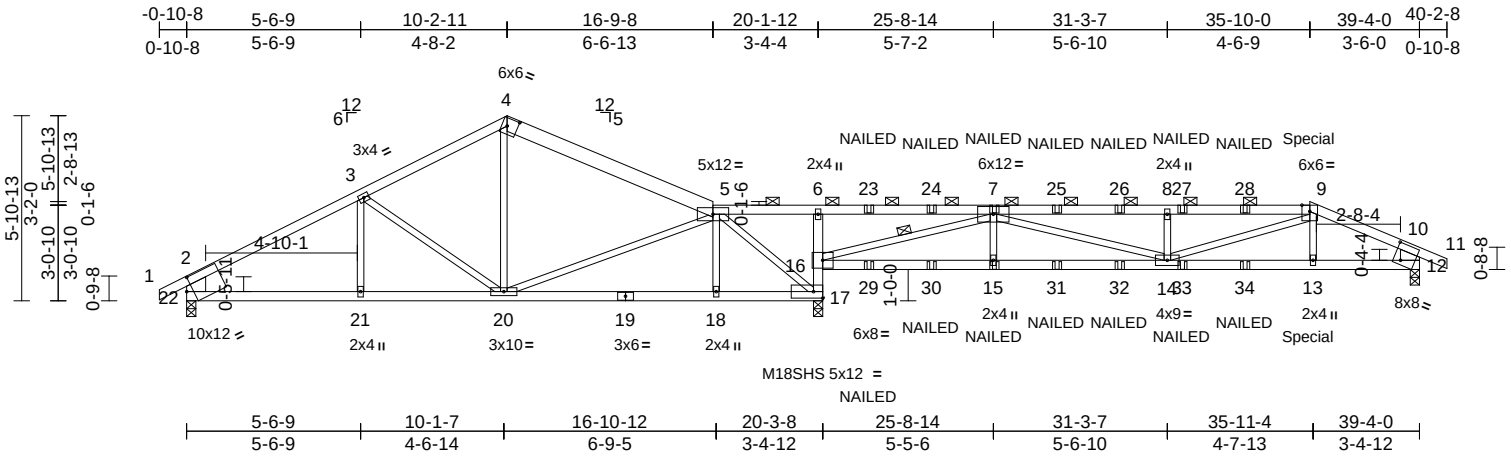
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C3	Roof Special Girder	1	1	I47856941
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:22 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.5

Plate Offsets (X, Y): [4:0-3-15,0-3-0], [12:0-2-13,0-6-6], [22:0-2-7,0-4-14]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.18	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.34	14-15	>666	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.02	17	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	14-15	>999	240	Weight: 143 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 SPF No.2, 9-11:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 17-6:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 22-2,12-10:2x8 SP DSS

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-3-1 oc purlins, except end verticals, and 2-0-0 oc purlins (3-1-15 max.): 5-9.

BOT CHORD Rigid ceiling directly applied or 5-4-1 oc bracing.

WEBS 1 Row at midpt 7-16

REACTIONS (lb/size) 12=1068/0-3-8, 17=2166/0-3-8, 22=880/0-3-8

Max Horiz 22=100 (LC 8)

Max Uplift 12=-249 (LC 9), 17=-383 (LC 9), 22=-165 (LC 27)

Max Grav 12=1075 (LC 22), 17=2166 (LC 1), 22=880 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/37, 2-3=-1109/211, 3-4=-798/200, 4-5=-779/206, 5-6=-47/641, 6-7=-81/870, 7-8=-2566/634, 8-9=-2566/634, 9-10=-1658/378, 10-11=0/32, 2-22=-784/193, 10-12=-933/239

BOT CHORD 21-22=-210/889, 20-21=-210/889, 18-20=-217/351, 17-18=-214/356, 16-17=-1363/320, 6-16=-432/174, 15-16=-435/1835, 14-15=-435/1835, 13-14=-305/1450, 12-13=-299/1449

WEBS 3-21=0/145, 3-20=-333/153, 4-20=-58/267, 5-20=-53/381, 5-18=0/264, 5-17=-1293/125, 7-15=0/281, 7-14=-154/792, 8-14=-483/228, 9-14=-299/1197, 9-13=-12/128, 7-16=-2778/595

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 165 lb uplift at joint 22, 249 lb uplift at joint 12 and 383 lb uplift at joint 17.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 195 lb down and 126 lb up at 35-10-0 on top chord, and 56 lb down at 35-9-4 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.
12) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 4-5=-70, 5-9=-70, 9-10=-70, 10-11=-70, 17-22=-20, 12-16=-20
Concentrated Loads (lb)
Vert: 9=-74 (F), 7=-33 (F), 15=-17 (F), 13=-40 (F), 23=-33 (F), 24=-33 (F), 25=-33 (F), 26=-33 (F), 27=-33 (F), 28=-33 (F), 29=-17 (F), 30=-17 (F), 31=-17 (F), 32=-17 (F), 33=-17 (F), 34=-17 (F)

STATE OF MISSOURI JUAN GARCIA NUMBER E-2000162101 PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

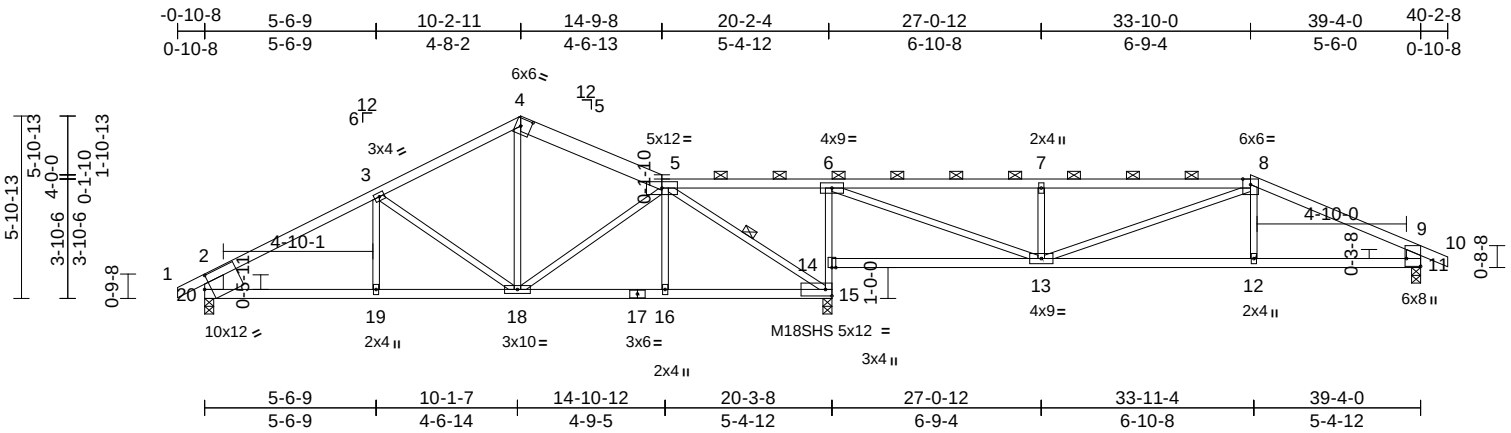
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C4	Roof Special	1	1	I47856942
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:23 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:74.5

Plate Offsets (X, Y): [4:0-3-15,0-3-0], [11:Edge,0-5-8], [20:0-2-7,0-4-14]

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)	-0.12	12-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.26	12-13	>883	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.03	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.10	12-13	>999	240	Weight: 141 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 15-6:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 20-2:2x8 SP DSS, 11-9:2x6 SP 2400F 2.0E

BRACING

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

REACTIONS (lb/size) 11=874/0-3-8, 15=1852/0-3-8, 20=926/0-3-8
Max Horiz 20=101 (LC 8)
Max Uplift 11=-181 (LC 9), 15=-277 (LC 9), 20=-141 (LC 8)
Max Grav 11=879 (LC 22), 15=1852 (LC 1), 20=926 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/37, 2-3=-1191/167, 3-4=-881/152, 4-5=-848/166, 5-6=0/230, 6-7=-1343/326, 7-8=-1345/328, 8-9=-1327/263, 9-10=0/30, 2-20=-825/170, 9-11=-793/205
BOT CHORD 19-20=-172/960, 18-19=-172/960, 16-18=-59/785, 15-16=-57/788, 14-15=-1140/253, 6-14=-1066/287, 13-14=-268/32, 12-13=-179/1139, 11-12=-176/1142
WEBS 3-19=0/159, 3-18=-323/144, 4-18=-36/334, 5-18=-151/100, 5-16=0/229, 5-15=-1222/95, 6-13=-283/1691, 7-13=-526/215, 8-13=-86/219, 8-12=0/213

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 141 lb uplift at joint 20, 181 lb uplift at joint 11 and 277 lb uplift at joint 15.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

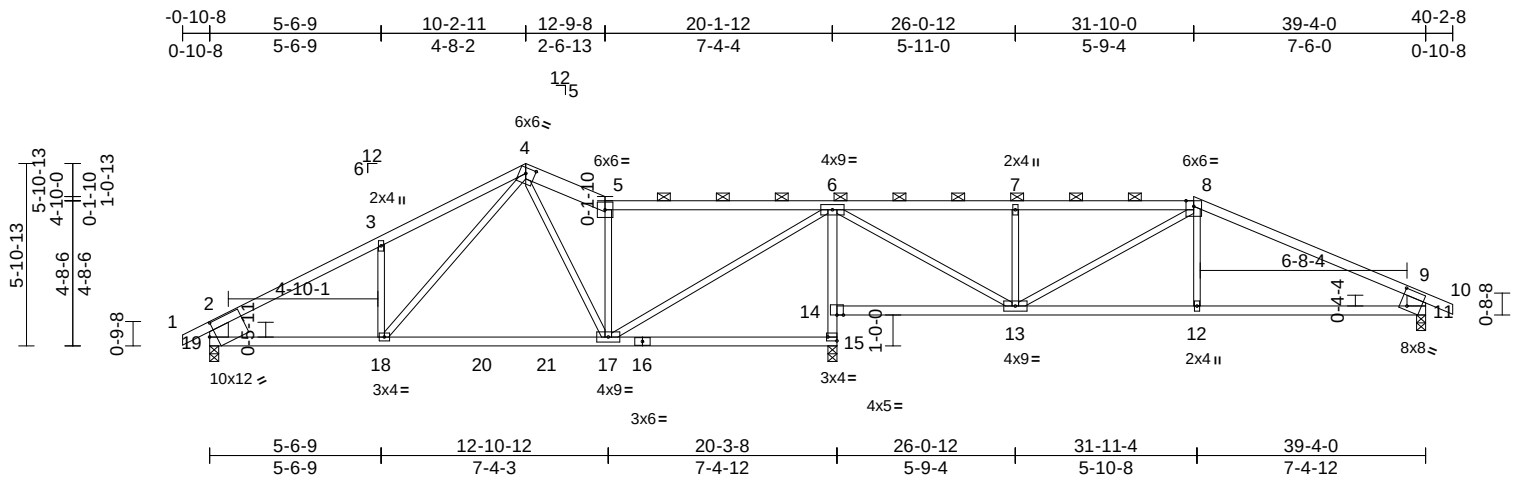
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C5	Roof Special	1	1	I47856943 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:23 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:74.5

Plate Offsets (X, Y): [4:0-3-8,0-2-4], [11:0-2-13,0-6-6], [15:Edge,0-1-8], [19:0-2-7,0-4-14]

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)	-0.16	17-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.28	17-18	>842	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.46	Horz(CT)	-0.02	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	17-18	>999	240	Weight: 142 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 19-2,11-9:2x8 SP DSS

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-9 oc purlins, except end verticals, and 2-0-0 oc purlins (5-8-9 max.): 5-8.
BOT CHORD Rigid ceiling directly applied or 3-5-6 oc bracing.

REACTIONS (lb/size) 11=850/0-3-8, 15=1904/0-3-8, 19=897/0-3-8
Max Horiz 19=101 (LC 8)
Max Uplift 11=-184 (LC 9), 15=-275 (LC 9), 19=-142 (LC 8)
Max Grav 11=863 (LC 24), 15=1973 (LC 2), 19=920 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1212/165, 3-4=-1144/282, 4-5=-932/214, 5-6=-808/154, 6-7=-803/255, 7-8=-805/256, 8-9=-1183/252, 9-10=0/32, 2-19=-809/169, 9-11=-782/229
BOT CHORD 18-19=-171/999, 17-18=-64/691, 15-17=-295/34, 14-15=-1875/312, 6-14=-1780/343, 13-14=-379/50, 12-13=-147/1000, 11-12=-144/1007
WEBS 3-18=-275/206, 4-18=-167/498, 4-17=-111/365, 5-17=-663/230, 6-17=-66/1290, 6-13=-198/1330, 7-13=-413/170, 8-13=-247/22, 8-12=0/261

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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 142 lb uplift at joint 19, 275 lb uplift at joint 15 and 184 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

September 10,2021

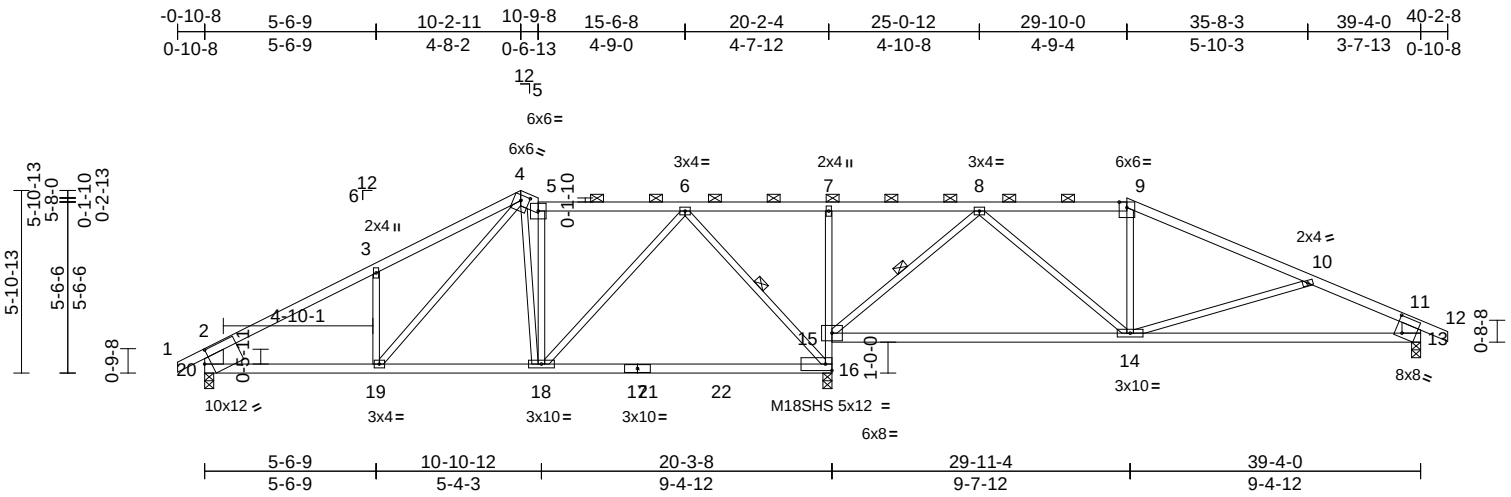
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C6	Roof Special	1	1	I47856944
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:24
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:74.5

Plate Offsets (X, Y): [4:0-3-3,0-2-2], [13:0-2-13,0-6-6], [20:0-2-7,0-4-14]

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	1.00	Vert(LL)	-0.25	16-18	>959	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.44	16-18	>539	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.45	Horz(CT)	-0.04	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.06	14-15	>999	240	Weight: 147 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-5:2x6 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 16-7:2x3 SPF No.2, 15-13:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 20-2,13-11:2x8 SP DSS

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-11-7 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-10-13 oc bracing: 15-16.
WEBS 1 Row at midpt 8-15, 6-16

REACTIONS (lb/size) 13=868/0-3-8, 16=1864/0-3-8, 20=918/0-3-8
Max Horiz 20=101 (LC 8)
Max Uplift 13=-187 (LC 9), 16=-267 (LC 9), 20=-144 (LC 8)
Max Grav 13=887 (LC 24), 16=1931 (LC 2), 20=941 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/37, 2-3=-1203/174, 3-4=-1140/289, 4-5=-883/178, 5-6=-827/152, 6-7=0/207, 7-8=0/220, 8-9=-929/245, 9-10=-1051/222, 10-11=-1279/337, 11-12=0/32, 2-20=-808/175, 11-13=-784/229
BOT CHORD 19-20=-178/998, 18-19=-54/789, 16-18=-53/451, 15-16=-1080/224, 7-15=-346/138, 14-15=-90/542, 13-14=-256/1093
WEBS 3-19=-282/202, 4-19=-194/391, 4-18=-93/458, 6-18=-15/571, 8-15=-971/204, 9-14=-34/152, 5-18=-438/146, 6-16=-950/141, 10-14=-243/184, 8-14=0/518

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 144 lb uplift at joint 20, 187 lb uplift at joint 13 and 267 lb uplift at joint 16.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

