RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
Development Services
LEE'S SUMMIT, MISSOURI

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

Re: 211675
NT403 Plan

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

Pages or sheets covered by this seal: I48382988 thru I48383000

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

Missouri COA: Engineering 001193

October 18,2021

Sevier, Scott ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	A1	Piggyback Base	2	1	I48382988
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:42:50 2021 Page 1
ID:0FUyeDdDlxuQTqtjlxezWhyTED?-BuzwT6dTeGnY2OnbOm?PP?XmAtEupfSqi9p_eAyT93J

6-10-0	10-8-4	15-1-7	19-6-9	23-10-0	23-11-12	29-0-0	34-0-4	39-4-0
6-10-0	3-10-4	4-5-3	4-5-3	4-3-7	0-1-12	5-0-4	5-0-4	5-3-12

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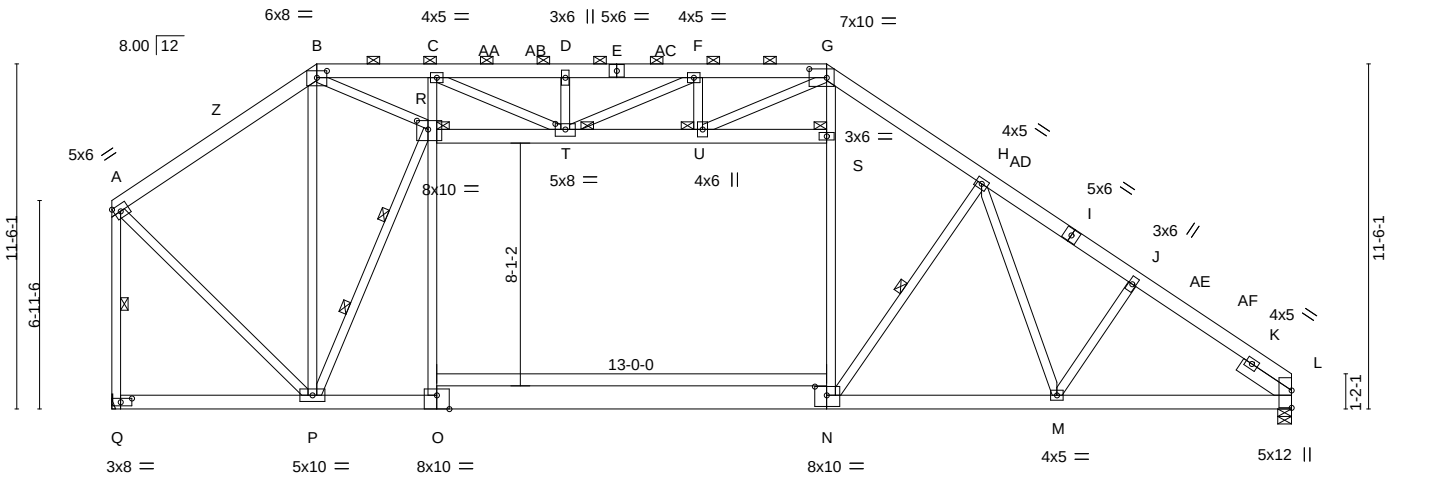

6-10-0	10-8-4	23-10-0	23-11-12	31-6-2	39-4-0
6-10-0	3-10-4	13-1-12	0-1-12	7-6-6	7-9-14

Plate Offsets (X,Y)-- [B:0-4-0,0-2-12], [G:0-7-0,0-3-8], [L:Edge,0-0-0], [N:0-4-12,0-3-8], [O:0-5-0,Edge], [Q:0-4-8,0-1-8], [R:0-4-8,0-3-8], [T:0-4-0,0-2-4]

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.25	N-O	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.42	N-O	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.06	L	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.18	N-O	864	360	Weight: 397 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1 *Except* N-O: 2x10 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* C-O,G-N: 2x4 SP No.2, R-S: 2x6 SP No.1
SLIDER	Right 2x6 SP No.1 2-0-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 3-3-10 oc purlins, except end verticals, and 2-0-0 oc purlins (4-5-9 max.): B-G.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 1-4-12 oc bracing: O-P.
WEBS	1 Row at midpt H-N, A-Q 2 Rows at 1/3 pts P-R
JOINTS	1 Brace at Jt(s): R, S, T, U

REACTIONS. (size) L=0-5-8, Q=Mechanical
Max Horz Q=-354(LC 10)
Max Uplift L=-113(LC 13), Q=-37(LC 12)
Max Grav L=2276(LC 39), Q=2379(LC 38)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD	A-B=-1636/153, B-C=-1271/683, C-D=-2558/504, D-F=-2558/504, F-G=-2908/260, G-H=-2772/181, H-J=-3055/221, J-L=-3249/183, A-Q=-2301/74
BOT CHORD	P-Q=-222/297, O-P=0/2253, N-O=0/2269, M-N=0/2455, L-M=-65/2549
WEBS	B-P=-205/1105, B-R=-1838/489, O-R=0/1077, C-R=-1381/277, N-S=0/1354, G-S=0/1374, H-N=-853/269, H-M=-187/258, R-T=-2708/530, T-U=-631/869, A-P=-19/1861, P-R=-2523/219, C-T=-387/1723, D-T=-496/135, G-U=-608/1026, F-U=-420/329, F-T=-899/213

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 4-0-15, Exterior(2R) 4-0-15 to 12-4-12, Interior(1) 12-4-12 to 18-3-4, Exterior(2R) 18-3-4 to 29-4-12, Interior(1) 29-4-12 to 35-4-13, Exterior(2E) 35-4-13 to 39-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) Provide adequate drainage to prevent water ponding.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Ceiling dead load (5.0 psf) on member(s). R-T, T-U, S-U
7) Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. N-O
8) Refer to girder(s) for truss to truss connections.
9) Provide metal plate or equivalent at bearing(s) Q to support reaction shown.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) Q except (jt=lb) L=113.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) Attic room checked for L/360 deflection.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	A1A	PIGGYBACK BASE	2	3	I48382989
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:42:54 2021 Page 1
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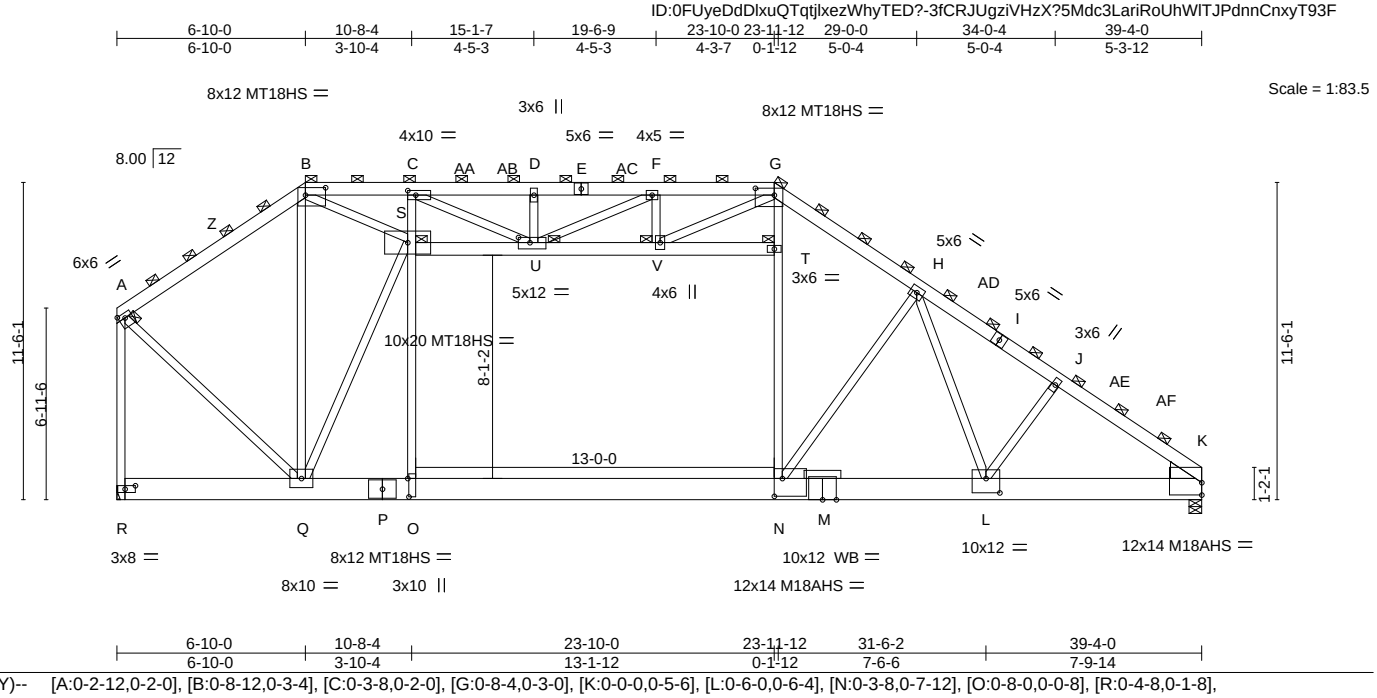

