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

Re: P230132-01
Roof - Osage Lot 71

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Premier Building Supply (Springhill, KS)20300 W 207th Street.

Pages or sheets covered by this seal: I57221927 thru I57221953

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

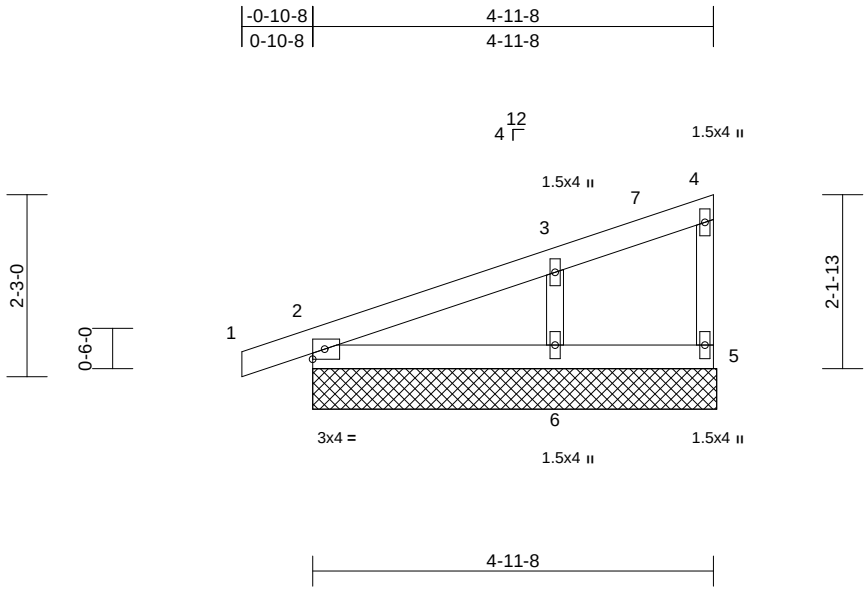
Missouri COA: Engineering 001193

March 17,2023

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	Roof - Osage Lot 71	I57221927
P230132-01	B1	Monopitch Supported Gable	1	1	Job Reference (optional)	



Scale = 1:28.5

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	0.12	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

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

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

REACTIONS (size) 2=5-0-0, 5=5-0-0, 6=5-0-0
Max Horiz 2=85 (LC 8)
Max Uplift 2=-49 (LC 8), 5=-14 (LC 8), 6=-78 (LC 12)
Max Grav 2=182 (LC 1), 5=47 (LC 1), 6=269 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-141/58, 3-4=-29/8, 4-5=-37/47
BOT CHORD 2-6=0/0, 5-6=0/0
WEBS 3-6=-205/304

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-10-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 5, 49 lb uplift at joint 2 and 78 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

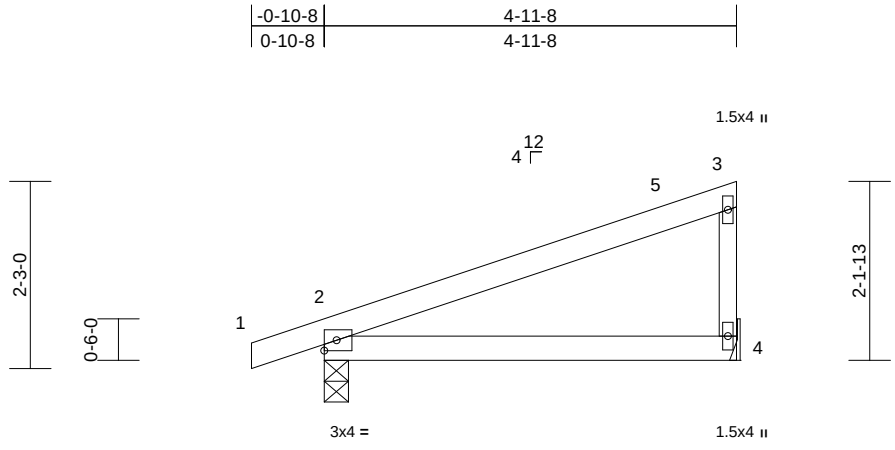
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221928
P230132-01	B2	Monopitch	3	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:26 Page: 1
ID:4QEzufucAXMxzh8xWxEVwDzwwpA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDuf7J4zJC?r



Scale = 1:27.7

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	0.49	Vert(LL)	-0.03	2-4	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.06	2-4	>958	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 18 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=85 (LC 8)
Max Uplift 2=-83 (LC 8), 4=-59 (LC 12)
Max Grav 2=291 (LC 1), 4=204 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-100/45, 3-4=-157/228
BOT CHORD 2-4=0/0

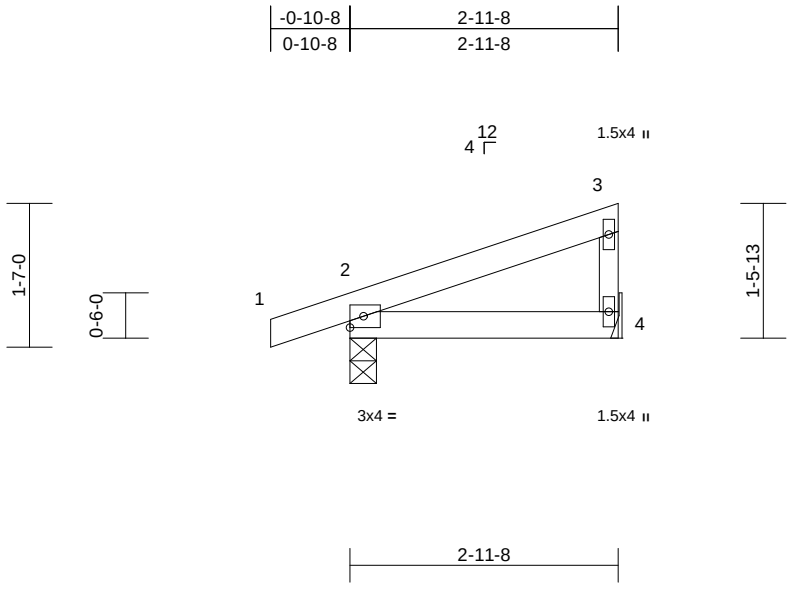
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 4-10-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 4 and 83 lb uplift at joint 2.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221929
P230132-01	B3	Monopitch	7	1	Job Reference (optional)	



Scale = 1:25.4

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	0.13	Vert(LL)	0.00	2-4	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	-0.01	2-4	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 11 lb	FT = 20%

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

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

REACTIONS (size) 2=0-3-8, 4= Mechanical
Max Horiz 2=56 (LC 8)
Max Uplift 2=-72 (LC 8), 4=-32 (LC 12)
Max Grav 2=207 (LC 1), 4=108 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-3=-61/28, 3-4=-81/124
BOT CHORD 2-4=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 4 and 72 lb uplift at joint 2.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

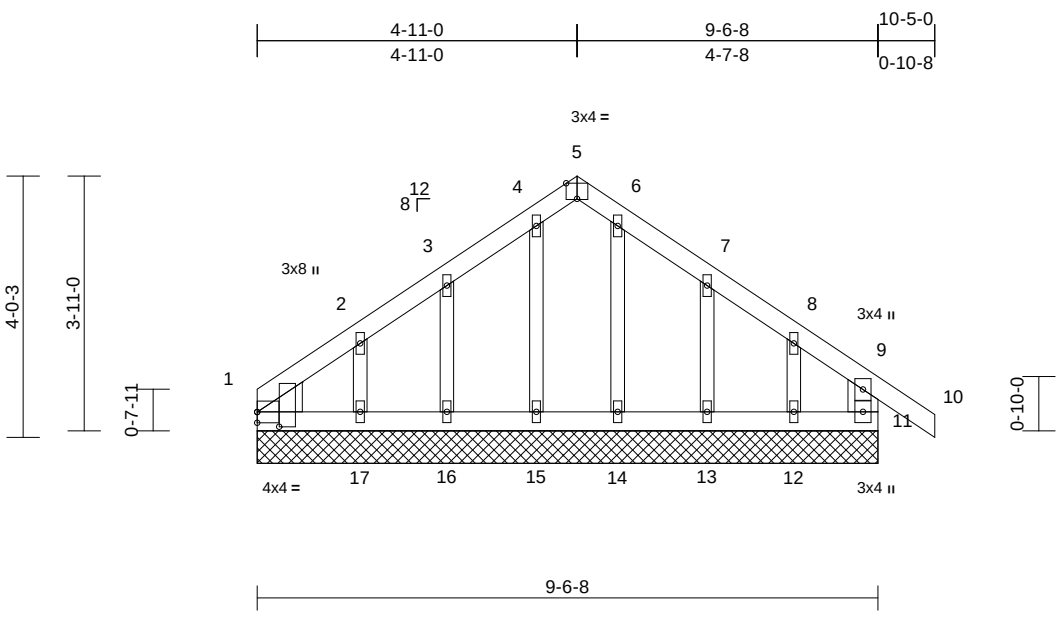
LOAD CASE(S) Standard

March 17,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71
P230132-01	C1	Common Structural Gable	1	1	Job Reference (optional) I57221930

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:26 Page: 1
ID:EiusZUx23f_KaFqBj9FMc9zwwlF-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4ZJC?I



Scale = 1:35.4

Plate Offsets (X, Y): [1:0-2-11,0-4-1], [5:0-2-0,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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 45 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SPF No.2
OTHERS 2x3 SPF No.2
WEDGE Left: 2x6 SPF No.2

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

REACTIONS (size) 1=9-6-8, 11=9-6-8, 12=9-6-8, 13=9-6-8, 14=9-6-8, 15=9-6-8, 16=9-6-8, 17=9-6-8
Max Horiz 1=117 (LC 11)
Max Uplift 1=-30 (LC 8), 11=-4 (LC 9), 12=-77 (LC 13), 13=-60 (LC 13), 15=-9 (LC 9), 16=-57 (LC 12), 17=-84 (LC 12)
Max Grav 1=85 (LC 20), 11=160 (LC 1), 12=94 (LC 20), 13=139 (LC 20), 14=116 (LC 1), 15=131 (LC 19), 16=119 (LC 19), 17=170 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-67/98, 6-7=-67/99, 7-8=-27/37, 8-9=-54/38, 9-10=0/43, 1-2=-101/97, 2-3=-67/65, 3-4=-67/98, 4-5=-67/99, 9-11=-138/68
BOT CHORD 1-17=-62/96, 16-17=-62/96, 15-16=-62/96, 14-15=-62/96, 13-14=-62/96, 12-13=-62/96, 11-12=-62/96
WEBS 4-15=-104/24, 6-14=-91/1, 2-17=-131/116, 8-12=-91/89, 3-16=-96/96, 7-13=-110/102

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 4-11-0, Exterior(2R) 4-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 11, 30 lb uplift at joint 1, 9 lb uplift at joint 15, 84 lb uplift at joint 17, 77 lb uplift at joint 12, 57 lb uplift at joint 16 and 60 lb uplift at joint 13.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

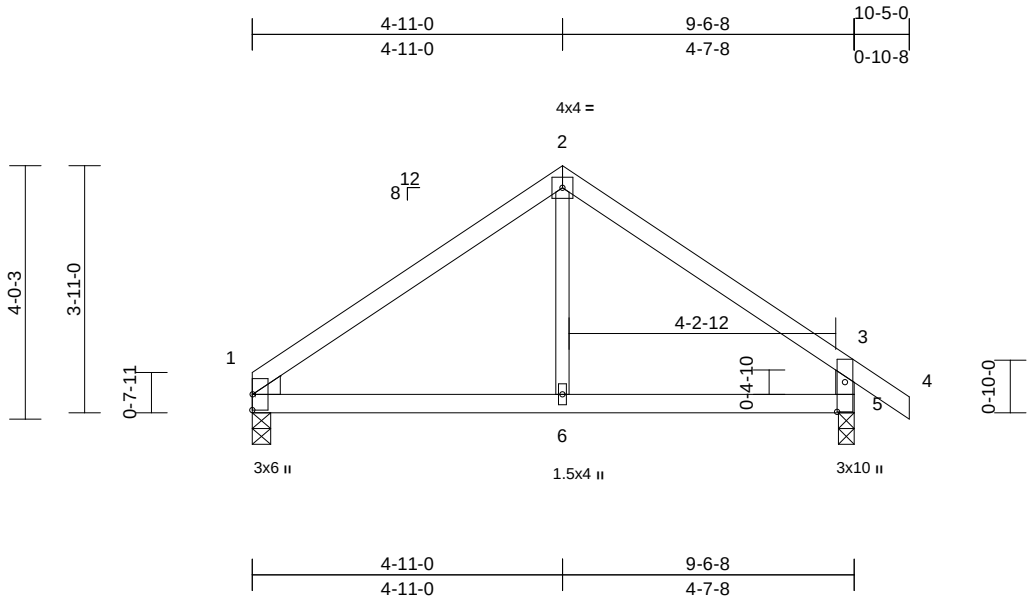
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221931
P230132-01	C2	Common	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:27 Page: 1
ID:jF5Ncuz?p4p7vTPjlDnW5Hzwwjv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4ZJC?1



Scale = 1:36.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	0.06	1-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.04	1-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 37 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 5-3:2x4 SP No.2
WEDGE Left: 2x4 SPF 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 10-0-0 oc bracing.