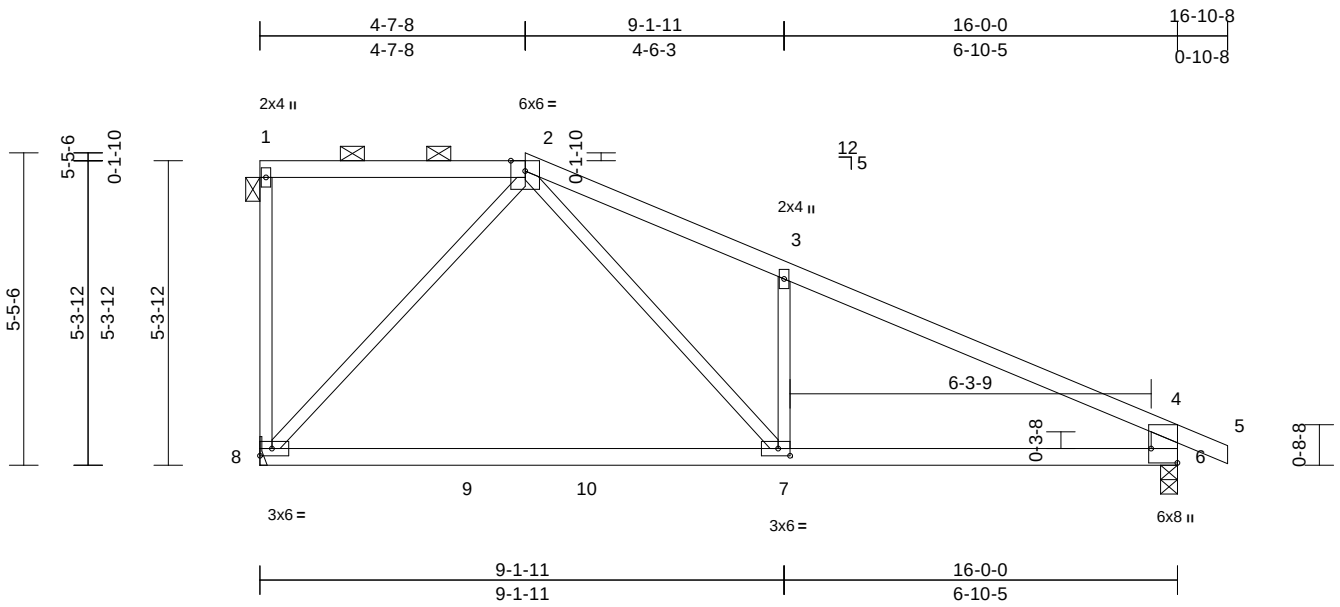
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	C7	Half Hip	1	1	I47856945
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:24
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.25	7-8	>758	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.44	7-8	>432	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	7-8	>999	240	Weight: 56 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except* 6-4:2x6 SP DSS

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

REACTIONS (lb/size) 6=785/0-3-8, 8=702/ Mechanical
Max Horiz 8=-225 (LC 4)
Max Uplift 6=-129 (LC 9), 8=-112 (LC 4)
Max Grav 6=799 (LC 2), 8=745 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-152/68, 1-2=-78/55, 2-3=-1091/247, 3-4=-1135/141, 4-5=0/30, 4-6=-720/165
BOT CHORD 7-8=0/465, 6-7=-53/965
WEBS 2-8=-633/136, 2-7=-165/797, 3-7=-356/226

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) 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 112 lb uplift at joint 8 and 129 lb uplift at joint 6.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

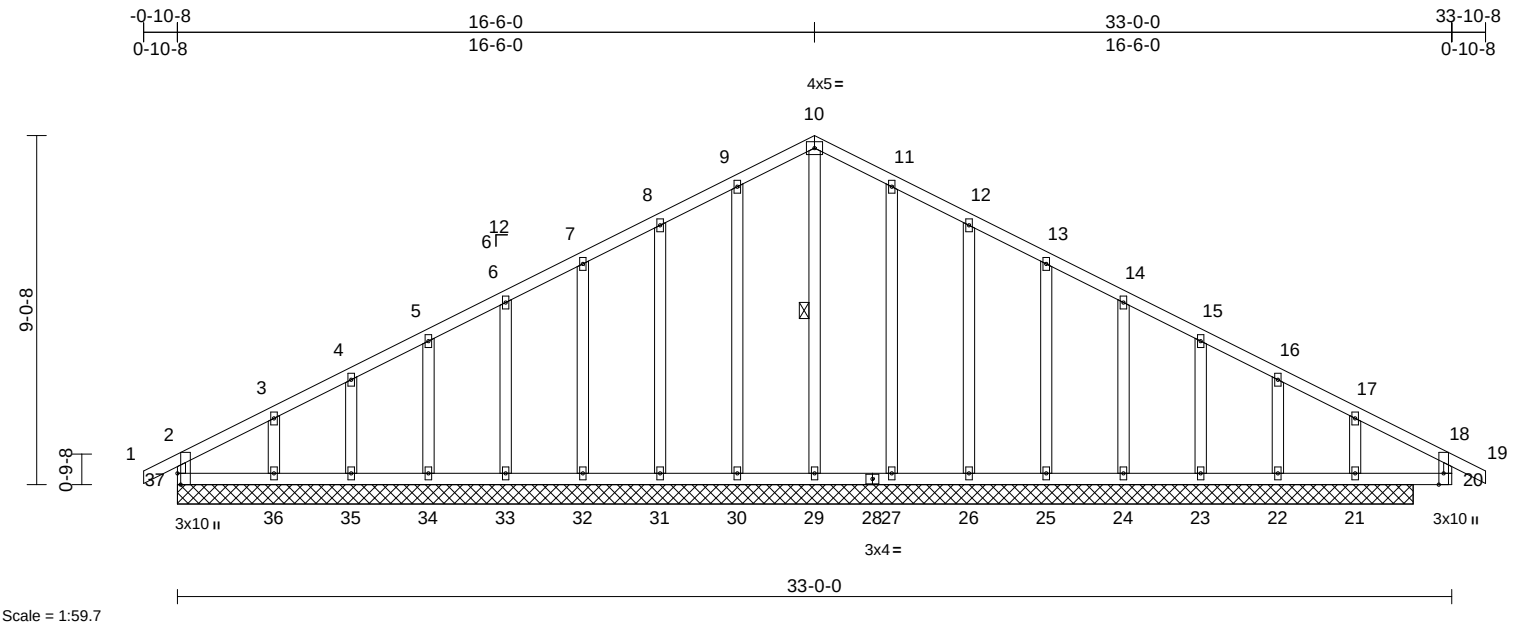
LOAD CASE(S) Standard

September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D1	GABLE	1	1	I47856946 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:24 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:59.7

Plate Offsets (X, Y): [37:0-3-8,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	0.23	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.17	Horz(CT)	-0.01	21	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 164 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 10-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 10-29

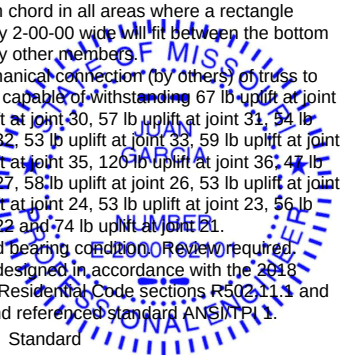
REACTIONS (lb/size) 21=399/32-0-0, 22=52/32-0-0, 23=212/32-0-0, 24=172/32-0-0, 25=183/32-0-0, 26=175/32-0-0, 27=195/32-0-0, 29=311/32-0-0, 30=195/32-0-0, 31=175/32-0-0, 32=181/32-0-0, 33=178/32-0-0, 34=187/32-0-0, 35=154/32-0-0, 36=265/32-0-0, 37=54/32-0-0
Max Horiz 37=-135 (LC 13)
Max Uplift 21=-74 (LC 9), 22=-56 (LC 9), 23=-53 (LC 9), 24=-54 (LC 9), 25=-53 (LC 9), 26=-58 (LC 9), 27=-47 (LC 9), 30=-51 (LC 8), 31=-57 (LC 8), 32=-54 (LC 8), 33=-53 (LC 8), 34=-59 (LC 8), 35=-34 (LC 8), 36=-120 (LC 8), 37=-67 (LC 4)
Max Grav 21=399 (LC 1), 22=59 (LC 16), 23=212 (LC 1), 24=172 (LC 22), 25=183 (LC 1), 26=175 (LC 1), 27=197 (LC 22), 29=332 (LC 18), 30=195 (LC 1), 31=177 (LC 21), 32=181 (LC 1), 33=179 (LC 21), 34=187 (LC 1), 35=166 (LC 21), 36=265 (LC 1), 37=131 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-37=-118/69, 1-2=0/31, 2-3=-154/235, 3-4=-88/222, 4-5=-52/238, 5-6=-23/246, 6-7=0/256, 7-8=0/265, 8-9=0/277, 9-10=0/277, 10-11=0/269, 11-12=0/255, 12-13=0/228, 13-14=0/205, 14-15=0/202, 15-16=0/208, 16-17=-13/181, 17-18=-68/230, 18-19=0/31, 18-20=-28/20
BOT CHORD 36-37=-153/86, 35-36=-153/86, 34-35=-153/86, 33-34=-153/86, 32-33=-153/86, 31-32=-153/86, 30-31=-153/86, 29-30=-153/86, 27-29=-153/86, 26-27=-153/86, 25-26=-153/86, 24-25=-153/86, 23-24=-153/86, 22-23=-153/86, 21-22=-153/86, 20-21=-153/86
WEBS 10-29=-292/0, 9-30=-155/75, 8-31=-137/81, 7-32=-141/78, 6-33=-140/77, 5-34=-143/81, 4-35=-132/65, 3-36=-188/122, 11-27=-157/71, 12-26=-135/82, 13-25=-141/77, 14-24=-137/78, 15-23=-154/78, 16-22=-80/76, 17-21=-251/98

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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 37, 51 lb uplift at joint 30, 57 lb uplift at joint 31, 54 lb uplift at joint 32, 53 lb uplift at joint 33, 59 lb uplift at joint 34, 34 lb uplift at joint 35, 120 lb uplift at joint 36, 47 lb uplift at joint 27, 58 lb uplift at joint 26, 53 lb uplift at joint 25, 54 lb uplift at joint 24, 53 lb uplift at joint 23, 56 lb uplift at joint 22 and 74 lb uplift at joint 21.
10) Non Standard bearing condition. Review required.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



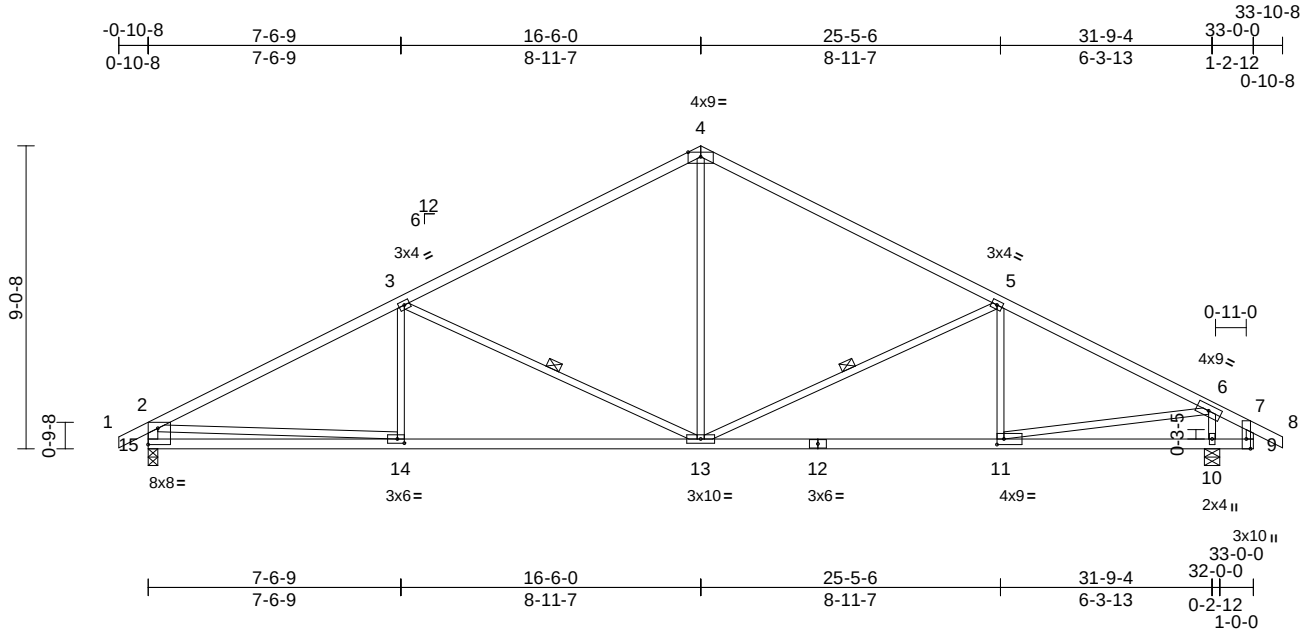
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D2	Common	7	1	I47856947 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:25 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:68.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.14	11-13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.31	11-13	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.06	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	13-14	>999	240	Weight: 123 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-2:2x4 SPF 2100F 1.8E

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-13, 5-13

REACTIONS (lb/size) 10=1597/0-5-8, 15=1490/0-3-8
Max Horiz 15=-135 (LC 9)
Max Uplift 10=-213 (LC 8), 15=-203 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-2347/300, 3-4=-1629/246, 4-5=-1628/254, 5-6=-2064/262, 6-7=-89/8, 7-8=0/31, 2-15=-1418/241, 7-9=-58/0
BOT CHORD 14-15=-257/605, 13-14=-308/2004, 11-13=-135/1775, 10-11=0/82, 9-10=0/82
WEBS 3-14=0/264, 3-13=-803/287, 4-13=-25/732, 5-13=-583/252, 5-11=-155/125, 6-11=-154/1738, 6-10=-1457/263, 2-14=-51/1403

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 203 lb uplift at joint 15 and 213 lb uplift at joint 10.
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

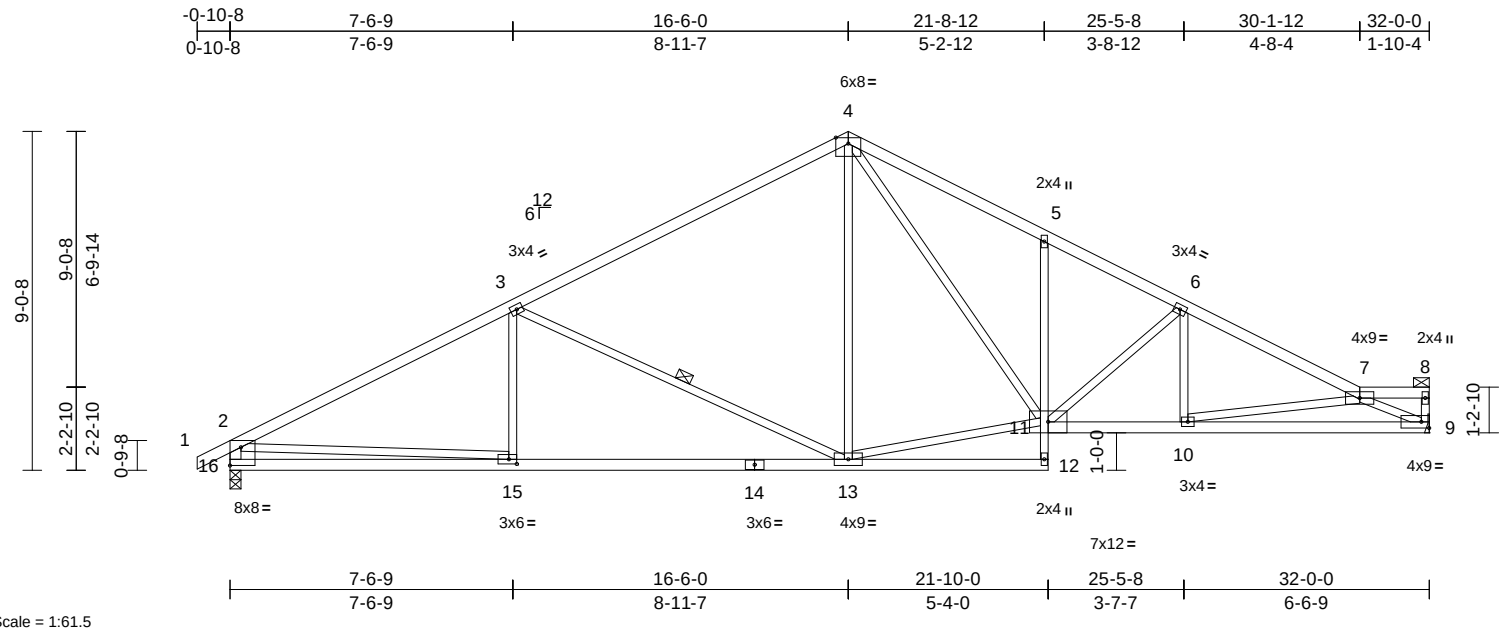
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D3	Roof Special	5	1	I47856948 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:25 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61.5

Plate Offsets (X, Y): [15:0-2-8,0-1-8], [16:Edge,0-5-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.16	13-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.38	13-15	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.10	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	5-11	>999	240	Weight: 131 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* 12-5:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 16-2:2x4 SPF 2100F 1.8E

BRACING

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

REACTIONS (lb/size) 9=1428/ Mechanical, 16=1501/0-3-8
Max Horiz 16=134 (LC 5)
Max Uplift 9=-15 (LC 9), 16=-29 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-2376/48, 3-4=-1642/71, 4-5=-2233/128, 5-6=-2229/51, 6-7=-2620/22, 7-8=-88/0, 8-9=-78/9, 2-16=-1430/66
BOT CHORD 15-16=-145/590, 13-15=-74/2031, 12-13=0/73, 11-12=0/66, 5-11=-318/107, 10-11=0/2303, 9-10=-71/2515
WEBS 3-15=0/275, 3-13=-811/135, 4-13=0/375, 11-13=0/1282, 4-11=-104/1073, 6-11=-486/44, 6-10=0/261, 7-10=-245/89, 7-9=-2773/102, 2-15=0/1445

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.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 9 and 29 lb uplift at joint 16.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

September 10,2021

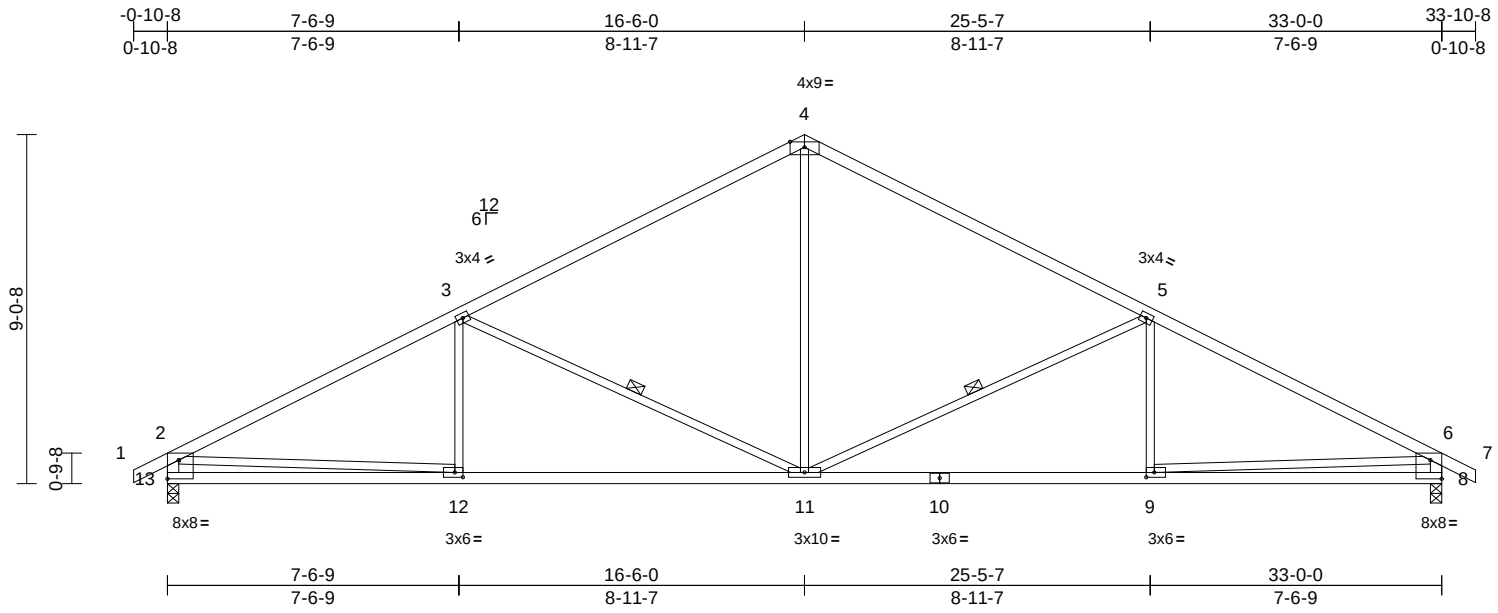
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D4	Common	2	1	I47856949
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:25 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:59.7

Plate Offsets (X, Y): [8:Edge,0-5-13], [9:0-2-8,0-1-8], [12:0-2-8,0-1-8], [13:Edge,0-5-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.13	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.31	11-12	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.08	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	11-12	>999	240	Weight: 124 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-2,8-6:2x4 SPF 2100F 1.8E

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 5-11, 3-11

REACTIONS (lb/size) 8=1543/0-3-8, 13=1543/0-3-8
Max Horiz 13=-134 (LC 9)
Max Uplift 8=-206 (LC 9), 13=-206 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-2450/305, 3-4=-1739/261, 4-5=-1739/261, 5-6=-2450/305, 6-7=0/32, 2-13=-1470/243, 6-8=-1470/243
BOT CHORD 12-13=-258/617, 11-12=-313/2095, 9-11=-179/2095, 8-9=-135/617
WEBS 4-11=-32/832, 5-11=-798/286, 5-9=0/261, 3-11=-798/286, 3-12=0/261, 2-12=-55/1482, 6-9=-43/1482

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 206 lb uplift at joint 13 and 206 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.

