RE: P230318-01
Roof - Osage Lot 5

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

Site Information:

Customer: Clover & Hive Project Name: P230318-01
Lot/Block: 5 Model:
Address: 2002/2004/2006/2008 SW Holdbrooks Dr Subdivision: Osage
City: Lee's Summit State: MO

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.6
Wind Code: ASCE 7-16 Wind Speed: 115 mph
Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 27 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I59271032	A1	6/30/2023	21	I59271052	V2	6/30/2023
2	I59271033	A2	6/30/2023	22	I59271053	V3	6/30/2023
3	I59271034	A3	6/30/2023	23	I59271054	V4	6/30/2023
4	I59271035	A4	6/30/2023	24	I59271055	V5	6/30/2023
5	I59271036	B1	6/30/2023	25	I59271056	V6	6/30/2023
6	I59271037	B2	6/30/2023	26	I59271057	V7	6/30/2023
7	I59271038	C1	6/30/2023	27	I59271058	V8	6/30/2023
8	I59271039	C2	6/30/2023				
9	I59271040	C3	6/30/2023				
10	I59271041	C4	6/30/2023				
11	I59271042	D1	6/30/2023				
12	I59271043	D2	6/30/2023				
13	I59271044	D3	6/30/2023				
14	I59271045	E1	6/30/2023				
15	I59271046	E2	6/30/2023				
16	I59271047	G1	6/30/2023				
17	I59271048	G1A	6/30/2023				
18	I59271049	G2	6/30/2023				
19	I59271050	G2A	6/30/2023				
20	I59271051	V1	6/30/2023				

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

Truss Design Engineer's Name: Nathan Fox
My license renewal date for the state of Missouri is December 31, 2024.
Missouri COA: 001193

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

June 30, 2023
Nathan Fox

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271032
P230318-01	A1	Roof Special Structural Gable	1	1	Job Reference (optional)	

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

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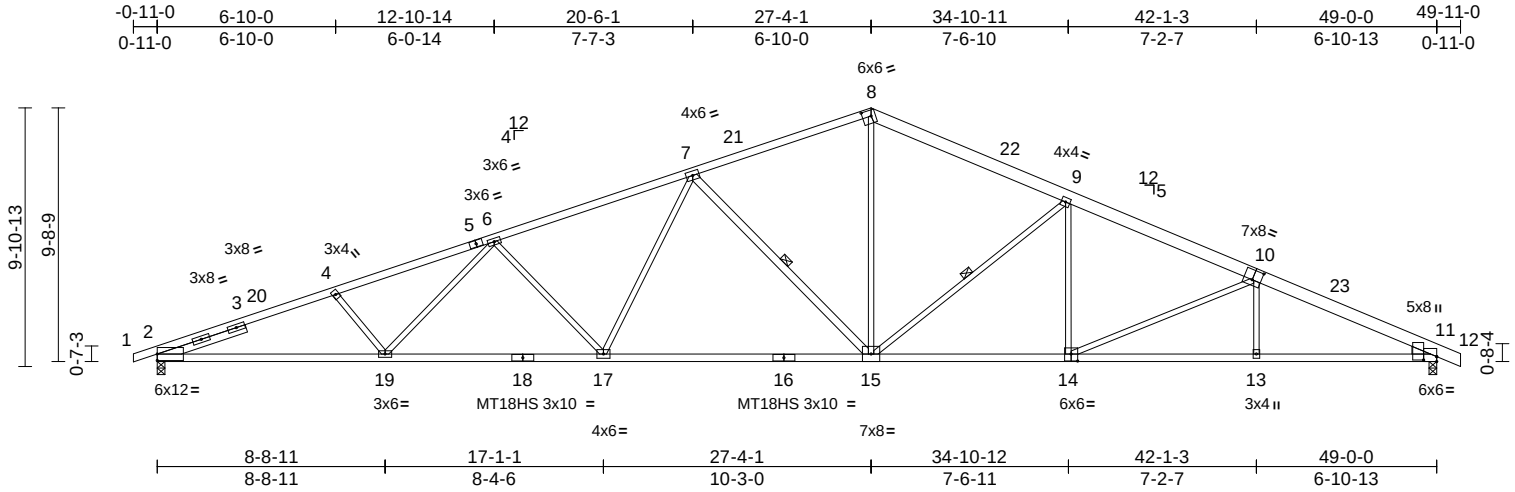

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Plate Offsets (X, Y): [8:0-4-0,0-2-12], [10:0-4-0,0-4-8], [11:Edge,0-2-5], [11:0-1-9,0-6-0], [14:0-3-0,0-3-4]

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	0.87	Vert(LL)	-0.41	17-19	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.92	15-17	>641	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.26	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 227 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2 *Except* 1-5:2x4 SP 2400F 2.0E, 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 14-16,16-18:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 15-7:2x4 SP No.2
WEDGE Right: 2x4 SPF No.3
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-6-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 7-11-11 oc bracing.
WEBS 1 Row at midpt 7-15, 9-15

REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=-174 (LC 17)
Max Uplift 2=-406 (LC 8), 11=-315 (LC 13)
Max Grav 2=2262 (LC 1), 11=2273 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5398/1091, 4-6=-5153/1058, 6-7=-4366/941, 7-8=-3086/765, 8-9=-3212/773, 9-11=-4612/921, 11-12=0/6
BOT CHORD 2-19=-933/4974, 17-19=-799/4580, 15-17=-588/3695, 13-15=-732/4112, 11-13=-732/4112
WEBS 4-19=-235/180, 6-19=-57/450, 6-17=-784/288, 7-17=-110/862, 7-15=-1237/370, 8-15=-312/1681, 10-13=0/290, 9-14=0/426, 9-15=-1007/321, 10-14=-605/203

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 49-11-0 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) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	A2	Roof Special	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I59271033
09/26/2023

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

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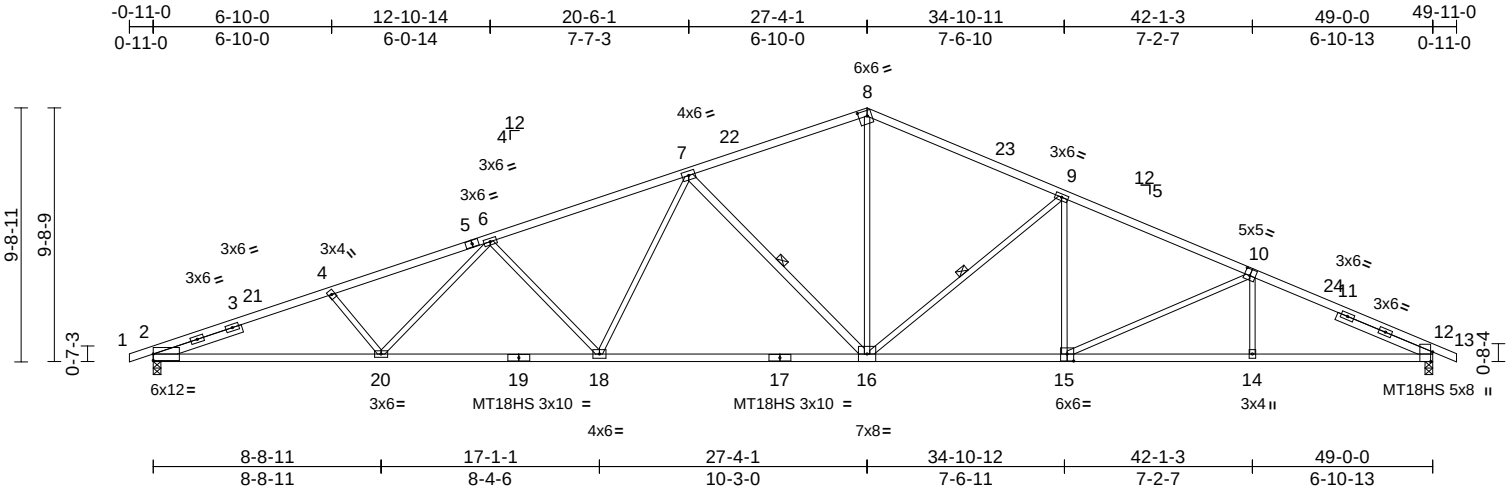

Scale = 1:88.2

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [10:0-2-8,0-3-0], [12:0-4-7,Edge], [15:0-3-0,0-3-4]

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	0.88	Vert(LL)	-0.42	18	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.93	16-18	>634	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.26	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 226 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E *Except* 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 0-0:2x4 SP No.2, 19-17,17-15:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 16-7:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 3-6-9, Right 2x4 SP No.2 -- 3-11-8

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-4-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 7-11-5 oc bracing.
WEBS 1 Row at midpt 7-16, 9-16

REACTIONS (size) 2=0-3-8, 12=0-3-8
Max Horiz 2=172 (LC 16)
Max Uplift 2=-407 (LC 8), 12=-313 (LC 13)
Max Grav 2=2269 (LC 1), 12=2269 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5417/1094, 4-6=-5172/1061, 6-7=-4387/945, 7-8=-3099/768, 8-9=-3214/777, 9-12=-4544/913, 12-13=0/0
BOT CHORD 2-20=-939/4992, 18-20=-806/4599, 16-18=-597/3715, 14-16=-721/4023, 12-14=-720/4024
WEBS 4-20=-235/180, 7-18=-109/861, 8-16=-316/1697, 7-16=-1257/374, 6-18=-782/288, 6-20=-57/450, 10-14=0/265, 9-15=0/410, 9-16=-1002/318, 10-15=-532/192

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 49-11-0 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) All plates are MT20 plates unless otherwise indicated.
4) All plates are 3x6 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
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
NATHANIEL FOX
NUMBER
PE-2022042259
PROFESSIONAL ENGINEER

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	A3	Roof Special	5	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I59271034
09/26/2023

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

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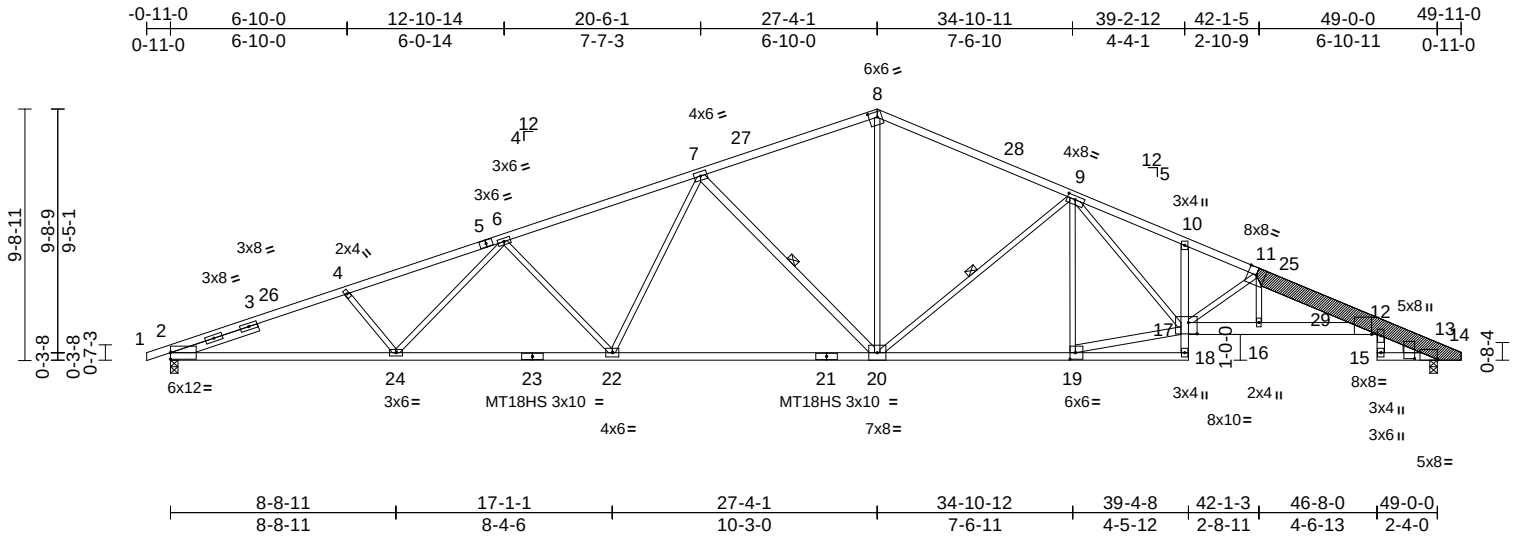

Scale = 1:89.1

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [9:0-3-14,0-1-12], [12:0-2-8,Edge], [13:Edge,0-0-6], [13:0-0-6,0-10-9], [17:0-4-0,0-5-4], [19:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.47	20-22	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-1.02	20-22	>573	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.40	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 281 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 2400F 2.0E *Except* 5-8:2x4 SP 1650F 1.5E, 11-14:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SP No.2 *Except* 2-23,21-18:2x4 SP 2400F 2.0E, 17-12:2x6 SP 2400F 2.0E, 21-23:2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2 *Except* 20-7,17-19:2x4 SP No.2

LBR SCAB 0-0 SP 2400F 2.0E one side
11-14 SP 2400F 2.0E one side

WEDGE Right: 2x4 SPF No.3

SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-6-3 oc purlins.