Plate Offsets (X,Y)-- [A:0-2-12,0-2-0], [B:0-8-12,0-3-4], [C:0-3-8,0-2-0], [G:0-8-4,0-3-0], [K:0-0-0,0-5-6], [L:0-6-0,0-6-4], [N:0-3-8,0-7-12], [O:0-8-0,0-0-8], [R:0-4-8,0-1-8], [U:0-5-0,0-2-4]

LOADING (psf)		SPACING-	7-6-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.44	L-N	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.66	L-N	>712	180	M18AHS	186/179
TCDL	10.0	Rep Stress Incr	NO	WB	1.00	Horz(CT)	0.08	K	n/a	n/a	MT18HS	244/190
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.23	N-O	690	360	Weight: 1305 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x10 SP 2400F 2.0E
WEBS	2x4 SP No.2 *Except*
	B-S,H-N,H-L,J-L,D-U,F-V: 2x4 SP No.3, S-T: 2x6 SP No.1
	Q-S: 2x4 SP 2400F 2.0E
OTHERS	2x4 SP No.3
WEDGE	
Right: 2x8 SP No.2	

BRACING-

TOP CHORD	2-0-0 oc purlins (4-4-1 max.), except end verticals (Switched from sheeted: Spacing > 2-8-0).
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): S, B, T, A, U, G, V

REACTIONS. (size) K=0-5-8, R=Mechanical
Max Horz R=-1310(LC 10)
Max Uplift K=-1211(LC 13), R=-320(LC 12)
Max Grav K=16511(LC 43), R=10803(LC 38)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-B=-7497/668, B-C=-1681/7728, C-D=-8415/1348, D-F=-8415/1348, F-G=-11988/927, G-H=-15492/1064, H-J=-20864/1767, J-K=-21725/1639, A-R=-10371/423
BOT CHORD Q-R=-832/1101, O-Q=0/12621, N-O=0/12638, L-N=-347/15225, K-L=-1046/17454
WEBS B-Q=-1096/8149, B-S=-13880/2420, O-S=0/6316, C-S=-6762/1259, N-T=-288/9475, G-T=-254/9555, H-N=-6270/1428, H-L=-1023/6235, J-L=-1156/667, S-U=-19696/2762, U-V=-5044/1387, T-V=-478/0, A-Q=-204/8477, Q-S=-17287/1368, C-U=-1803/10494, D-U=-1695/462, G-V=-5134/1867, F-V=-669/2536, F-U=-6660/1064

NOTES-
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 2 rows staggered at 0-6-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered 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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 4-0-15, Exterior(2R) 4-0-15 to 12-4-12, Interior(1) 12-4-12 to 18-3-4, Exterior(2R) 18-3-4 to 29-4-12, Interior(1) 29-4-12 to 35-4-13, Exterior(2E) 35-4-13 to 39-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
4) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

Continued on page 2

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

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

9) Ceiling dead load (5.0 psf) on member(s). S-U, U-V, T-V
10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. N-O
11) Refer to girder(s) for truss to truss connections.
12) Provide metal plate or equivalent at bearing(s) R to support reaction shown.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) K=1211, R=320.
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: A-B=-263, B-G=-263, G-K=-262, O-R=-75, N-O=-150, N-W=-460(F=-385), S-T=-38

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	A1B	PIGGYBACK BASE	1	2	I48382990
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:42:56 2021 Page 1
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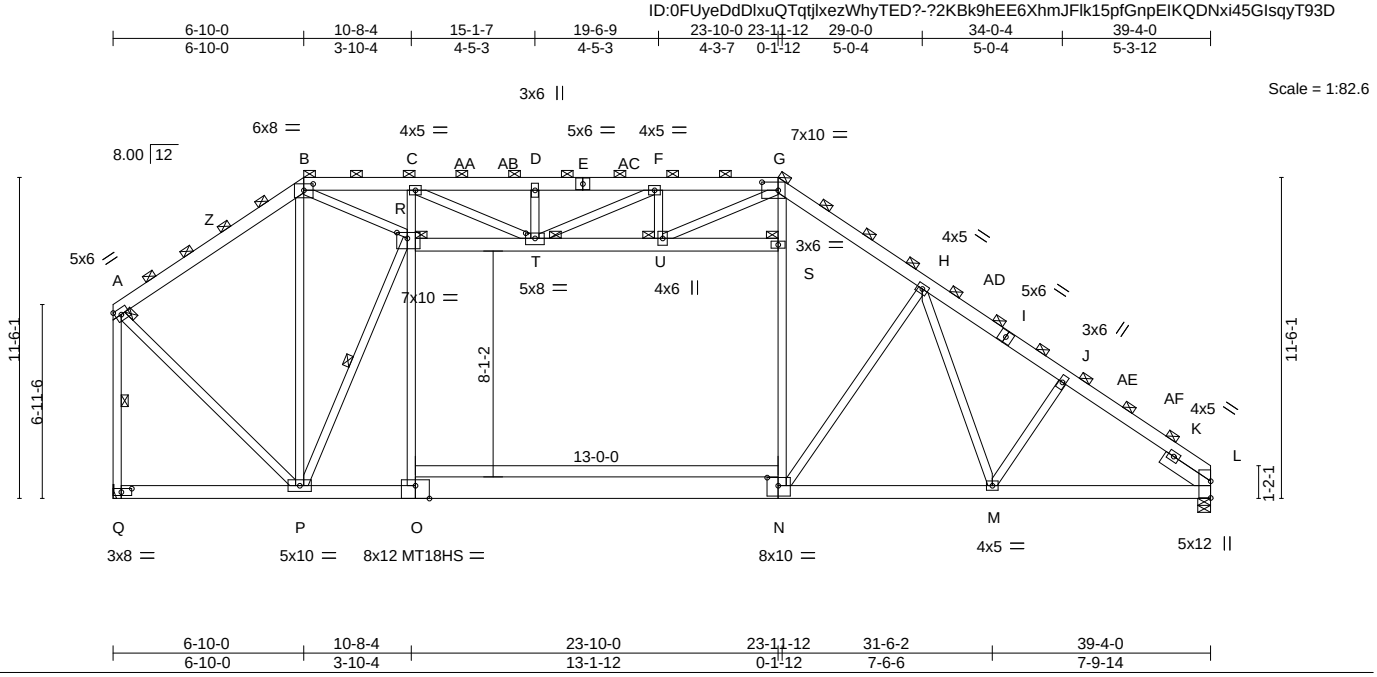