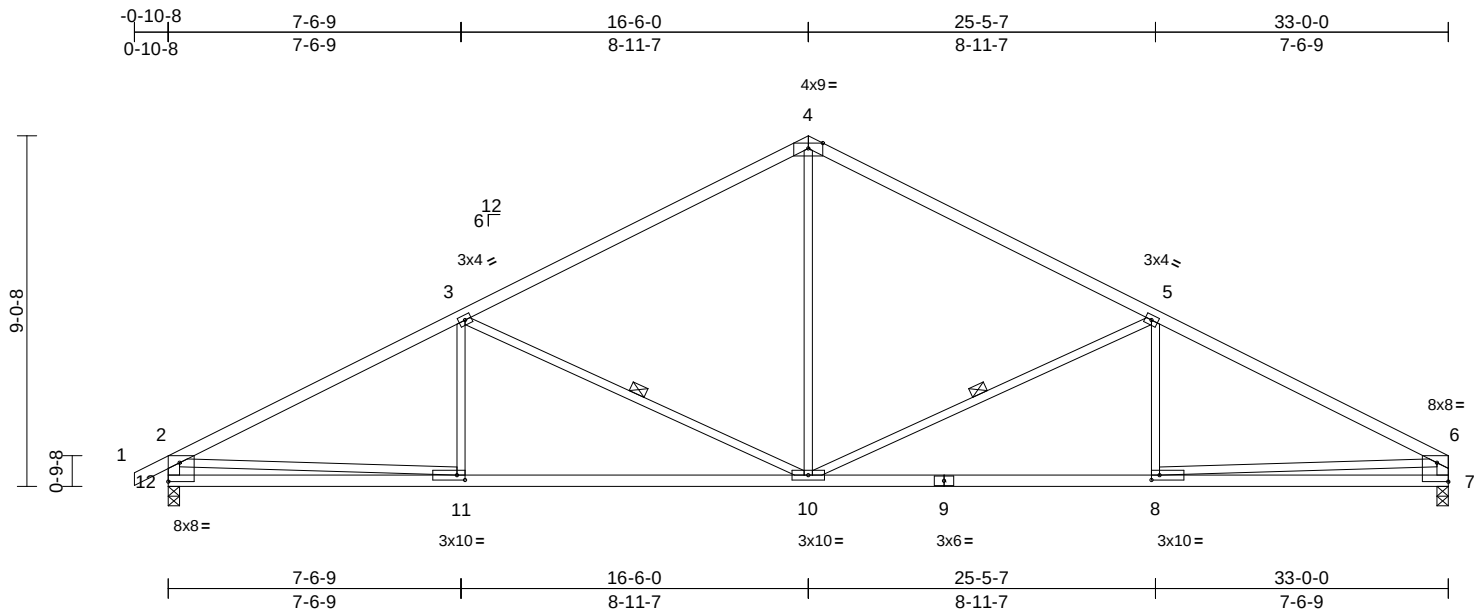
LOAD CASE(S) Standard

September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D5	Common	1	1	I47856950 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:26 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:59.4

Plate Offsets (X, Y): [6:Edge,0-5-13], [8:0-2-8,0-1-8], [11:0-2-8,0-1-8], [12:Edge,0-5-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.13	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.32	8-10	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.07	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	10-11	>999	240	Weight: 123 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 12-2,7-6:2x4 SPF 2100F 1.8E

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 5-10, 3-10

REACTIONS (lb/size) 7=1471/0-3-8, 12=1544/0-3-8
Max Horiz 12=143 (LC 8)
Max Uplift 7=-182 (LC 9), 12=-206 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/32, 2-3=-2452/305, 3-4=-1741/261, 4-5=-1743/261, 5-6=-2455/306, 2-12=-1471/243, 6-7=-1397/219
BOT CHORD 11-12=-266/617, 10-11=-322/2098, 8-10=-200/2108, 7-8=-88/479
WEBS 4-10=-34/837, 5-10=-810/289, 5-8=0/255, 3-10=-798/286, 3-11=0/261, 2-11=-56/1485, 6-8=-112/1634

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 206 lb uplift at joint 12 and 182 lb uplift at joint 7.
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

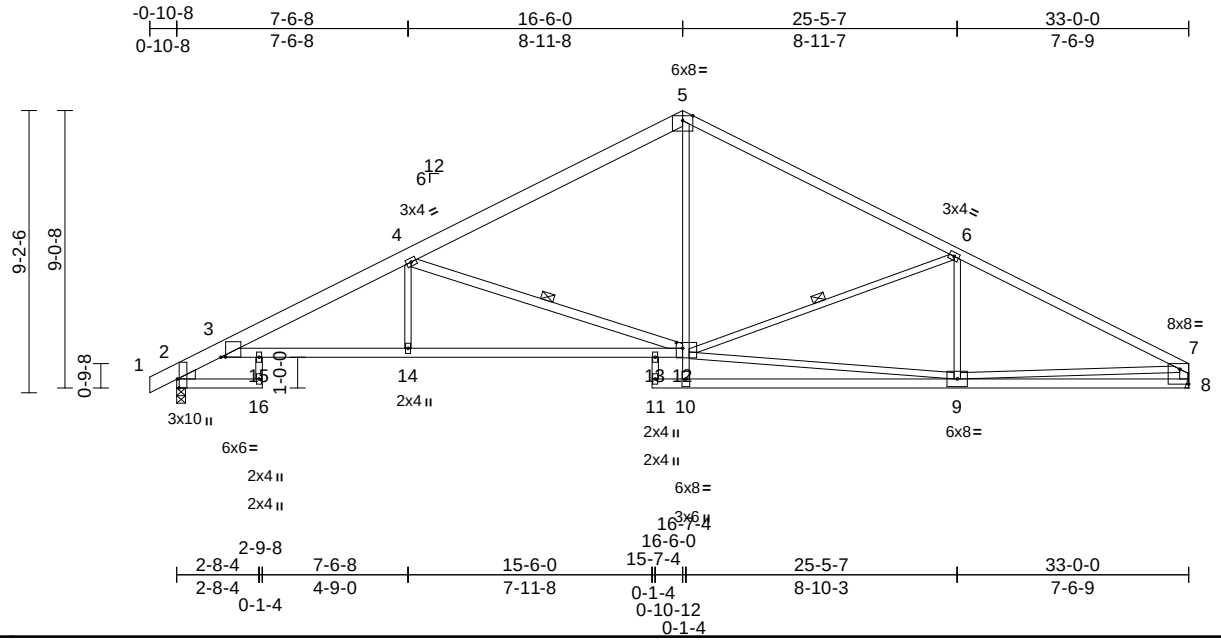
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D6	Roof Special	1	1	I47856951
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:27 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:75.1

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-1-13,0-0-1], [7:Edge,0-5-13], [12:0-2-8,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.26	14-15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.48	14-15	>826	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.71	Horz(CT)	0.31	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.15	14-15	>999	240	Weight: 153 lb	FT = 10%

LUMBER

TOP CHORD	2x6 SP 2400F 2.0E *Except* 5-7:2x4 SPF 2100F 1.8E
BOT CHORD	2x4 SPF No.2 *Except* 3-12:2x4 SPF 2100F 1.8E
WEBS	2x3 SPF No.2 *Except* 12-4,8-7:2x4 SPF No.2
WEDGE	Left: 2x4 SPF No.2

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.
WEBS	1 Row at midpt 4-12, 6-12

REACTIONS (lb/size) 2=1544/0-3-8, 8=1471/ Mechanical
Max Horiz 2=111 (LC 5)
Max Uplift 2=-28 (LC 8), 8=-17 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/3, 2-3=-921/47, 3-4=-3212/68, 4-5=-1969/55, 5-6=-1947/64, 6-7=-2455/47, 7-8=-1396/55
BOT CHORD	2-16=0/0, 3-15=-80/2904, 14-15=-80/2904, 13-14=-80/2904, 12-13=-80/2904, 10-11=0/0, 9-10=0/67, 8-9=-24/474
WEBS	15-16=0/85, 11-13=-270/0, 4-14=0/375, 4-12=-1368/169, 10-12=0/499, 5-12=0/1050, 6-12=-622/149, 6-9=-197/102, 7-9=0/1638, 9-12=0/2070

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) 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) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 2 and 17 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

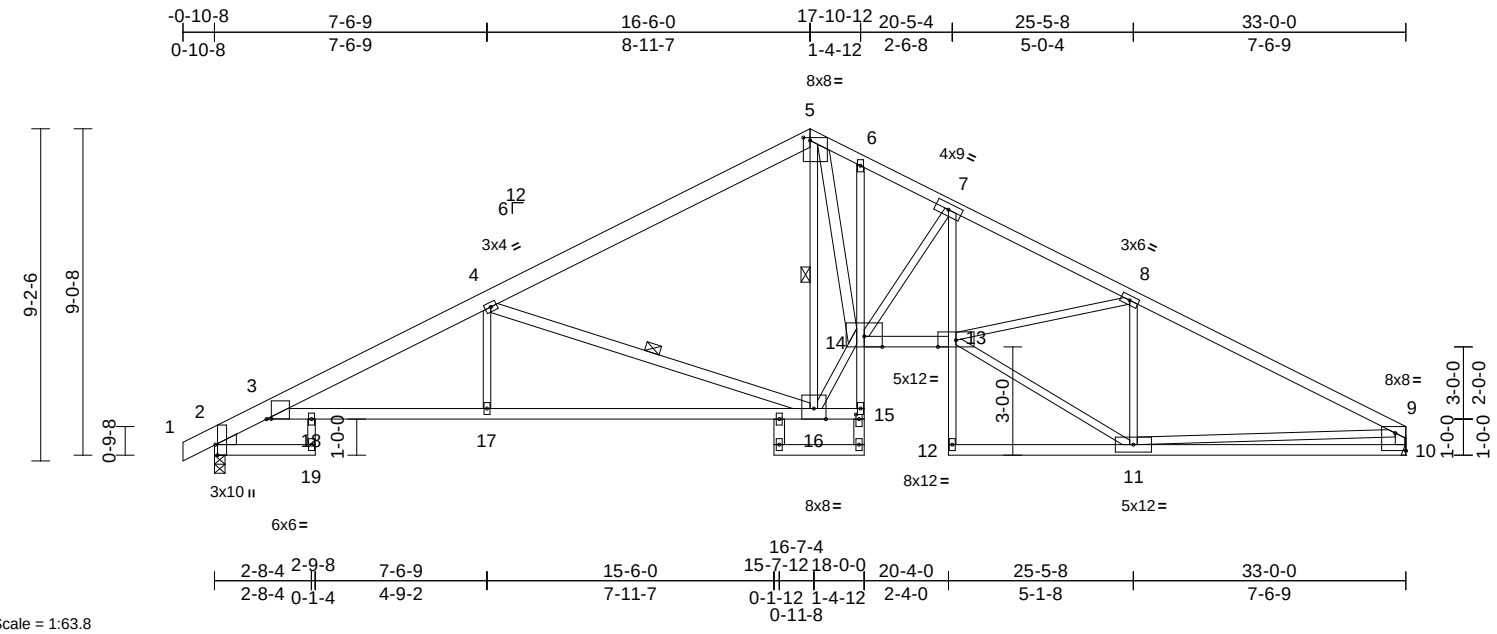
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D7	Roof Special	1	1	I47856952 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:27 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:63.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-1-9,0-0-1], [5:0-5-12,Edge], [9:Edge,0-5-13], [15:0-1-8,0-1-0]

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	0.71	Vert(LL)	-0.32	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.58	13-14	>678	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.54	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.16	17-18	>999	240	Weight: 172 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 5-9:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 3-15:2x4 SPF 2100F 1.8E, 15-6,7-12:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 16-4,14-5,20-22,21-15:2x4 SPF No.2, 10-9:2x4 SPF 2100F 1.8E

WEDGE Left: 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins, except end verticals.

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

WEBS 1 Row at midpt 4-16, 5-16

REACTIONS (lb/size) 2=1544/0-3-8, 10=1471/ Mechanical
Max Horiz 2=112 (LC 7)
Max Uplift 2=-28 (LC 8), 10=-17 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/3, 2-3=-921/47, 3-4=-3222/68, 4-5=-1957/51, 5-6=-2537/30, 6-7=-2682/32, 7-8=-3578/0, 8-9=-2411/39, 9-10=-1392/58

BOT CHORD 2-19=0/0, 3-18=-80/2917, 17-18=-80/2917, 16-17=-80/2917, 15-16=-1/63, 14-15=-182/0, 6-14=-23/171, 13-14=0/3119, 12-13=0/72, 7-13=0/1255, 11-12=0/21, 10-11=-42/568

WEBS 18-19=0/85, 4-17=0/373, 4-16=-1399/168, 5-16=-1676/0, 14-16=0/2799, 5-14=0/3234, 7-14=-1377/42, 11-13=0/2397, 8-13=0/1083, 8-11=-1252/65, 9-11=0/1492

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) 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.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 2 and 17 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

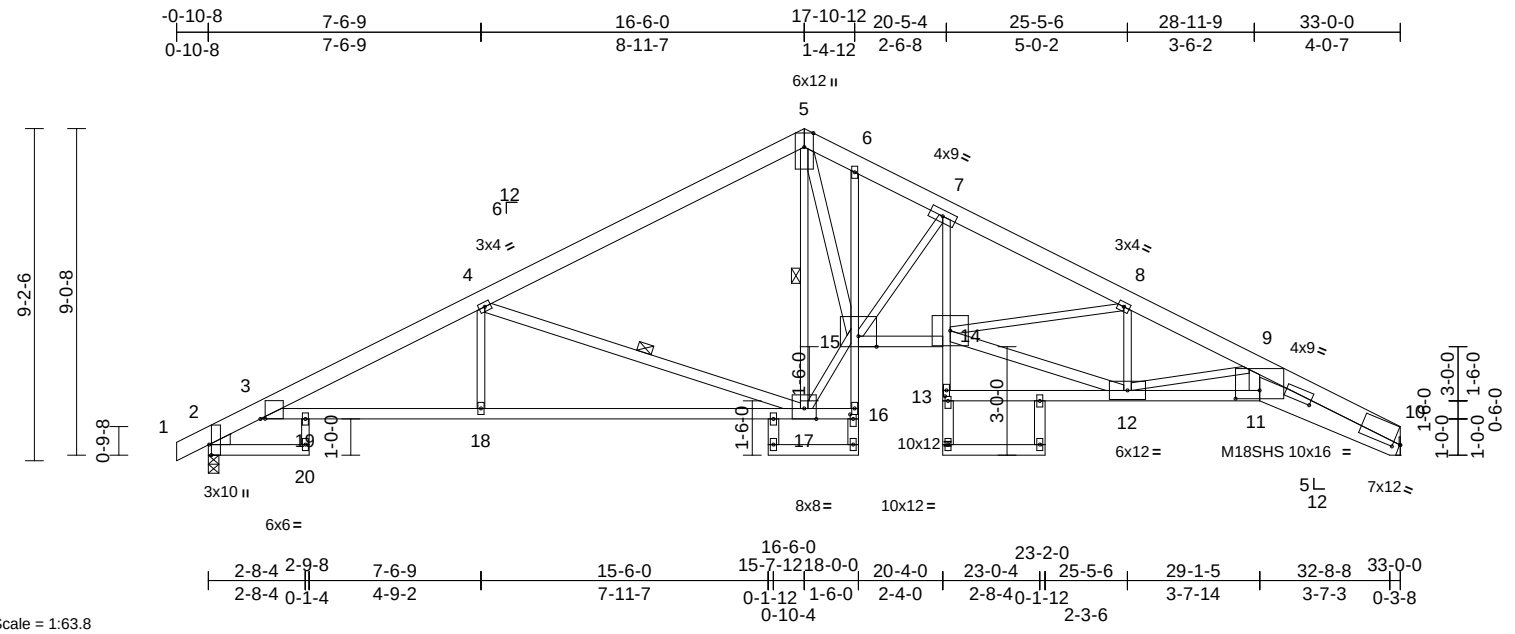
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D8	Roof Special	1	1	I47856953 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:29 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:63.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-1-9,0-0-1], [10:0-2-6,0-1-8], [10:2-9-0,0-0-9], [11:0-8-0,0-2-12], [13:0-1-8,0-1-0], [16:0-1-8,0-1-0]