REACTIONS (size) 1=0-3-8, 5=0-3-0
Max Horiz 1=116 (LC 11)
Max Uplift 1=-57 (LC 12), 5=-82 (LC 13)
Max Grav 1=412 (LC 1), 5=492 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-3=-452/479, 3-4=0/40, 1-2=-465/468, 3-5=-445/419
BOT CHORD 1-6=-264/295, 5-6=-264/295
WEBS 2-6=-342/207

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 4-11-0, Exterior(2R) 4-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 82 lb uplift at joint 5 and 57 lb uplift at joint 1.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

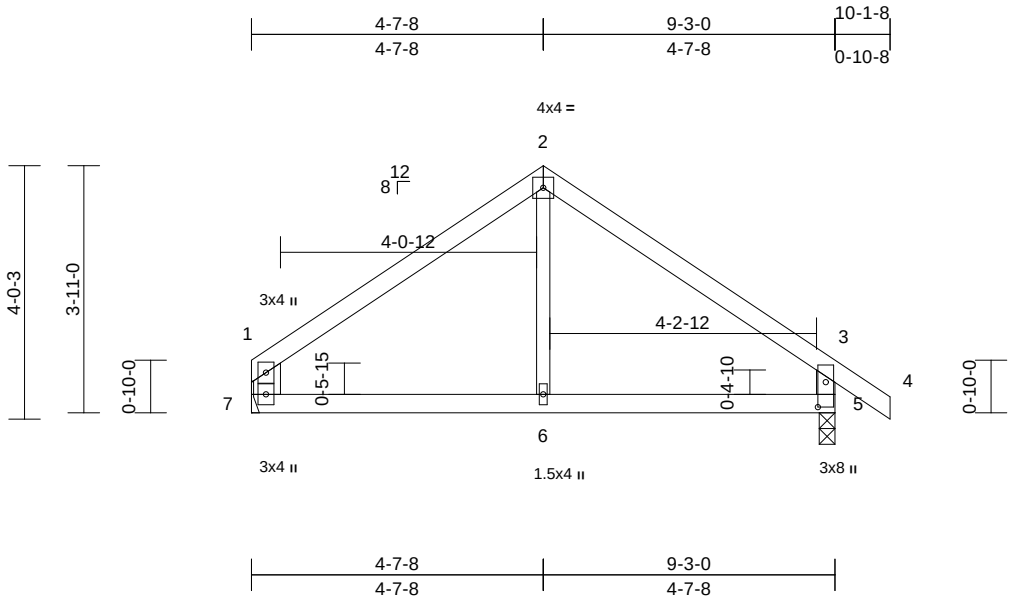
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221932
P230132-01	C3	Common	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:27 Page: 1
ID:omfbAuONF0YWRSsC6HOyKzzwwi4-RfC?PsB70Hq3NSgPqnL8w3uITXIGKWrCDof7J4ZJC?f



Scale = 1:36.5

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

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	0.32	Vert(LL)	0.03	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.03	5-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 37 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 7-1:2x6 SPF No.2, 5-3:2x4 SP No.2

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

REACTIONS (size) 5=0-3-0, 7= Mechanical
Max Horiz 7=-122 (LC 8)
Max Uplift 5=-81 (LC 13), 7=-54 (LC 12)
Max Grav 5=475 (LC 1), 7=395 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-3=-411/435, 3-4=0/40, 1-2=-404/434, 1-7=-339/330, 3-5=-423/400
BOT CHORD 6-7=-228/259, 5-6=-228/259
WEBS 2-6=-298/175

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 4-7-8, Exterior(2R) 4-7-8 to 9-7-8, Interior (1) 9-7-8 to 10-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; 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) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 5 and 54 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

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

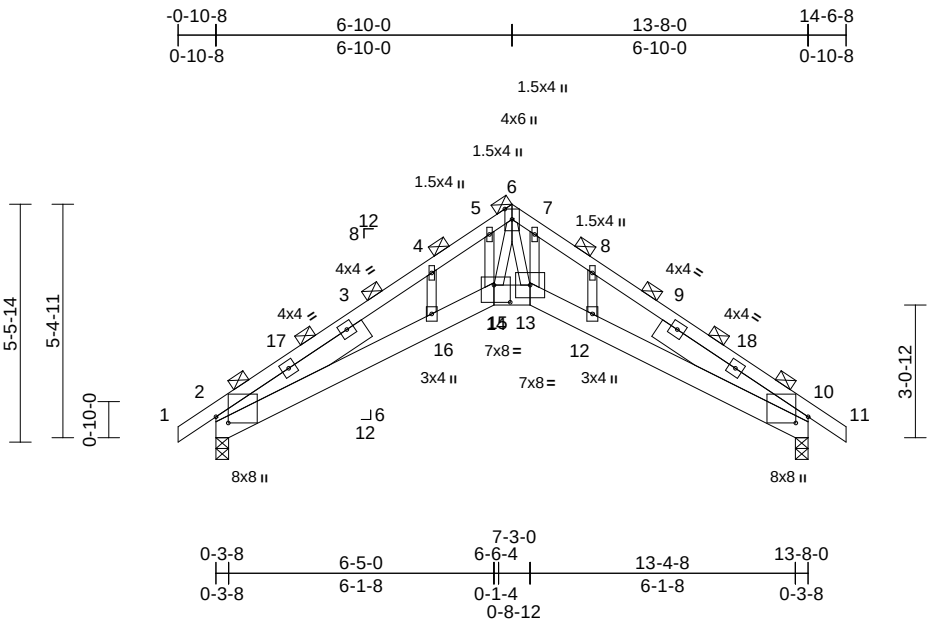
RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221933
P230132-01	D1	Roof Special Supported Gable	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:27 Page: 1
ID:wijvgVRNMEbdXh3iv6zXHnzww7s-RfC?PsB70Hq3NSgPqnL8w3uITXbGHWrCDoi7J4zJC?

04/12/2023



Scale = 1:53.2

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

Loading	(psf)	Spacing	4-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	-0.11	15-16	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.20	15-16	>785	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.49	Horz(CT)	0.25	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 77 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SPF No.2 *Except* 15-13:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x6 SPF No.2 -- 4-1-3, Right 2x6 SPF No.2 -- 4-1-3

BRACING
TOP CHORD 2-0-0 oc purlins (3-2-7 max.) (Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 10=0-3-8
Max Horiz 2=287 (LC 11)
Max Uplift 2=-219 (LC 12), 10=-219 (LC 13)
Max Grav 2=1344 (LC 1), 10=1344 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/19, 2-4=-3167/324, 4-5=-2829/530, 5-6=-2669/581, 6-7=-2684/550, 7-8=-2859/498, 8-10=-3191/316, 10-11=0/19
BOT CHORD 2-16=-248/2685, 15-16=-339/2770, 14-15=-201/2408, 13-14=-91/2118, 12-13=-134/2716, 10-12=-105/2646
WEBS 6-13=-423/1377, 6-14=-570/1549, 5-15=-5/190, 7-13=-114/264, 4-16=-140/339, 8-12=-169/358

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 6-10-0, Exterior(2R) 6-10-0 to 11-10-0, Interior (1) 11-10-0 to 14-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 studs spaced at 1-4-0 oc.
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) 2, 10 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 219 lb uplift at joint 2 and 219 lb uplift at joint 10.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

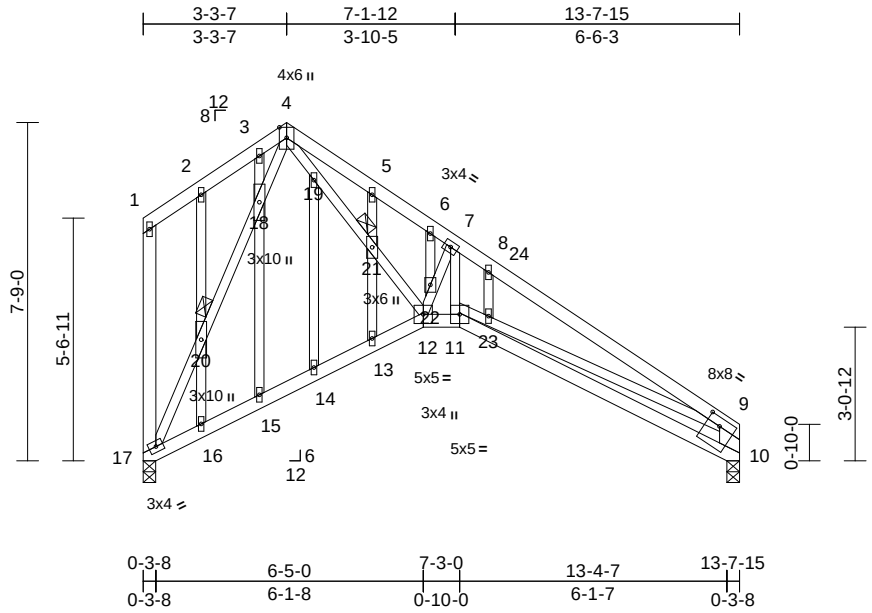
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221934
P230132-01	D2	Roof Special Structural Gable	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:28 Page: 1
ID:0Un07T0ZcCLyQZnshImJUDzwwdO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDon?J4z3C?f



Scale = 1:52.8

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

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	0.59	Vert(LL)	-0.10	11	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.18	10-11	>894	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.67	Horz(CT)	0.18	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 92 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 17-1:2x4 SP No.2, 10-9:2x6 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 20, 21

REACTIONS (size) 10=0-3-8, 17=0-3-7
Max Horiz 17=-286 (LC 10)
Max Uplift 10=-81 (LC 13), 17=-121 (LC 13)
Max Grav 10=598 (LC 1), 17=598 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-188/190, 2-3=-166/195, 3-4=-127/213, 4-5=-1065/316, 5-6=-1118/276, 6-7=-1274/331, 7-8=-1313/274, 8-9=-1638/240, 1-17=-184/165, 9-10=-757/224
BOT CHORD 16-17=-94/379, 15-16=-80/402, 14-15=-82/412, 13-14=-84/368, 12-13=-73/398, 11-12=-120/1231, 10-11=-173/556
WEBS 4-19=-193/1149, 19-21=-178/1037, 12-21=-184/1086, 12-22=-738/156, 7-22=-969/265, 7-11=-14/380, 17-20=-612/62, 18-20=-628/63, 4-18=-682/66, 11-23=-4/828, 9-23=-5/896, 3-18=-5/89, 15-18=-1/53, 14-19=-18/136, 2-20=-79/84, 16-20=-92/84, 5-21=-24/57, 13-21=-76/56, 6-22=-114/241, 8-23=-17/245