Plate Offsets (X,Y)-- [B:0-4-0,0-2-12], [G:0-7-0,0-3-8], [L:Edge,0-0-0], [N:0-4-12,0-3-8], [O:0-6-0,Edge], [Q:0-4-8,0-1-8], [R:0-4-8,0-2-8], [T:0-4-0,0-2-4]

LOADING (psf)		SPACING-	4-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.25	N-O	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.41	N-O	>999	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.99	Horz(CT)	0.06	L	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.17	N-O	894	360	Weight: 793 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1 *Except*
	O-Q: 2x6 SP 2400F 2.0E, N-O: 2x10 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except*
	C-O,G-N: 2x4 SP No.2, R-S: 2x6 SP No.1
SLIDER	Right 2x6 SP No.1 2-0-0

BRACING-

TOP CHORD	2-0-0 oc purlins (5-1-1 max.), except end verticals (Switched from sheeted: Spacing > 2-8-0).
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt A-Q, P-R
JOINTS	1 Brace at Jt(s): R, B, S, A, T, G, U

REACTIONS. (size) L=0-5-8, Q=Mechanical
Max Horz Q=-707(LC 10)
Max Uplift L=-227(LC 13), Q=-73(LC 12)
Max Grav L=4552(LC 39), Q=4757(LC 38)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD	A-B=-3270/307, B-C=-2625/1279, C-D=-5138/987, D-F=-5138/987, F-G=-5827/511, G-H=-5544/362, H-J=-6104/441, J-L=-6493/366, A-Q=-4597/150
BOT CHORD	P-Q=-444/592, O-P=0/4505, N-O=0/4538, M-N=0/4909, L-M=-130/5092
WEBS	B-P=-415/2142, B-R=-3531/990, O-R=0/2234, C-R=-2752/559, N-S=0/2685, G-S=0/2726, H-N=-1705/537, H-M=-379/510, J-M=-424/392, R-T=-5288/1072, T-U=-1228/1749, A-P=-37/3720, P-R=-5047/438, C-T=-780/3432, D-T=-992/268, G-U=-1177/2064, F-U=-845/640, F-T=-1751/431

NOTES-

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x10 - 2 rows staggered at 0-9-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered 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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 4-0-15, Exterior(2R) 4-0-15 to 12-4-12, Interior(1) 12-4-12 to 18-3-4, Exterior(2R) 18-3-4 to 29-4-12, Interior(1) 29-4-12 to 35-4-13, Exterior(2E) 35-4-13 to 39-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
4) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) Ceiling dead load (5.0 psf) on member(s). R-T, T-U, S-U
10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. N-O
11) Refer to girder(s) for truss to truss connections.

Continued on page 2

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

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

12) Provide metal plate or equivalent at bearing(s) Q to support reaction shown.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) Q except (jt=lb) L=227.
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) Attic room checked for L/360 deflection.

Job	Truss	Truss Type	Qty	Ply	NT403 Plan	I48382991
211675	A1G	Piggyback Base	2	1	Job Reference (optional)	

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:42:58 2021 Page 1
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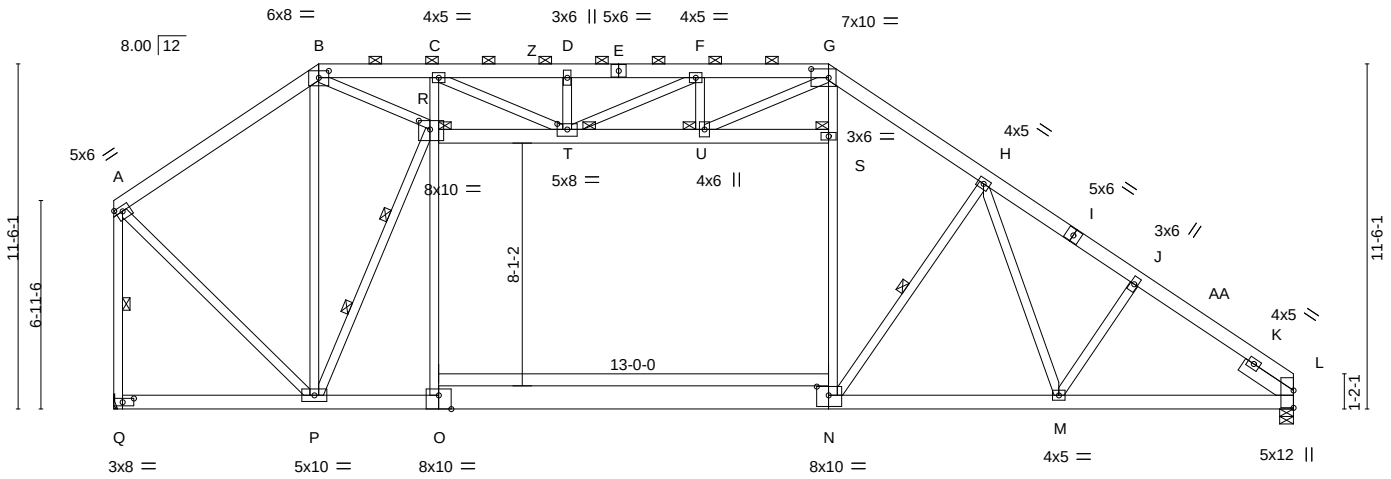
6-10-0	10-8-4	15-1-7	19-6-9	23-10-0	23-11-12	29-0-0	34-0-4	39-4-0
6-10-0	3-10-4	4-5-3	4-5-3	4-3-7	0-1-12	5-0-4	5-0-4	5-3-12

Scale = 1:76.8



6-10-0	10-8-4	23-10-0	23-11-12	31-6-2	39-4-0
6-10-0	3-10-4	13-1-12	0-1-12	7-6-6	7-9-14

Plate Offsets (X,Y)-- [A:0-2-12,0-2-0], [B:0-4-0,0-2-12], [G:0-7-0,0-3-8], [L:Edge,0-0-0], [N:0-4-12,0-3-8], [O:0-5-0,Edge], [Q:0-4-8,0-1-8], [R:0-4-8,0-3-8], [T:0-4-0,0-2-4]

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.25	N-O	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.42	N-O	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.06	L	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.18	N-O	864	360	Weight: 397 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x6 SP No.1
BOT CHORD	2x6 SP No.1 *Except* N-O: 2x10 SP 2400F 2.0E
WEBS	2x4 SP No.3 *Except* C-O,G-N: 2x4 SP No.2, R-S: 2x6 SP No.1
SLIDER	Right 2x6 SP No.1 2-0-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 3-3-10 oc purlins, except end verticals, and 2-0-0 oc purlins (4-5-9 max.): B-G.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 1-4-12 oc bracing: O-P.
WEBS	1 Row at midpt H-N, A-Q 2 Rows at 1/3 pts P-R
JOINTS	1 Brace at Jt(s): R, S, T, U

REACTIONS. (size) L=0-5-8, Q=Mechanical
Max Horz Q=-354(LC 10)
Max Uplift L=-41(LC 13)
Max Grav L=2276(LC 39), Q=2379(LC 38)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD	A-B=-1636/218, B-C=-1228/683, C-D=-2558/504, D-F=-2558/504, F-G=-2908/364, G-H=-2772/254, H-J=-3055/271, J-L=-3249/234, A-Q=-2301/169
BOT CHORD	P-Q=-222/297, O-P=0/2253, N-O=0/2269, M-N=-5/2455, L-M=-109/2549
WEBS	B-P=-124/1105, B-R=-1838/377, O-R=0/1077, C-R=-1381/277, N-S=0/1354, G-S=0/1374, H-N=-853/273, H-M=-196/258, R-T=-2708/371, T-U=-631/869, A-P=-19/1861, P-R=-2523/143, C-T=-291/1723, D-T=-496/135, G-U=-608/1026, F-U=-420/329, F-T=-899/124