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	0.85	Vert(LL)	-0.43	14-15	>906	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.78	14-15	>505	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.73	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.19	14-15	>999	240	Weight: 194 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 5-10:2x6 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 3-16,13-11:2x4 SPF 2100F 1.8E, 16-6,7-13:2x3 SPF No.2, 11-10:2x8 SP DSS

WEBS 2x3 SPF No.2 *Except* 17-4,15-5,12-14,11-9,21-23,22-16,24-13,25-2 6:2x4 SPF No.2

WEDGE Left: 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-10-4 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 15-16.
10-0-0 oc bracing: 16-17

WEBS 1 Row at midpt 4-17, 5-17

REACTIONS (lb/size) 2=1548/0-3-8, 10=1475/ Mechanical
Max Horiz 2=100 (LC 5)
Max Uplift 2=-28 (LC 8), 10=-18 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/3, 2-3=-923/60, 3-4=-3228/66, 4-5=-1984/49, 5-6=-2530/25, 6-7=-2729/32, 7-8=-3729/0, 8-9=-3644/19, 9-10=-6599/17

BOT CHORD 2-20=0/0, 3-19=-77/2921, 18-19=-77/2921, 17-18=-77/2921, 16-17=-1/54, 15-16=-157/0, 6-15=-33/260, 14-15=0/3261, 13-14=0/85, 7-14=0/1389, 12-13=0/60, 11-12=0/5150, 10-11=0/5964

WEBS 19-20=0/85, 4-18=0/372, 4-17=-1371/162, 5-17=-1601/0, 15-17=0/2752, 5-15=0/3070, 7-15=-1533/40, 12-14=0/3427, 8-14=-202/120, 8-12=-546/33, 9-12=-1901/63, 9-11=0/2284

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) All plates are MT20 plates unless otherwise indicated.
4) All plates are 2x4 MT20 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) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 10 and 28 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

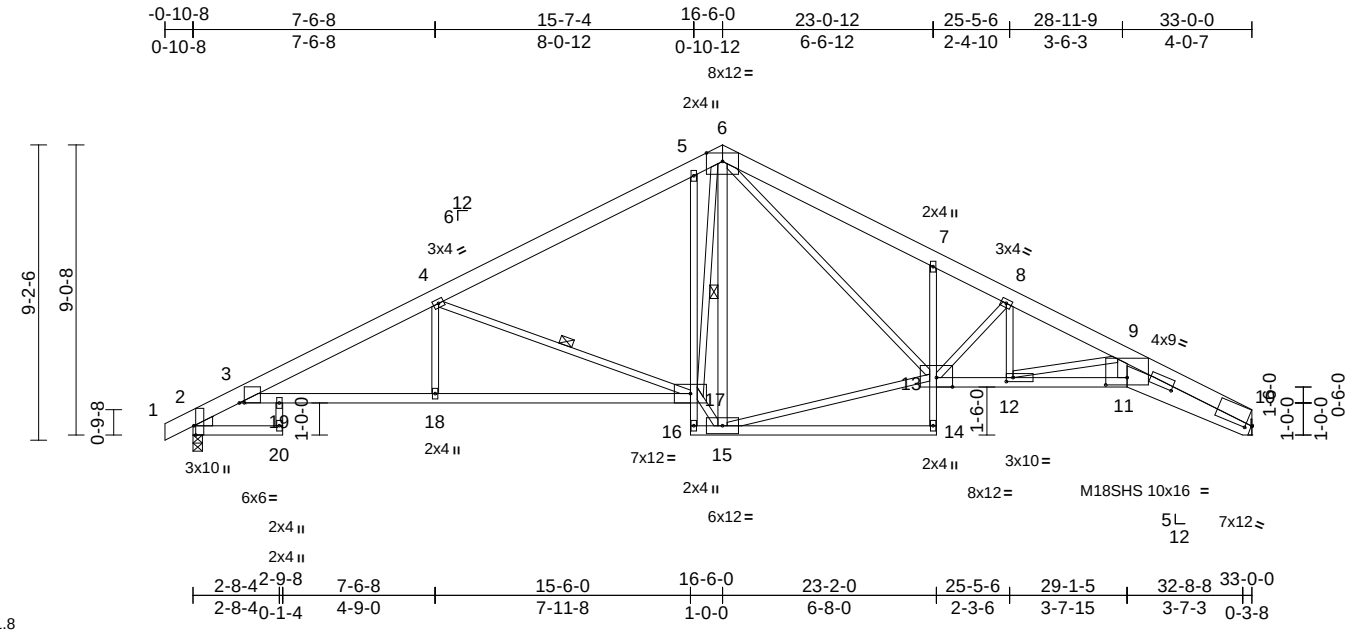
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D9	Roof Special	2	1	I47856954 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:29 Page: 1

ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:71.8

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-1-13,0-0-1], [10:0-2-6,0-1-8], [10:2-9-0,0-0-9], [11:0-8-0,0-2-12], [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	0.85	Vert(LL)	-0.37	13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.69	17-18	>567	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.94	Horz(CT)	0.63	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.17	17-18	>999	240	Weight: 186 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 6-10:2x6 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 3-17,13-11:2x4 SPF 2100F 1.8E, 5-16,14-7:2x3 SPF No.2, 11-10:2x8 SP DSS

WEBS 2x3 SPF No.2 *Except* 15-6,11-9:2x4 SPF No.2

WEDGE Left: 2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-9-15 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 16-17,15-16.

WEBS 1 Row at midpt 4-17, 6-15

REACTIONS (lb/size) 2=1548/0-3-8, 10=1475/ Mechanical
Max Horiz 2=100 (LC 5)
Max Uplift 2=-28 (LC 8), 10=-18 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/3, 2-3=-924/60, 3-4=-3234/59, 4-5=-2028/53, 5-6=-1698/121, 6-7=-3000/135, 7-8=-3011/38, 8-9=-3647/18, 9-10=-6584/19

BOT CHORD 2-20=0/0, 3-19=-68/2923, 18-19=-68/2923, 17-18=-68/2923, 16-17=-241/0, 5-17=-37/316, 15-16=-37/98, 14-15=0/77, 13-14=0/104, 7-13=-247/133, 12-13=0/3312, 11-12=0/5138, 10-11=0/5949

WEBS 19-20=0/86, 4-18=0/385, 4-17=-1348/136, 15-17=0/2030, 6-17=-86/1752, 6-15=-1551/0, 13-15=0/1413, 6-13=-94/1732, 8-13=-1021/12, 8-12=0/576, 9-12=-1886/73, 9-11=0/2273

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) 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) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 10 and 28 lb uplift at joint 2.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

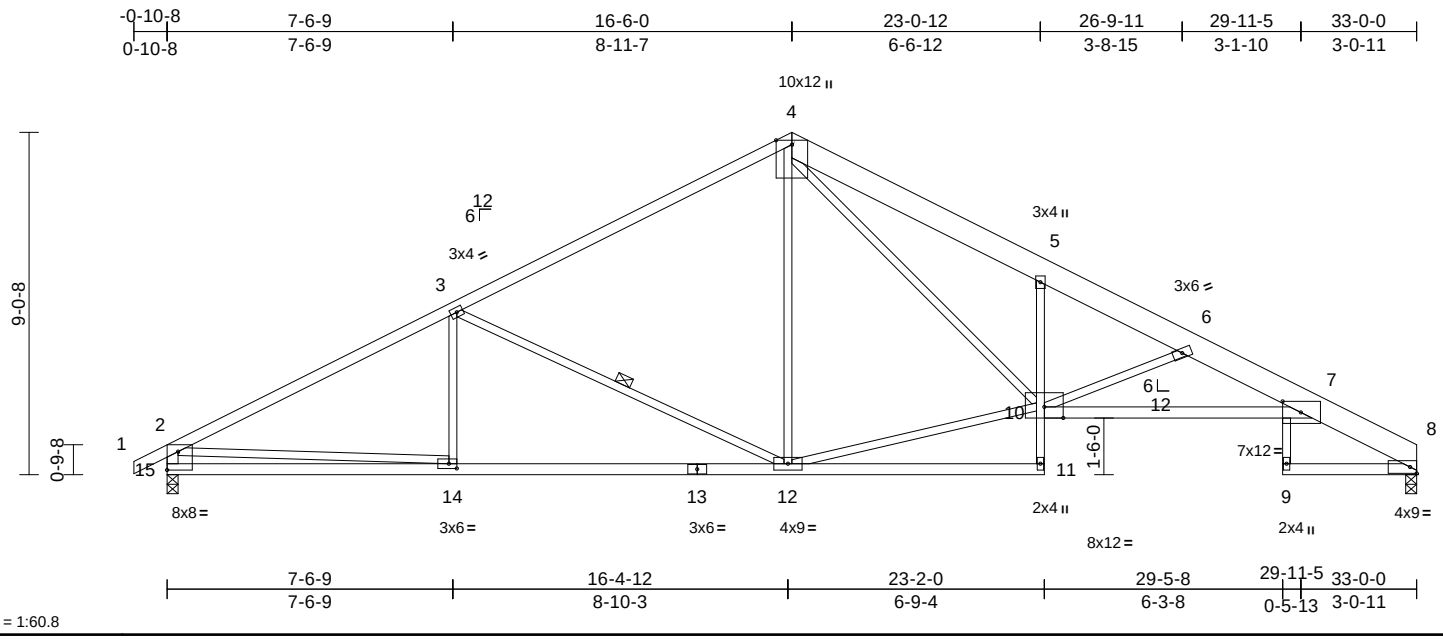
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D10	Roof Special	1	1	I47856955 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:30 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:60.8

Plate Offsets (X, Y): [7:0-5-13,0-3-8], [14:0-2-8,0-1-8], [15:Edge,0-5-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.32	9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.66	7-10	>599	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.42	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.22	9	>999	240	Weight: 164 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 4-8:2x8 SP DSS

BOT CHORD 2x4 SPF No.2 *Except* 11-5:2x3 SPF No.2, 10-7:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 15-2:2x4 SPF 2100F 1.8E

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, Except:
6-0-0 oc bracing: 8-9.

WEBS 1 Row at midpt 3-12

REACTIONS (lb/size) 8=1485/0-3-8, 15=1546/0-3-8
Max Horiz 15=-145 (LC 9)
Max Uplift 8=-174 (LC 9), 15=-206 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-2456/302, 3-4=-1755/258, 4-5=-3042/476, 5-6=-3076/334, 6-7=-4200/477, 7-8=-773/131, 2-15=-1474/243

BOT CHORD 14-15=-270/616, 12-14=-315/2101, 11-12=-7/32, 10-11=0/103, 5-10=-342/229, 7-10=-356/4139, 8-9=-35/0

WEBS 7-9=0/80, 4-12=-4/331, 10-12=-62/1446, 4-10=-318/1791, 3-14=0/264, 3-12=-769/274, 6-10=-1603/258, 2-14=-44/1489

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 174 lb uplift at joint 8 and 206 lb uplift at joint 15.
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

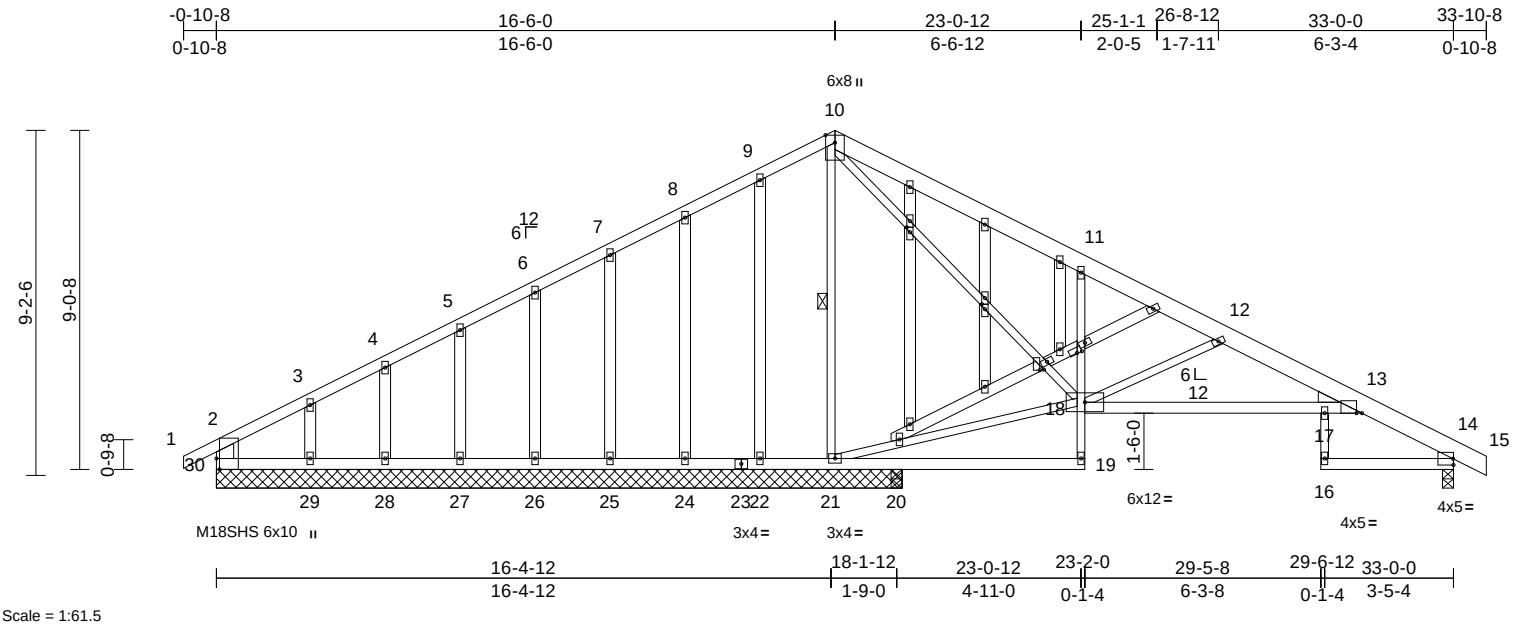
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	D11	Roof Special Structural Gable	1	1	I47856956
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:31 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61.5

Plate Offsets (X, Y): [13:0-1-12,Edge], [30:0-3-8,Edge], [32:0-1-10,0-0-4], [33:0-0-3,0-1-5], [37:0-1-10,0-1-0], [40:0-1-10,0-1-0]

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	0.67	Vert(LL)	-0.12	17-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.27	17-18	>642	240	M18SHS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.11	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.09	17-18	>999	240	Weight: 186 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 10-15:2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 19-11:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 30-2:2x6 SPF No.2, 31-32,32-33,33-34:2x4 SPF No.2
OTHERS 2x4 SPF No.2
WEDGE Right: 2x4 SP No.3

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, Except:
10-0-0 oc bracing: 18-19,14-16.
10-0-0 oc bracing: 17-18
WEBS 1 Row at midpt 10-21

REACTIONS (lb/size) 14=424/0-3-8, 20=158/0-3-8, 21=1388/18-3-8, 22=214/18-3-8, 24=158/18-3-8, 25=186/18-3-8, 26=173/18-3-8, 27=204/18-3-8, 28=86/18-3-8, 29=500/18-3-8, 30=-406/18-3-8
Max Horiz 30=-147 (LC 13)
Max Uplift 14=-110 (LC 9), 21=-230 (LC 9), 22=-34 (LC 8), 24=-59 (LC 8), 25=-53 (LC 8), 26=-53 (LC 8), 27=-60 (LC 8), 28=-31 (LC 8), 29=-133 (LC 8), 30=-525 (LC 22)
Max Grav 14=424 (LC 1), 20=239 (LC 3), 21=1388 (LC 1), 22=214 (LC 1), 24=168 (LC 21), 25=186 (LC 1), 26=177 (LC 21), 27=204 (LC 1), 28=136 (LC 21), 29=500 (LC 1), 30=87 (LC 9)

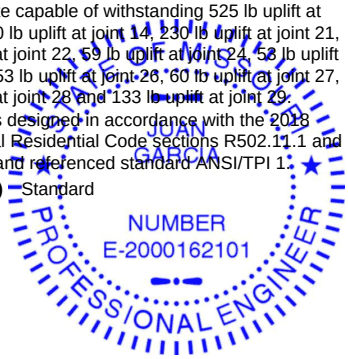
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/35, 2-3=-184/886, 3-4=-115/800, 4-5=-76/825, 5-6=-39/819, 6-7=-13/820, 7-8=0/818, 8-9=0/826, 9-10=0/818, 10-11=0/312, 11-12=0/247, 12-13=-293/139, 13-14=-180/79, 14-15=0/3, 2-30=-58/451
BOT CHORD 29-30=-706/283, 28-29=-706/283, 27-28=-706/283, 26-27=-706/283, 25-26=-706/283, 24-25=-706/283, 22-24=-706/283, 21-22=-706/283, 20-21=-45/0, 19-20=-45/0, 18-19=0/74, 11-18=-389/242, 17-18=-48/290, 13-17=-48/290, 14-16=0/0
WEBS 16-17=0/61, 10-21=-1290/178, 18-21=-668/289, 10-18=-244/776, 12-18=-505/156, 9-22=-158/62, 8-24=-131/82, 7-25=-144/77, 6-26=-138/77, 5-27=-153/81, 4-28=-115/63, 3-29=-332/130

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 MT20 plates unless otherwise indicated.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 525 lb uplift at joint 30, 110 lb uplift at joint 14, 230 lb uplift at joint 21, 34 lb uplift at joint 22, 59 lb uplift at joint 24, 53 lb uplift at joint 25, 53 lb uplift at joint 26, 60 lb uplift at joint 27, 31 lb uplift at joint 28 and 133 lb uplift at joint 29.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