BOT CHORD Rigid ceiling directly applied or 7-11-9 oc bracing.

WEBS 1 Row at midpt 7-20, 9-20

REACTIONS (lb/size) 2=2263/0-3-8, 13=2243/0-3-8
Max Horiz 2=172 (LC 12)
Max Uplift 2=-406 (LC 8), 13=-305 (LC 13)

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

TOP CHORD 2-3=-5399/1065, 3-26=-5310/1081, 4-26=-5293/1091, 4-5=-5154/1055, 5-6=-5045/1058, 6-7=-4367/942, 7-27=-3082/740, 8-27=-3000/764, 8-28=-3084/772, 9-28=-3193/749, 9-10=-5324/1153, 10-11=-5468/1123, 11-25=-6349/1269, 25-29=-6392/1260, 12-29=-6457/1251, 12-13=-1083/253

BOT CHORD 2-24=-936/4976, 23-24=-803/4582, 22-23=-803/4582, 21-22=-595/3697, 20-21=-595/3697, 19-20=-584/3555, 18-19=-71/423, 16-17=-1097/6120, 12-16=-1097/6130

WEBS 8-20=-310/1673, 6-24=-56/451, 7-22=-111/858, 7-20=-1255/375, 6-22=-783/287, 11-16=-1/314, 9-19=-690/200, 9-20=-961/315, 17-19=-528/3229, 9-17=-409/2099, 11-17=-1476/329

NOTES

1) Attached 8-6-15 scab 11 to 14, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-5-9 from end at joint 11, nail 2 row(s) at 4" o.c. for 3-8-6; starting at 3-10-9 from end at joint 11, nail 2 row(s) at 2" o.c. for 2-0-0; starting at 6-2-5 from end at joint 11, nail 2 row(s) at 4" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 49-6-0 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
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) This truss 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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271035
P230318-01	A4	Roof Special Supported Gable	1	1	Job Reference (optional)	

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

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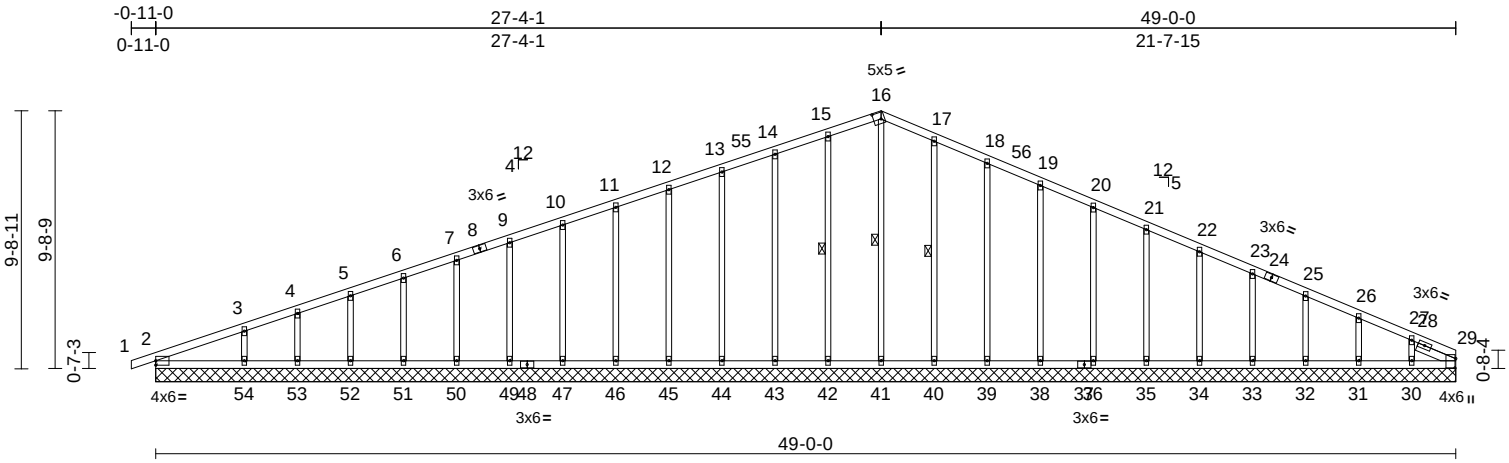

Scale = 1:86.8

Plate Offsets (X, Y): [16:0-3-7,0-3-0], [29:0-4-3,0-0-6]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.14	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	NO	WB	0.23	Horz(CT)	0.01	29	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 246 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 37-48:2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Right 2x4 SPF No.3 -- 1-6-11

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.
WEBS 1 Row at midpt 16-41, 15-42, 17-40

REACTIONS All bearings 49-0-0.
(lb) - Max Horiz 2=174 (LC 16)
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52, 53, 54
Max Grav All reactions 250 (lb) or less at joint (s) 2, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49, 50, 51, 52, 53 except 54=300 (LC 25)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 14-15=-101/265, 15-16=-112/289, 16-17=-115/284

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 27-4-1, Corner(3R) 27-4-1 to 32-4-1, Exterior(2N) 32-4-1 to 49-0-0 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 2x4 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) Solid blocking is required on both sides of the truss at joint(s), 2.
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

STATE OF MISSOURI
NATHANIEL FOX
NUMBER
PE-2022042259
PROFESSIONAL ENGINEER

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271036
P230318-01	B1	Roof Special Structural Gable	4	1	Job Reference (optional)	

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

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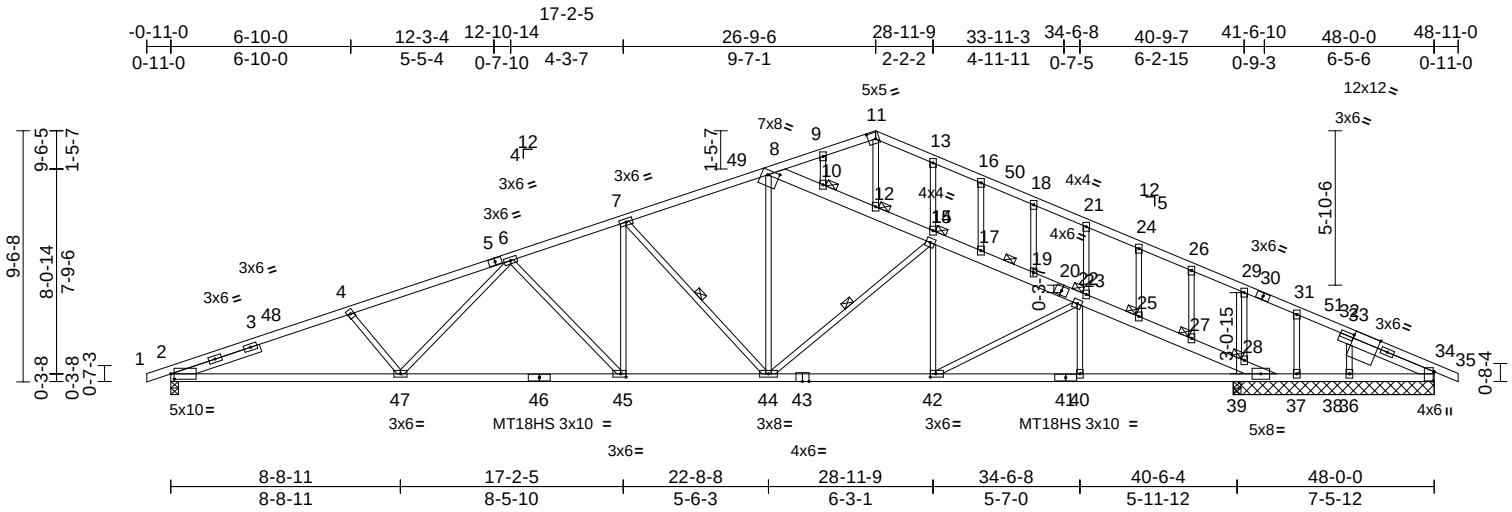

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Plate Offsets (X, Y): [2:0-1-8,0-2-8], [8:0-5-3,0-2-3], [11:0-3-7,0-3-0], [33:2-3-14,Edge], [34:0-4-3,0-0-7], [34:3-4-1,0-1-8], [42:0-2-8,0-1-8], [45:0-2-8,0-1-8]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.37	45-47	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.73	45-47	>670	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.21	34	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 264 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SPF No.2 *Except* 1-5:2x4 SP 1650F 1.5E, 30-35:2x4 SP 2400F 2.0E, 5-11,30-11:2x4 SP No.2
BOT CHORD 2x4 SP 2400F 2.0E *Except* 0-0:2x4 SP No.2, 41-43,43-46:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9, Right 2x4 SPF No.3 -- 3-10-9

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-14 oc purlins. Except:
1 Row at midpt 15-22
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 15-44, 7-44
JOINTS 1 Brace at Jt(s): 28, 22, 15, 12, 10, 25, 27

REACTIONS (size) 2=0-3-8, 34=7-7-8, 36=7-7-8, 37=7-7-8, 38=7-7-8, 39=0-3-8
Max Horiz 2=163 (LC 16)
Max Uplift 2=-363 (LC 8), 34=-45 (LC 8), 36=-290 (LC 1), 37=-354 (LC 13), 38=-9 (LC 26)
Max Grav 2=1960 (LC 1), 34=835 (LC 1), 36=67 (LC 8), 37=1503 (LC 1), 38=73 (LC 3), 39=367 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-4604/919, 4-6=-4361/879, 6-7=-3534/764, 7-8=-2838/670, 8-9=-1193/388, 9-11=-1194/413, 11-13=-1211/415, 13-16=-1227/384, 16-18=-1245/358, 18-21=-1253/326, 21-24=-1211/273, 24-26=-1232/247, 26-29=-1189/201, 29-31=-1435/236, 31-33=-1044/95, 33-34=-1342/88, 34-35=0/0, 8-10=-1652/344, 10-12=-1705/373, 12-14=-1470/311, 14-15=-1505/318, 15-17=-1792/356, 17-19=-1825/379, 19-22=-1875/404, 22-23=-2365/532, 23-25=-2459/576, 25-27=-2485/592, 27-28=-2586/630, 28-38=-2396/580
BOT CHORD 2-47=-800/4239, 45-47=-644/3758, 44-45=-494/3305, 42-44=-361/2765, 40-42=-591/3459, 39-40=-591/3459, 38-39=-591/3459, 37-38=-1117/27, 36-37=-27/1117, 34-36=-26/1115
WEBS 28-29=-118/506, 4-47=-280/194, 8-44=-126/953, 6-47=-63/511, 7-45=-81/639, 22-40=-14/145, 15-42=-67/542, 6-45=-678/221, 15-44=-298/52, 22-42=-788/273, 7-44=-994/252, 11-12=-196/610, 9-10=-137/75, 16-17=-87/60, 18-19=-129/68, 21-23=-244/119, 24-25=-75/47, 26-27=-261/99, 31-37=-1094/353, 33-36=-76/465, 13-14=-94/81

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 48-11-0 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 MT20 plates unless otherwise indicated.
5) All plates are 3x4 MT20 unless otherwise indicated.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.