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) 0-1-12 to 4-0-15, Corner(3R) 4-0-15 to 10-8-4, Exterior(2N) 10-8-4 to 19-10-13, Corner(3R) 19-10-13 to 27-9-3, Exterior(2N) 27-9-3 to 35-4-13, Corner(3E) 35-4-13 to 39-4-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) Provide adequate drainage to prevent water ponding.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Ceiling dead load (5.0 psf) on member(s). R-T, T-U, S-U
7) Bottom chord live load (40.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. N-O
8) Refer to girder(s) for truss to truss connections.
9) Provide metal plate or equivalent at bearing(s) Q to support reaction shown.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) L.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) Attic room checked for L/360 deflection.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	B1	HOWE	13	1	I48382992
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:00 2021 Page 1
ID:0FUyeDdDlxuQTqtjlxezWhyTED?-upaiZXlkHL17FwYWzsAlp6yTuvnI9l7I?iEW?byT939

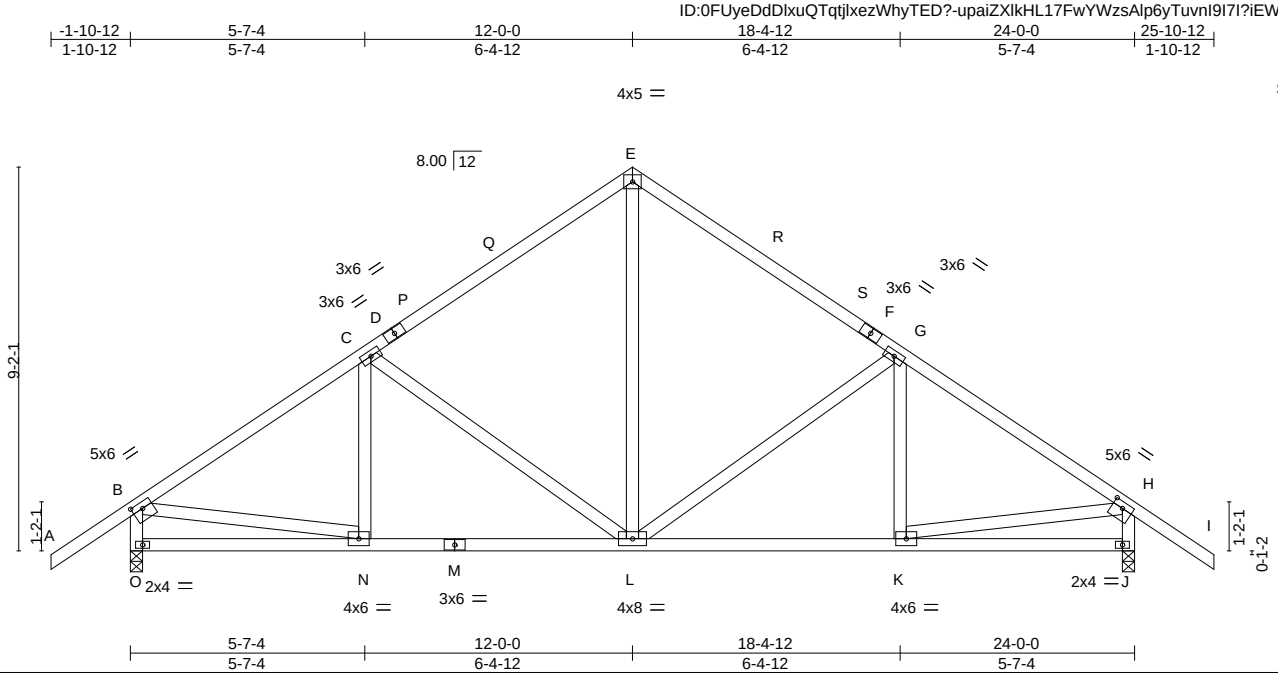


Plate Offsets (X,Y)-- [B:0-3-0,0-1-12], [H:0-3-0,0-1-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.04	K-L	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.09	K-L	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.02	J	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 152 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x4 SP No.2 *Except* D-E,E-F: 2x4 SP 1650F 1.5E
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3

BRACING-

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

REACTIONS. (size) O=0-3-8, J=0-3-8
Max Horz O=-265(LC 10)
Max Uplift O=-145(LC 12), J=-145(LC 13)
Max Grav O=1253(LC 19), J=1253(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

TOP CHORD	B-C=-1383/147, C-E=-1050/195, E-G=-1050/195, G-H=-1383/147, B-O=-1201/201, H-J=-1201/201
BOT CHORD	N-O=-212/291, L-N=-126/1081, K-L=-3/1081
WEBS	E-L=-57/541, C-L=-451/191, G-L=-451/191, B-N=-35/1084, H-K=-35/1084

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -1-10-12 to 1-1-4, Interior(1) 1-1-4 to 9-0-0, Exterior(2R) 9-0-0 to 15-0-0, Interior(1) 15-0-0 to 22-10-12, Exterior(2E) 22-10-12 to 25-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 16.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearing at joint(s) O, J considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) O=145, J=145.
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.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	B1A	Roof Special	3	1	I48382993
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:01 2021 Page 1
ID:0FUyeDdDlxuQTqtjlxezWhyTED?-M074ntlM2e9_s47iXah_MJVe5J8Rul0REMz3X1yT938

-1-10-12	5-7-4	12-0-0	18-4-12	24-0-0	25-10-12
1-10-12	5-7-4	6-4-12	6-4-12	5-7-4	1-10-12

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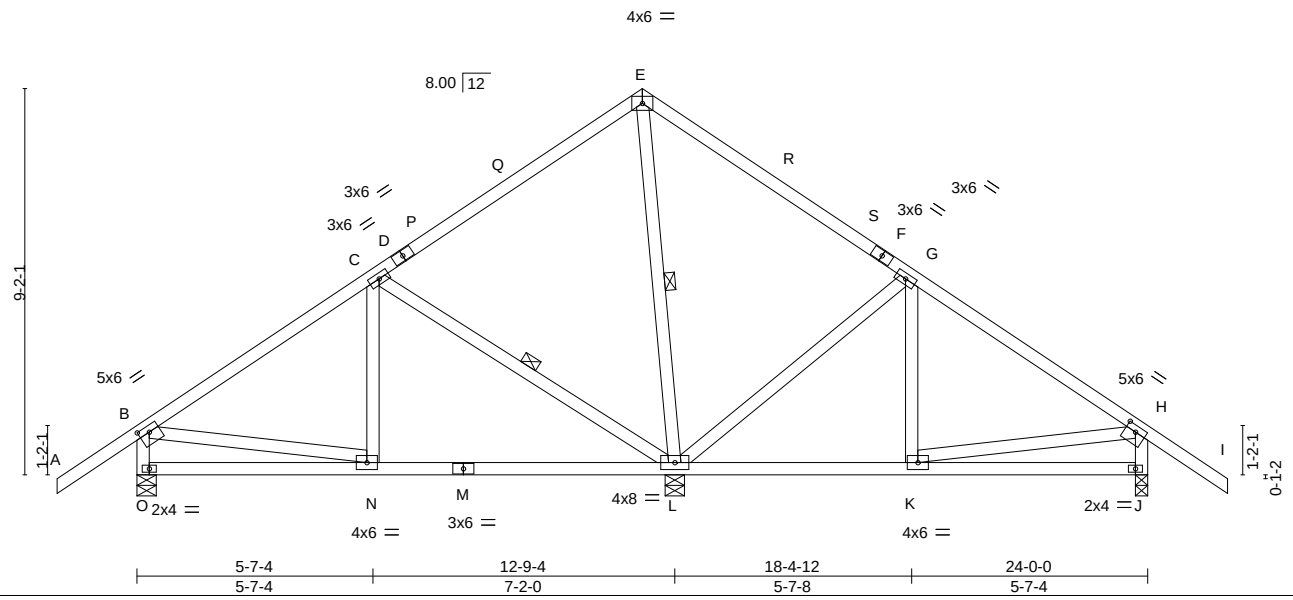