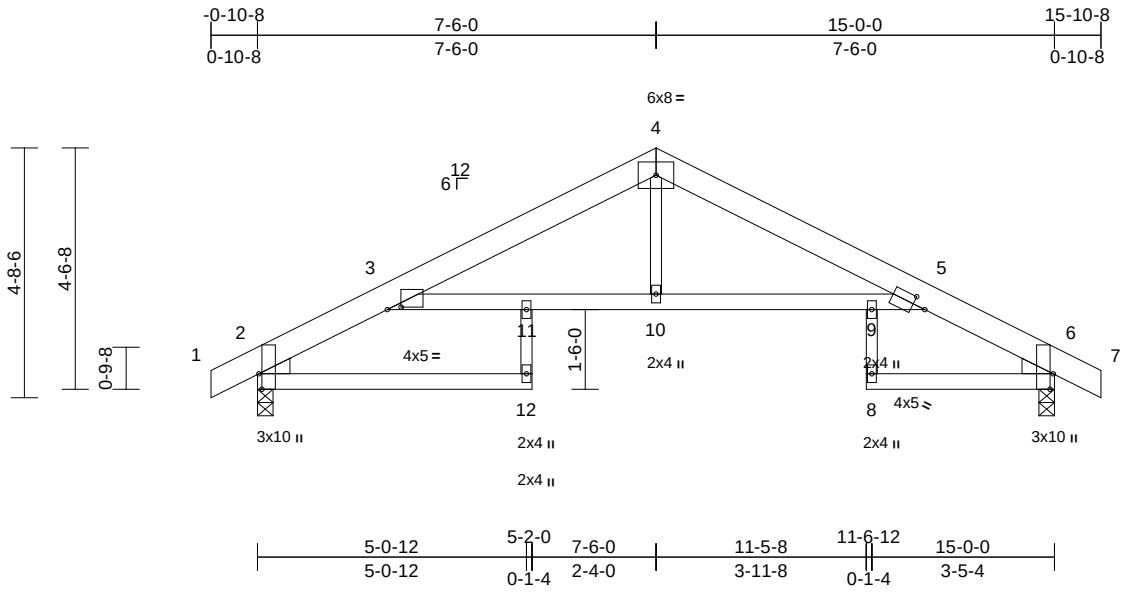
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	E1	Roof Special	1	1	I47856957
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:31
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.4

Plate Offsets (X, Y): [2:0-3-8,Edge], [3:0-3-1,0-0-9], [5:0-2-15,0-1-13], [6:0-3-8,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	0.70	Vert(LL)	-0.28	9-10	>629	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.51	9-10	>347	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.55	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.21	3-11	>857	240	Weight: 61 lb	FT = 10%

LUMBER

TOP CHORD	2x6 SPF 1650F 1.4E
BOT CHORD	2x4 SPF No.2
WEBS	2x3 SPF No.2
WEDGE	Left: 2x4 SPF No.2 Right: 2x4 SPF No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-7-1 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 10-0-0 oc bracing: 9-10

REACTIONS (lb/size) 2=733/0-3-8, 6=733/0-3-8
Max Horiz 2=-74 (LC 13)
Max Uplift 2=-105 (LC 8), 6=-105 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/3, 2-3=-348/116, 3-4=-1226/104, 4-5=-1224/140, 5-6=-363/76, 6-7=0/3
BOT CHORD	2-12=0/0, 3-11=-53/1119, 10-11=-53/1119, 9-10=-53/1119, 5-9=-53/1119, 6-8=0/0
WEBS	11-12=0/103, 8-9=0/82, 4-10=0/354

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 105 lb uplift at joint 2 and 105 lb uplift at joint 6.
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

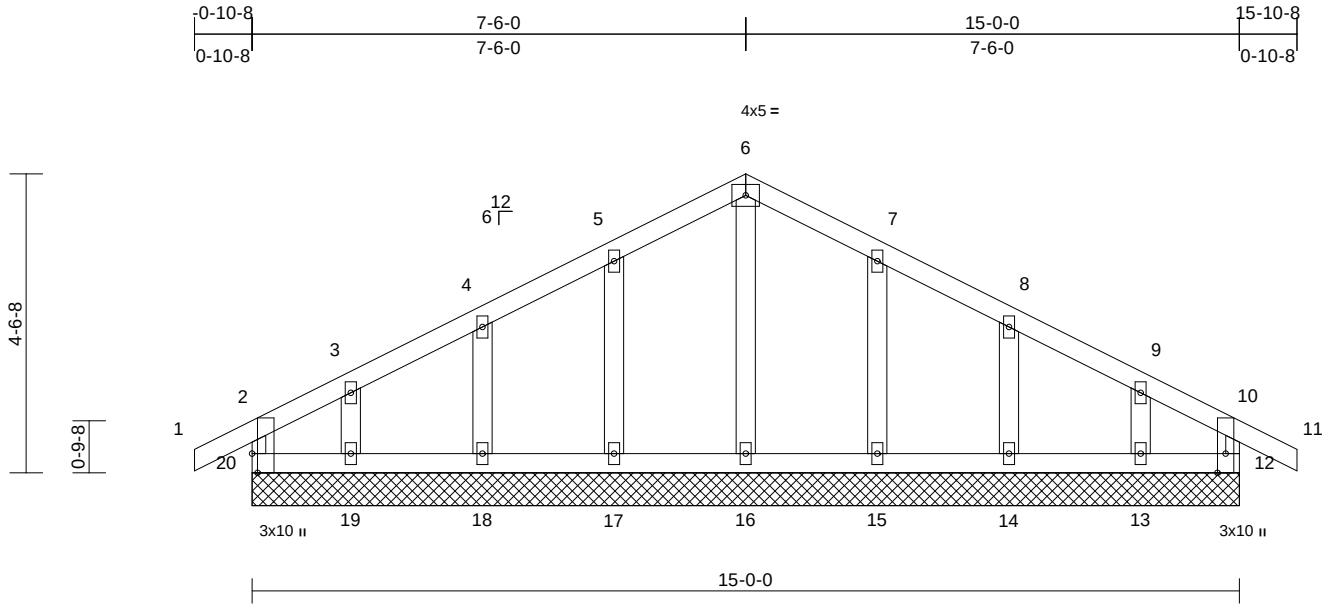
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	E2	Common Supported Gable	1	1	I47856958
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:32
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35

Plate Offsets (X, Y): [20:0-3-8,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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 57 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 6-0-0 oc bracing.

REACTIONS (lb/size) 12=136/15-0-0, 13=140/15-0-0, 14=186/15-0-0, 15=187/15-0-0, 16=173/15-0-0, 17=187/15-0-0, 18=186/15-0-0, 19=140/15-0-0, 20=136/15-0-0
Max Horiz 20=74 (LC 7)
Max Uplift 12=-27 (LC 5), 13=-63 (LC 9), 14=-53 (LC 9), 15=-57 (LC 9), 17=-58 (LC 8), 18=-52 (LC 8), 19=-68 (LC 8), 20=-37 (LC 4)
Max Grav 12=138 (LC 22), 13=140 (LC 1), 14=186 (LC 1), 15=189 (LC 22), 16=173 (LC 1), 17=189 (LC 21), 18=186 (LC 1), 19=140 (LC 1), 20=138 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-20=-126/38, 1-2=0/31, 2-3=-48/50, 3-4=-34/67, 4-5=-27/93, 5-6=-32/118, 6-7=-32/110, 7-8=-27/83, 8-9=-25/59, 9-10=-40/41, 10-11=0/31, 10-12=-126/30
BOT CHORD	19-20=-27/48, 18-19=-27/48, 17-18=-27/48, 16-17=-27/48, 15-16=-27/48, 14-15=-27/48, 13-14=-27/48, 12-13=-27/48
WEBS	6-16=-133/0, 5-17=-150/81, 4-18=-145/79, 3-19=-104/77, 7-15=-150/81, 8-14=-145/79, 9-13=-104/74

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 37 lb uplift at joint 20, 27 lb uplift at joint 12, 58 lb uplift at joint 17, 52 lb uplift at joint 18, 68 lb uplift at joint 19, 57 lb uplift at joint 15, 53 lb uplift at joint 14 and 63 lb uplift at joint 13.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

September 10,2021

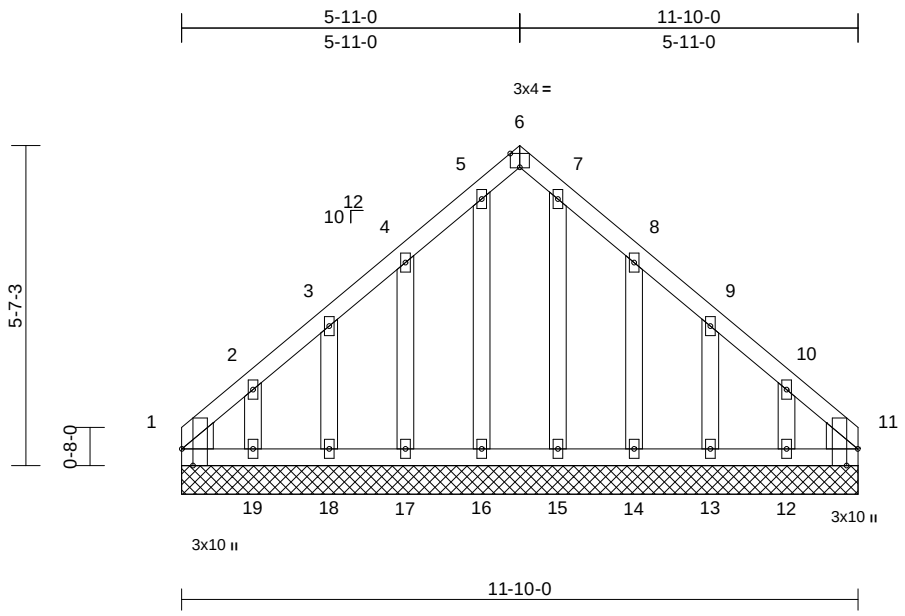
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	G1	GABLE	1	1	I47856959
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:32
ID:p4_c7DvQapVS5sHzVsjKN5yiJAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:40.3

Plate Offsets (X, Y): [1:0-3-8,Edge], [6:0-2-0,Edge], [11:0-3-8,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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 59 lb	FT = 10%

LUMBER

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
OTHERS	2x4 SPF No.2
WEDGE	Left: 2x6 SPF No.2 Right: 2x6 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=61/11-10-0, 11=61/11-10-0, 12=126/11-10-0, 13=117/11-10-0, 14=123/11-10-0, 15=104/11-10-0, 16=104/11-10-0, 17=123/11-10-0, 18=117/11-10-0, 19=126/11-10-0
Max Horiz 1=-137 (LC 4)
Max Uplift 1=-52 (LC 6), 11=-27 (LC 7), 12=-101 (LC 9), 13=-56 (LC 9), 14=-76 (LC 9), 16=-3 (LC 5), 17=-74 (LC 8), 18=-57 (LC 8), 19=-105 (LC 8)
Max Grav 1=130 (LC 8), 11=113 (LC 9), 12=148 (LC 16), 13=125 (LC 16), 14=134 (LC 16), 15=104 (LC 1), 16=116 (LC 15), 17=131 (LC 15), 18=125 (LC 15), 19=153 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-188/116, 2-3=-97/76, 3-4=-81/56, 4-5=-71/83, 5-6=-46/64, 6-7=-42/60, 7-8=-52/62, 8-9=-59/26, 9-10=-82/46, 10-11=-165/82
BOT CHORD	1-19=-57/134, 18-19=-57/134, 17-18=-57/134, 16-17=-57/134, 15-16=-57/134, 14-15=-57/134, 13-14=-57/134, 12-13=-57/134, 11-12=-57/134
WEBS	2-19=-119/116, 3-18=-100/74, 4-17=-104/89, 5-16=-89/19, 7-15=-78/0, 8-14=-107/92, 9-13=-100/74, 10-12=-115/112

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 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 105 lb uplift at joint 19, 57 lb uplift at joint 18, 74 lb uplift at joint 17, 3 lb uplift at joint 16, 52 lb uplift at joint 1, 27 lb uplift at joint 11, 76 lb uplift at joint 14, 56 lb uplift at joint 13 and 101 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

September 10,2021

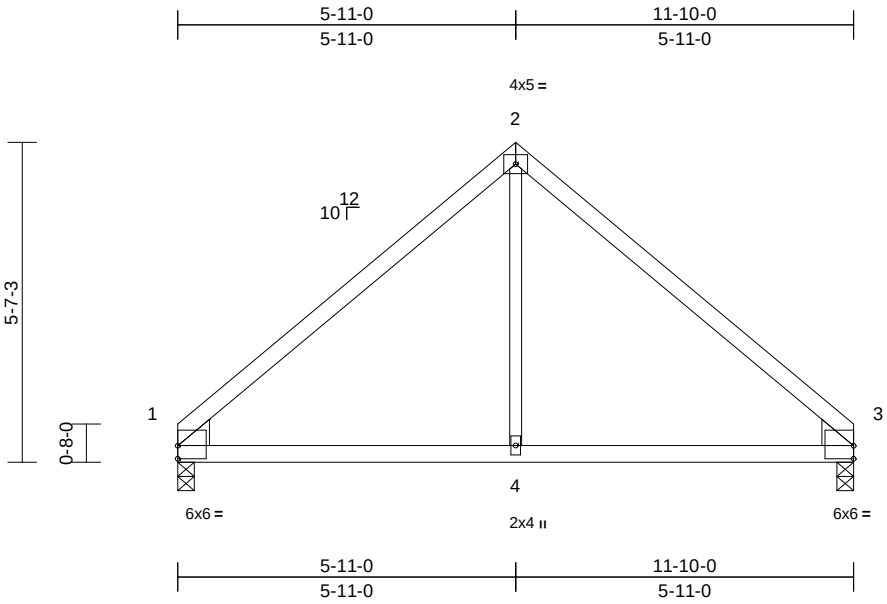
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	G2	COMMON	5	1	I47856960
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:32
ID:p4_c7DvQapVS5sHzVsjKN5yiJAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:40.3

Plate Offsets (X, Y): [1:Edge,0-2-12], [3:Edge,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	0.52	Vert(LL)	-0.03	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.06	3-4	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	1-4	>999	240	Weight: 38 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
WEDGE Left: 2x6 SP No.2
Right: 2x6 SP 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=519/0-3-8, 3=519/0-3-8
Max Horiz 1=-137 (LC 4)
Max Uplift 1=-50 (LC 8), 3=-50 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-578/101, 2-3=-578/101
BOT CHORD 1-4=-1/341, 3-4=-1/341
WEBS 2-4=0/286

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 50 lb uplift at joint 1 and 50 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

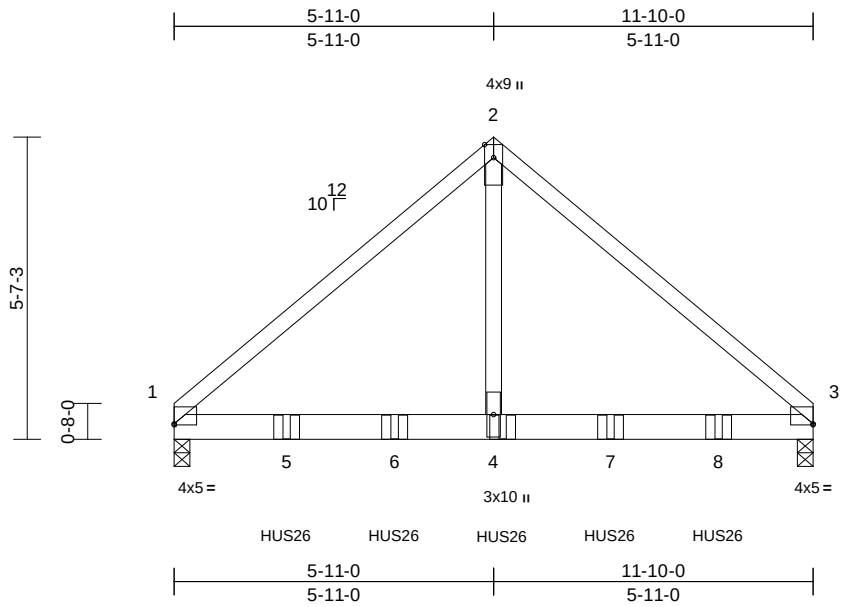
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	G3	COMMON GIRDER	1	**2**	I47856961 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:33
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:42.7

Plate Offsets (X, Y): [1:Edge,0-0-4], [3:Edge,0-0-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.69	Vert(LL)	-0.08	1-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.14	1-4	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.64	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	1-4	>999	240	Weight: 102 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

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

REACTIONS (lb/size) 1=4066/0-3-8, 3=4238/0-3-8
Max Horiz 1=-135 (LC 6)
Max Uplift 1=-123 (LC 8), 3=-127 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-4344/179, 2-3=-4344/179
BOT CHORD 1-4=-60/3168, 3-4=-60/3168
WEBS 2-4=-55/5221

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) 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 123 lb uplift at joint 1 and 127 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.
9) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-1-0 from the left end to 10-1-0 to connect truss(es) to back face of bottom chord.
10) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 1-3=-20
Concentrated Loads (lb)
Vert: 4=-1455 (B), 5=-1451 (B), 6=-1451 (B), 7=-1455 (B), 8=-1455 (B)

September 10,2021

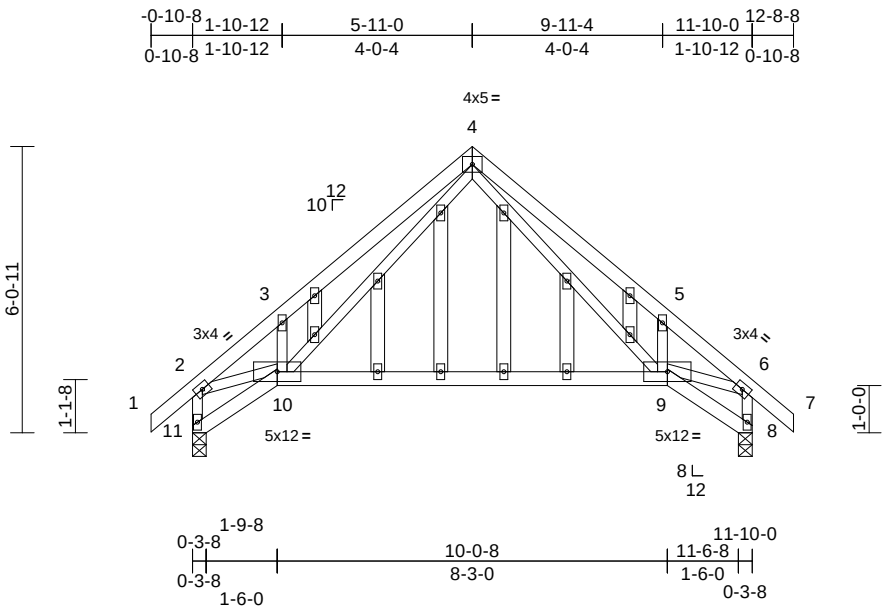
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	H1	GABLE	1	1	I47856962
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:33
ID:p4_c7DvQapVS5sHzVsjKN5yiJAW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:48.7