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 3-3-7, Exterior(2R) 3-3-7 to 8-3-7, Interior (1) 8-3-7 to 13-5-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 1.5x4 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) Bearing at joint(s) 10, 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 10 and 121 lb uplift at joint 17.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

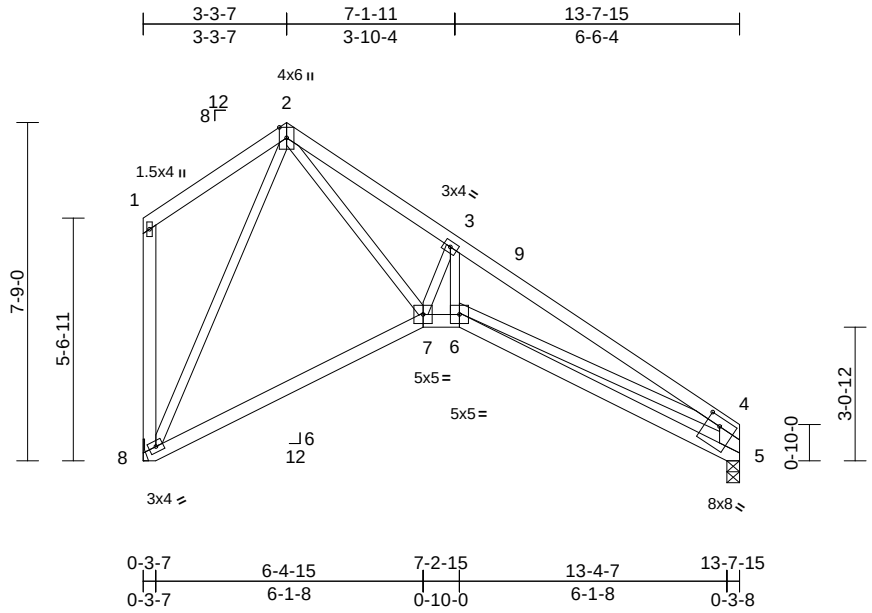
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221935
P230132-01	D3	Roof Special	7	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:28 Page: 1
ID:pwt0jO1hEphDlMFL4rqrrezwwfy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWyCDoi7J42JC?f



Scale = 1:52.8

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

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	0.71	Vert(LL)	-0.07	7-8	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.16	7-8	>968	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.13	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 75 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 8-1:2x4 SP No.2, 5-4:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-8, 8= Mechanical
Max Horiz 8=-233 (LC 13)
Max Uplift 5=-58 (LC 13), 8=-144 (LC 13)
Max Grav 5=598 (LC 1), 8=598 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-77/70, 2-3=-1192/171, 3-4=-1599/84, 1-8=-123/81, 4-5=-693/161
BOT CHORD 7-8=-74/349, 6-7=0/1200, 5-6=-118/396
WEBS 2-7=-94/1160, 3-7=-760/218, 3-6=0/523, 2-8=-583/51, 4-6=0/955

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 28-5-13 to 31-7-8, Exterior(2R) 31-7-8 to 36-7-8, Interior (1) 36-7-8 to 41-9-4 zone; cantilever left and right exposed ; end vertical right exposed;C-C for members and forces & MWFRS for reactions shown; 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) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 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 58 lb uplift at joint 5 and 144 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

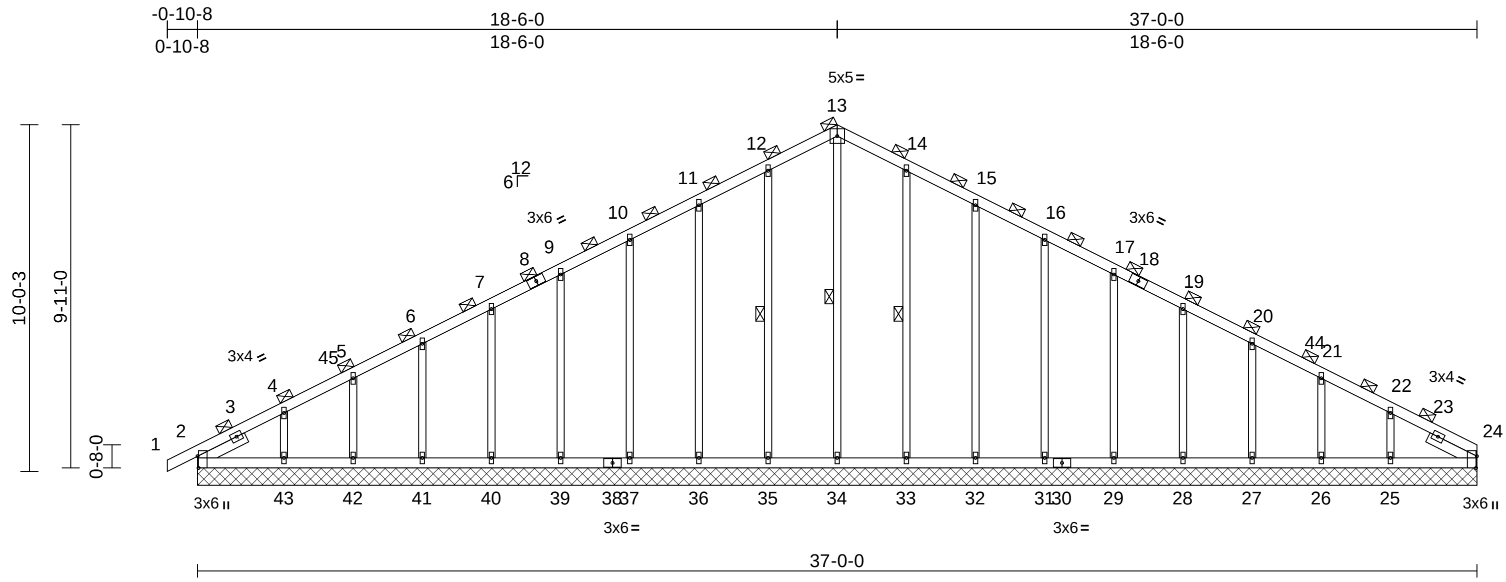
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71
P230132-01	E1	Common Supported Gable	1	1	I57221936 Job Reference (optional)

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:28 Page: 1
ID:bSBHIwRtVwODq1AP3GRETazww5H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:66.6

Plate Offsets (X, Y): [2:0-4-1,Edge], [8:0-0-0,0-0-0], [24:0-4-1,Edge]

Loading	(psf)	Spacing	4-0-0	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	0.13	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.02	24	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 194 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SP No.2 -- 1-6-7, Right 2x4 SP No.2 -- 1-6-7

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.) (Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 13-34, 12-35, 14-33

REACTIONS (size) 2=37-0-0, 24=37-0-0, 25=37-0-0, 26=37-0-0, 27=37-0-0, 28=37-0-0, 29=37-0-0, 31=37-0-0, 32=37-0-0, 33=37-0-0, 34=37-0-0, 35=37-0-0, 36=37-0-0, 37=37-0-0, 39=37-0-0, 40=37-0-0, 41=37-0-0, 42=37-0-0, 43=37-0-0
Max Horiz 2=368 (LC 12)
Max Uplift 2=-52 (LC 13), 25=-223 (LC 13), 26=-100 (LC 13), 27=-127 (LC 13), 28=-121 (LC 13), 29=-123 (LC 13), 31=-120 (LC 13), 32=-134 (LC 13), 33=-101 (LC 13), 35=-109 (LC 12), 36=-131 (LC 12), 37=-121 (LC 12), 39=-123 (LC 12), 40=-121 (LC 12), 41=-128 (LC 12), 42=-96 (LC 12), 43=-238 (LC 12)
Max Grav 2=374 (LC 21), 24=246 (LC 22), 25=458 (LC 26), 26=335 (LC 1), 27=366 (LC 26), 28=359 (LC 1), 29=360 (LC 26), 31=360 (LC 1), 32=359 (LC 26), 33=376 (LC 26), 34=413 (LC 22), 35=376 (LC 25), 36=359 (LC 25), 37=360 (LC 1), 39=360 (LC 25), 40=359 (LC 1), 41=364 (LC 25), 42=344 (LC 1), 43=426 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 13-14=-257/688, 14-15=-223/595, 15-16=-183/480, 16-17=-146/374, 17-19=-120/266, 19-20=-120/158, 20-21=-150/61, 21-22=-201/42, 22-24=-337/100, 1-2=0/11, 2-4=-487/166, 4-5=-325/177, 5-6=-260/207, 6-7=-207/261, 7-9=-168/316, 9-10=-146/374, 10-11=-183/480, 11-12=-223/595, 12-13=-257/688
BOT CHORD 2-43=-93/384, 42-43=-93/384, 41-42=-93/384, 40-41=-93/384, 39-40=-93/384, 37-39=-93/384, 36-37=-93/384, 35-36=-93/384, 34-35=-93/384, 33-34=-93/384, 32-33=-93/384, 31-32=-93/384, 29-31=-93/384, 28-29=-93/384, 27-28=-93/384, 26-27=-93/384, 25-26=-93/384, 24-25=-93/384
WEBS 13-34=-430/84, 12-35=-296/163, 11-36=-279/208, 10-37=-280/191, 9-39=-280/193, 7-40=-280/193, 6-41=-282/197, 5-42=-272/202, 4-43=-320/414, 14-33=-296/163, 15-32=-279/208, 16-31=-280/191, 17-29=-280/193, 19-28=-279/192, 20-27=-283/198, 21-26=-265/239, 22-25=-347/438

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 18-6-0, Corner(3R) 18-6-0 to 23-6-0, Exterior(2N) 23-6-0 to 37-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

March 17,2023

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221936
P230132-01	E1	Common Supported Gable	1	1	Job Reference (optional)	