5-7-4	12-9-4	18-4-12	24-0-0
5-7-4	7-2-0	5-7-8	5-7-4

Plate Offsets (X,Y)-- [B:0-3-0,0-1-12], [H:0-3-0,0-1-12]

LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	25.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.05	L-N	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.10	L-N	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.56	Horz(CT)	0.01	J	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 152 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

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

REACTIONS. (size) O=0-5-8, L=0-5-8, J=0-3-8
Max Horz O=-265(LC 10)
Max Uplift O=-92(LC 12), L=-114(LC 12), J=-97(LC 13)
Max Grav O=698(LC 19), L=1248(LC 1), J=609(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD B-C=-597/68, C-E=-119/260, E-G=-61/319, G-H=-462/69, B-O=-653/145, H-J=-557/142
BOT CHORD N-O=-218/273, L-N=-118/436, K-L=0/318
WEBS E-L=-574/48, G-L=-554/204, C-L=-584/200, B-N=0/456, H-K=-4/340

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -1-10-12 to 1-1-4, Interior(1) 1-1-4 to 9-0-0, Exterior(2R) 9-0-0 to 15-0-0, Interior(1) 15-0-0 to 22-10-12, Exterior(2E) 22-10-12 to 25-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 16.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearing at joint(s) O, J considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) O, J except (jt=lb) L=114.
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.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	B1B	HOWE	13	1	I48382994
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:02 2021 Page 1
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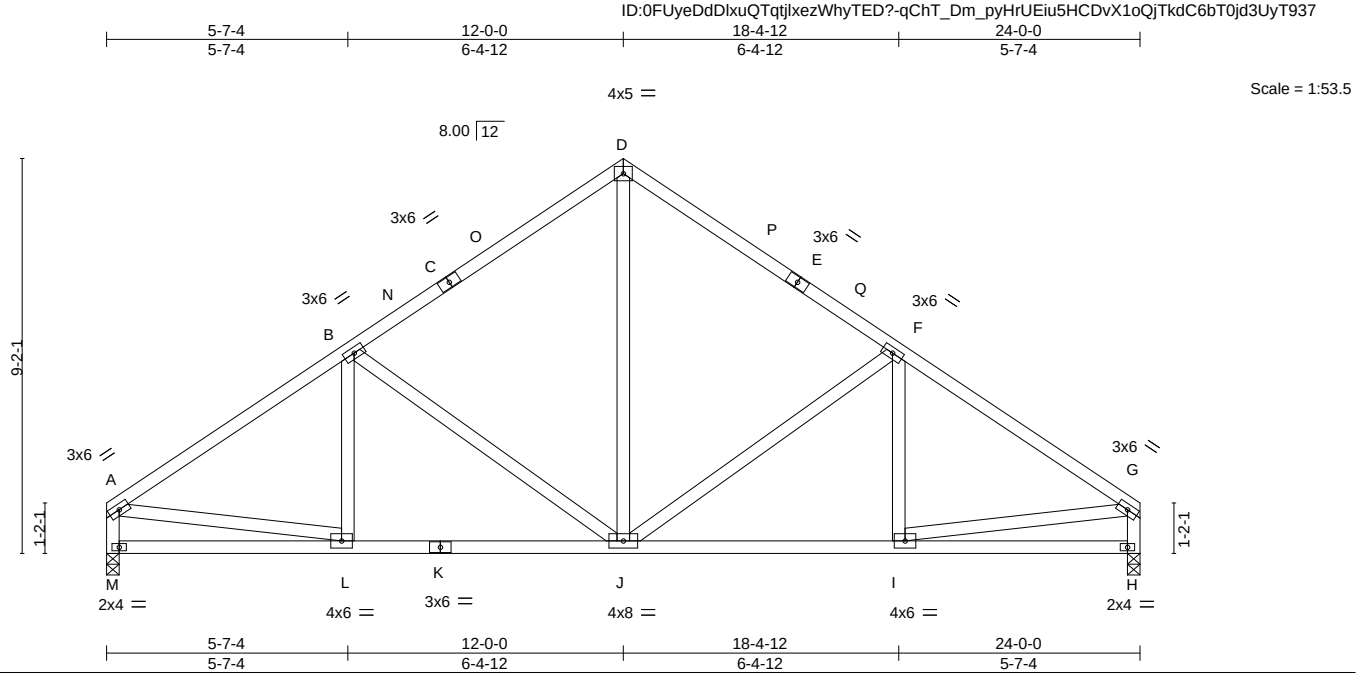

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	1.00	Vert(LL)	-0.04	J-L	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.09	J-L	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.57	Horz(CT)	0.02	H	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 145 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

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

REACTIONS. (size) M=0-3-8, H=0-3-8
Max Horz M=231(LC 11)
Max Uplift M=-100(LC 12), H=-100(LC 13)
Max Grav M=1107(LC 18), H=1107(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-B=-1413/160, B-D=-1066/205, D-F=-1066/205, F-G=-1413/160, A-M=-1054/127, G-H=-1054/127
BOT CHORD L-M=-216/285, J-L=-157/1114, I-J=-54/1114
WEBS D-J=-68/572, B-J=-478/199, F-J=-478/199, A-L=-37/1038, G-I=-37/1038

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 9-0-0, Exterior(2R) 9-0-0 to 15-0-0, Interior(1) 15-0-0 to 20-10-4, Exterior(2E) 20-10-4 to 23-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearing at joint(s) M, H 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 capable of withstanding 100 lb uplift at joint(s) except (jt=lb) M=100, H=100.
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.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	B1C	Roof Special Girder	1	3	I48382995
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:04 2021 Page 1
ID:0FUyeDdDlxuQTqtjlxezWhyTED?-mbpDPvoFLZYZjXsHCiFh_y7AXW8A52HuwKCk8MyT935

4-9-12	8-4-14	12-0-0	15-7-2	19-2-4	24-0-0
4-9-12	3-7-2	3-7-2	3-7-2	3-7-2	4-9-12

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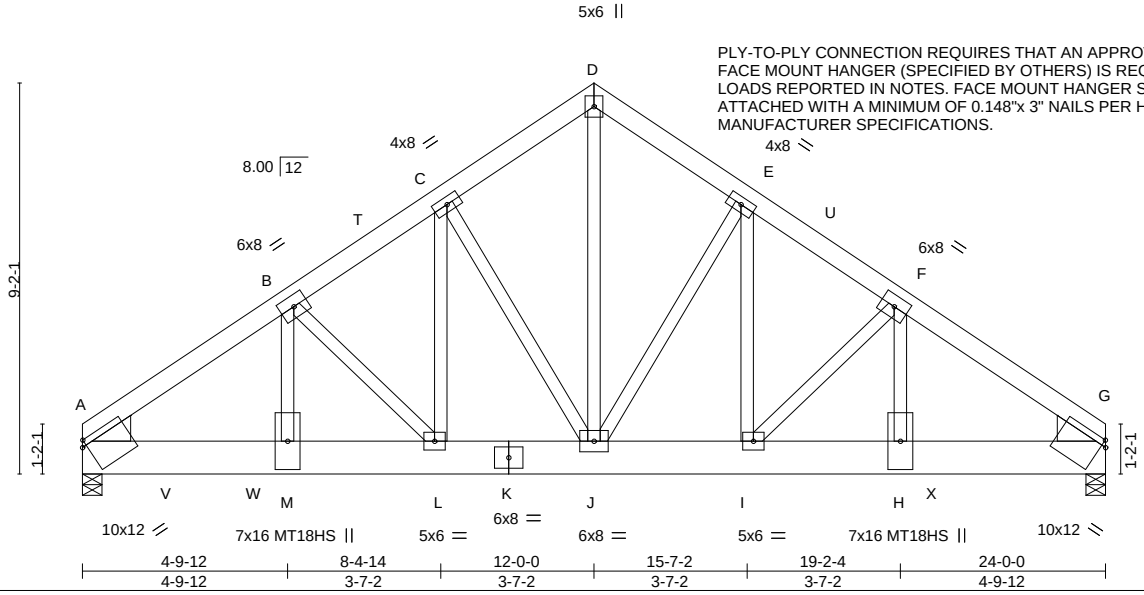