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	0.22	Vert(LL)	-0.15	9-10	>913	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.51	Vert(CT)	-0.32	9-10	>441	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	9-10	>999	240	Weight: 66 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 5-9-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 8=592/0-3-8, 11=592/0-3-8
Max Horiz 11=185 (LC 7)
Max Uplift 8=-71 (LC 9), 11=-71 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/44, 2-3=-860/115, 3-4=-943/273, 4-5=-896/208, 5-6=-844/48, 6-7=0/44, 2-11=-602/98, 6-8=-597/58
BOT CHORD 10-11=-199/216, 9-10=-27/344, 8-9=-20/45
WEBS 4-9=-155/511, 5-9=-239/202, 4-10=-208/622, 3-10=-233/198, 2-10=-51/633, 6-9=-1/633

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 71 lb uplift at joint 11 and 71 lb uplift at joint 8.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

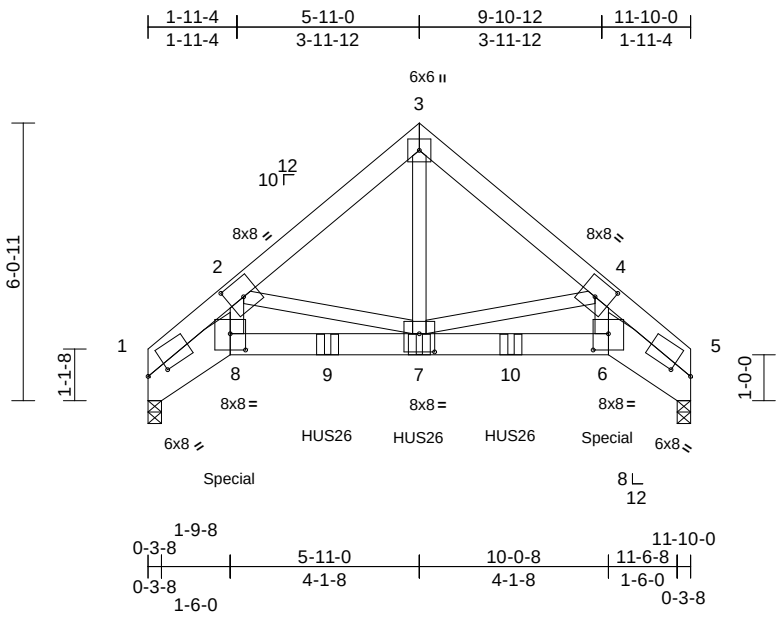
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	H2	Roof Special Girder	1	**2**	I47856963
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:33
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:50.3

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

Loading	(psf)	**Spacing**	2-0-0	**CSI**		**DEFL**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.07	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.12	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.61	Horz(CT)	0.12	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	7-8	>999	240	Weight: 167 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x10 SP DSS *Except* 8-6:2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

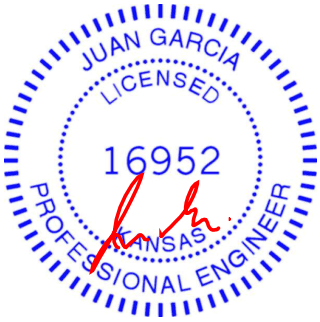
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=4038/0-3-8, 5=4038/0-3-8
Max Horiz 1=-141 (LC 4)
Max Uplift 1=-118 (LC 8), 5=-118 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-9231/342, 2-3=-4205/157, 3-4=-4205/182, 4-5=-9231/242
BOT CHORD 1-8=-321/6661, 7-8=-267/5259, 6-7=-125/5259, 5-6=-150/6661
WEBS 3-7=-110/4781, 4-7=-2100/191, 4-6=-63/4970, 2-7=-2100/232, 2-8=-139/4970

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 2 rows staggered at 0-2-0 oc, 2x6 - 2 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) 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) 1, 5 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 118 lb uplift at joint 1 and 118 lb uplift at joint 5.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 3-11-0 from the left end to 7-11-0 to connect truss(es) to back face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1408 lb down and 27 lb up at 1-9-8, and 1408 lb down and 27 lb up at 10-0-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 1-8=-20, 6-8=-20, 5-6=-20
Concentrated Loads (lb)
Vert: 8=-1408 (B), 6=-1408 (B), 7=-1408 (B), 9=-1408 (B), 10=-1408 (B)



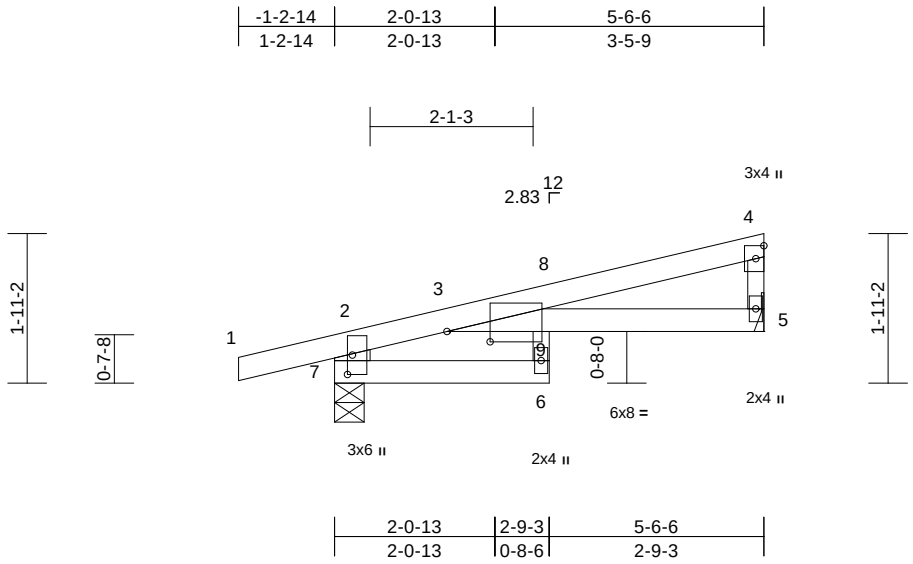
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J1	Diagonal Hip Girder	2	1	I47856964
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:34
ID:MhDM9FbsIjma?5Zmkx8kfyyf1Li-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.7

Plate Offsets (X, Y): [3:0-6-11,0-1-10], [7:0-3-0,0-0-12]

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	0.38	Vert(LL)	-0.06	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.14	6	>432	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.03	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.07	6	>890	240	Weight: 17 lb	FT = 10%

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

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

REACTIONS (lb/size) 5=225/ Mechanical, 7=364/0-4-9
Max Horiz 7=63 (LC 5)
Max Uplift 5=-40 (LC 8), 7=-99 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-340/113, 1-2=0/24, 2-3=-33/63, 3-4=-138/15, 4-5=-151/55
BOT CHORD 6-7=-94/0, 3-5=-11/109
WEBS 3-6=0/107

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 99 lb uplift at joint 7 and 40 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) 66 lb down and 27 lb up at 2-9-8, and 66 lb down and 27 lb up at 2-9-8 on top chord, and 4 lb down and 3 lb up at 2-7-15, and 4 lb down and 3 lb up at 2-7-15 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, 6-7=-20, 3-5=-20
Concentrated Loads (lb)
Vert: 6=6 (F=3, B=3)

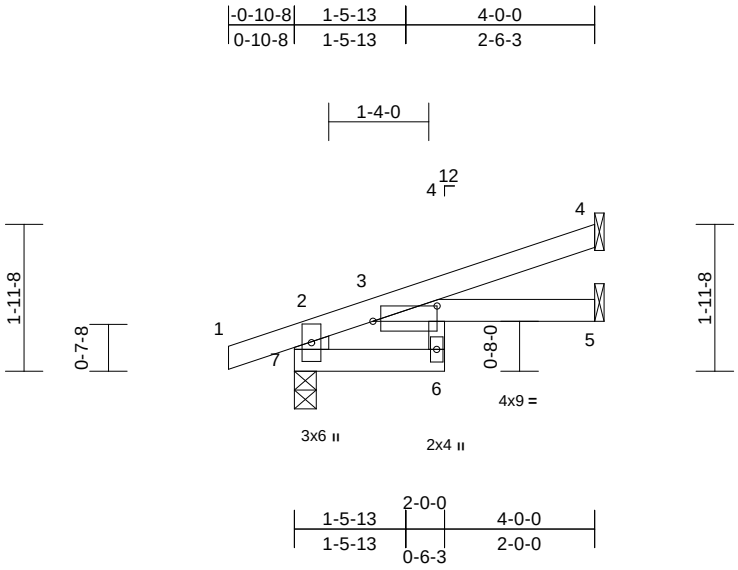
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J2	Jack-Open	3	1	I47856965
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:34 Page: 1
ID:3oEsYD58y7cPaowtrqv6VJyf1ML-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:30.7

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

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	0.16	Vert(LL)	-0.01	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.03	6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P		Wind(LL)	0.02	6	>999	240	Weight: 12 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x6 SPF No.2 *Except* 6-3:2x3 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 6-0-0 oc bracing.

REACTIONS (lb/size) 4=107/ Mechanical, 5=54/ Mechanical, 7=267/0-3-8
Max Horiz 7=64 (LC 4)
Max Uplift 4=-44 (LC 8), 7=-63 (LC 4)
Max Grav 4=107 (LC 1), 5=71 (LC 3), 7=267 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-250/76, 1-2=0/24, 2-3=-42/15, 3-4=-30/27
BOT CHORD 6-7=-46/0, 3-5=0/0
WEBS 3-6=0/58

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 63 lb uplift at joint 7 and 44 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.

LOAD CASE(S) Standard

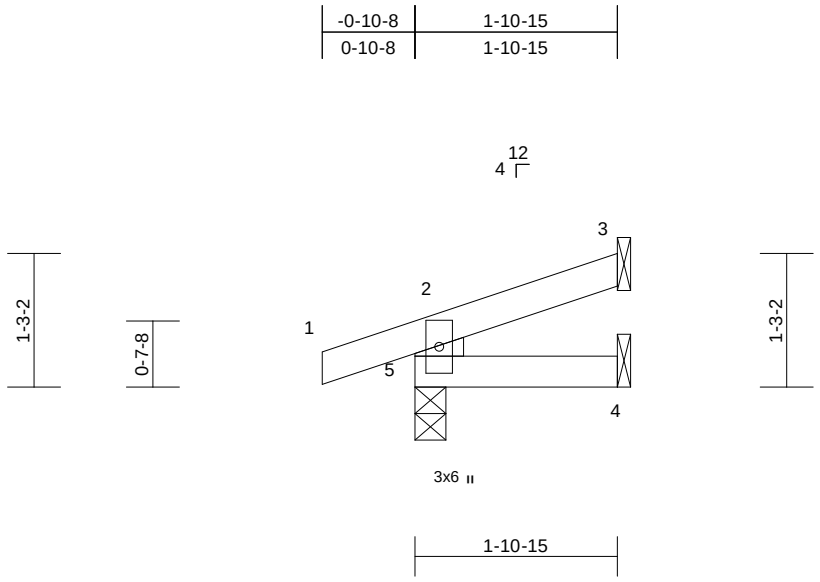
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J3	Jack-Open	4	1	I47856966
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:34 Page: 1
ID:E6ql9Yc2NqZ4nesBVQBkttyf1Mz-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:21.8

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	0.08	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 2x6 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 (lb/size) 3=40/ Mechanical, 4=10/ Mechanical, 5=178/0-3-8
Max Horiz 5=36 (LC 4)
Max Uplift 3=-22 (LC 8), 5=-65 (LC 4)
Max Grav 3=40 (LC 1), 4=28 (LC 3), 5=178 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-154/76, 1-2=0/24, 2-3=-24/9
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 65 lb uplift at joint 5 and 22 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

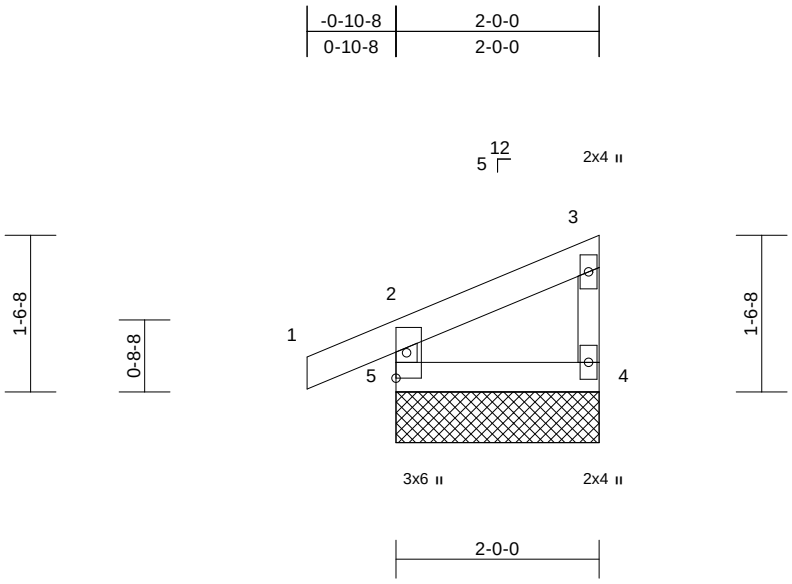
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J4	Jack-Closed Supported Gable	1	1	I47856967
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:35 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.7

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	0.06	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	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 7 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 2-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 4=62/2-0-0, 5=168/2-0-0
Max Horiz 5=58 (LC 5)
Max Uplift 4=-19 (LC 5), 5=-40 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-149/52, 1-2=0/26, 2-3=-43/9, 3-4=-45/24
BOT CHORD 4-5=-19/12

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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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 40 lb uplift at joint 5 and 19 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

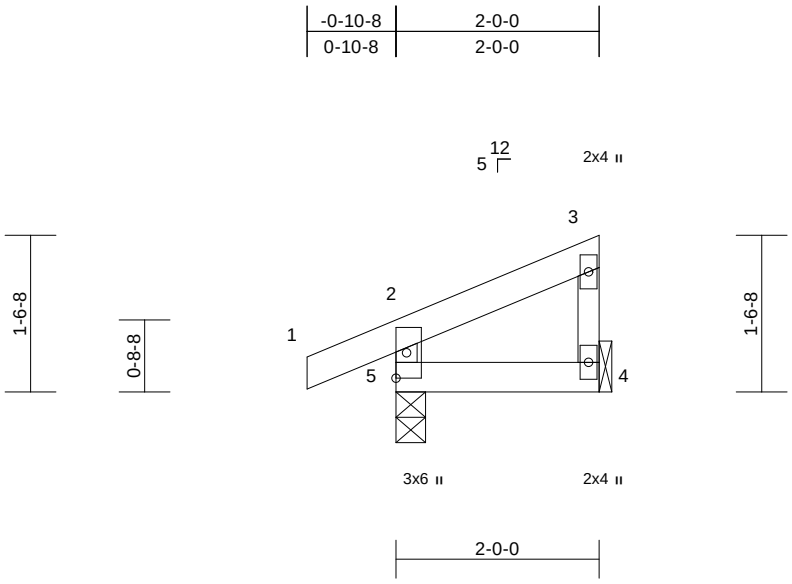
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J5	Jack-Closed	5	1	I47856968
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:35 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.7

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	0.06	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	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 7 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 2-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 4=62/ Mechanical, 5=168/0-3-8
Max Horiz 5=58 (LC 5)
Max Uplift 4=-19 (LC 5), 5=-40 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-149/52, 1-2=0/26, 2-3=-43/9, 3-4=-45/24
BOT CHORD 4-5=-19/12

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) 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 40 lb uplift at joint 5 and 19 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.

LOAD CASE(S) Standard

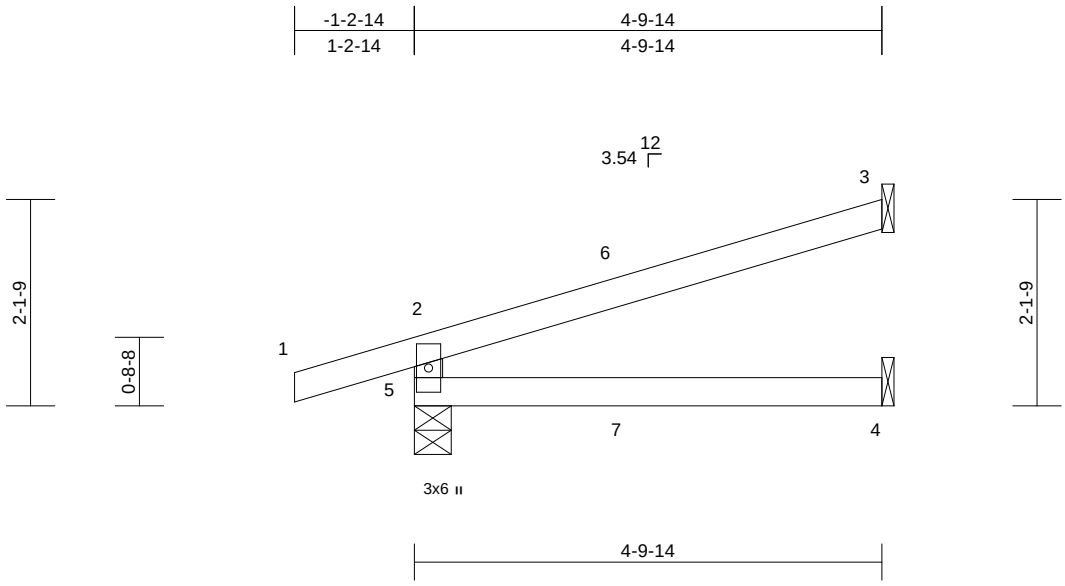
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J8	Diagonal Hip Girder	1	1	I47856969
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:35 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:23.8

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	0.35	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.05	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.02	4-5	>999	240	Weight: 13 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 4-9-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 3=140/ Mechanical, 4=52/ Mechanical, 5=317/0-4-9
Max Horiz 5=70 (LC 4)
Max Uplift 3=-64 (LC 8), 5=-92 (LC 4)
Max Grav 3=140 (LC 1), 4=86 (LC 3), 5=317 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-280/130, 1-2=0/27, 2-3=-70/30
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 92 lb uplift at joint 5 and 64 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.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 66 lb down and 22 lb up at 2-1-0, and 66 lb down and 22 lb up at 2-1-0 on top chord, and 2 lb down and 2 lb up at 2-1-0, and 2 lb down and 2 lb up at 2-1-0 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=4 (F=2, B=2)