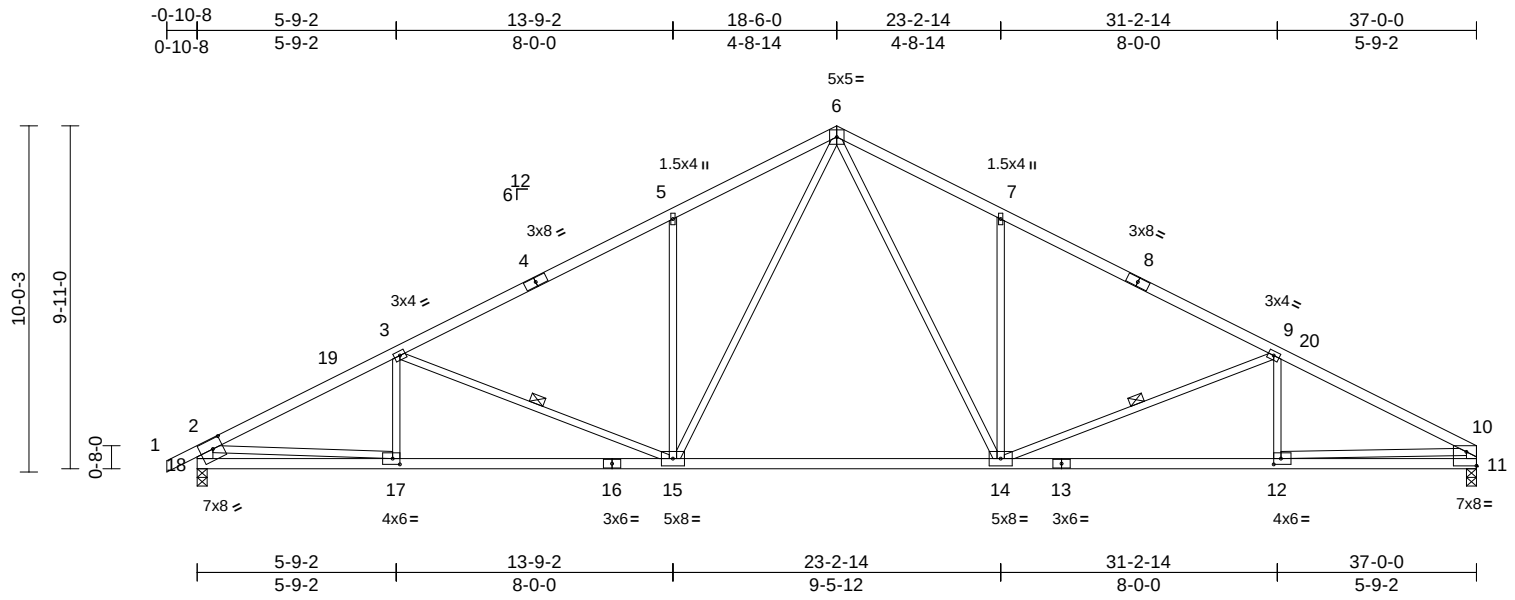
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 2, 109 lb uplift at joint 35, 131 lb uplift at joint 36, 121 lb uplift at joint 37, 123 lb uplift at joint 39, 121 lb uplift at joint 40, 128 lb uplift at joint 41, 96 lb uplift at joint 42, 238 lb uplift at joint 43, 101 lb uplift at joint 33, 134 lb uplift at joint 32, 120 lb uplift at joint 31, 123 lb uplift at joint 29, 121 lb uplift at joint 28, 127 lb uplift at joint 27, 100 lb uplift at joint 26 and 223 lb uplift at joint 25.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71
P230132-01	E2	Common	3	1	Job Reference (optional) I57221937

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:29 Page: 1
ID:2RQyHCb1kJbYTluKfo4gsvzww?w-RfC?PsB70Hq3NSgPqnL8w3uITXbGhWrCDoi794zJC?4



Scale = 1:66.6

Plate Offsets (X, Y): [11:Edge,0-4-13], [12:0-2-8,0-2-0], [17:0-2-8,0-2-0], [18:0-3-8,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.64	Vert(LL)	-0.19	14-15	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.44	14-15	>992	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.10	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 175 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 18-2:2x6 SPF No.2, 11-10:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-4-6 oc bracing.
WEBS 1 Row at midpt 3-15, 9-14

REACTIONS (size) 11=0-3-8, 18=0-3-8
Max Horiz 18=176 (LC 16)
Max Uplift 11=-250 (LC 13), 18=-278 (LC 12)
Max Grav 11=1647 (LC 1), 18=1727 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2850/431, 3-5=-2362/418, 5-6=-2339/552, 6-7=-2345/549, 7-9=-2369/426, 9-10=-2893/451, 2-18=-1662/338, 10-11=-1580/279
BOT CHORD 17-18=-257/548, 15-17=-483/2476, 14-15=-112/1563, 12-14=-348/2521, 11-12=-105/514
WEBS 3-17=-52/151, 3-15=-556/246, 5-15=-512/308, 6-15=-325/1011, 6-14=-327/1022, 7-14=-507/306, 9-14=-594/255, 9-12=-42/160, 2-17=-227/1935, 10-12=-244/2013

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2R) 18-6-0 to 23-2-14, Interior (1) 23-2-14 to 36-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 250 lb uplift at joint 11 and 278 lb uplift at joint 18.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

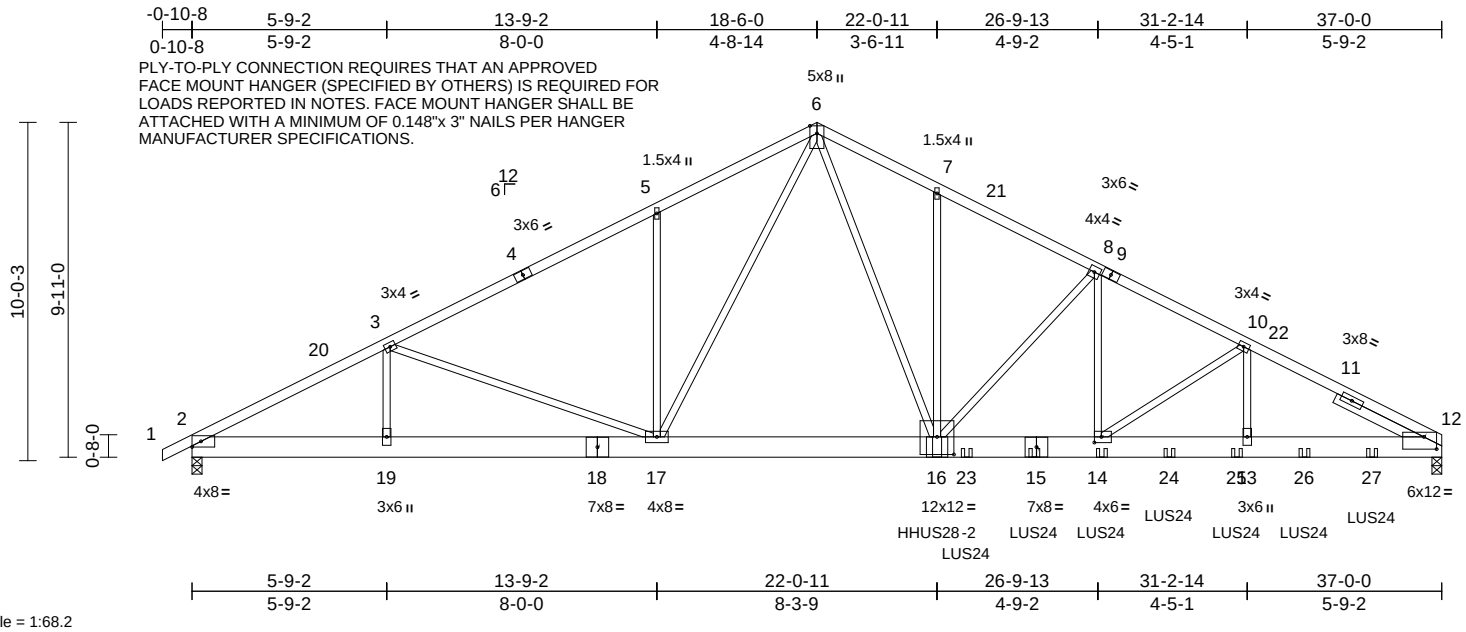
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221938
P230132-01	E3	Common Girder	1	3	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:29 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDof?54zJC?



Scale = 1:68.2

Plate Offsets (X, Y): [12:0-4-8,0-4-5], [14:0-2-8,0-2-0], [16:0-6-0,0-6-4]

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	0.93	Vert(LL)	-0.20	14-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.77	Vert(CT)	-0.35	14-16	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.08	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 621 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 9-12:2x4 SP 1650F 1.5E
BOT CHORD 2x8 SPF No.2
WEBS 2x3 SPF No.2
SLIDER Right 2x4 SP No.2 -- 2-10-7

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

REACTIONS (size) 2=0-3-8, 12=0-3-7, (req. 0-3-11)
Max Horiz 2=187 (LC 33)
Max Uplift 2=-854 (LC 12), 12=-1612 (LC 13)
Max Grav 2=4090 (LC 1), 12=7032 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/16, 2-3=-7855/1625, 3-5=-7513/1671, 5-6=-7478/1798, 6-7=-9697/2362, 7-8=-9768/2284, 8-10=-11559/2683, 10-12=-12807/2934
BOT CHORD 2-19=-1530/6820, 17-19=-1530/6820, 16-17=-1236/6196, 14-16=-2236/10339, 13-14=-2498/11175, 12-13=-2498/11175
WEBS 6-17=-382/928, 7-16=-206/237, 3-19=0/191, 6-16=-1763/6973, 8-16=-2541/750, 8-14=-575/2243, 10-14=-1058/363, 10-13=-278/1272, 5-17=-485/314, 3-17=-370/421

NOTES
1) N/A
2) 3-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: 2x8 - 4 rows staggered at 0-4-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
3) 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.
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2R) 18-6-0 to 23-6-0, Interior (1) 23-6-0 to 36-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) WARNING: Required bearing size at joint(s) 12 greater than input bearing size.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1612 lb uplift at joint 12 and 854 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.
10) Use Simpson Strong-Tie HHUS28-2 (22-16d Girder, 8-16d Truss) or equivalent at 22-0-11 from the left end to connect truss(es) to front face of bottom chord.
11) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 22-11-4 from the left end to 34-11-4 to connect truss(es) to front face of bottom chord.
12) 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: 1-6=-70, 6-12=-70, 2-12=-20
Concentrated Loads (lb)
Vert: 15=-578 (F), 16=-3701 (F), 14=-578 (F), 23=-578 (F), 24=-578 (F), 25=-578 (F), 26=-578 (F), 27=-578 (F)

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

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

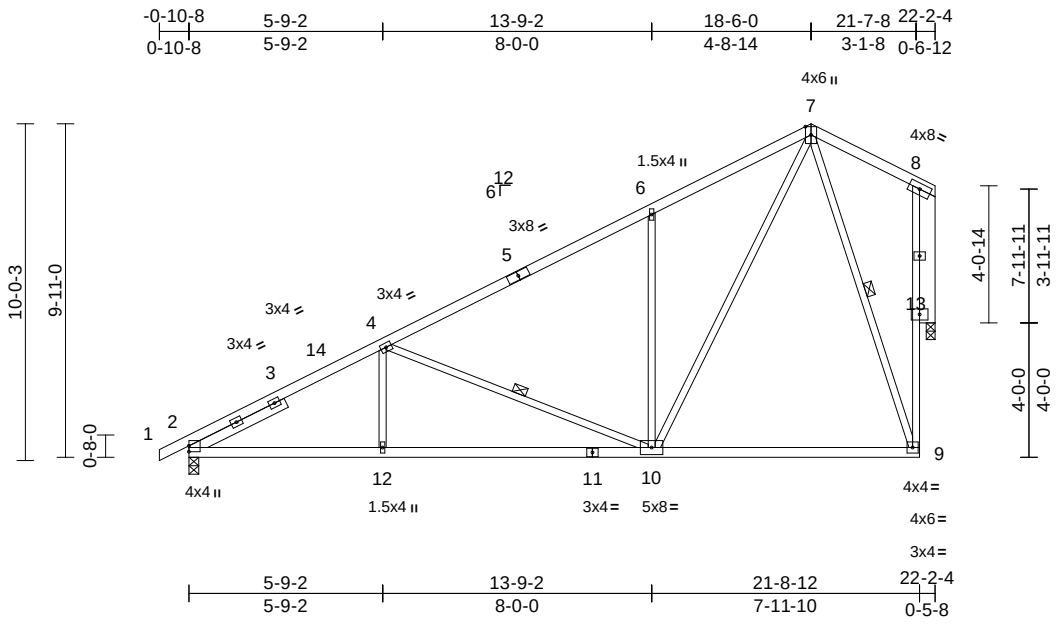
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221939
P230132-01	E4	Roof Special	5	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:30 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDof?34zJC?f



Scale = 1:68.5

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	0.79	Vert(LL)	-0.11	9-10	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.23	9-10	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	-0.03	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 121 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-8:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-8:2x6 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-2-3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-4-8 oc bracing.
WEBS 1 Row at midpt 4-10, 7-9