4-9-12	8-4-14	12-0-0	15-7-2	19-2-4	24-0-0
4-9-12	3-7-2	3-7-2	3-7-2	3-7-2	4-9-12

Plate Offsets (X,Y)-- [A:0-1-4,0-1-12], [G:0-1-4,0-1-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.13	H-I	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.24	H-I	>999	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.06	G	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 717 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except*
D-J,F-H,B-M: 2x4 SP No.2
WEDGE
Left: 2x8 SP No.2 , Right: 2x8 SP No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-6-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) A=0-5-8, G=0-5-8
Max Horz A=-199(LC 6)
Max Uplift A=-2205(LC 10), G=-2160(LC 11)
Max Grav A=13784(LC 16), G=13512(LC 17)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD A-B=-17465/2801, B-C=-11786/1912, C-D=-9044/1532, D-E=-9047/1532, E-F=-12042/1954, F-G=-18132/2914
BOT CHORD A-M=-2348/14179, L-M=-2348/14179, J-L=-1560/9871, I-J=-1533/10098, H-I=-2303/14710, G-H=-2303/14710
WEBS D-J=-1585/9517, E-J=-5179/934, E-I=-935/5617, F-I=-6643/1208, F-H=-1384/8530, C-J=-4731/860, C-L=-852/5117, B-L=-6205/1134, B-M=-1283/7930

NOTES-
1) N/A
2) N/A
3) 3-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 - 5 rows staggered at 0-4-0 oc, Except member K-G 2x10 - 5 rows staggered at 0-4-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member F-H 2x4 - 2 rows staggered at 0-4-0 oc, member B-M 2x4 - 2 rows staggered at 0-4-0 oc.
4) 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.
5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.33 plate grip DOL=1.33
6) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Unbalanced snow loads have been considered for this design.
8) All plates are MT20 plates unless otherwise indicated.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) A=2205, G=2160.
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.

Continued on page 2

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1936 lb down and 321 lb up at 2-0-0, 1936 lb down and 321 lb up at 4-0-0, 8610 lb down and 1428 lb up at 4-9-12, and 8610 lb down and 1428 lb up at 19-2-4, and 3968 lb down and 658 lb up at 19-11-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

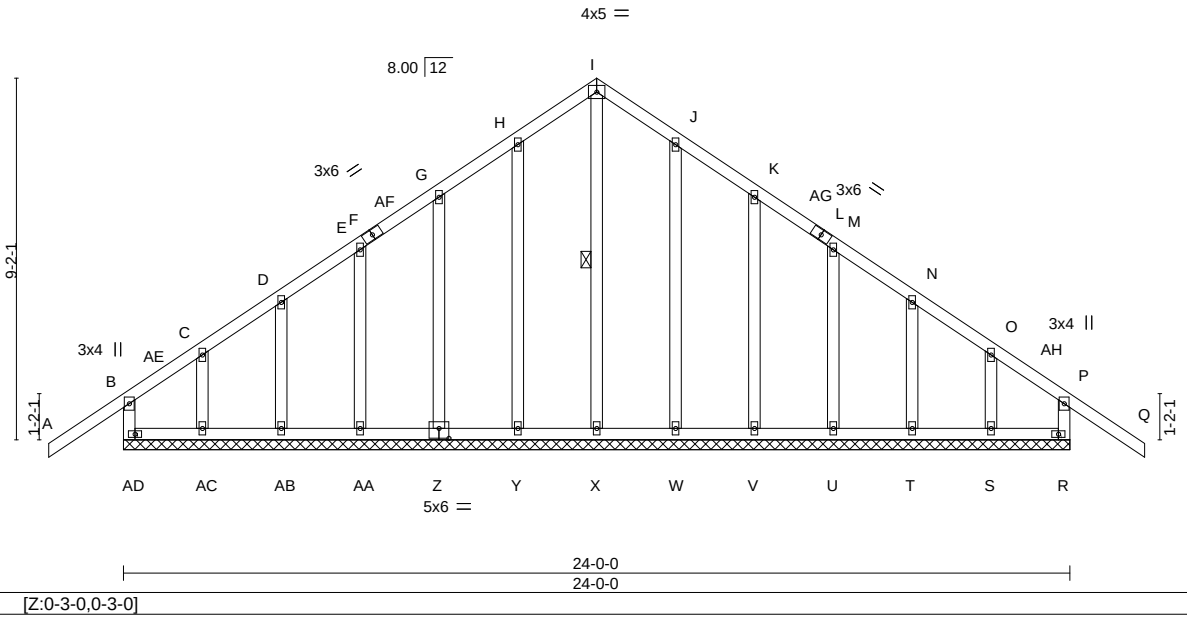
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: A-D=-70, D-G=-70, N-Q=-20
   Concentrated Loads (lb)
   Vert: H=-8610(F) M=-8610(F) V=-1936(F) W=-1936(F) X=-3968(F)

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	B1G	GABLE	1	1	I48382996
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:05 2021 Page 1
ID:0FUyeDdDlxuQTqtjlxezWhyTED?-FnNbdEot6tgPLhRTmQmwW9fOrwZ8qdM19_xHgpyT934

-1-10-12 | 12-0-0 | 24-0-0 | 25-10-12
1-10-12 | 12-0-0 | 12-0-0 | 1-10-12

Scale = 1:58.4



24-0-0
24-0-0

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

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	0.02	Q	n/r	120	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.12	Vert(CT)	0.00	Q	n/r	90		
TCDL	10.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.01	R	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 170 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	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.
WEBS	1 Row at midpt I-X

REACTIONS. All bearings 24-0-0.
(lb) - Max Horz AD=-265(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) R, Y, Z, AA, AB, W, V, U, T except AD=-115(LC 8), AC=-114(LC 12), S=-105(LC 13)
Max Grav All reactions 250 lb or less at joint(s) AA, AB, AC, U, T, S except AD=311(LC 18), R=311(LC 18), X=277(LC 25), Y=294(LC 19), Z=264(LC 19), W=294(LC 20), V=264(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD H-I=-177/299, I-J=-177/299, B-AD=-290/164, P-R=-290/164
WEBS I-X=-264/99, H-Y=-254/81, J-W=-254/81