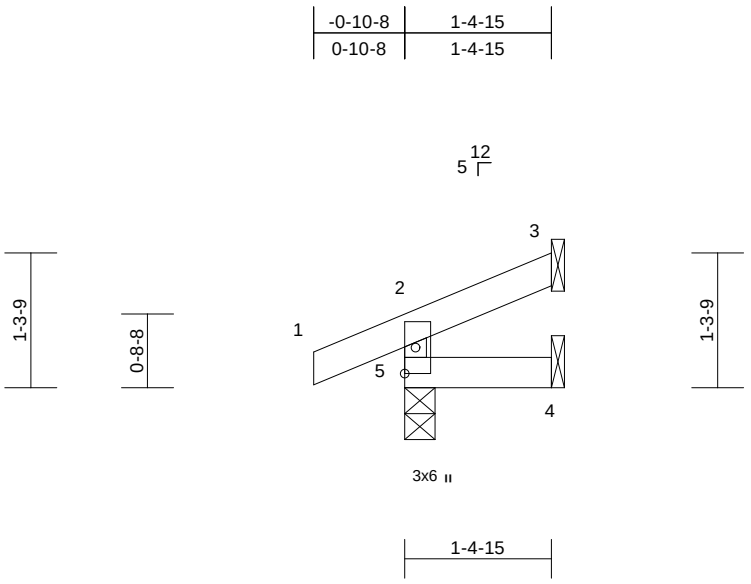
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J9	Jack-Open	2	1	I47856970
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:35 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.2

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)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.01	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: 5 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 1-4-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 3=23/ Mechanical, 4=9/ Mechanical, 5=153/0-3-8
Max Horiz 5=33 (LC 5)
Max Uplift 3=-19 (LC 8), 5=-34 (LC 4)
Max Grav 3=23 (LC 1), 4=24 (LC 3), 5=153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-136/45, 1-2=0/26, 2-3=-26/6
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 34 lb uplift at joint 5 and 19 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

September 10,2021

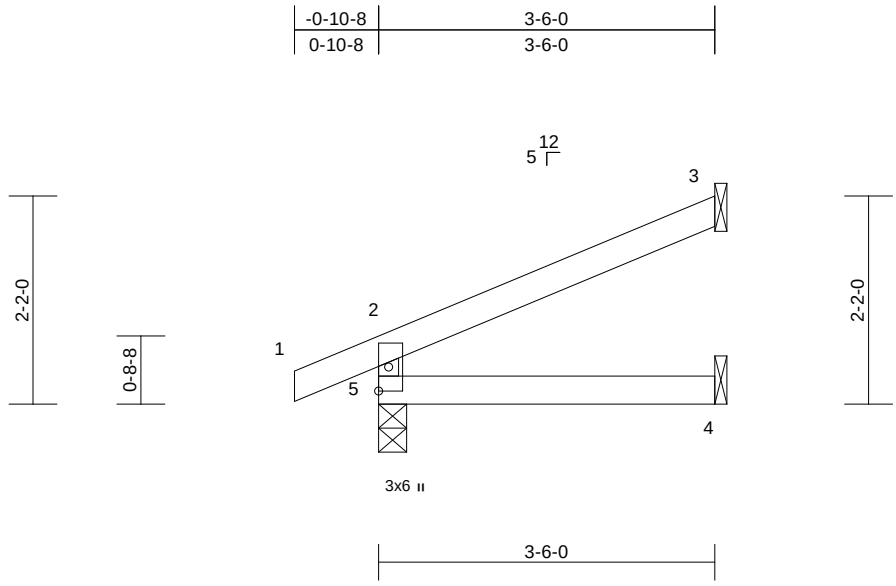
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	J10	Jack-Open	8	1	I47856971
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:35
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:24

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	0.16	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	-0.01	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: 10 lb	FT = 10%

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

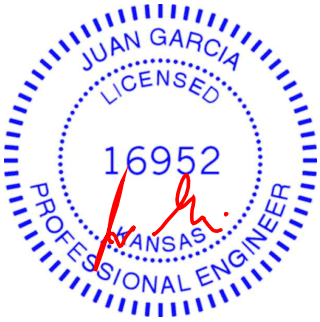
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-6-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 3=103/ Mechanical, 4=37/ Mechanical, 5=229/0-3-8
Max Horiz 5=65 (LC 8)
Max Uplift 3=-55 (LC 8), 5=-34 (LC 8)
Max Grav 3=103 (LC 1), 4=63 (LC 3), 5=229 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-199/64, 1-2=0/26, 2-3=-56/31
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 34 lb uplift at joint 5 and 55 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



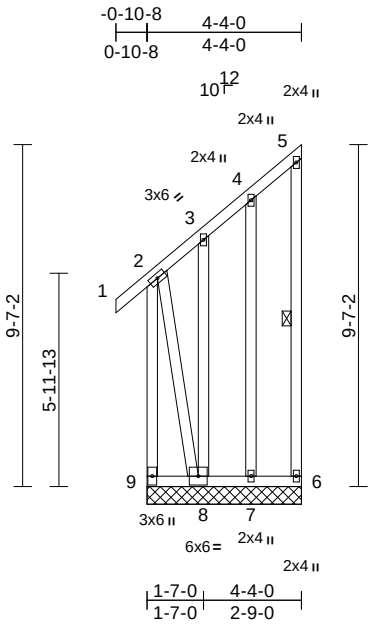
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	K1	Monopitch Supported Gable	2	1	I47856972
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:36 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:64.7

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	0.32	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	0.36	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 53 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 4-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 5-6

REACTIONS (lb/size) 6=47/4-4-0, 7=128/4-4-0, 8=107/4-4-0, 9=153/4-4-0
Max Horiz 9=-221 (LC 6)
Max Uplift 6=-23 (LC 8), 7=-77 (LC 8), 8=-614 (LC 5), 9=-508 (LC 6)
Max Grav 6=50 (LC 15), 7=145 (LC 15), 8=622 (LC 6), 9=655 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-9=-648/519, 1-2=0/46, 2-3=-139/49, 3-4=-98/53, 4-5=-40/21, 5-6=-40/29
BOT CHORD 8-9=-155/139, 7-8=0/0, 6-7=0/0
WEBS 3-8=-76/45, 4-7=-117/94, 2-8=-575/641

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 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
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 508 lb uplift at joint 9, 23 lb uplift at joint 6, 614 lb uplift at joint 8 and 77 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

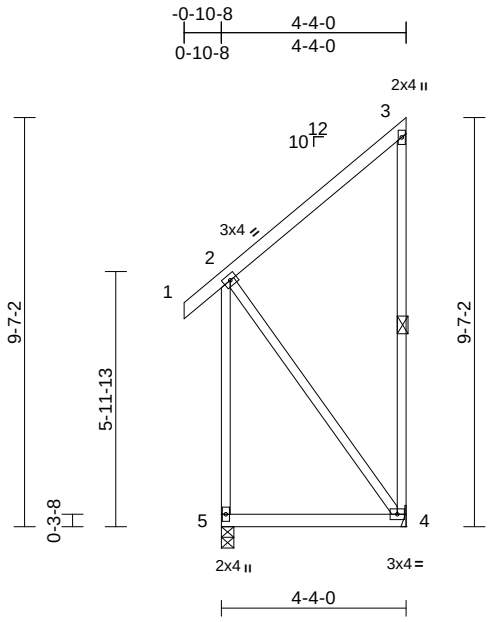
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	K2	Monopitch	6	1	I47856973
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:36 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:54

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.47	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.03	4-5	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.29	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 30 lb	FT = 10%

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

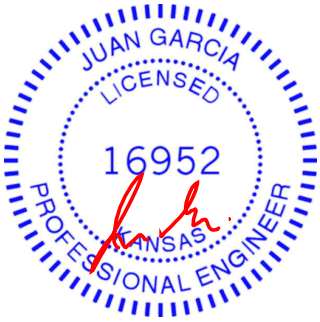
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-4

REACTIONS (lb/size) 4=177/ Mechanical, 5=262/0-3-8
Max Horiz 5=-221 (LC 6)
Max Uplift 4=-266 (LC 8), 5=-69 (LC 6)
Max Grav 4=335 (LC 15), 5=287 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/44, 2-3=-110/80, 3-4=-149/112, 2-5=-246/111
BOT CHORD 4-5=-156/139
WEBS 2-4=-238/266

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 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 266 lb uplift at joint 4 and 69 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



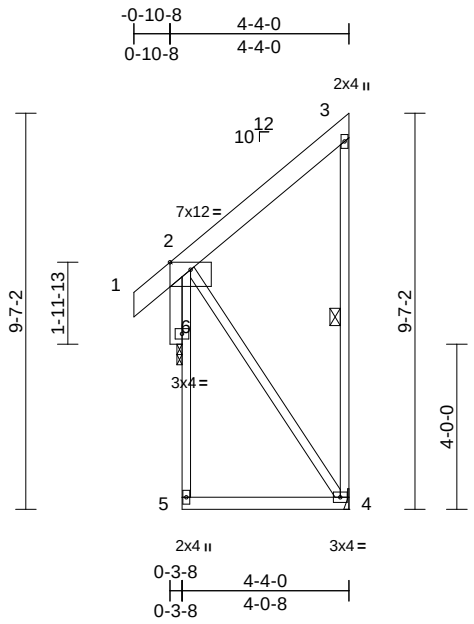
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	K3	Monopitch	4	1	I47856974
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:36
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:55.8

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	0.30	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	0.03	Horz(CT)	-0.07	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	-0.01	4-5	>999	240	Weight: 36 lb	FT = 10%

LUMBER
TOP CHORD 2x6 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 4-4-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-4

REACTIONS (lb/size) 4=155/ Mechanical, 6=276/0-1-8
Max Horiz 6=-222 (LC 6)
Max Uplift 4=-181 (LC 8)
Max Grav 4=159 (LC 15), 6=276 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/57, 2-3=-131/81, 3-4=-150/140, 5-6=0/78, 2-6=-237/0
BOT CHORD 4-5=-55/13
WEBS 2-4=-24/100

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 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) Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 6.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 181 lb uplift at joint 4.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

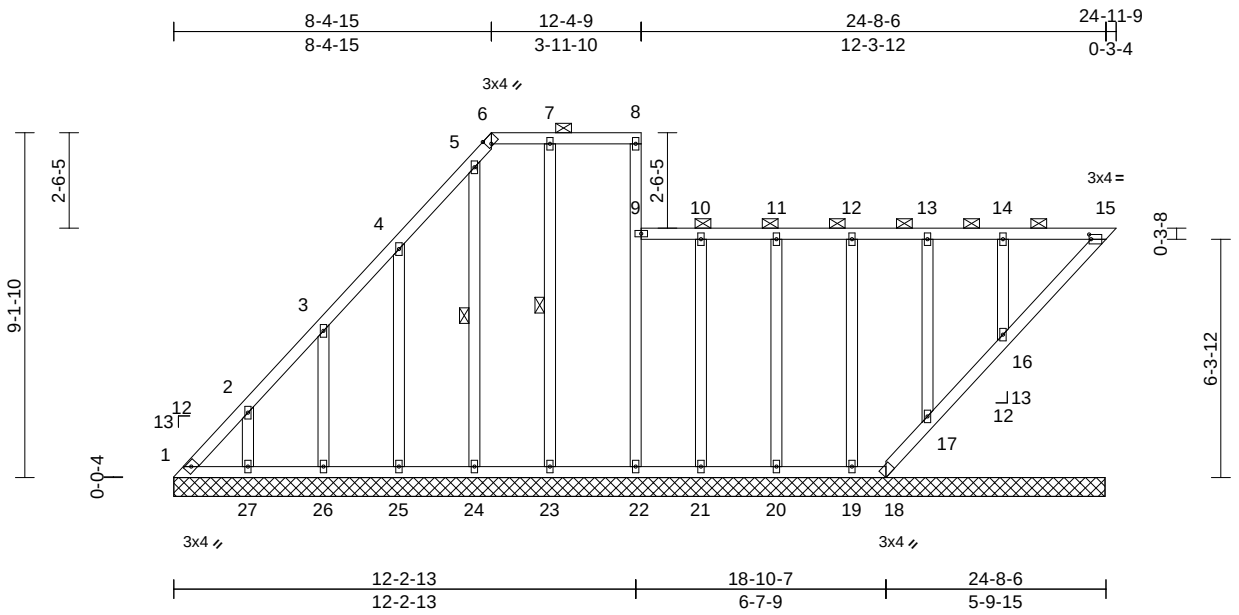
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	LAY2	Lay-In Gable	1	1	I47856975
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:37 Page: 1

ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:61

Plate Offsets (X, Y): [6:0-1-7,Edge], [15:0-0-10,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 135 lb	FT = 10%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8, 9-22, 9-15.

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

WEBS 1 Row at midpt 5-24, 7-23

REACTIONS (lb/size) 1=60/24-8-0, 15=103/24-8-0, 16=257/24-8-0, 17=149/24-8-0, 18=11/24-8-0, 19=175/24-8-0, 20=183/24-8-0, 21=176/24-8-0, 22=160/24-8-0, 23=208/24-8-0, 24=168/24-8-0, 25=183/24-8-0, 26=179/24-8-0, 27=183/24-8-0

Max Horiz 1=421 (LC 8)

Max Uplift 1=-87 (LC 6), 15=-84 (LC 9), 16=-48 (LC 9), 17=-36 (LC 9), 18=-26 (LC 7), 19=-39 (LC 5), 20=-32 (LC 5), 21=-48 (LC 9), 22=-30 (LC 5), 23=-52 (LC 4), 24=-111 (LC 8), 25=-134 (LC 8), 26=-128 (LC 8), 27=-131 (LC 8)

Max Grav 1=373 (LC 8), 15=103 (LC 1), 16=257 (LC 1), 17=149 (LC 1), 18=76 (LC 9), 19=175 (LC 1), 20=183 (LC 22), 21=176 (LC 1), 22=160 (LC 22), 23=210 (LC 22), 24=168 (LC 1), 25=213 (LC 15), 26=203 (LC 15), 27=209 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-523/179, 2-3=-399/131, 3-4=-269/89, 4-5=-135/59, 5-6=-62/33, 6-7=-45/36, 7-8=-45/36, 9-22=-119/54, 8-9=-71/34, 9-10=-36/59, 10-11=-36/59, 11-12=-36/59, 12-13=-36/59, 13-14=-36/59, 14-15=-36/61

BOT CHORD 1-27=-61/34, 26-27=-61/34, 25-26=-61/34, 24-25=-61/34, 23-24=-61/34, 22-23=-61/34, 21-22=-62/34, 20-21=-62/34, 19-20=-62/34, 18-19=-62/34, 17-18=-96/62, 16-17=-98/69, 15-16=-103/69

WEBS 2-27=-163/149, 3-26=-165/154, 4-25=-173/158, 5-24=-130/135, 7-23=-164/79, 10-21=-143/68, 11-20=-140/58, 12-19=-143/59, 13-17=-123/52, 14-16=-194/78

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) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * 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 87 lb uplift at joint 1, 30 lb uplift at joint 22, 84 lb uplift at joint 15, 26 lb uplift at joint 18, 131 lb uplift at joint 27, 128 lb uplift at joint 26, 134 lb uplift at joint 25, 111 lb uplift at joint 24, 52 lb uplift at joint 23, 48 lb uplift at joint 21, 32 lb uplift at joint 20, 39 lb uplift at joint 19, 36 lb uplift at joint 17 and 48 lb uplift at joint 16.
10) Non Standard bearing condition. Review required.
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

JUAN GARCIA LICENSED NUMBER 16952 KANSAS PROFESSIONAL ENGINEER

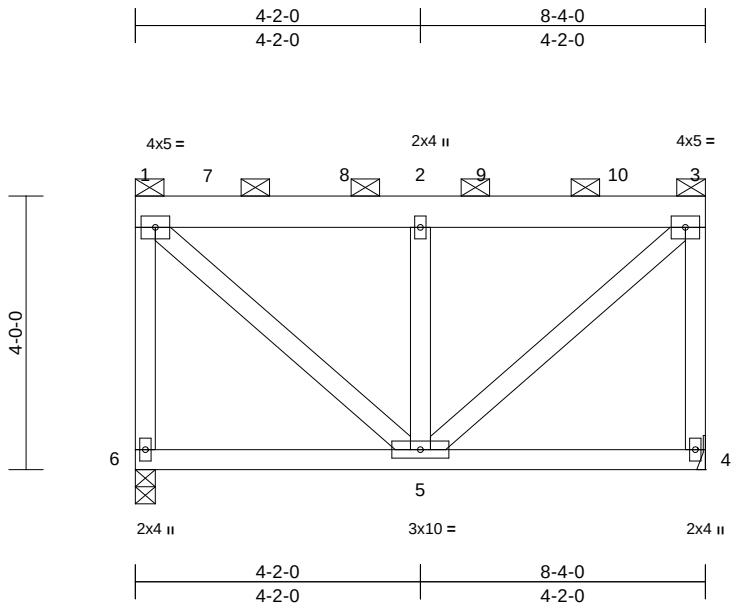
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	R1	Flat Girder	1	1	I47856976
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:37
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.7

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	0.31	Vert(LL)	-0.01	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.21	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P		Wind(LL)	0.00	5	>999	240	Weight: 47 lb	FT = 10%

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

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

REACTIONS (lb/size) 4=764/ Mechanical, 6=788/0-3-8
Max Horiz 6=-138 (LC 4)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-754/10, 1-2=-527/0, 2-3=-527/0, 3-4=-730/16
BOT CHORD 5-6=-121/108, 4-5=-51/39
WEBS 1-5=-11/710, 2-5=-857/12, 3-5=-11/710

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) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
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) 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

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 4-6=-20
Concentrated Loads (lb)
Vert: 7=-209, 8=-206, 9=-206, 10=-206