June 30,2023

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271036
P230318-01	B1	Roof Special Structural Gable	4	1	Job Reference (optional)	

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 5	I59271037
P230318-01	B2	Roof Special	8	1	Job Reference (optional)	

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

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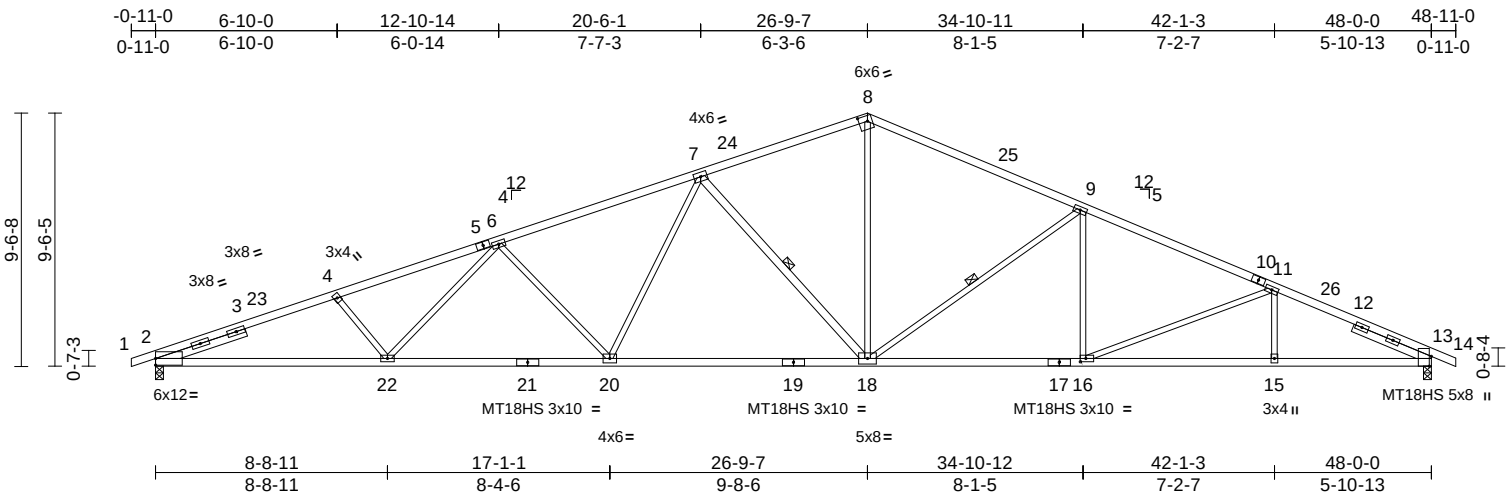

Scale = 1:86.7

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [13:0-4-7,Edge], [16:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.40	20-22	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.85	18-20	>677	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.94	Horz(CT)	0.25	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 218 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E *Except* 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 17-19,19-21:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 18-7:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9, Right 2x4 SPF No.3 -- 3-2-1

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-6-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-0-13 oc bracing.
WEBS 1 Row at midpt 7-18, 9-18

REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=169 (LC 12)
Max Uplift 2=-399 (LC 8), 13=-308 (LC 13)
Max Grav 2=2224 (LC 1), 13=2224 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5292/1071, 4-6=-5046/1038, 6-7=-4248/922, 7-8=-3028/756, 8-9=-3158/759, 9-11=-3967/856, 11-13=-4430/895, 13-14=0/0
BOT CHORD 2-22=-917/4876, 20-22=-785/4475, 18-20=-572/3582, 16-18=-601/3609, 15-16=-715/3920, 13-15=-715/3920
WEBS 4-22=-238/180, 8-18=-308/1653, 6-22=-55/458, 7-20=-117/860, 7-18=-1209/360, 6-20=-793/290, 11-15=0/226, 9-16=0/396, 9-18=-1028/324, 11-16=-423/169

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-7, Exterior(2R) 26-9-7 to 31-9-7, Interior (1) 31-9-7 to 48-11-0 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) All plates are MT20 plates unless otherwise indicated.
4) All plates are 3x6 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271038
P230318-01	C1	Roof Special Structural Gable	1	1	Job Reference (optional)	

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

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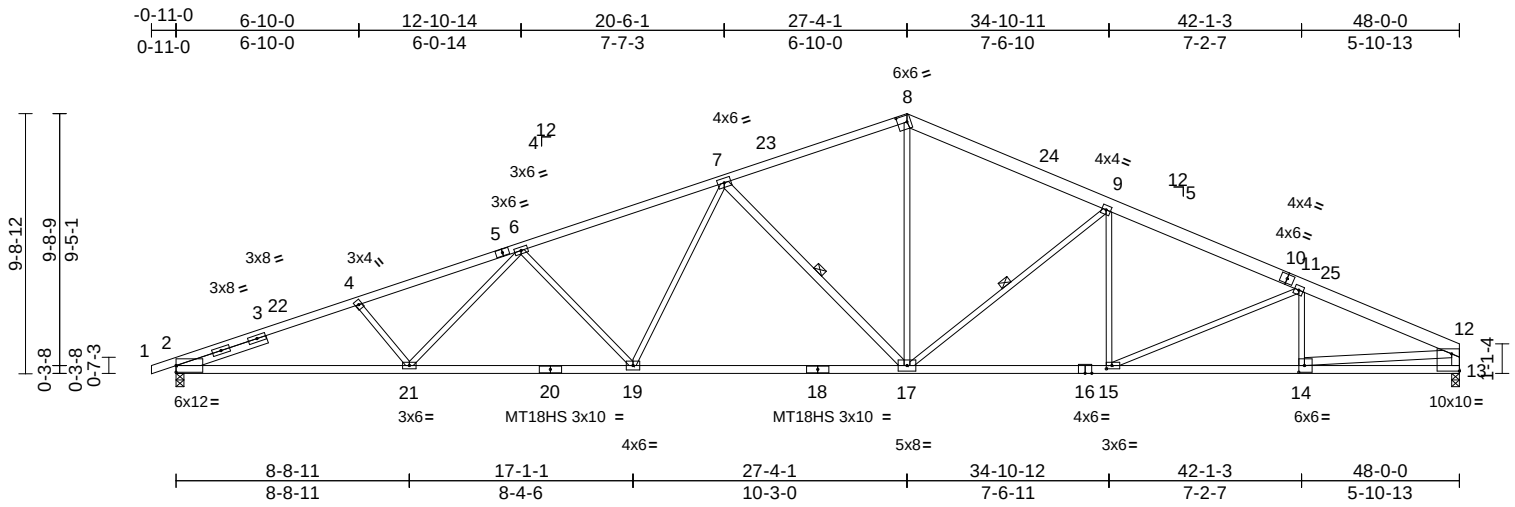

Scale = 1:86.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.38	19-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.85	17-19	>673	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.22	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 230 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2 *Except* 1-5:2x4 SP 2400F 2.0E, 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 18-20,18-16:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 13-12:2x4 SPF No.3, 17-7,14-12:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-9-15 oc bracing.
WEBS 1 Row at midpt 7-17, 9-17

REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=174 (LC 16)
Max Uplift 2=-402 (LC 8), 13=-277 (LC 13)
Max Grav 2=2218 (LC 1), 13=2153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5276/1068, 4-6=-5028/1035, 6-7=-4234/916, 7-8=-2950/739, 8-9=-3072/754, 9-11=-3731/826, 11-12=-3865/811, 12-13=-2083/495
BOT CHORD 2-21=-941/4860, 19-21=-829/4457, 17-19=-626/3568, 15-17=-587/3364, 14-15=-698/3493, 13-14=-109/377
WEBS 4-21=-239/180, 8-17=-298/1588, 6-19=-786/288, 11-14=-306/170, 9-15=0/321, 11-15=-265/142, 7-17=-1240/370, 6-21=-58/455, 9-17=-886/302, 7-19=-110/863, 12-14=-594/3144

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are MT20 plates unless otherwise indicated.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP 2400F 2.0E crushing capacity of 805 psi.
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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	C2	Roof Special	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I59271039
09/26/2023

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

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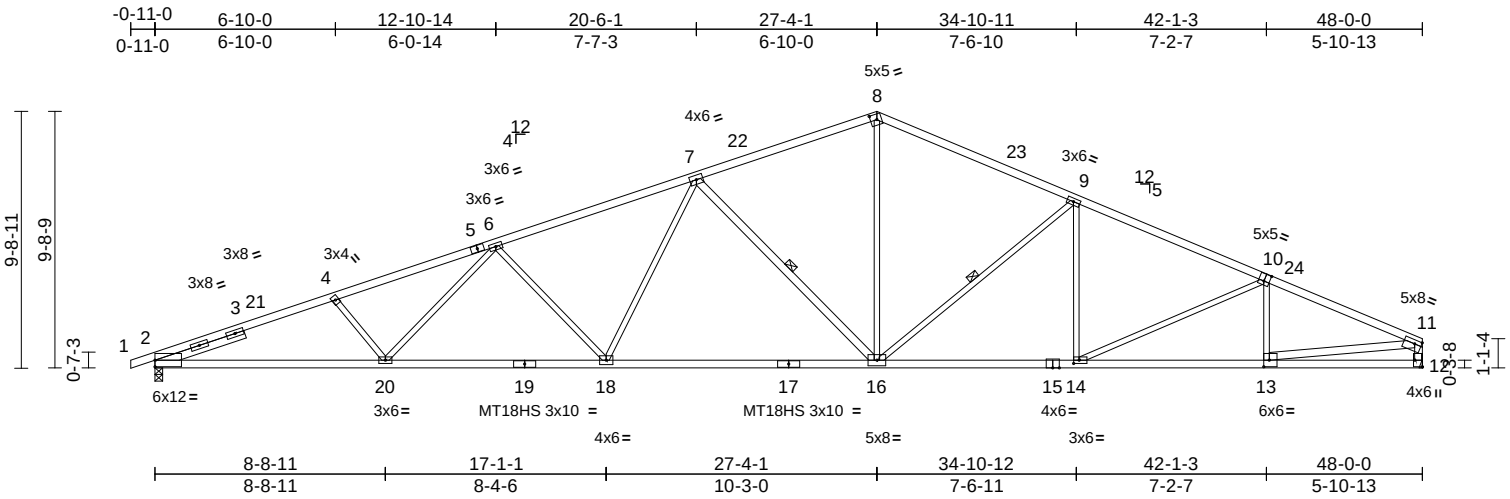

Scale = 1:87.3

Plate Offsets (X, Y): [8:0-2-15,0-2-8], [10:0-2-8,0-3-4], [11:0-3-0,0-1-12], [12:Edge,0-3-8], [13:0-2-8,0-3-0], [14:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.39	18-20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.87	16-18	>662	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.78	Horz(CT)	0.22	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 224 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E *Except* 10-11:2x4 SP No.2, 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 15-17,17-19:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 12-11:2x4 SPF No.3, 16-7,13-11:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-9-10 oc bracing.
WEBS 1 Row at midpt 7-16, 9-16

REACTIONS (size) 2=0-3-8, 12= Mechanical
Max Horiz 2=175 (LC 16)
Max Uplift 2=-401 (LC 8), 12=-277 (LC 13)
Max Grav 2=2218 (LC 1), 12=2153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5276/1068, 4-6=-5028/1035, 6-7=-4234/916, 7-8=-2943/739, 8-9=-3052/751, 9-11=-3771/819, 11-12=-2084/495
BOT CHORD 2-20=-947/4860, 18-20=-835/4457, 16-18=-632/3568, 14-16=-582/3318, 13-14=-687/3419, 12-13=-102/254
WEBS 4-20=-240/180, 8-16=-298/1580, 6-20=-58/455, 7-18=-109/863, 7-16=-1258/374, 6-18=-784/288, 10-13=-362/179, 9-14=0/314, 9-16=-852/294, 10-14=-242/138, 11-13=-589/3196

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 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) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 12 SPF No.3 crushing capacity of 425 psi.
6) Refer to girder(s) for truss to truss connections.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/26/2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271040
P230318-01	C3	Roof Special	5	1	Job Reference (optional)	

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

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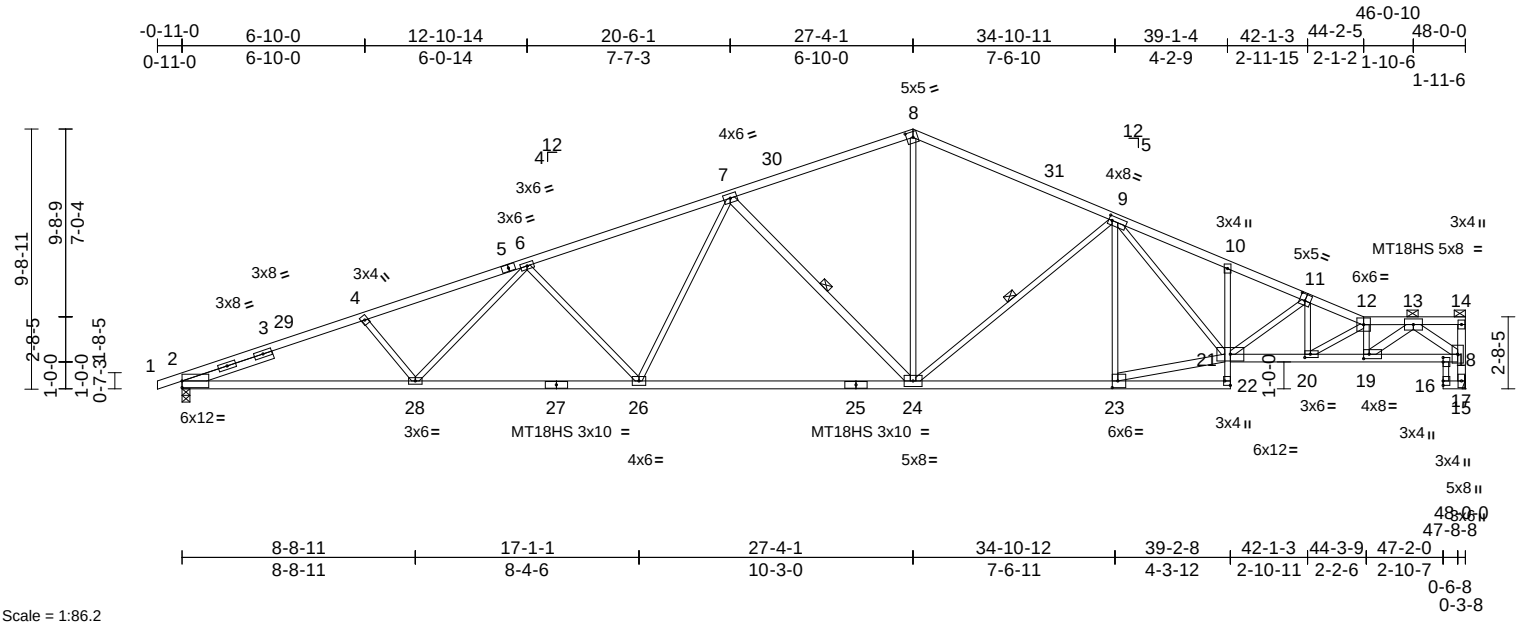