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -1-10-12 to 1-1-4, Exterior(2N) 1-1-4 to 9-0-0, Corner(3R) 9-0-0 to 15-0-0, Exterior(2N) 15-0-0 to 22-10-12, Corner(3E) 22-10-12 to 25-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
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) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 16.0 psf or 2.00 times flat roof load of 25.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) Bearing at joint(s) AD, R considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) R, Y, Z, AA, AB, W, V, U, T except (jt=lb) AD=115, AC=114, S=105.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	Z1	Roof Special	2	1	I48382997
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:07 2021 Page 1
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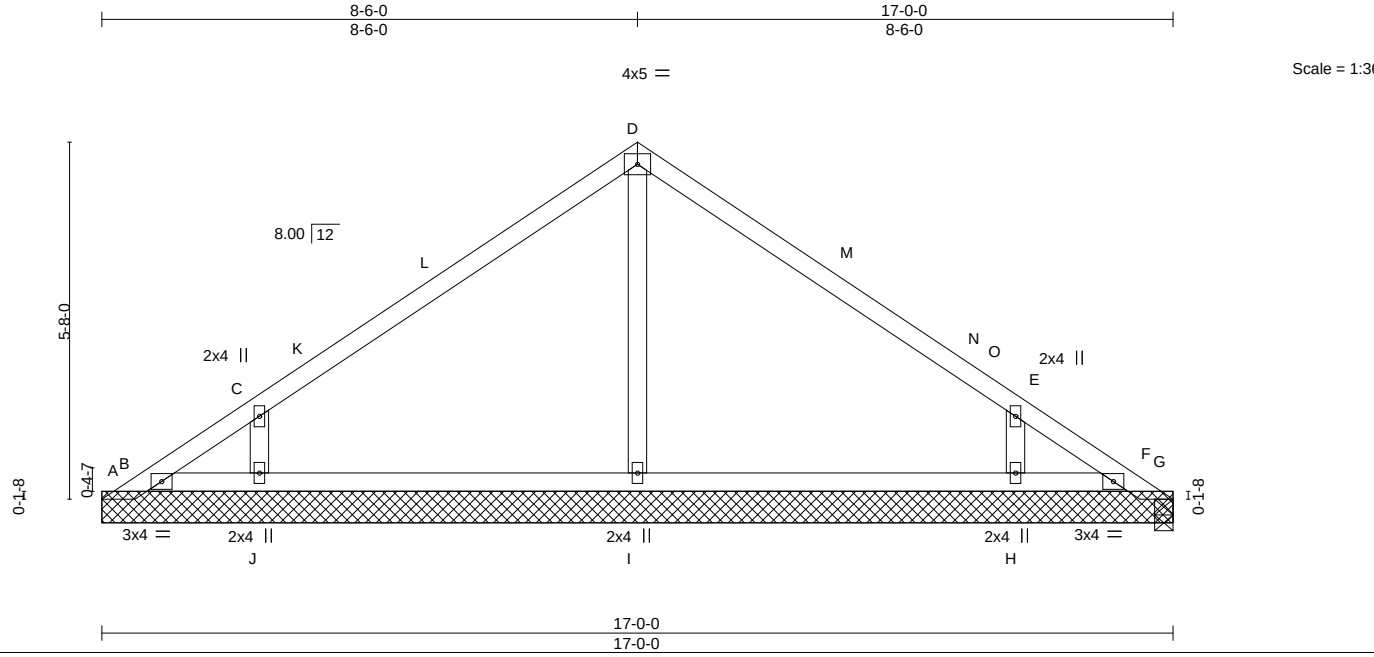

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.02	H-I	>999	240	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.04	H-I	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.00	G	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 64 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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. All bearings 17-0-0.
(lb) - Max Horz A=-139(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) A, G except B=-365(LC 19), F=-296(LC 20), J=-225(LC 12), H=-222(LC 13)
Max Grav All reactions 250 lb or less at joint(s) A, G, G, B, F except I=461(LC 20), J=772(LC 19), H=766(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD C-D=-274/127, D-E=-274/109
WEBS D-I=-333/43, C-J=-680/292, E-H=-677/290

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior(1) 3-3-2 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior(1) 11-6-0 to 13-10-4, Exterior(2E) 13-10-4 to 16-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) A, G except (jt=lb) B=365, F=296, J=225, H=222.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	Z1A	Roof Special	3	1	I48382998
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:09 2021 Page 1
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8-6-0 17-0-0
8-6-0 8-6-0

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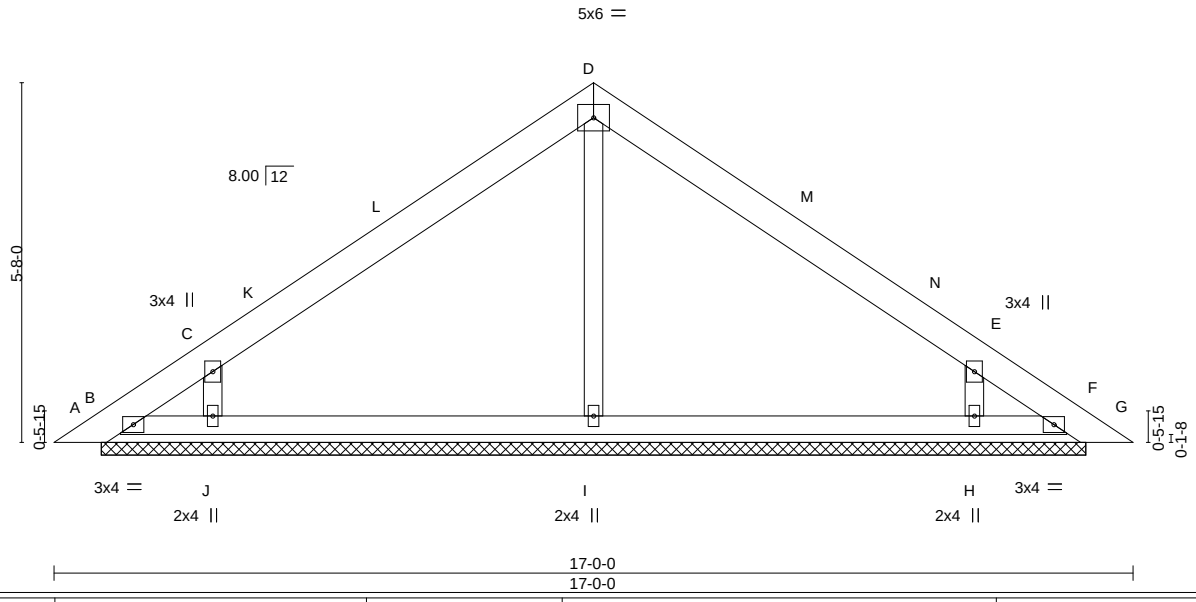

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	F	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 79 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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. All bearings 15-6-2.
(lb) - Max Horz A=-134(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) A, G except B=-338(LC 19), F=-338(LC 20), J=-236(LC 12), H=-232(LC 13)
Max Grav All reactions 250 lb or less at joint(s) A, G, B, F except I=433(LC 20), J=808(LC 19), H=808(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD C-D=-297/141, D-E=-297/124
WEBS D-I=-306/31, C-J=-702/304, E-H=-702/300

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-4-15 to 3-4-15, Interior(1) 3-4-15 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior(1) 11-6-0 to 13-7-1, Exterior(2E) 13-7-1 to 16-7-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
2) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) Gable requires continuous bottom chord bearing.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) A, G except (jt=lb) B=338, F=338, J=236, H=232.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