REACTIONS (size) 2=0-3-8, 13=0-3-2
Max Horiz 2=384 (LC 12)
Max Uplift 2=-153 (LC 12), 13=-235 (LC 12)
Max Grav 2=1036 (LC 1), 13=972 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-1623/208, 4-6=-943/120, 6-7=-924/276, 7-8=-64/49, 9-13=-212/848, 8-13=-124/66
BOT CHORD 2-12=-483/1364, 10-12=-483/1364, 9-10=-82/264
WEBS 6-10=-521/308, 7-10=-338/1066, 4-12=0/277, 4-10=-680/274, 7-9=-822/263

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2E) 18-6-0 to 21-7-8 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 153 lb uplift at joint 2 and 235 lb uplift at joint 13.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

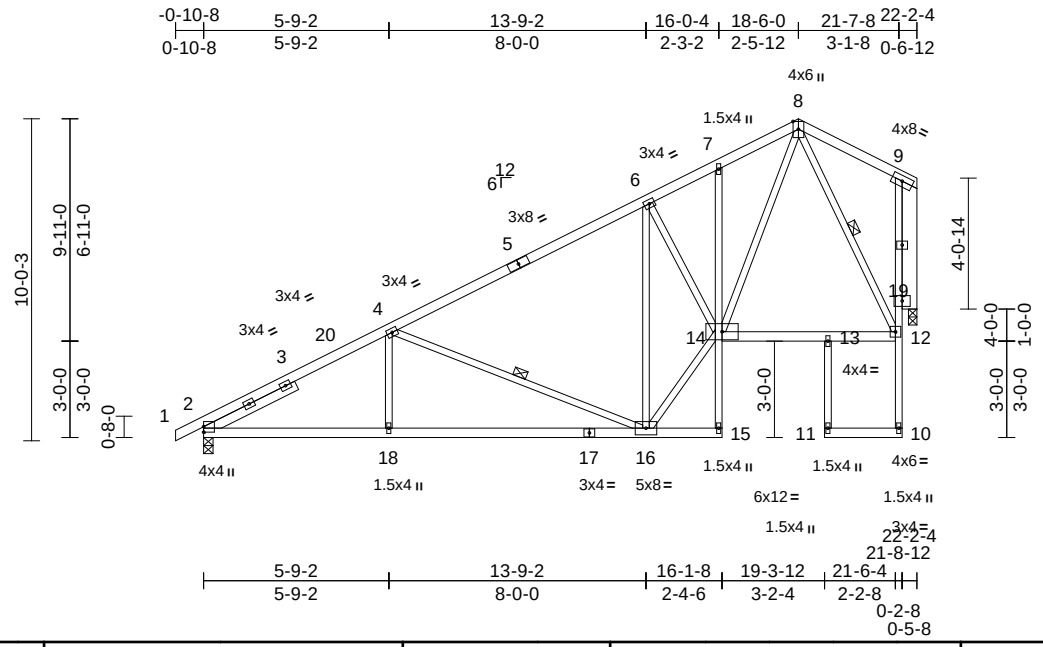
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221940
P230132-01	E5	Roof Special	2	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:30 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7342JC?f



Scale = 1:71.7

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	0.82	Vert(LL)	-0.10	16-18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.22	16-18	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.73	Horz(CT)	0.04	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 134 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 15-7,13-11,10-9:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 19-9:2x6 SPF No.2
SLIDER Left 2x4 SP No.2 -- 3-2-3

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-16, 8-12

REACTIONS (size) 2=0-3-8, 19=0-3-2
Max Horiz 2=384 (LC 12)
Max Uplift 2=-153 (LC 12), 19=-235 (LC 12)
Max Grav 2=1036 (LC 1), 19=972 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/6, 2-4=-1624/204, 4-6=-940/125, 6-7=-943/261, 7-8=-841/278, 8-9=-69/49, 10-12=0/47, 12-19=-208/852, 9-19=-122/68
BOT CHORD 2-18=-480/1364, 16-18=-480/1364, 15-16=-13/1, 14-15=-43/0, 7-14=-20/62, 13-14=-115/391, 12-13=-116/391, 11-13=0/41, 10-11=0/2
WEBS 6-16=-566/285, 8-14=-303/1001, 4-18=0/294, 4-16=-682/265, 8-12=-875/265, 14-16=-374/1218, 6-14=-16/34

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2E) 18-6-0 to 21-7-8 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; 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) Bearing at joint(s) 19 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 153 lb uplift at joint 2 and 235 lb uplift at joint 19.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

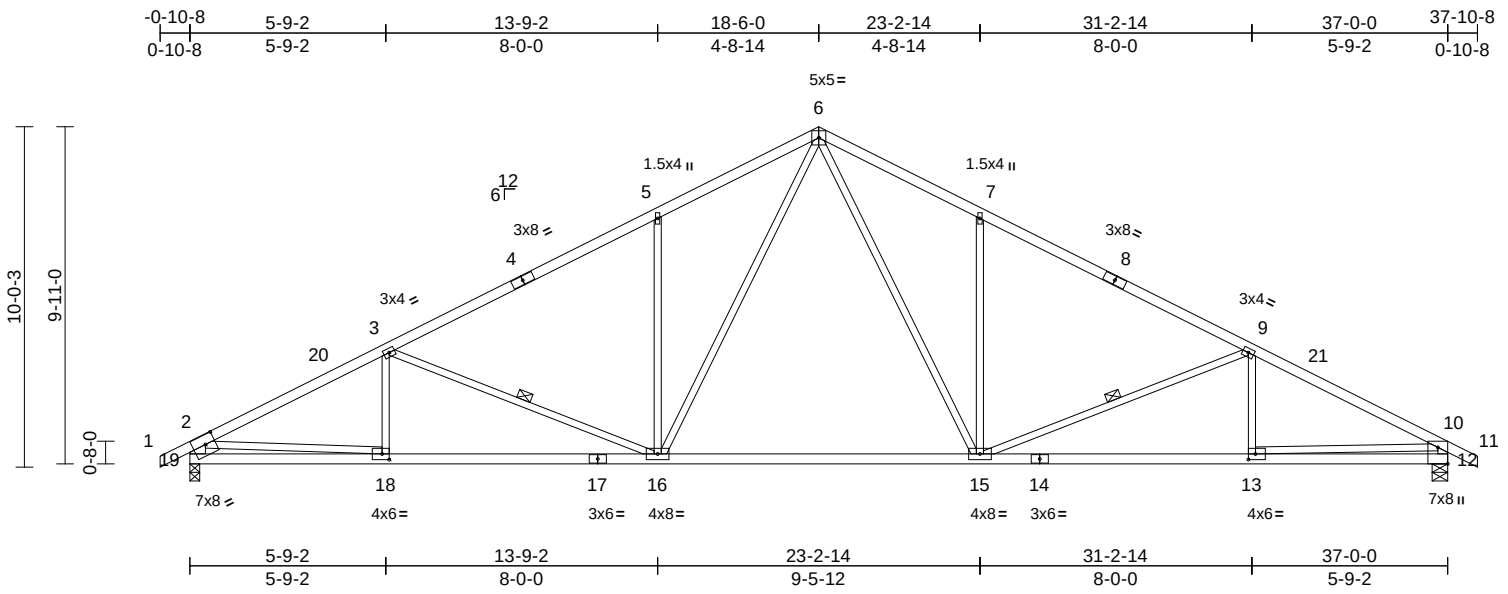
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71
P230132-01	E6	Common	7	1	Job Reference (optional) I57221941

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:31 Page: 1
ID:TnZ3x61kRmd3IVZaqXdQQ5zwvtc-RfC?PsB70Hq3NSgPqnL8w3uITXbGCWrCDoi794zJC?f



Scale = 1:67.8

Plate Offsets (X, Y): [12:Edge,0-3-8], [13:0-2-8,0-2-0], [18:0-2-8,0-2-0], [19:0-3-8,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.64	Vert(LL)	-0.19	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.44	15-16	>993	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.10	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 176 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 19-2:2x6 SPF No.2, 12-10:2x4 SP 1650F 1.5E

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-4-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-5-5 oc bracing: 16-18.
WEBS 1 Row at midpt 3-16, 9-15

REACTIONS (size) 12=0-5-8, 19=0-3-8
Max Horiz 19=-166 (LC 17)
Max Uplift 12=-276 (LC 13), 19=-278 (LC 12)
Max Grav 12=1719 (LC 1), 19=1726 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-2848/431, 3-5=-2360/418, 5-6=-2337/549, 6-7=-2343/549, 7-9=-2365/419, 9-10=-2884/437, 10-11=0/32, 2-19=-1661/337, 10-12=-1654/334
BOT CHORD 18-19=-249/555, 16-18=-474/2474, 15-16=-102/1561, 13-15=-312/2506, 12-13=-114/613
WEBS 5-16=-512/308, 6-16=-325/1012, 9-13=-32/166, 7-15=-511/308, 3-18=-52/151, 10-13=-206/1899, 3-16=-556/246, 6-15=-327/1021, 2-18=-225/1934, 9-15=-581/251

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 18-6-0, Exterior(2R) 18-6-0 to 23-2-14, Interior (1) 23-2-14 to 37-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) The Fabrication Tolerance at joint 10 = 16%
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 276 lb uplift at joint 12 and 278 lb uplift at joint 19.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

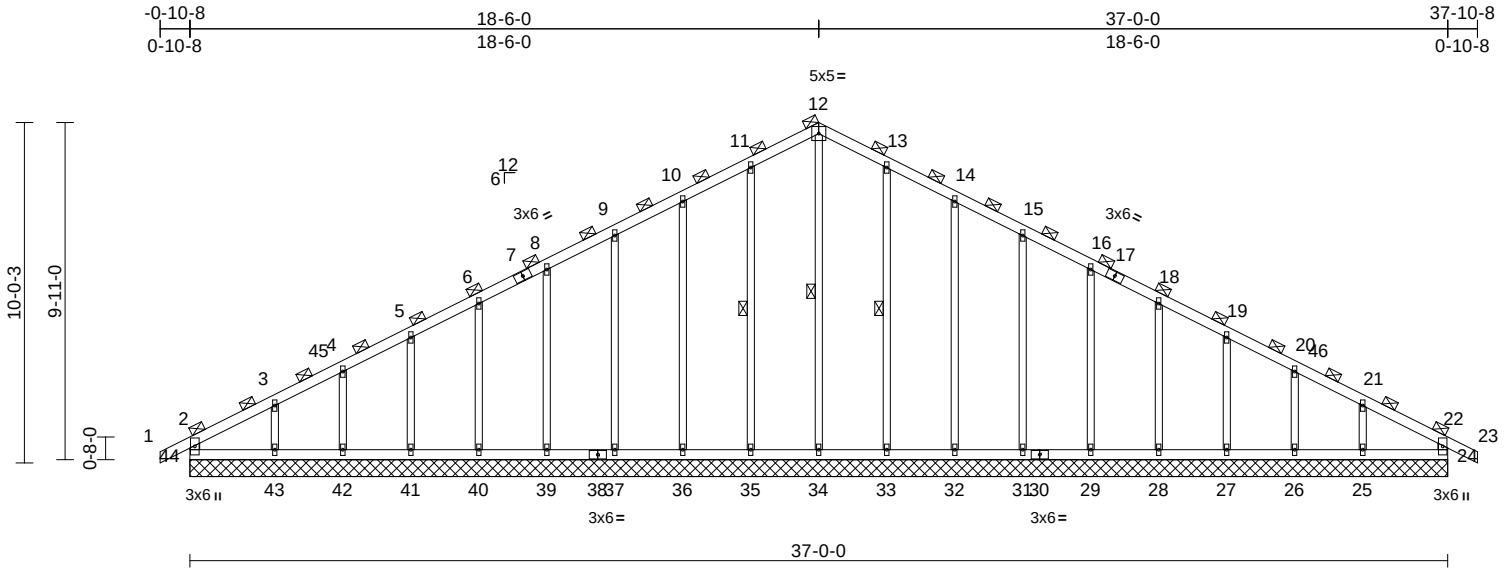
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221942
P230132-01	E7	Common Supported Gable	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:31 Page: 1
ID:30TC0Xcr8WgF3uEpecUgNDzwvss-RfC?PsB70Hq3NSgPqnL8w3uITXbCKWrCDoh?J4zJC?f