September 10,2021

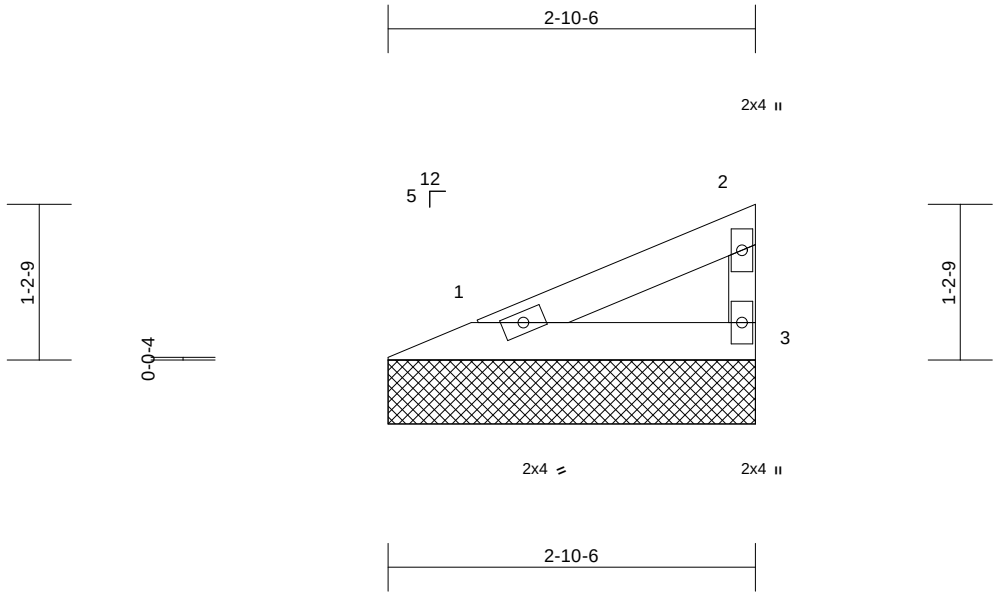
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V1	Valley	1	1	I47856977
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:37
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:18

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	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 6 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 2-11-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=93/2-10-6, 3=93/2-10-6
Max Horiz 1=38 (LC 5)
Max Uplift 1=-13 (LC 8), 3=-21 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-34/22, 2-3=-72/33
BOT CHORD 1-3=-12/9

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 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 21 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

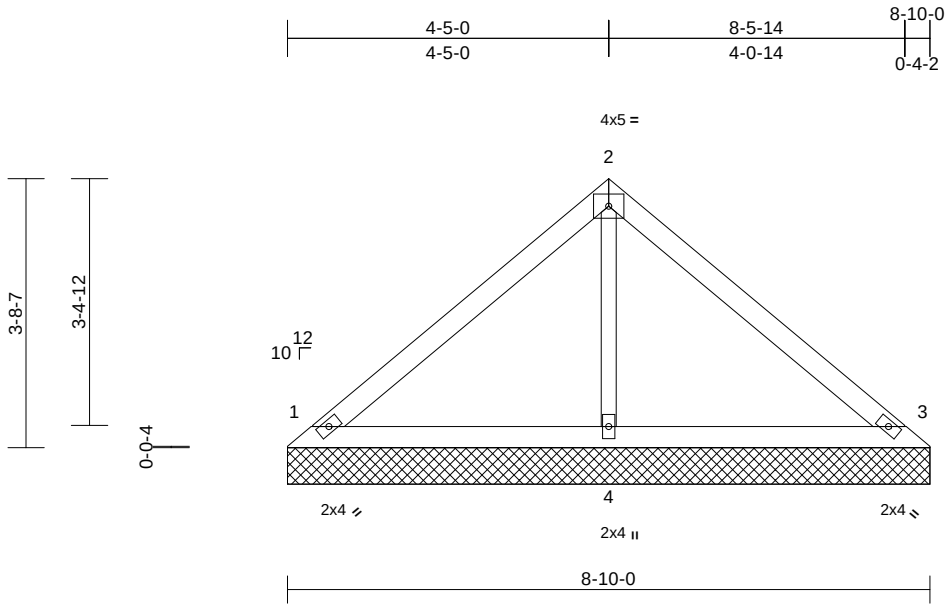
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V2	Valley	1	1	I47856978
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:37 Page: 1
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.7

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	0.31	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	0.06	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 25 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=219/8-10-0, 3=219/8-10-0, 4=289/8-10-0
Max Horiz 1=-88 (LC 4)
Max Uplift 1=-45 (LC 8), 3=-56 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-153/75, 2-3=-147/59
BOT CHORD 1-4=-20/72, 3-4=-20/72
WEBS 2-4=-188/45

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 45 lb uplift at joint 1 and 56 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

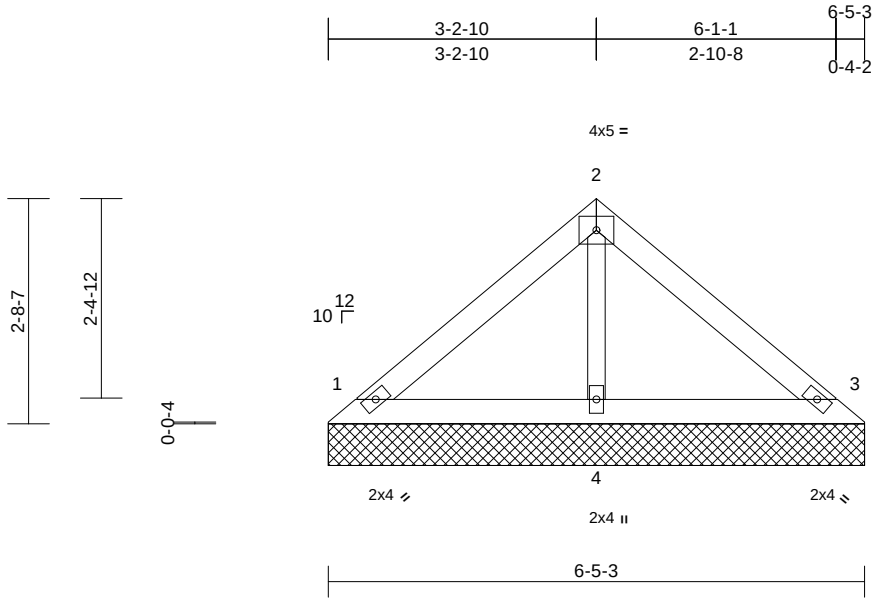
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V3	Valley	1	1	I47856979
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:38
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.15	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	0.03	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 18 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=154/6-5-3, 3=154/6-5-3, 4=203/6-5-3
Max Horiz 1=62 (LC 5)
Max Uplift 1=-32 (LC 8), 3=-39 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-107/53, 2-3=-103/42
BOT CHORD 1-4=-14/51, 3-4=-14/51
WEBS 2-4=-132/32

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) 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 32 lb uplift at joint 1 and 39 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

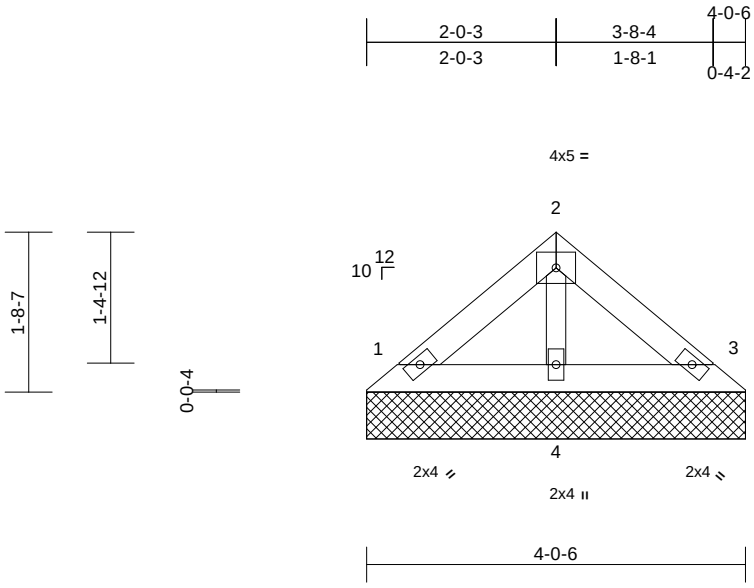
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V4	Valley	1	1	I47856980
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:38
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:24.5

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	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.01	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 10%

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

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

REACTIONS (lb/size) 1=89/4-0-6, 3=89/4-0-6, 4=117/4-0-6
Max Horiz 1=36 (LC 5)
Max Uplift 1=-18 (LC 8), 3=-23 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-62/31, 2-3=-59/24
BOT CHORD 1-4=-8/29, 3-4=-8/29
WEBS 2-4=-76/18

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 18 lb uplift at joint 1 and 23 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

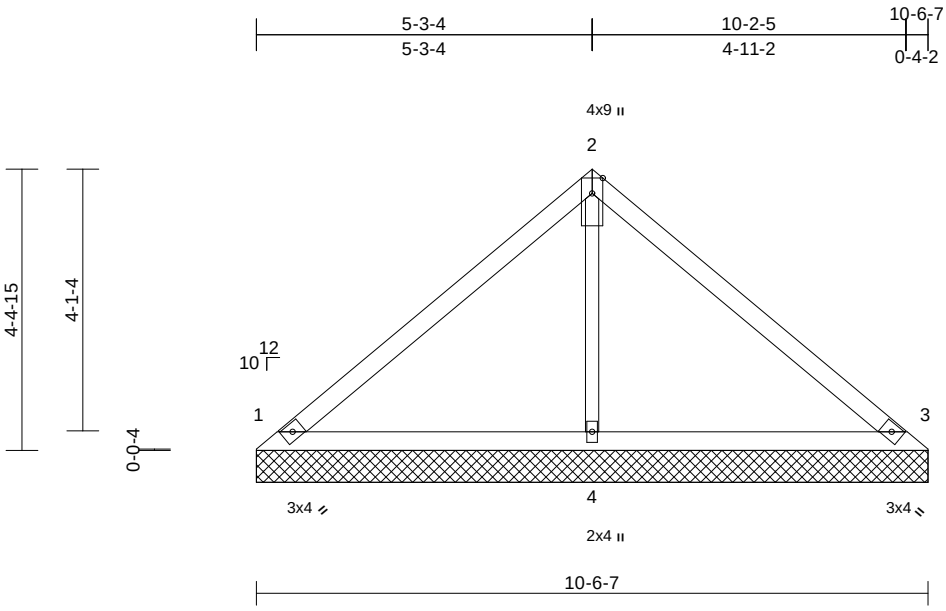
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V5	Valley	1	1	I47856981
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:38
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:36.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 30 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=245/10-6-7, 3=245/10-6-7, 4=390/10-6-7
Max Horiz 1=-106 (LC 6)
Max Uplift 1=-41 (LC 8), 3=-53 (LC 9), 4=-9 (LC 8)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-203/94, 2-3=-202/75
BOT CHORD 1-4=-24/94, 3-4=-24/94
WEBS 2-4=-239/59

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 41 lb uplift at joint 1, 53 lb uplift at joint 3 and 9 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

September 10,2021

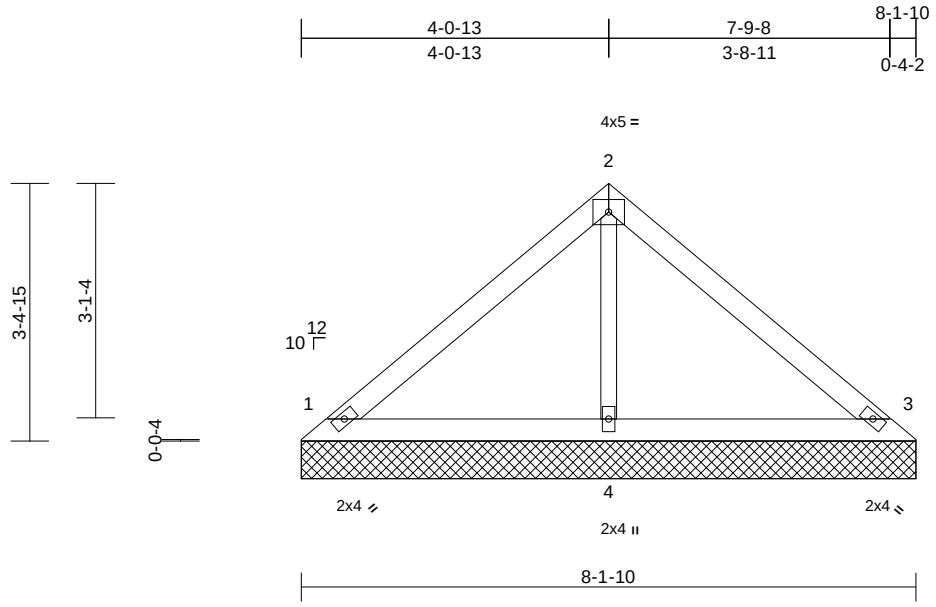
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V6	Valley	1	1	I47856982
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:38
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:30.5

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	0.26	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 23 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=200/8-1-10, 3=200/8-1-10, 4=264/8-1-10
Max Horiz 1=-80 (LC 4)
Max Uplift 1=-41 (LC 8), 3=-51 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-139/69, 2-3=-134/54
BOT CHORD 1-4=-18/66, 3-4=-18/66
WEBS 2-4=-172/41

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 41 lb uplift at joint 1 and 51 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

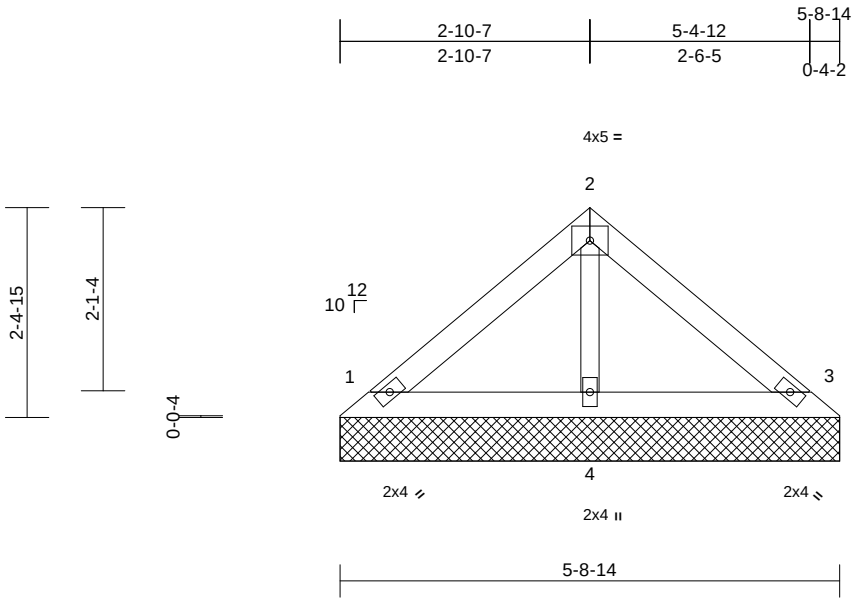
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V7	Valley	1	1	I47856983
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:38 ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26.5

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-9-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (lb/size) 1=135/5-8-14, 3=135/5-8-14, 4=178/5-8-14
Max Horiz 1=-54 (LC 4)
Max Uplift 1=-28 (LC 8), 3=-34 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-94/47, 2-3=-90/37
BOT CHORD 1-4=-12/45, 3-4=-12/45
WEBS 2-4=-116/28

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 28 lb uplift at joint 1 and 34 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

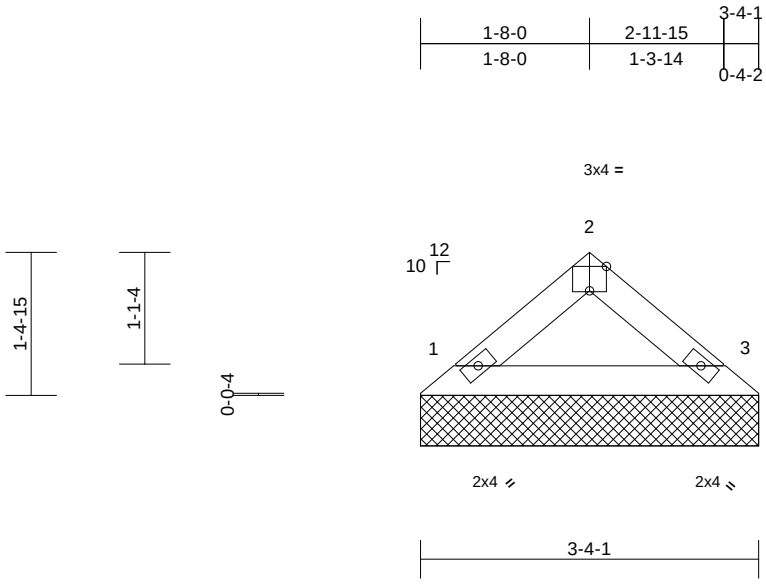
September 10,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 137 W0
W0137	V8	Valley	1	1	I47856984
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.43 S Aug 16 2021 Print: 8.430 S Aug 16 2021 MiTek Industries, Inc. Fri Sep 10 13:02:39
ID:Lek3CAANj_gYbKvtCQHtmQzKvNM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.03	Vert(LL)	n/a	-	n/a	999	MT20	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

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

REACTIONS (lb/size) 1=116/3-4-1, 3=116/3-4-1
Max Horiz 1=-28 (LC 6)
Max Uplift 1=-12 (LC 8), 3=-12 (LC 9)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-94/30, 2-3=-94/30
BOT CHORD 1-3=-8/55

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 12 lb uplift at joint 1 and 12 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.

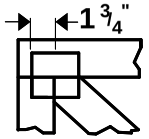
LOAD CASE(S) Standard

September 10,2021

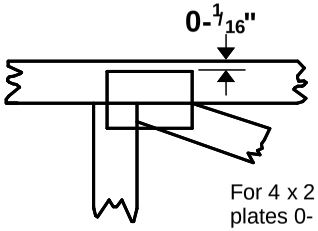
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

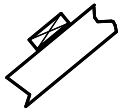
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

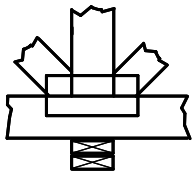
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

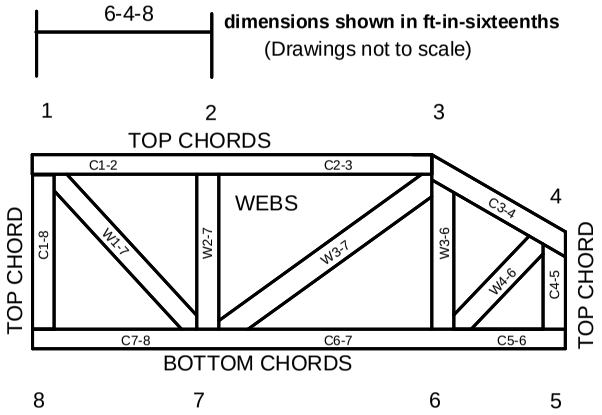


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.