Scale = 1:86.2

Plate Offsets (X, Y): [8:0-2-15,0-2-8], [9:0-1-8,0-2-0], [11:0-2-8,0-3-0], [18:0-2-0,Edge], [19:0-2-8,0-2-0], [20:0-2-8,0-1-8], [22:Edge,0-2-8], [23:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.42	24-26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.93	24-26	>619	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.79	Horz(CT)	0.34	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 238 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E *Except* 11-12,12-14:2x4 SP No.2, 5-8:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 22-10,18-16:2x3 SPF No.2, 21-17,25-27:2x4 SP 1650F 1.5E, 16-15:2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 24-7,21-23,15-14,19-13,13-17:2x4 SP No.2
SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-9 oc purlins, except 2-0-0 oc purlins (2-4-0 max.): 12-14.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 7-24, 9-24

REACTIONS (size) 2=0-3-8, 15= Mechanical
Max Horiz 2=230 (LC 12)
Max Uplift 2=-399 (LC 8), 15=-280 (LC 13)
Max Grav 2=2218 (LC 1), 15=2153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-5276/1061, 4-6=-5029/1027, 6-7=-4233/909, 7-8=-2946/730, 8-9=-3052/735, 9-10=-4721/1035, 10-12=-5231/1060, 12-13=-4988/1008, 13-14=-33/1
BOT CHORD 2-28=-1003/4861, 26-28=-888/4456, 24-26=-685/3568, 23-24=-621/3306, 22-23=-32/162, 21-22=0/71, 10-21=-144/83, 20-21=-962/4821, 19-20=-1038/5129, 18-19=-567/2637, 17-18=-568/2683, 16-18=-40/6, 15-16=-45/1
WEBS 4-28=-240/180, 8-24=-284/1575, 6-28=-57/457, 7-26=-111/860, 7-24=-1256/375, 6-26=-785/288, 11-20=-29/298, 9-23=-648/211, 9-24=-833/286, 21-23=-605/3231, 9-21=-352/1665, 11-21=-574/148, 12-20=-363/91, 12-19=-1883/404, 15-17=-2101/460, 14-17=-56/31, 13-19=-564/3006, 13-17=-3300/717

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 27-4-1, Exterior(2R) 27-4-1 to 32-4-1, Interior (1) 32-4-1 to 47-10-4 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) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 15 SPF No.3 crushing capacity of 425 psi.
7) Refer to girder(s) for truss to truss connections.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	C4	Roof Special Supported Gable	1	1	Job Reference (optional) I59271041

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

Run: 8.63 E Jun 15 2023 Print: 8.630 E Jun 15 2023 MiTek Industries, Inc. Thu Jun 29 14:53:30 Page: 1
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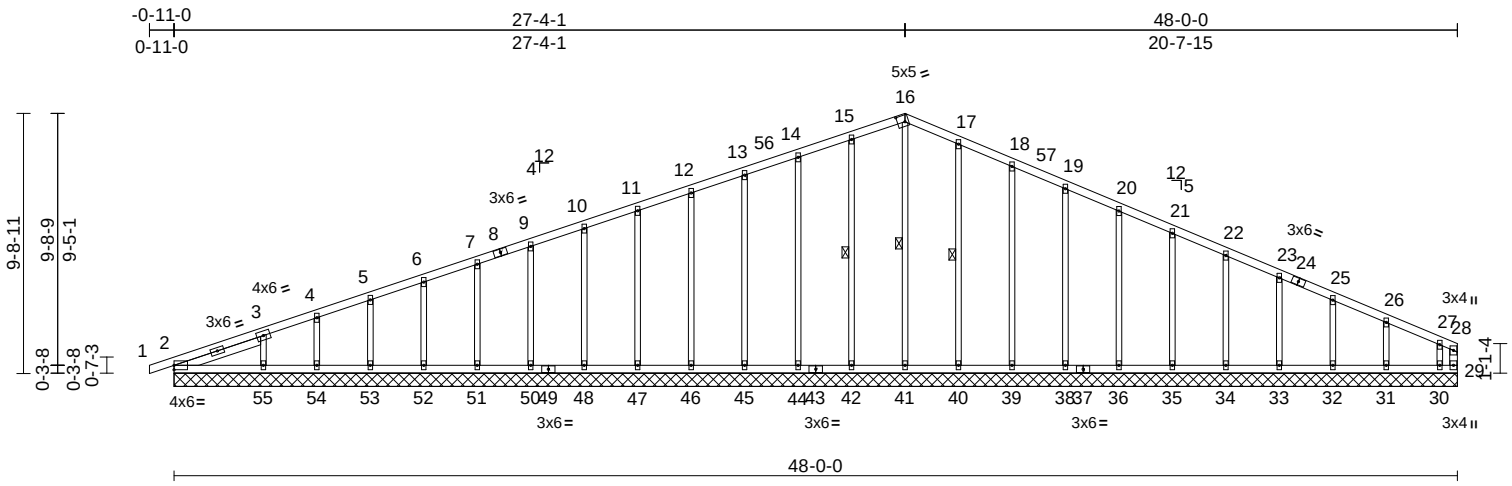

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Plate Offsets (X, Y): [16:0-3-7,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.23	Horz(CT)	0.01	29	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 246 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SPF No.3
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 3-4-15

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.
WEBS 1 Row at midpt 16-41, 15-42, 17-40

REACTIONS All bearings 48-0-0.
(lb) - Max Horiz 2=175 (LC 12)
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 29, 31, 32, 33, 34, 35, 36, 38, 39, 40, 42, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54, 55 except 30=-211 (LC 13)
Max Grav All reactions 250 (lb) or less at joint (s) 2, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 50, 51, 52, 53, 54 except 55=268 (LC 25)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 12-13=-101/255, 13-56=-112/276, 14-56=-100/283, 14-15=-124/312, 15-16=-134/336, 16-17=-138/332, 17-18=-124/274

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 27-4-1, Corner(3R) 27-4-1 to 32-4-1, Exterior(2N) 32-4-1 to 47-10-4 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) This truss 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
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271042
P230318-01	D1	Roof Special	4	1	Job Reference (optional)	

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

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Thu Jun 29 13:03:36 Page: 1
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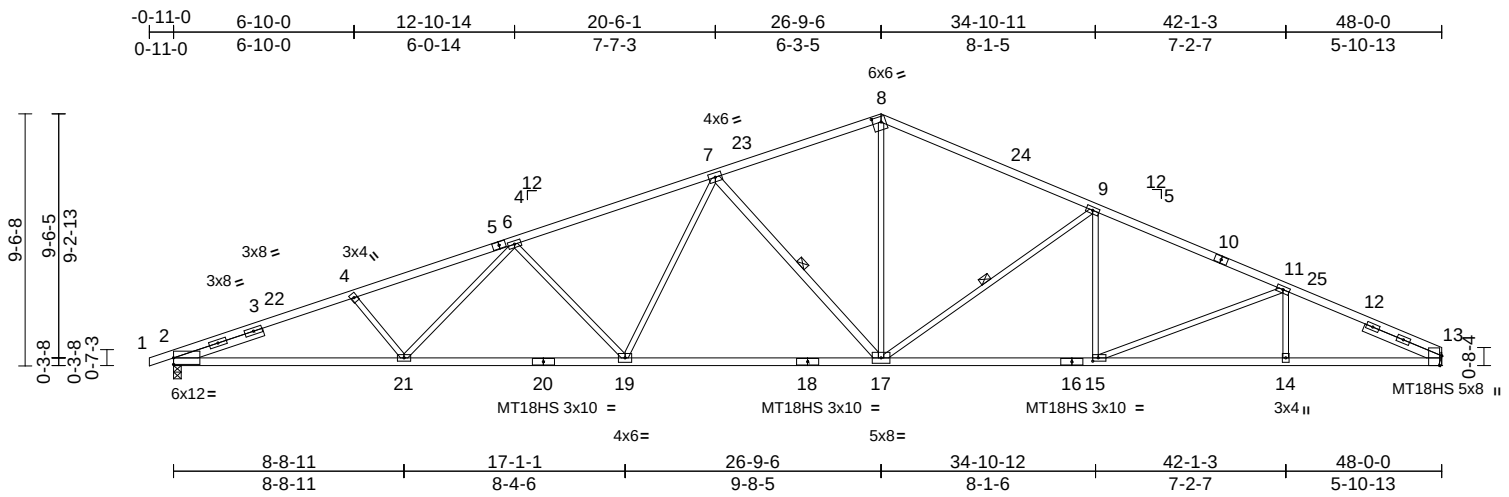

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Plate Offsets (X, Y): [8:0-3-15,0-2-8], [13:0-4-7,Edge], [15:0-2-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.40	19-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.85	17-19	>677	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.95	Horz(CT)	0.25	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 217 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP 2400F 2.0E *Except* 5-8:2x4 SP 1650F 1.5E
BOT CHORD	2x4 SP 2400F 2.0E *Except* 18-20,18-16:2x4 SP 1650F 1.5E
WEBS	2x3 SPF No.2 *Except* 17-7:2x4 SP No.2
SLIDER	Left 2x4 SPF No.3 -- 3-6-9, Right 2x4 SPF No.3 -- 3-2-1

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-6-5 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 8-0-12 oc bracing.
WEBS	1 Row at midpt 7-17, 9-17

REACTIONS (size) 2=0-3-8, 13= Mechanical
Max Horiz 2=169 (LC 16)
Max Uplift 2=-399 (LC 8), 13=-285 (LC 13)
Max Grav 2=2225 (LC 1), 13=2159 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/0, 2-4=-5294/1072, 4-6=-5048/1039, 6-7=-4250/923, 7-8=-3031/757, 8-9=-3160/765, 9-11=-3969/870, 11-13=-4442/927
BOT CHORD	2-21=-918/4877, 19-21=-786/4476, 17-19=-572/3584, 15-17=-602/3614, 14-15=-743/3934, 13-14=-743/3934
WEBS	4-21=-238/180, 8-17=-313/1655, 6-21=-55/458, 7-19=-117/860, 7-17=-1209/360, 6-19=-793/290, 11-14=0/227, 9-15=0/398, 9-17=-1031/325, 11-15=-432/172

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 48-0-0 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) All plates are MT20 plates unless otherwise indicated.
4) All plates are 3x6 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 13 SPF No.3 crushing capacity of 425 psi.
7) Refer to girder(s) for truss to truss connections.
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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	D2	Roof Special	10	1	Job Reference (optional) I59271043

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

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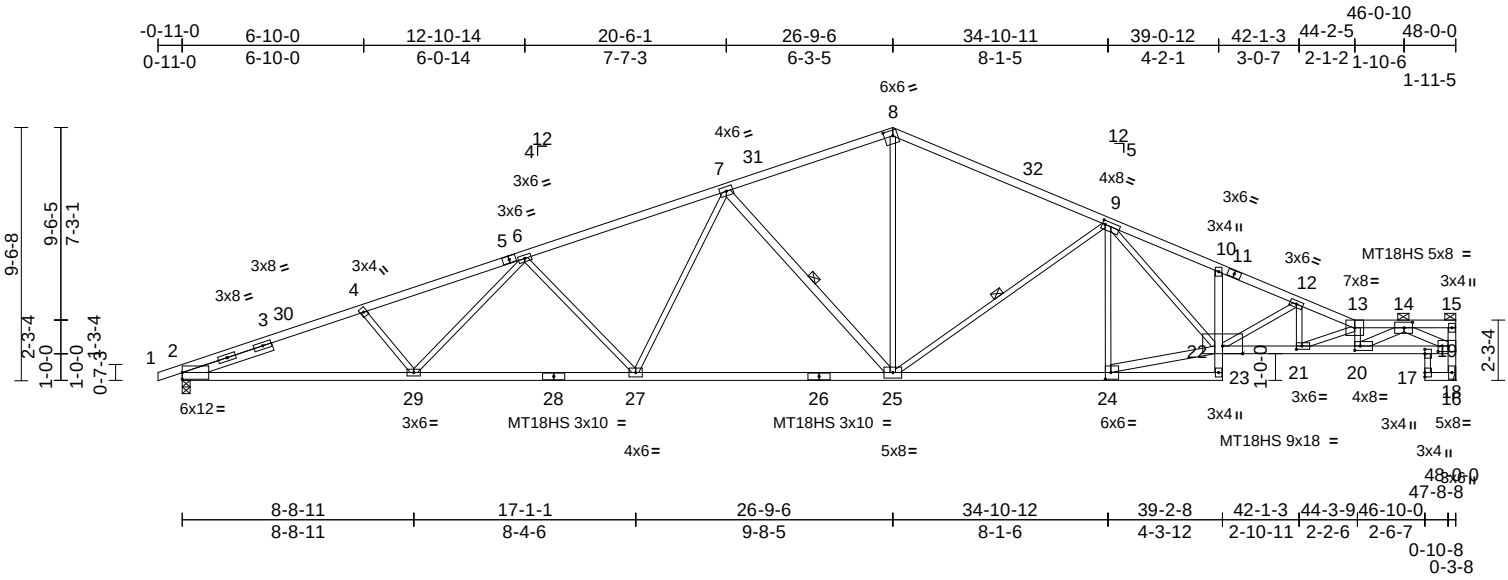

Scale = 1:86.8

Plate Offsets (X, Y): [8:0-3-15,0-2-8], [9:0-1-4,0-1-12], [14:0-3-12,0-2-8], [18:0-4-8,0-2-8], [19:0-2-0,Edge], [20:0-2-8,0-2-0], [21:0-2-8,0-1-8], [24:0-2-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.48	25	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-1.00	25-27	>576	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.91	Horz(CT)	0.40	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 237 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP 2400F 2.0E *Except* 11-13:2x4 SP No.2, 13-15,5-8:2x4 SP 1650F 1.5E

BOT CHORD 2x4 SP 2400F 2.0E *Except* 23-10,17-16:2x4 SP No.2, 19-17:2x3 SPF No.2, 26-23,26-28:2x4 SP 1650F 1.5E

WEBS 2x3 SPF No.2 *Except* 25-7,22-24,16-15,18-14,14-20:2x4 SP No.2

SLIDER Left 2x4 SPF No.3 -- 3-6-9

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-5-7 oc purlins, except 2-0-0 oc purlins (2-2-4 max.): 13-15.

BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

WEBS 1 Row at midpt 7-25, 9-25

REACTIONS (size) 2=0-3-8, 16= Mechanical
Max Horiz 2=216 (LC 12)
Max Uplift 2=-397 (LC 8), 16=-285 (LC 13)
Max Grav 2=2218 (LC 1), 16=2153 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/0, 2-4=-5276/1063, 4-6=-5030/1030, 6-7=-4230/914, 7-8=-3012/748, 8-9=-3137/747, 9-10=-5269/1131, 10-12=-5397/1102, 12-13=-6411/1291, 13-14=-6949/1398, 14-15=-69/8

BOT CHORD 2-29=-989/4860, 27-29=-877/4458, 25-27=-669/3564, 24-25=-665/3555, 23-24=-69/321, 22-23=0/60, 10-22=-102/69, 21-22=-1178/5924, 20-21=-1442/7154, 19-20=-792/3694, 18-19=-800/3761, 17-19=-30/10, 16-17=-67/8

WEBS 4-29=-239/180, 6-29=-55/459, 7-27=-117/859, 6-27=-794/290, 8-25=-297/1629, 7-25=-1207/360, 12-21=-115/734, 9-24=-663/225, 9-25=-987/313, 22-24=-613/3325, 12-22=-1151/266, 9-22=-411/2002, 13-21=-1357/291, 16-18=-2105/459, 15-18=-67/33, 14-18=-4128/893, 14-20=-694/3727, 13-20=-1928/413

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 26-9-6, Exterior(2R) 26-9-6 to 31-9-6, Interior (1) 31-9-6 to 47-10-4 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) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearings are assumed to be: Joint 2 SP 2400F 2.0E crushing capacity of 805 psi, Joint 16 SPF No.3 crushing capacity of 425 psi.
7) Refer to girder(s) for truss to truss connections.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271044
P230318-01	D3	Roof Special Supported Gable	2	1	Job Reference (optional)	

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

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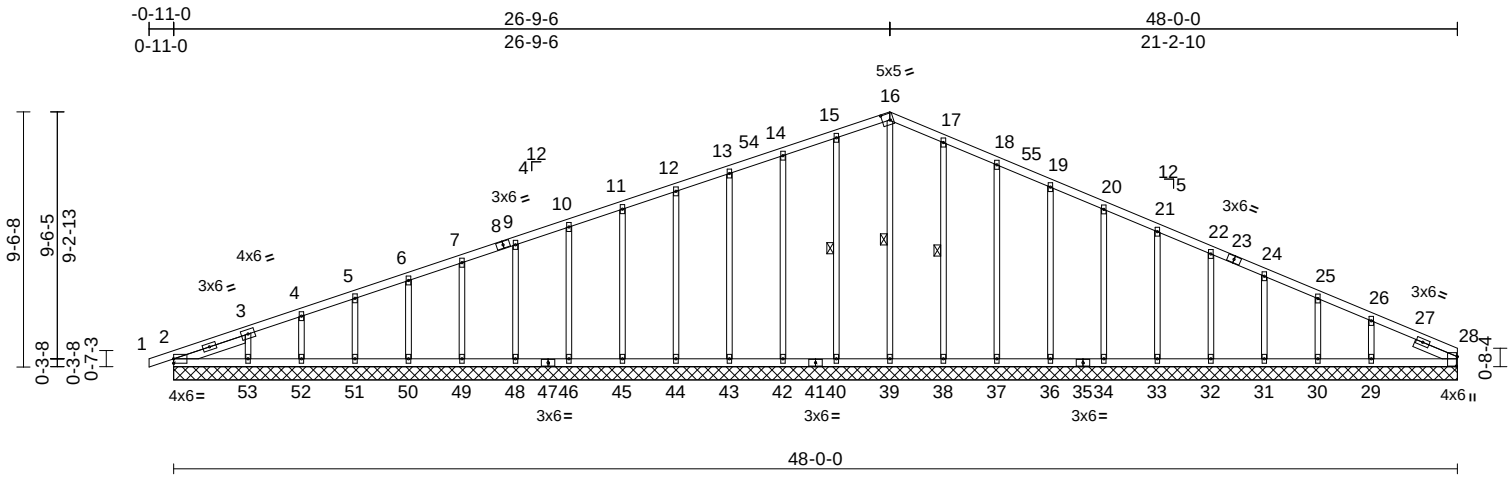

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Plate Offsets (X, Y): [16:0-3-7,0-3-0], [28:0-4-3,0-0-7]

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.01	28	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 242 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 23-28:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 2-9-14, Right 2x4 SPF No.3 -- 1-8-10

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.
WEBS 1 Row at midpt 16-39, 15-40, 17-38

REACTIONS All bearings 48-0-0.
(lb) - Max Horiz 2=169 (LC 16)
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 30, 31, 32, 33, 34, 36, 37, 38, 40, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53 except 29=-107 (LC 13)
Max Grav All reactions 250 (lb) or less at joint (s) 2, 28, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 42, 43, 44, 45, 46, 48, 49, 50, 51, 52, 53 except 29=285 (LC 26)

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 14-15=-110/277, 15-16=-121/301, 16-17=-124/296

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 26-9-6, Corner(3R) 26-9-6 to 31-9-6, Exterior(2N) 31-9-6 to 48-0-0 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 2x4 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) 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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	E1	Roof Special Supported Gable	4	1	Job Reference (optional) I59271045

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

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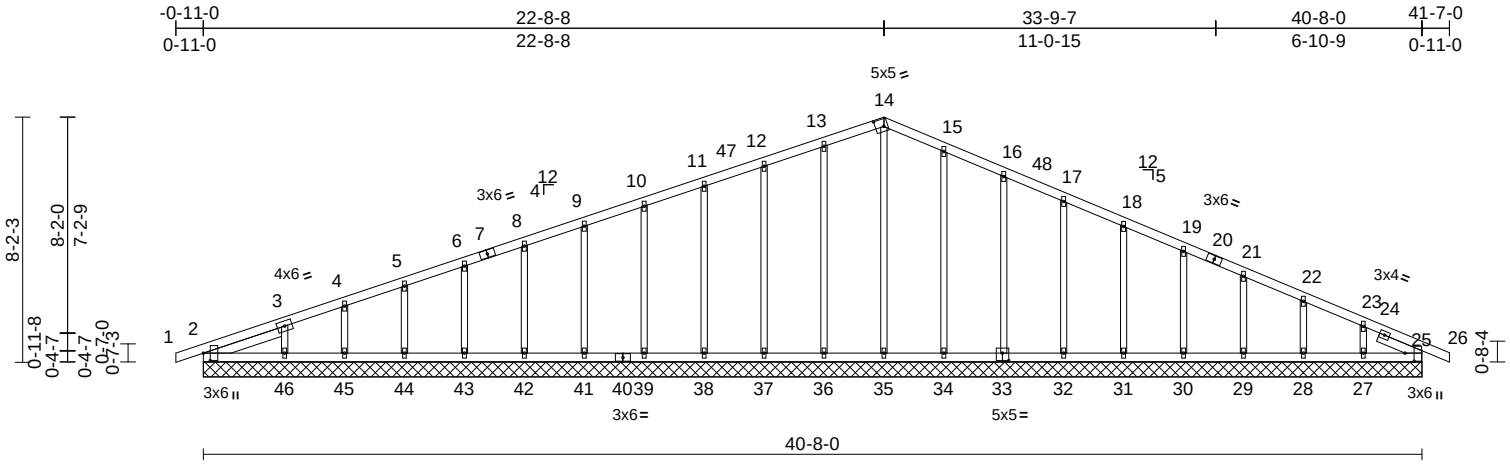

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Plate Offsets (X, Y): [2:0-3-0,0-2-12], [14:0-3-7,0-3-0], [25:0-3-4,0-3-10], [33:0-2-8,0-3-0]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.21	Horz(CT)	0.01	25	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 197 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 2-8-15

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 40-8-0.
(lb) - Max Horiz 2=139 (LC 12)
Max Uplift All uplift 100 (lb) or less at joint(s) 2, 25, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46
Max Grav All reactions 250 (lb) or less at joint (s) 2, 25, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46

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

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 22-8-8, Corner(3R) 22-8-8 to 27-8-8, Exterior(2N) 27-8-8 to 41-7-0 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) 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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	E2	Roof Special	8	1	Job Reference (optional) I59271046

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

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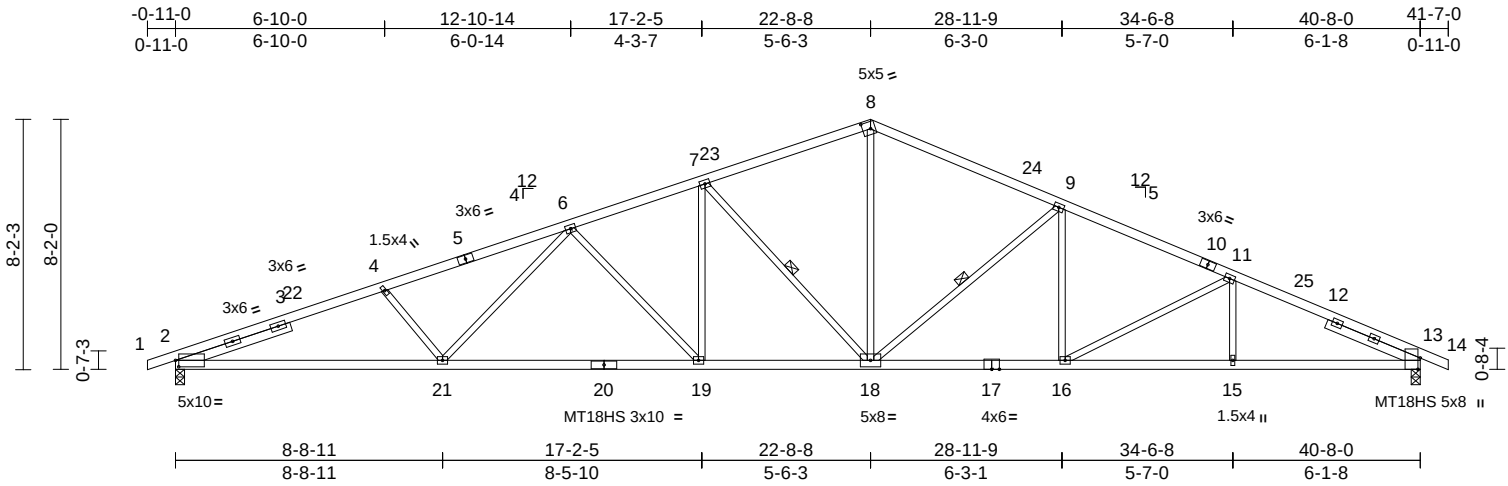

Scale = 1:75.3

Plate Offsets (X, Y): [2:0-1-4,0-2-8], [8:0-3-3,0-2-12], [13:0-4-7,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	0.83	Vert(LL)	-0.34	19-21	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.69	19-21	>710	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.21	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 183 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP 1650F 1.5E *Except* 0-0:2x4 SP No.2
WEBS 2x3 SPF No.2
SLIDER Left 2x4 SPF No.3 -- 3-11-3, Right 2x4 SPF No.3 -- 3-3-8