Scale = 1:67.8

Plate Offsets (X, Y): [17:0-0-0,0-0-0]

Loading	(psf)	Spacing	4-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.02	24	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 191 lb	FT = 20%

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

BRACING
TOP CHORD 2-0-0 oc purlins (6-0-0 max.), except end verticals
(Switched from sheeted: Spacing > 2-0-0).
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 12-34, 11-35, 13-33

REACTIONS (size) 24=37-0-0, 25=37-0-0, 26=37-0-0, 27=37-0-0, 28=37-0-0, 29=37-0-0, 31=37-0-0, 32=37-0-0, 33=37-0-0, 34=37-0-0, 35=37-0-0, 36=37-0-0, 37=37-0-0, 39=37-0-0, 40=37-0-0, 41=37-0-0, 42=37-0-0, 43=37-0-0, 44=37-0-0
Max Horiz 44=-334 (LC 17)
Max Uplift 24=-20 (LC 9), 25=-225 (LC 13), 26=-92 (LC 13), 27=-129 (LC 13), 28=-121 (LC 13), 29=-123 (LC 13), 31=-120 (LC 13), 32=-135 (LC 13), 33=-99 (LC 13), 35=-105 (LC 12), 36=-132 (LC 12), 37=-120 (LC 12), 39=-123 (LC 12), 40=-120 (LC 12), 41=-132 (LC 12), 42=-83 (LC 12), 43=-254 (LC 12), 44=-78 (LC 8)
Max Grav 24=375 (LC 1), 25=397 (LC 26), 26=350 (LC 1), 27=363 (LC 26), 28=359 (LC 1), 29=360 (LC 26), 31=360 (LC 1), 32=359 (LC 26), 33=376 (LC 26), 34=431 (LC 22), 35=376 (LC 25), 36=359 (LC 25), 37=360 (LC 1), 39=360 (LC 25), 40=359 (LC 1), 41=363 (LC 25), 42=350 (LC 1), 43=397 (LC 25), 44=375 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-44=-331/141, 1-2=0/64, 2-3=-395/168, 3-4=-263/184, 4-5=-207/232, 5-6=-163/287, 6-8=-139/343, 8-9=-175/426, 9-10=-213/533, 10-11=-252/648, 11-12=-286/740, 12-13=-286/740, 13-14=-252/648, 14-15=-213/533, 15-16=-175/426, 16-18=-138/319, 18-19=-101/211, 19-20=-128/127, 20-21=-177/81, 21-22=-285/83, 22-23=0/64, 22-24=-331/155
BOT CHORD 43-44=-87/325, 42-43=-87/325, 41-42=-87/325, 40-41=-87/325, 39-40=-87/325, 37-39=-87/325, 36-37=-87/325, 35-36=-87/325, 34-35=-87/325, 33-34=-87/325, 32-33=-87/325, 31-32=-87/325, 29-31=-87/325, 28-29=-87/325, 27-28=-87/325, 26-27=-87/325, 25-26=-87/325, 24-25=-87/325
WEBS 12-34=-474/106, 11-35=-296/159, 10-36=-279/210, 9-37=-280/190, 8-39=-280/193, 6-40=-280/193, 5-41=-281/197, 4-42=-275/204, 3-43=-302/379, 13-33=-296/159, 14-32=-279/210, 15-31=-280/190, 16-29=-280/193, 18-28=-280/193, 19-27=-281/197, 20-26=-275/205, 21-25=-302/375

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=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 18-6-0, Corner(3R) 18-6-0 to 23-6-0, Exterior(2N) 23-6-0 to 37-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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 1.5x4 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.

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER PE-2001018807
PROFESSIONAL ENGINEER
March 17,2023

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221942
P230132-01	E7	Common Supported Gable	1	1	Job Reference (optional)	

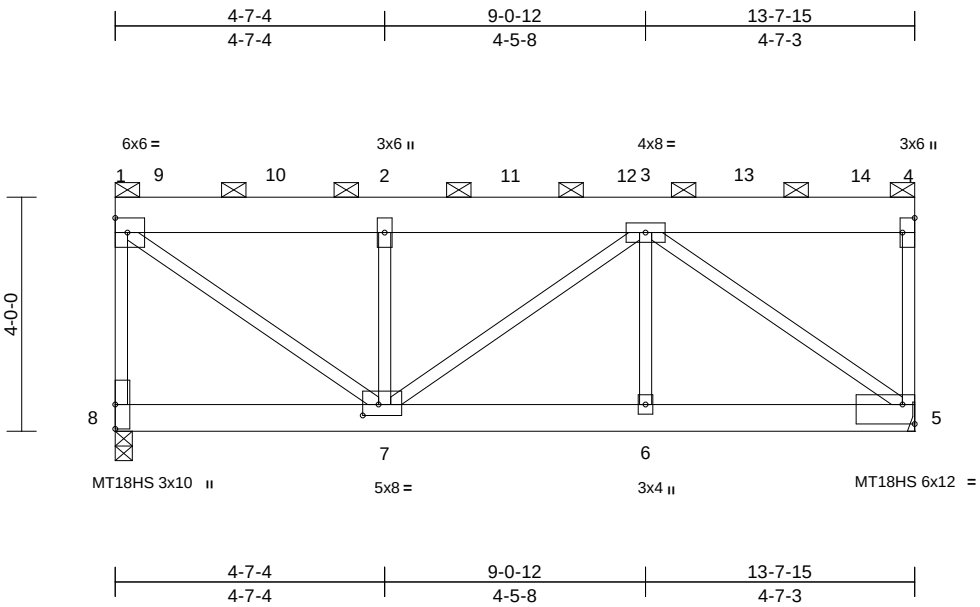
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 44, 20 lb uplift at joint 24, 105 lb uplift at joint 35, 132 lb uplift at joint 36, 120 lb uplift at joint 37, 123 lb uplift at joint 39, 120 lb uplift at joint 40, 132 lb uplift at joint 41, 83 lb uplift at joint 42, 254 lb uplift at joint 43, 99 lb uplift at joint 33, 135 lb uplift at joint 32, 120 lb uplift at joint 31, 123 lb uplift at joint 29, 121 lb uplift at joint 28, 129 lb uplift at joint 27, 92 lb uplift at joint 26 and 225 lb uplift at joint 25.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221943
P230132-01	R1	Flat Girder	1	2	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:31 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7342JC?



Scale = 1:39.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	-0.04	6-7	>999	240	MT18HS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.08	6-7	>999	180	MT20	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.74	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 158 lb	FT = 20%

LUMBER
TOP CHORD 2x8 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS (size) 5= Mechanical, 8=0-3-8
Max Uplift 5=-835 (LC 8), 8=-857 (LC 8)
Max Grav 5=3721 (LC 1), 8=3822 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-3741/1015, 1-2=-3307/877, 2-3=-3307/877, 3-4=-24/6, 4-5=-1074/313
BOT CHORD 7-8=-7/29, 6-7=-894/3359, 5-6=-894/3359
WEBS 1-7=-1097/4139, 2-7=-2438/729, 3-7=-66/23, 3-6=0/172, 3-5=-4213/1122

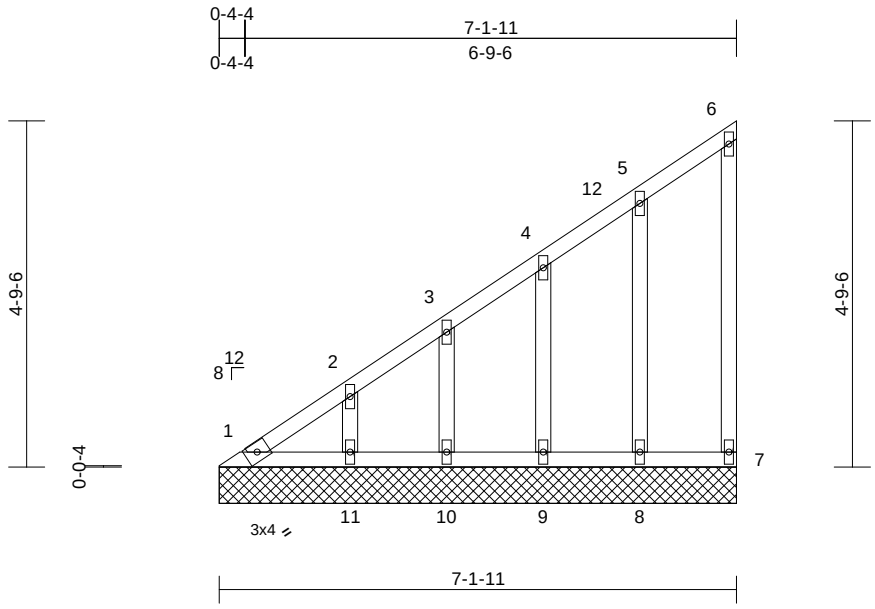
NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
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) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 857 lb uplift at joint 8 and 835 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 914 lb down and 207 lb up at 0-9-0, 902 lb down and 203 lb up at 2-9-0, 902 lb down and 203 lb up at 4-9-0, 902 lb down and 203 lb up at 6-9-0, 902 lb down and 203 lb up at 8-9-0, and 902 lb down and 203 lb up at 10-9-0, and 909 lb down and 206 lb up at 12-9-0 on top 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: 1-4=-70, 5-8=-20
Concentrated Loads (lb)
Vert: 2=-902, 9=-914, 10=-902, 11=-902, 12=-902, 13=-902, 14=-909

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221944
P230132-01	V1	Valley	1	1	Job Reference (optional)	



Scale = 1:31.8

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	0.06	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	0.04	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 23 lb	FT = 20%

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

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

REACTIONS (size) 1=7-1-11, 7=7-1-11, 8=7-1-11, 9=7-1-11, 10=7-1-11, 11=7-1-11
Max Horiz 1=196 (LC 12)
Max Uplift 1=-13 (LC 10), 7=-19 (LC 12), 8=-55 (LC 12), 9=-53 (LC 12), 10=-49 (LC 12), 11=-68 (LC 12)
Max Grav 1=114 (LC 12), 7=46 (LC 19), 8=134 (LC 19), 9=126 (LC 19), 10=120 (LC 19), 11=150 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-288/141, 2-3=-211/102, 3-4=-153/76, 4-5=-91/47, 5-6=-33/16, 6-7=-36/35
BOT CHORD 1-11=0/0, 10-11=0/0, 9-10=0/0, 8-9=0/0, 7-8=0/0
WEBS 5-8=-105/99, 4-9=-100/95, 3-10=-95/90, 2-11=-119/120