October 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	Z1AG	GABLE	1	1	I48382999
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:10 2021 Page 1
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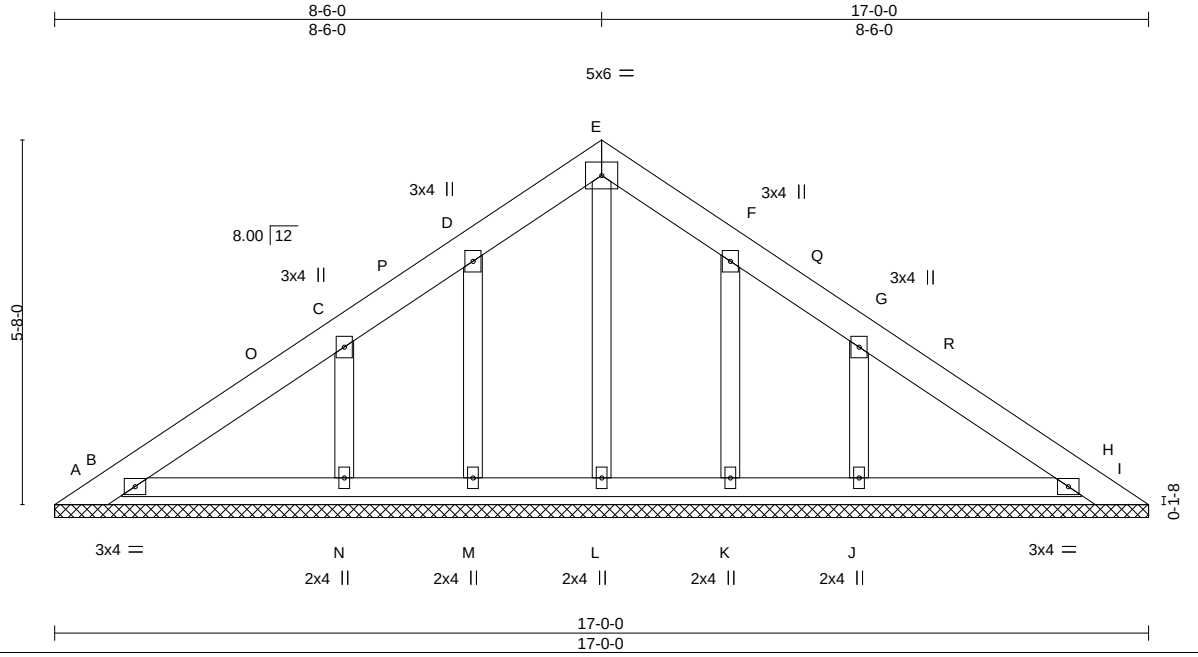

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	H	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 94 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x6 SP No.1
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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. All bearings 17-0-0.
(lb) - Max Horz A=-134(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) B, H, M, N, K, J except A=-145(LC 22), I=-104(LC 20)
Max Grav All reactions 250 lb or less at joint(s) A, I, L except B=343(LC 19), H=343(LC 20), M=255(LC 19), N=358(LC 19), K=255(LC 20), J=358(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS C-N=-293/135, G-J=-293/135

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-4-15 to 3-4-15, Interior(1) 3-4-15 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior(1) 11-6-0 to 13-7-1, Exterior(2E) 13-7-1 to 16-7-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
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) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) B, H, M, N, K, J except (jt=lb) A=145, I=104.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	NT403 Plan
211675	Z1G	GABLE	1	1	I48383000
					Job Reference (optional)

Heartland Truss, Inc, Plattsburg, MO - 64477, 8.430 s Aug 16 2021 MiTek Industries, Inc. Fri Oct 15 13:43:12 2021 Page 1
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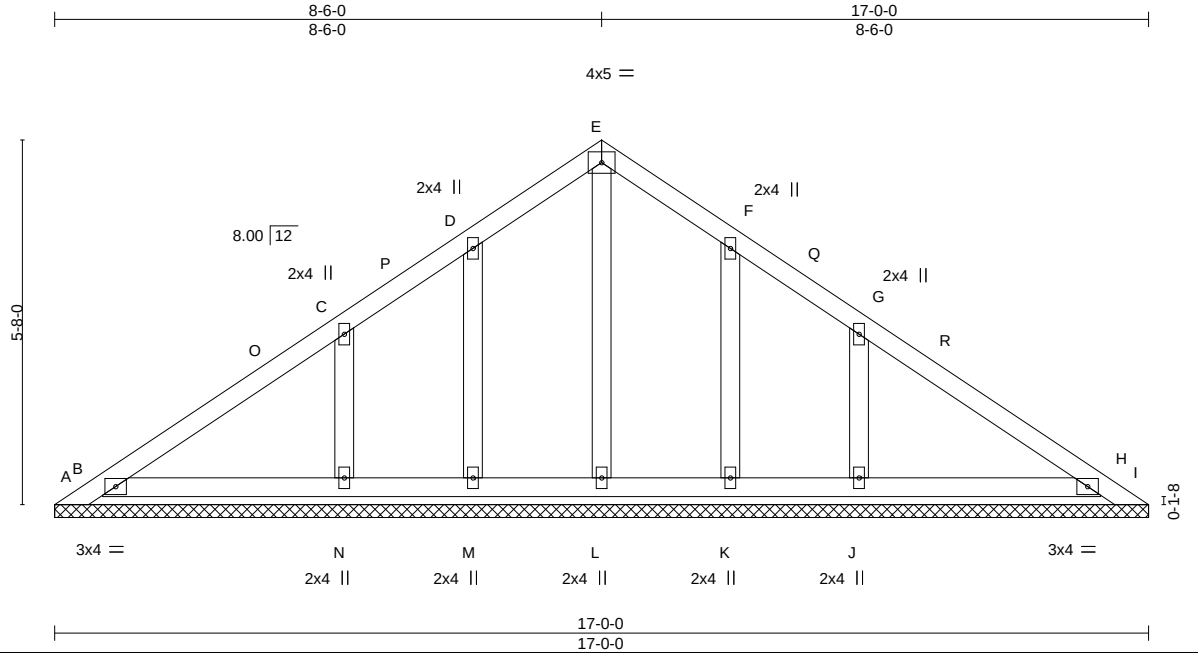

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
(Roof Snow=25.0)		Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	H	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-S								
BCDL	10.0										Weight: 79 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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. All bearings 17-0-0.
(lb) - Max Horz A=-137(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) H, M, K except A=-224(LC 22), I=-168(LC 20), B=-126(LC 12), N=-101(LC 12), J=-101(LC 13)
Max Grav All reactions 250 lb or less at joint(s) A, I, L, M, K except B=408(LC 22), H=399(LC 20), N=384(LC 19), J=384(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS C-N=-310/140, G-J=-310/140

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=20ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior(1) 3-3-2 to 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior(1) 11-6-0 to 13-8-14, Exterior(2E) 13-8-14 to 16-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.33 plate grip DOL=1.33
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) TCLL: ASCE 7-16; Pf=25.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) H, M, K except (jt=lb) A=224, I=168, B=126, N=101, J=101.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

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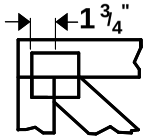
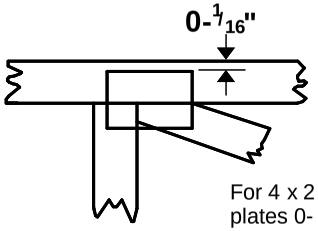
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

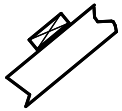
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

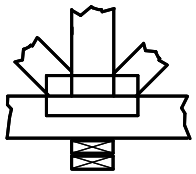
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

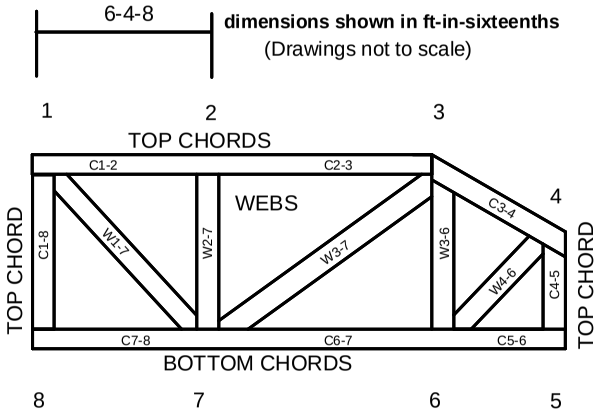


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.