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-2-0 oc bracing.
WEBS 1 Row at midpt 7-18, 9-18

REACTIONS (size) 2=0-3-8, 13=0-3-8
Max Horiz 2=144 (LC 12)
Max Uplift 2=-344 (LC 8), 13=-264 (LC 13)
Max Grav 2=1894 (LC 1), 13=1894 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-4=-4384/911, 4-6=-4144/869, 6-7=-3258/745, 7-8=-2539/651, 8-9=-2640/660, 9-11=-3243/727, 11-13=-3668/761, 13-14=0/0
BOT CHORD 2-21=-768/4045, 19-21=-609/3519, 18-19=-476/3041, 16-18=-493/2955, 15-16=-589/3228, 13-15=-589/3228
WEBS 4-21=-312/204, 8-18=-266/1373, 6-19=-708/229, 7-18=-1047/269, 6-21=-72/563, 7-19=-82/662, 11-16=-379/151, 9-18=-820/251, 9-16=0/349, 11-15=0/202

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 4-1-0, Interior (1) 4-1-0 to 22-8-8, Exterior(2R) 22-8-8 to 27-8-8, Interior (1) 27-8-8 to 41-7-0 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) All plates are MT20 plates unless otherwise indicated.
4) All plates are 3x4 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP 1650F 1.5E crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	G1	Common Supported Gable	2	1	Job Reference (optional) I59271047

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

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Thu Jun 29 13:03:50 Page: 1
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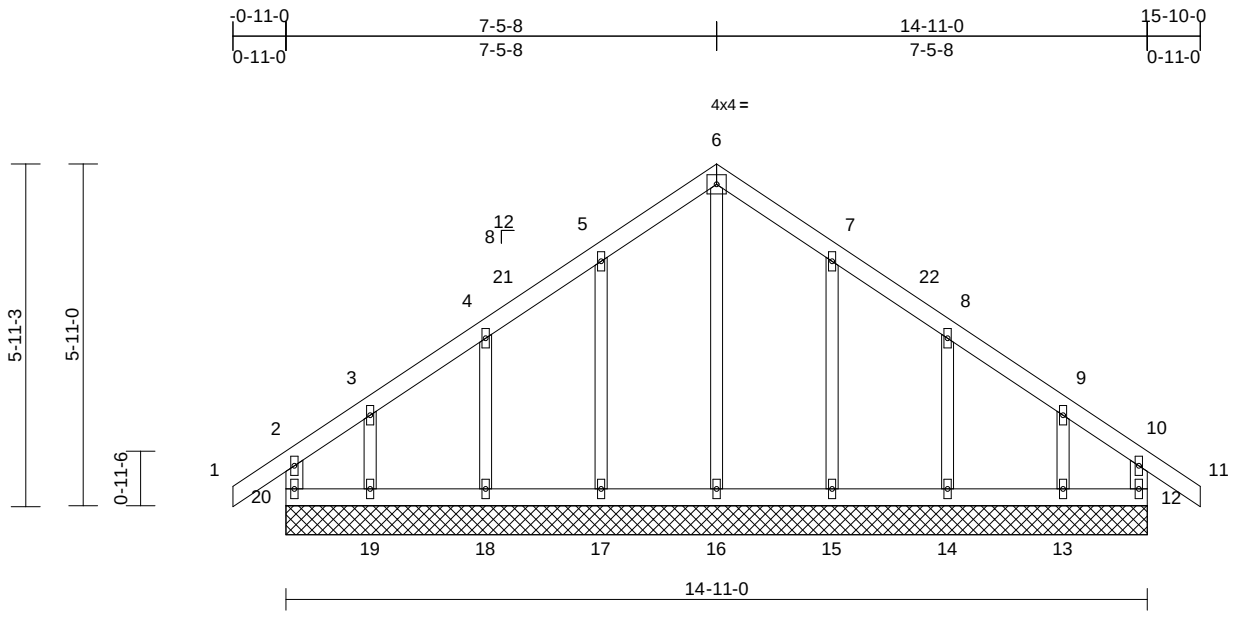

Scale = 1:39.9

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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.14	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 72 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 Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 12=14-11-0, 13=14-11-0, 14=14-11-0, 15=14-11-0, 16=14-11-0, 17=14-11-0, 18=14-11-0, 19=14-11-0, 20=14-11-0
Max Horiz 20=-179 (LC 10)
Max Uplift 12=-55 (LC 9), 13=-105 (LC 13), 14=-72 (LC 13), 15=-74 (LC 13), 17=-75 (LC 12), 18=-71 (LC 12), 19=-112 (LC 12), 20=-81 (LC 8)
Max Grav 12=154 (LC 19), 13=176 (LC 20), 14=189 (LC 20), 15=197 (LC 20), 16=194 (LC 22), 17=198 (LC 19), 18=187 (LC 19), 19=189 (LC 19), 20=176 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-143/90, 1-2=0/41, 2-3=-110/106, 3-4=-80/84, 4-5=-77/164, 5-6=-116/242, 6-7=-116/242, 7-8=-76/163, 8-9=-59/78, 9-10=-81/76, 10-11=0/41, 10-12=-132/89
BOT CHORD 19-20=-82/90, 18-19=-82/90, 17-18=-82/90, 16-17=-82/90, 15-16=-82/90, 14-15=-82/90, 13-14=-82/90, 12-13=-82/90
WEBS 6-16=-180/30, 5-17=-157/118, 4-18=-149/154, 3-19=-133/126, 7-15=-156/118, 8-14=-151/154, 9-13=-127/127

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 7-5-8, Corner(3R) 7-5-8 to 12-5-8, Exterior(2N) 12-5-8 to 15-10-0 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271048
P230318-01	G1A	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Thu Jun 29 13:03:50 Page: 1
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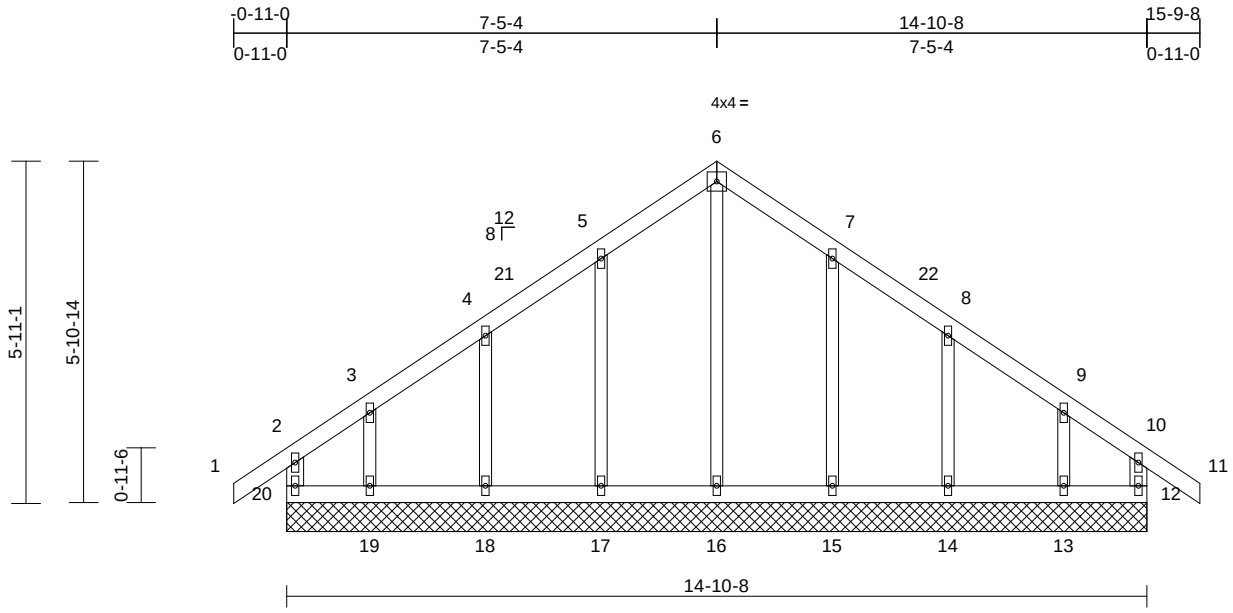

Scale = 1:39.8

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	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.13	Horz(CT)	0.00	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 71 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 Sheathed or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 12=14-10-8, 13=14-10-8, 14=14-10-8, 15=14-10-8, 16=14-10-8, 17=14-10-8, 18=14-10-8, 19=14-10-8, 20=14-10-8
Max Horiz 20=-179 (LC 10)
Max Uplift 12=-55 (LC 9), 13=-105 (LC 13), 14=-72 (LC 13), 15=-74 (LC 13), 17=-75 (LC 12), 18=-71 (LC 12), 19=-112 (LC 12), 20=-82 (LC 8)
Max Grav 12=154 (LC 19), 13=175 (LC 20), 14=189 (LC 20), 15=197 (LC 20), 16=194 (LC 22), 17=198 (LC 19), 18=187 (LC 19), 19=188 (LC 19), 20=176 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-143/89, 1-2=0/41, 2-3=-110/107, 3-4=-79/84, 4-5=-76/163, 5-6=-116/241, 6-7=-116/241, 7-8=-76/162, 8-9=-59/77, 9-10=-81/76, 10-11=0/41, 10-12=-131/88
BOT CHORD 19-20=-82/90, 18-19=-82/90, 17-18=-82/90, 16-17=-82/90, 15-16=-82/90, 14-15=-82/90, 13-14=-82/90, 12-13=-82/90
WEBS 6-16=-179/29, 5-17=-157/118, 4-18=-149/154, 3-19=-132/125, 7-15=-156/118, 8-14=-151/154, 9-13=-126/126

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 4-1-0, Exterior(2N) 4-1-0 to 7-5-4, Corner(3R) 7-5-4 to 12-5-4, Exterior(2N) 12-5-4 to 15-9-8 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.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/26/2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	G2	Common Girder	2	3	Job Reference (optional) I59271049

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

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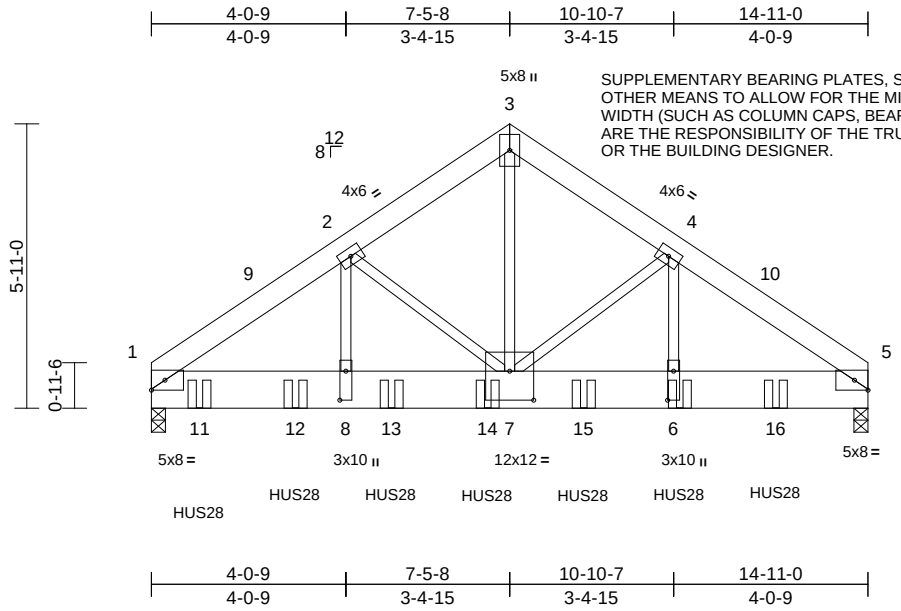

SUPPLEMENTARY BEARING PLATES, SPECIAL ANCHORAGE, OR OTHER MEANS TO ALLOW FOR THE MINIMUM REQUIRED SUPPORT WIDTH (SUCH AS COLUMN CAPS, BEARING BLOCKS, ETC.) ARE THE RESPONSIBILITY OF THE TRUSS MANUFACTURER OR THE BUILDING DESIGNER.