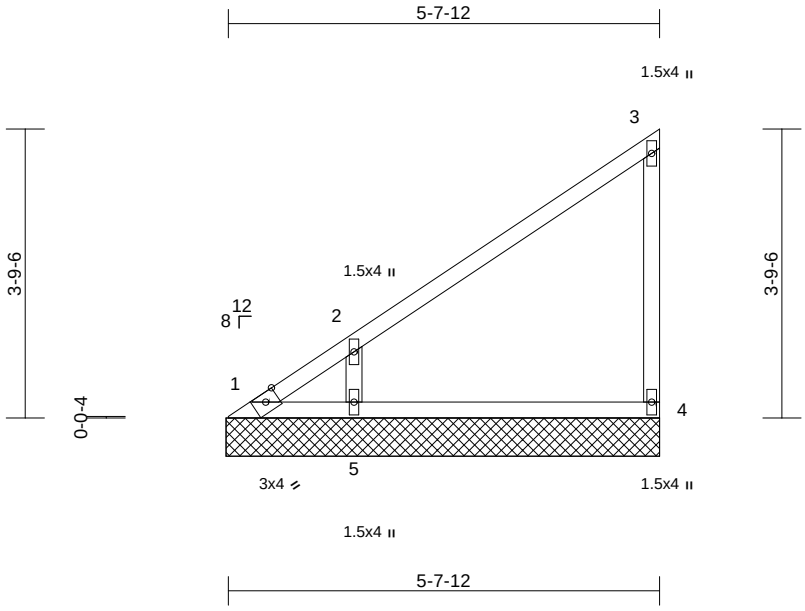
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-0 to 5-4-0, Interior (1) 5-4-0 to 6-11-12 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) All plates are 1.5x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 1-4-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1, 19 lb uplift at joint 7, 55 lb uplift at joint 8, 53 lb uplift at joint 9, 49 lb uplift at joint 10 and 68 lb uplift at joint 11.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221945
P230132-01	V2	Valley	1	1	Job Reference (optional)	



Scale = 1:30.2

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	0.40	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 13 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-8-2, 4=5-8-2, 5=5-8-2
Max Horiz 1=152 (LC 12)
Max Uplift 1=-70 (LC 19), 4=-61 (LC 12), 5=-160 (LC 12)
Max Grav 1=119 (LC 12), 4=149 (LC 19), 5=387 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-272/149, 2-3=-103/53, 3-4=-117/119
BOT CHORD 1-5=0/0, 4-5=0/0
WEBS 2-5=-305/310

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 70 lb uplift at joint 1, 61 lb uplift at joint 4 and 160 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

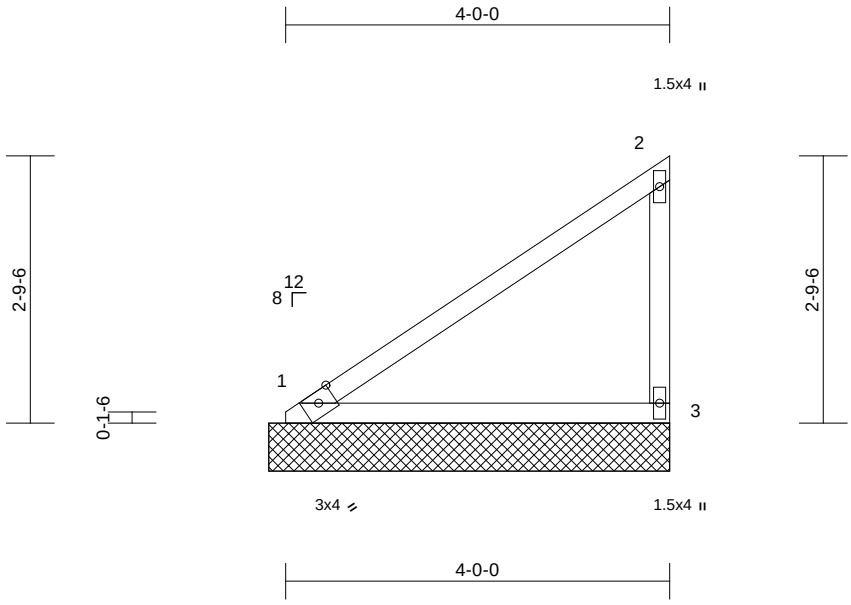
March 17,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71
P230132-01	V3	Valley	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I57221946
04/12/2023

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:32 Page: 1
ID:I5DlpAGLTpAdl2AohzuzTPzwvmr-RfC?PsB70Hq3NSgPqnL8w3uITXbGKVrCDoi7J42JC?f



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	0.54	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.29	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 9 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-2-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=4-2-2, 3=4-2-2
Max Horiz 1=108 (LC 12)
Max Uplift 3=-73 (LC 12)
Max Grav 1=167 (LC 1), 3=176 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-105/65, 2-3=-139/149
BOT CHORD 1-3=0/0

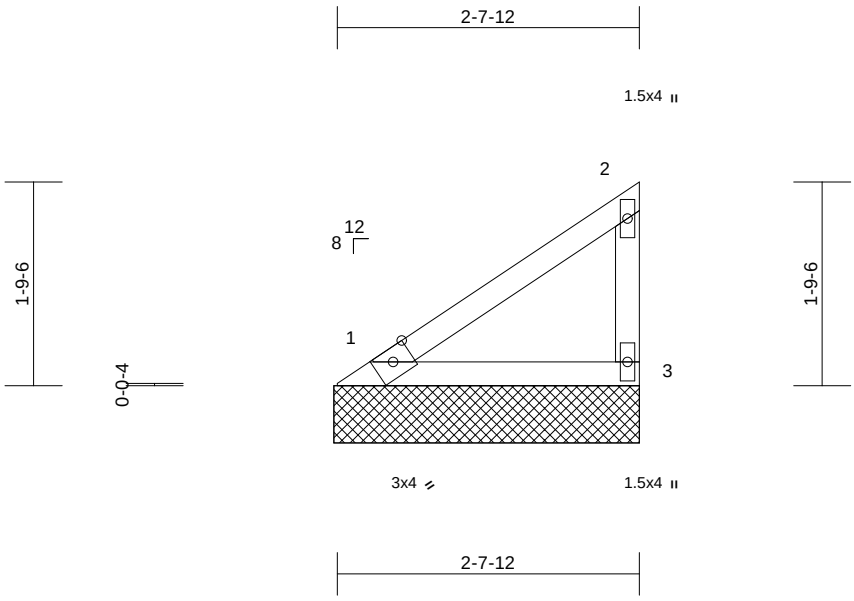
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 73 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221947
P230132-01	V4	Valley	1	1	Job Reference (optional)	



Scale = 1:20.2

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 6 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-2 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-8-2, 3=2-8-2
Max Horiz 1=65 (LC 12)
Max Uplift 3=-43 (LC 12)
Max Grav 1=100 (LC 1), 3=105 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-66/39, 2-3=-83/95
BOT CHORD 1-3=0/0

LOAD CASE(S) Standard

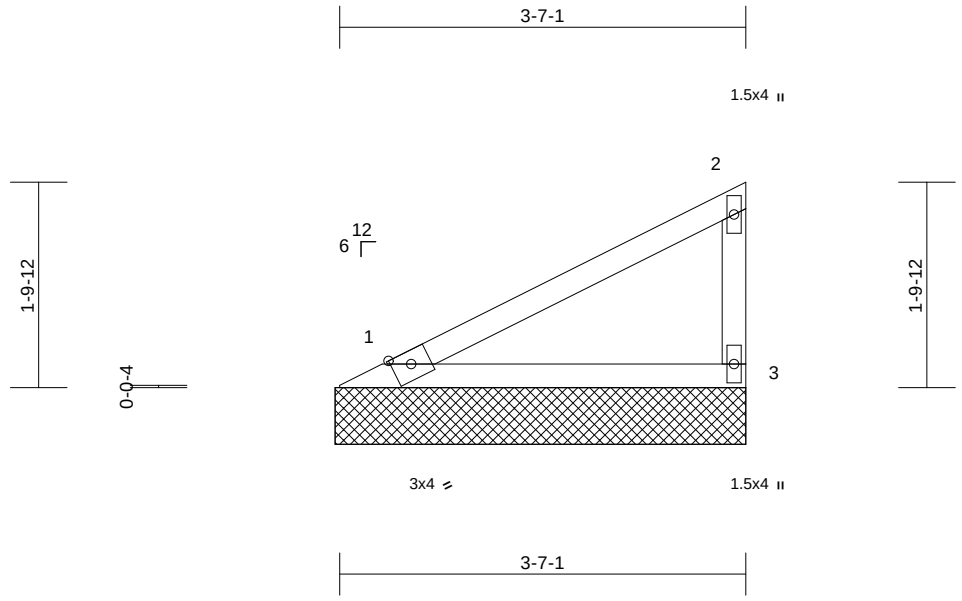
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 17,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221948
P230132-01	V5	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:32 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7342JC?



Scale = 1:20.4

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	0.35	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 7 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-7-9, 3=3-7-9
Max Horiz 1=67 (LC 12)
Max Uplift 1=-13 (LC 12), 3=-47 (LC 12)
Max Grav 1=138 (LC 1), 3=138 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-72/39, 2-3=-107/128
BOT CHORD 1-3=0/0

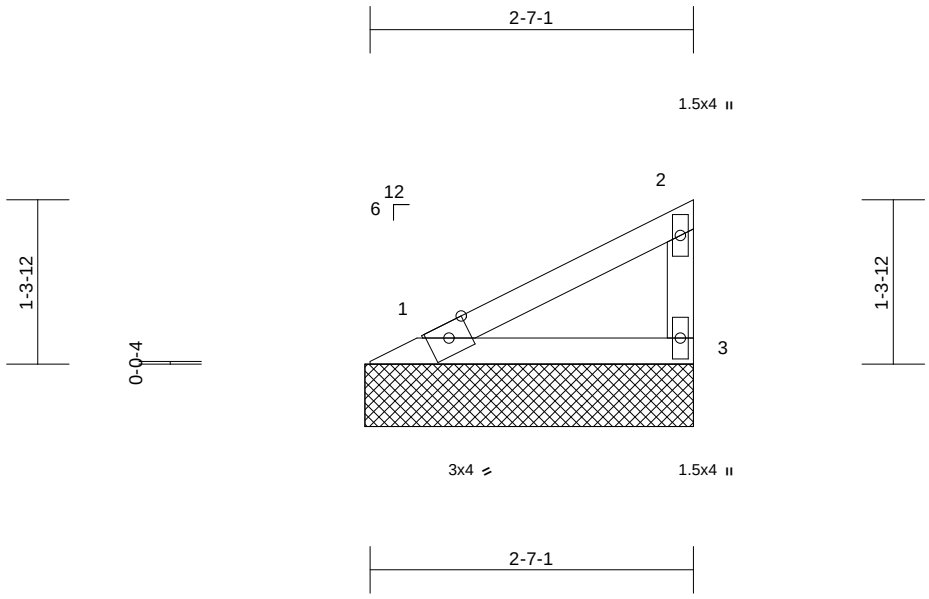
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1 and 47 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221949
P230132-01	V6	Valley	1	1	Job Reference (optional)	



Scale = 1:18.4

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	0.15	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 5 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-7-9, 3=2-7-9
Max Horiz 1=45 (LC 12)
Max Uplift 1=-9 (LC 12), 3=-32 (LC 12)
Max Grav 1=93 (LC 1), 3=93 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-49/26, 2-3=-72/86
BOT CHORD 1-3=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 1 and 32 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