Scale = 1:48

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

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	0.25	Vert(LL)	-0.05	6-7	>999	240	MT20	185/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.09	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.03	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 280 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x10 HF No.2
WEBS 2x3 SPF No.2

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

REACTIONS (size) 1=0-3-8, (req. 0-4-12), 5=0-3-8, (req. 0-4-3)
Max Horiz 1=-142 (LC 8)
Max Uplift 1=-1190 (LC 12), 5=-1055 (LC 13)
Max Grav 1=8618 (LC 1), 5=7642 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10110/1451, 2-3=-7457/1138, 3-4=-7454/1138, 4-5=-10042/1442
BOT CHORD 1-8=-1130/7977, 7-8=-1133/8003, 6-7=-1081/7937, 5-6=-1078/7911
WEBS 2-8=-432/3405, 2-7=-2379/428, 3-7=-1130/7738, 4-7=-2291/419, 4-6=-424/3326

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.
Bottom chords connected as follows: 2x10 - 4 rows staggered at 0-4-0 oc.
Web connected as follows: 2x3 - 1 row at 0-4-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 7-5-8, Exterior(2R) 7-5-8 to 12-5-8, Interior (1) 12-5-8 to 14-9-4 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
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) WARNING: Required bearing size at joint(s) 1, 5 greater than input bearing size.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Use Simpson Strong-Tie HUS28 (22-16d Girder, 4-16d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-0-0 from the left end to 13-0-0 to connect truss(es) to back face of bottom chord.
10) N/A

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 1-5=-20
Concentrated Loads (lb)
Vert: 6=-2133 (B), 11=-2141 (B), 12=-2133 (B), 13=-2133 (B), 14=-2133 (B), 15=-2133 (B), 16=-2139 (B)

STATE OF MISSOURI
NATHANIEL FOX
NUMBER PE-2022042259
PROFESSIONAL ENGINEER
June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271050
P230318-01	G2A	Common Girder	1	3	Job Reference (optional)	

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

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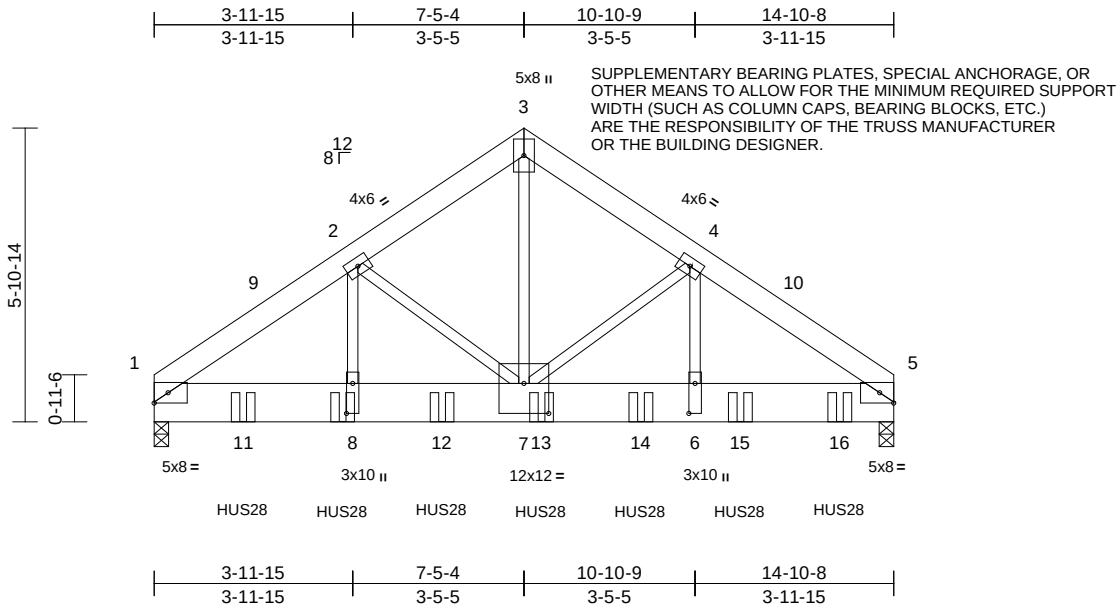

Scale = 1:46.3

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

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	0.24	Vert(LL)	-0.05	7-8	>999	240	MT20	185/144
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.09	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.03	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 279 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x10 HF No.2
WEBS 2x3 SPF No.2

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

REACTIONS (size) 1=0-3-8, (req. 0-4-4), 5=0-3-8, (req. 0-4-11)
Max Horiz 1=-142 (LC 31)
Max Uplift 1=-1047 (LC 12), 5=-1154 (LC 13)
Max Grav 1=7729 (LC 1), 5=8514 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10075/1422, 2-3=-7471/1122, 3-4=-7474/1122, 4-5=-10122/1428
BOT CHORD 1-8=-1105/7933, 7-8=-1108/7959, 6-7=-1072/8007, 5-6=-1069/7981
WEBS 2-8=-412/3322, 2-7=-2284/409, 3-7=-1111/7756, 4-7=-2347/421, 4-6=-422/3374

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.
Bottom chords connected as follows: 2x10 - 4 rows staggered at 0-4-0 oc.
Web connected as follows: 2x3 - 1 row at 0-4-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 7-5-4, Exterior(2R) 7-5-4 to 12-5-4, Interior (1) 12-5-4 to 14-8-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) WARNING: Required bearing size at joint(s) 1, 5 greater than input bearing size.
7) All bearings are assumed to be SPF No.2 crushing capacity of 425 psi.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Use Simpson Strong-Tie HUS28 (22-16d Girder, 4-16d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-9-8 from the left end to 13-9-8 to connect truss(es) to back face of bottom chord.
10) N/A

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 1-5=-20
Concentrated Loads (lb)
Vert: 8=-2133 (B), 11=-2133 (B), 12=-2133 (B), 13=-2133 (B), 14=-2133 (B), 15=-2133 (B), 16=-2133 (B)

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271051
P230318-01	V1	Valley	2	1	Job Reference (optional)	

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

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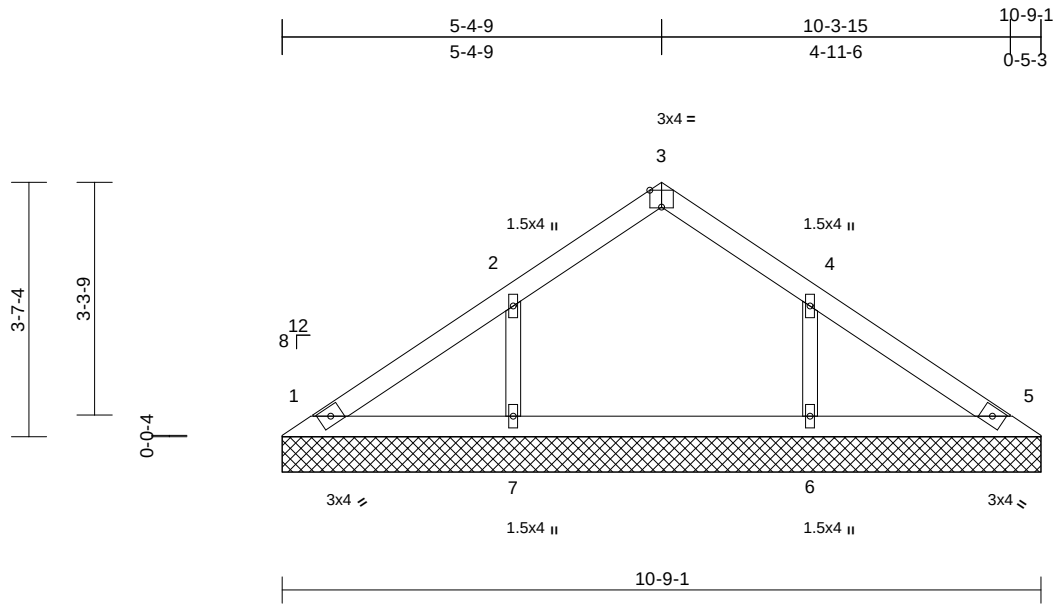

Scale = 1:32.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.04	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 36 lb	FT = 20%

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

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

REACTIONS (size) 1=10-9-1, 5=10-9-1, 6=10-9-1, 7=10-9-1
Max Horiz 1=89 (LC 9)
Max Uplift 6=-95 (LC 13), 7=-97 (LC 12)
Max Grav 1=151 (LC 1), 5=151 (LC 1), 6=304 (LC 20), 7=306 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-150/33, 2-3=-147/61, 3-4=-147/61, 4-5=-148/30
BOT CHORD 1-7=-24/110, 6-7=-24/110, 5-6=-24/110
WEBS 2-7=-215/156, 4-6=-214/152

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	V2	Valley	2	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
I59271052
09/26/2023

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

Run: 8.63 S Apr 6 2023 Print: 8.630 S Apr 6 2023 MiTek Industries, Inc. Thu Jun 29 13:03:2
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Page: 1

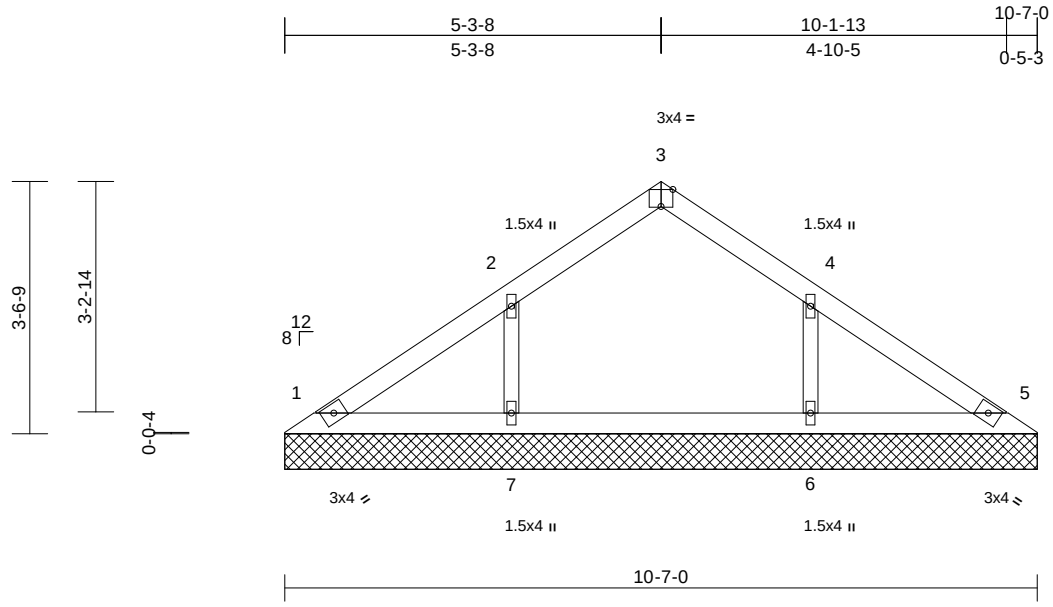

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Plate Offsets (X, Y): [3:0-2-0,Edge], [4:0-0-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.04	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 36 lb	FT = 20%

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

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

REACTIONS (size) 1=10-7-0, 5=10-7-0, 6=10-7-0, 7=10-7-0
Max Horiz 1=-90 (LC 8)
Max Uplift 6=-99 (LC 13), 7=-100 (LC 12)
Max Grav 1=149 (LC 1), 5=149 (LC 1), 6=301 (LC 20), 7=302 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-150/33, 2-3=-149/65, 3-4=-149/65, 4-5=-148/29
BOT CHORD 1-7=-24/111, 6-7=-24/111, 5-6=-24/111
WEBS 2-7=-212/161, 4-6=-211/157

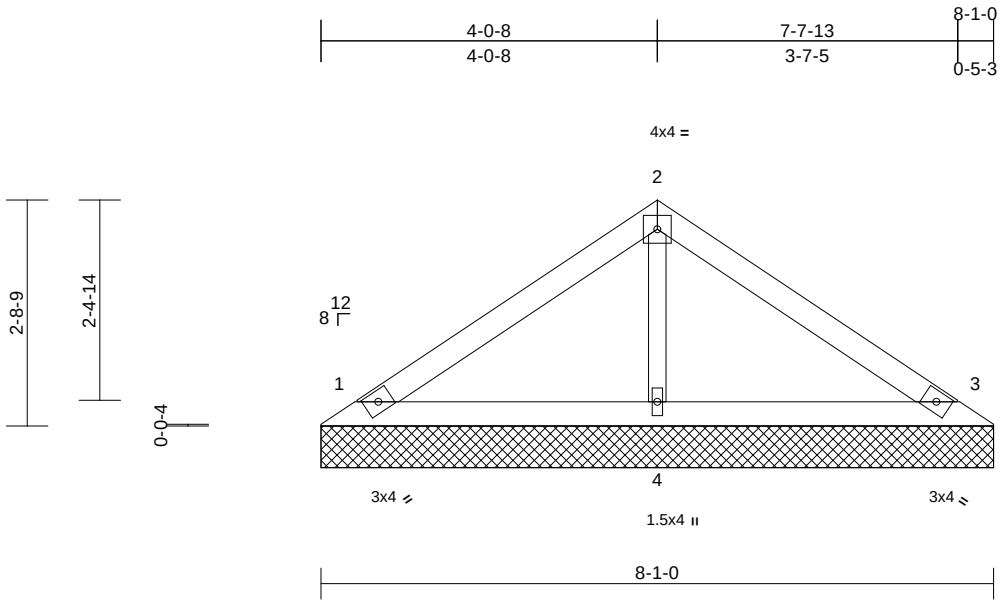
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271053
P230318-01	V3	Valley	2	1	Job Reference (optional)	