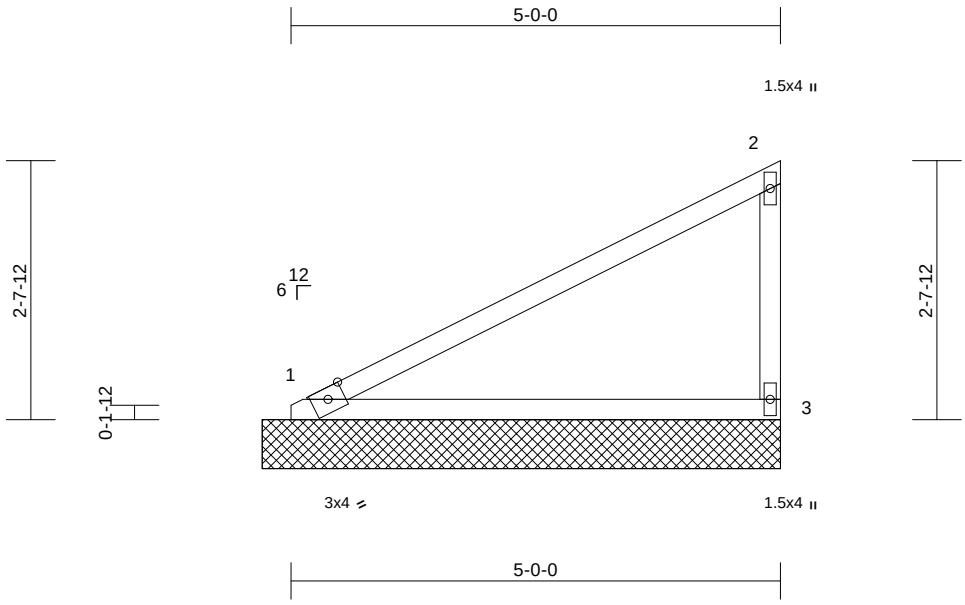
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221950
P230132-01	V7	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:33 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7342JC?f



Scale = 1:23.5

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	0.89	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 20%

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

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

REACTIONS (size) 1=5-3-9, 3=5-3-9
Max Horiz 1=104 (LC 12)
Max Uplift 1=-20 (LC 12), 3=-72 (LC 12)
Max Grav 1=213 (LC 1), 3=213 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-111/59, 2-3=-165/197
BOT CHORD 1-3=0/0

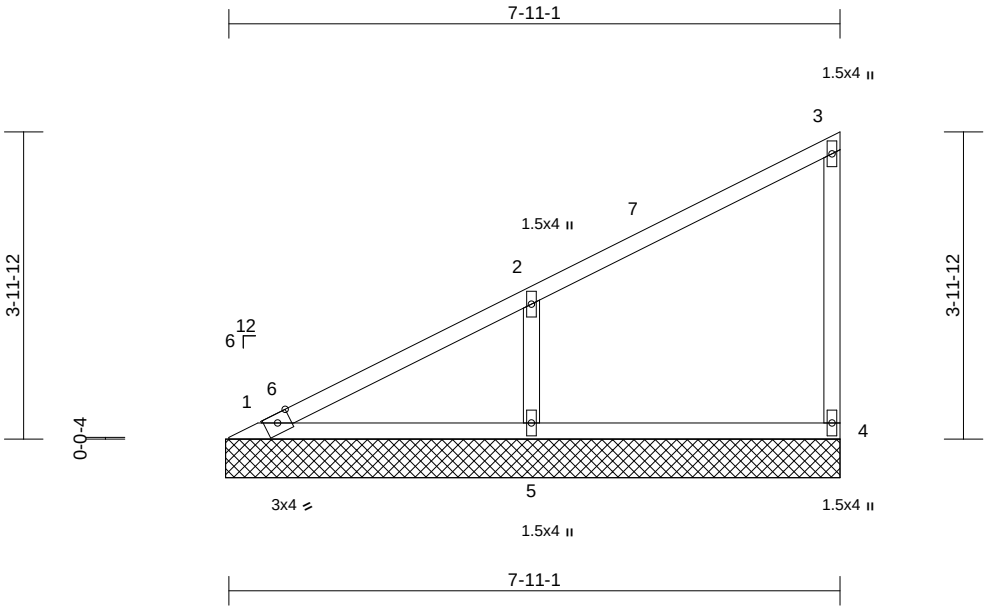
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 1 and 72 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221951
P230132-01	V8	Valley	1	1	Job Reference (optional)	



Scale = 1:29.9

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	0.43	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	n/a	-	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

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

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

REACTIONS (size) 1=7-11-9, 4=7-11-9, 5=7-11-9
Max Horiz 1=162 (LC 12)
Max Uplift 4=-46 (LC 12), 5=-142 (LC 12)
Max Grav 1=113 (LC 1), 4=136 (LC 1), 5=417 (LC 1)

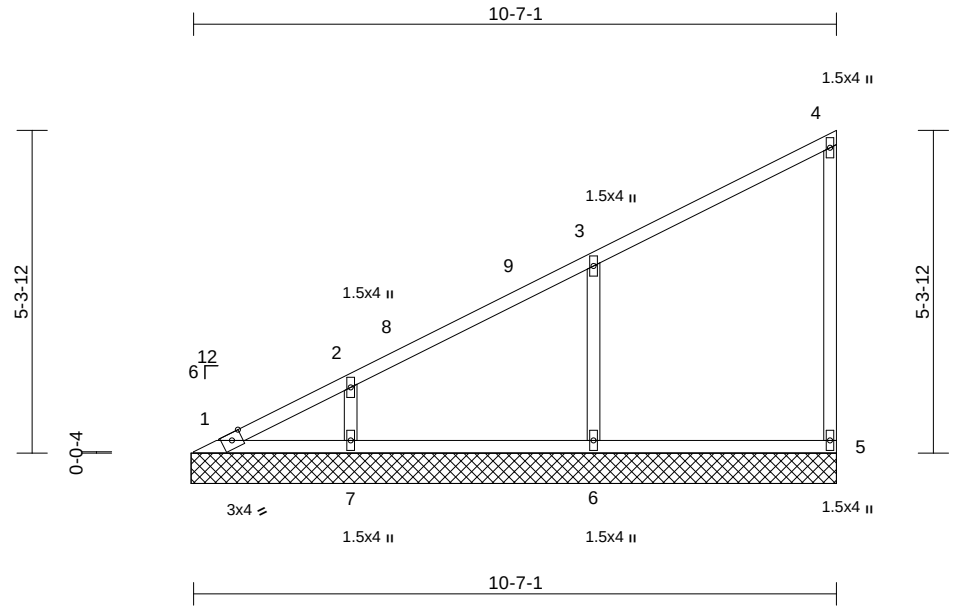
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-237/110, 2-3=-81/35, 3-4=-105/109
BOT CHORD 1-5=0/0, 4-5=0/0
WEBS 2-5=-324/335

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-9 to 5-5-9, Interior (1) 5-5-9 to 7-10-5 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 4 and 142 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

March 17,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221952
P230132-01	V9	Valley	1	1	Job Reference (optional)	



Scale = 1:38

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	0.41	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 25 lb	FT = 20%

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

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

REACTIONS (size) 1=10-7-9, 5=10-7-9, 6=10-7-9, 7=10-7-9
Max Horiz 1=220 (LC 12)
Max Uplift 5=-49 (LC 12), 6=-135 (LC 12), 7=-105 (LC 12)
Max Grav 1=91 (LC 21), 5=143 (LC 1), 6=399 (LC 1), 7=304 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-299/129, 2-3=-212/91, 3-4=-83/44, 4-5=-110/101
BOT CHORD 1-7=-4/6, 6-7=-4/6, 5-6=-4/6
WEBS 3-6=-311/285, 2-7=-235/220

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-9 to 5-5-9, Interior (1) 5-5-9 to 10-6-5 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 5, 135 lb uplift at joint 6 and 105 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

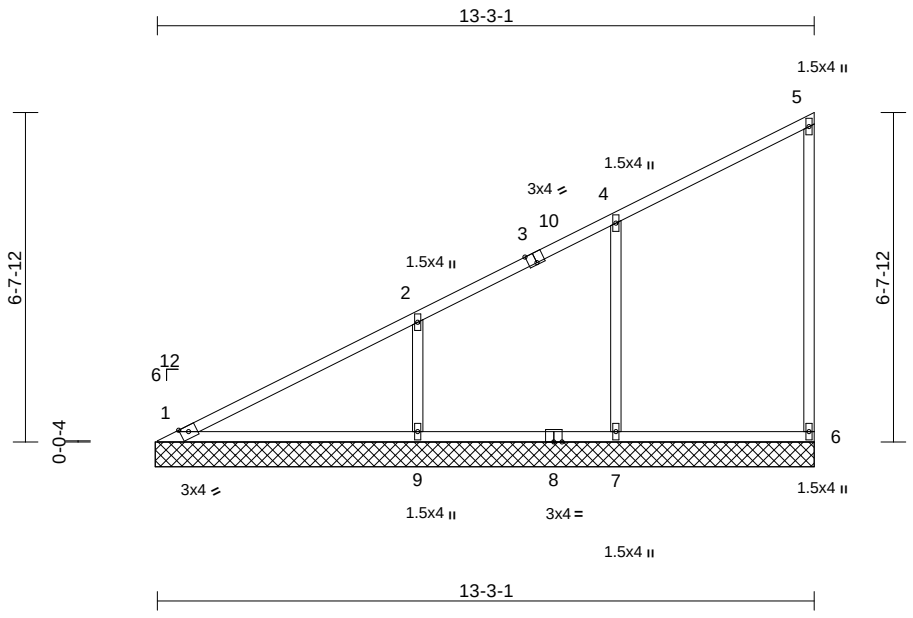
March 17,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 71	I57221953
P230132-01	V10	Valley	1	1	Job Reference (optional)	

Premier Building Supply (Springhill, KS), Spring Hills, KS - 66083,

Run: 8.63 S Nov 19 2022 Print: 8.630 S Nov 19 2022 MiTek Industries, Inc. Thu Mar 16 12:00:33 Page: 1
ID:X3j9csSdTd?hyQgxh8rn6OzwvzW-RfC?PsB70Hq3NSgPqnL8w3uITXbGkWrCDoi7342JC?



Scale = 1:46.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 33 lb	FT = 20%

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

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

REACTIONS (size) 1=13-3-9, 6=13-3-9, 7=13-3-9, 9=13-3-9
Max Horiz 1=278 (LC 12)
Max Uplift 6=-52 (LC 12), 7=-121 (LC 12), 9=-157 (LC 12)
Max Grav 1=179 (LC 1), 6=151 (LC 1), 7=357 (LC 1), 9=459 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-317/141, 2-4=-185/76, 4-5=-82/47, 5-6=-115/95
BOT CHORD 1-9=-3/5, 7-9=-3/5, 6-7=-3/5
WEBS 4-7=-282/228, 2-9=-346/264

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-9 to 5-3-9, Interior (1) 5-3-9 to 13-2-5 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 6, 121 lb uplift at joint 7 and 157 lb uplift at joint 9.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

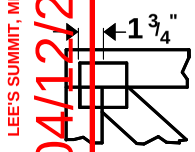
LOAD CASE(S) Standard

March 17,2023

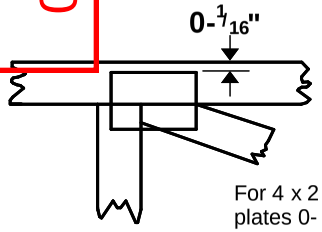
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

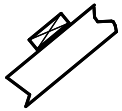
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

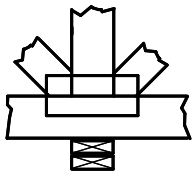
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

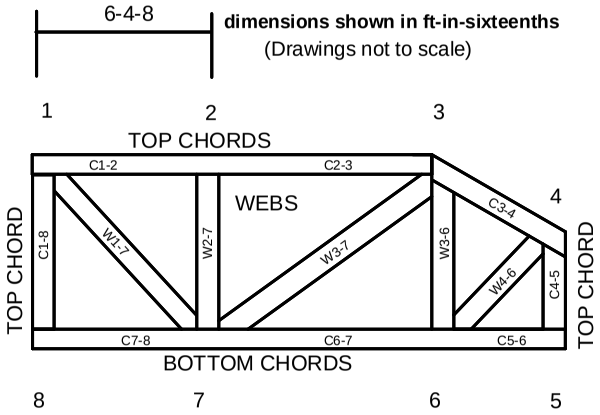


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.