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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 27 lb	FT = 20%

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

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

REACTIONS (size) 1=8-1-0, 3=8-1-0, 4=8-1-0
Max Horiz 1=-67 (LC 8)
Max Uplift 1=-46 (LC 12), 3=-54 (LC 13)
Max Grav 1=182 (LC 1), 3=182 (LC 1), 4=283 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-114/67, 2-3=-109/67
BOT CHORD 1-4=-14/54, 3-4=-14/54
WEBS 2-4=-193/99

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) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	V4	Valley	2	1	I59271054 Job Reference (optional)

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

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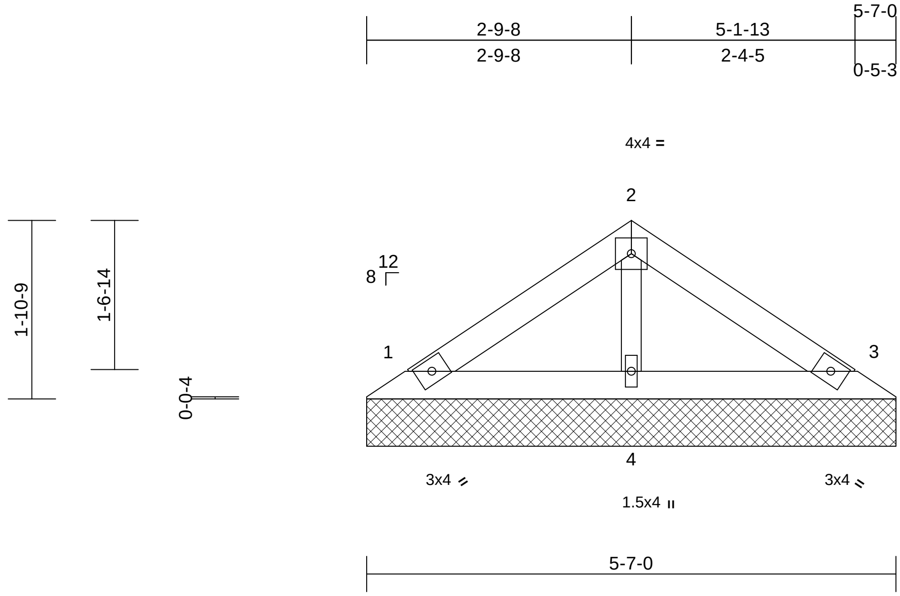

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.02	Horiz(TL)	0.00	3	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
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-7-0, 3=5-7-0, 4=5-7-0
Max Horiz 1=-44 (LC 10)
Max Uplift 1=-30 (LC 12), 3=-35 (LC 13)
Max Grav 1=119 (LC 1), 3=119 (LC 1), 4=184 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-74/51, 2-3=-71/51
BOT CHORD 1-4=-9/35, 3-4=-9/35
WEBS 2-4=-126/80

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) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271055
P230318-01	V5	Valley	1	1	Job Reference (optional)	

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

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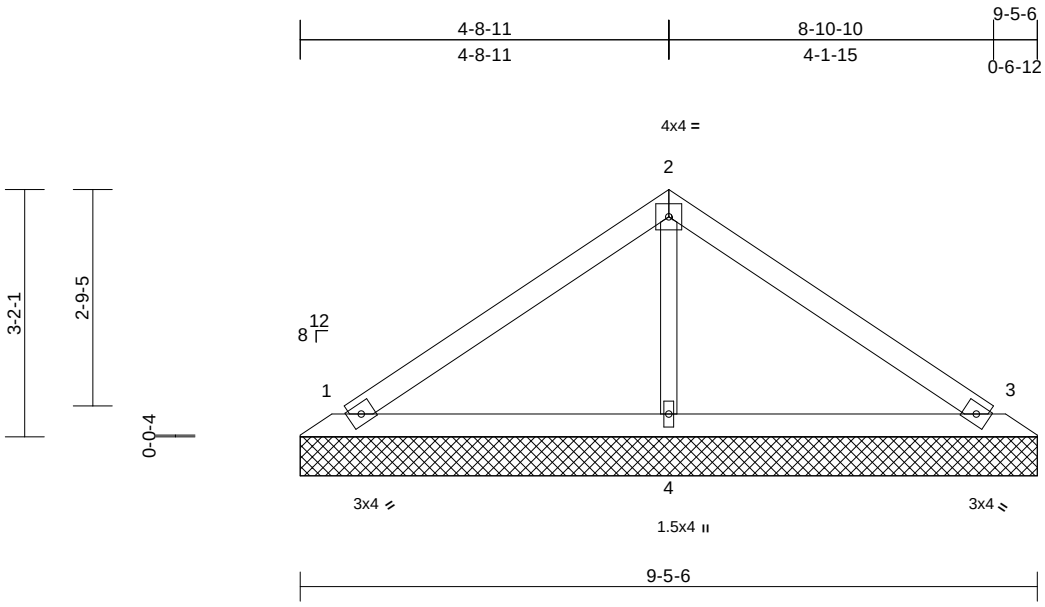

Scale = 1:29.5

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	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.05	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 31 lb	FT = 20%

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

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

REACTIONS (size) 1=9-5-6, 3=9-5-6, 4=9-5-6
Max Horiz 1=-77 (LC 8)
Max Uplift 1=-35 (LC 12), 3=-44 (LC 13), 4=-24 (LC 12)
Max Grav 1=187 (LC 1), 3=187 (LC 1), 4=362 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-146/72, 2-3=-145/72
BOT CHORD 1-4=-15/64, 3-4=-15/64
WEBS 2-4=-216/88

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=0.96; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271056
P230318-01	V6	Valley	1	1	Job Reference (optional)	

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

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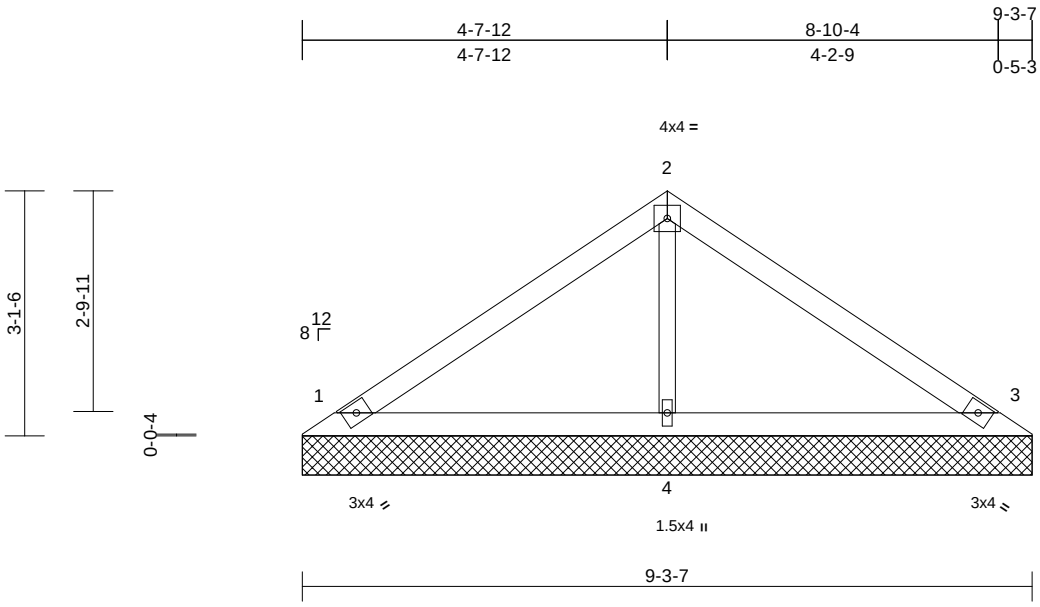

Scale = 1:29.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.06	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-SH							Weight: 31 lb	FT = 20%

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

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

REACTIONS (size) 1=9-3-7, 3=9-3-7, 4=9-3-7
Max Horiz 1=78 (LC 9)
Max Uplift 1=-39 (LC 12), 3=-49 (LC 13), 4=-30 (LC 12)
Max Grav 1=189 (LC 1), 3=189 (LC 1), 4=377 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-145/75, 2-3=-143/75
BOT CHORD 1-4=-15/64, 3-4=-15/64
WEBS 2-4=-227/100

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) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5
P230318-01	V7	Valley	1	1	I59271057 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
09/26/2023

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

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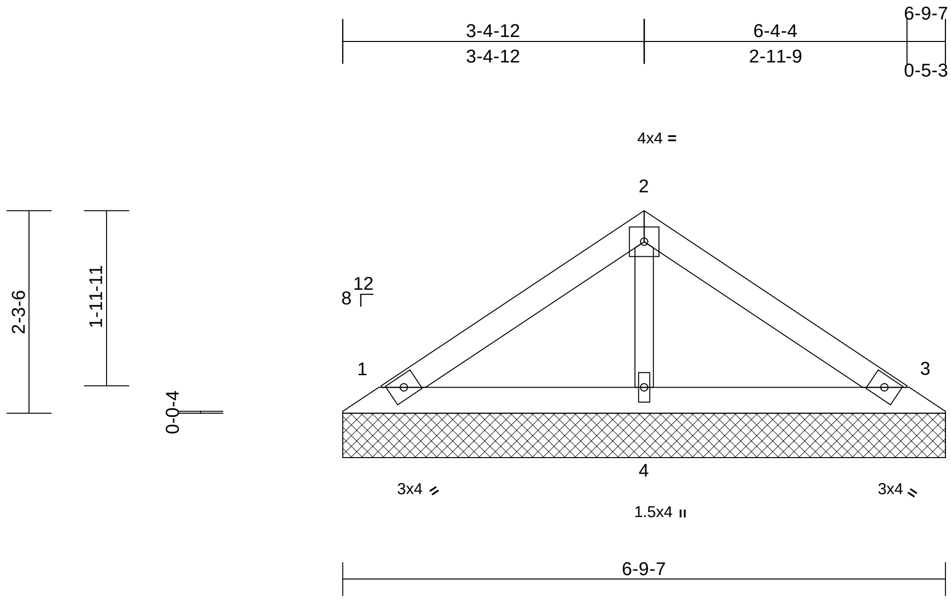

Scale = 1:25.9

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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.03	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 22 lb	FT = 20%

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

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

REACTIONS (size) 1=6-9-7, 3=6-9-7, 4=6-9-7
Max Horiz 1=-55 (LC 10)
Max Uplift 1=-38 (LC 12), 3=-44 (LC 13)
Max Grav 1=149 (LC 1), 3=149 (LC 1), 4=232 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-94/60, 2-3=-89/60
BOT CHORD 1-4=-11/44, 3-4=-11/44
WEBS 2-4=-158/91

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) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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

June 30,2023

Job	Truss	Truss Type	Qty	Ply	Roof - Osage Lot 5	I59271058
P230318-01	V8	Valley	1	1	Job Reference (optional)	

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

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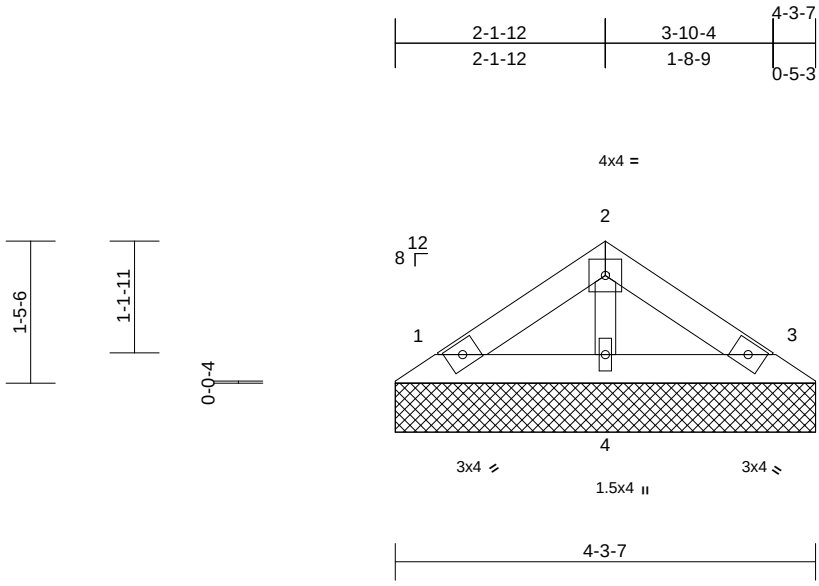


Scale = 1:23.5

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.02	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 13 lb	FT = 20%

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

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

REACTIONS (size) 1=4-3-7, 3=4-3-7, 4=4-3-7
Max Horiz 1=-32 (LC 8)
Max Uplift 1=-22 (LC 12), 3=-26 (LC 13)
Max Grav 1=86 (LC 1), 3=86 (LC 1), 4=133 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-54/38, 2-3=-51/38
BOT CHORD 1-4=-7/25, 3-4=-7/25
WEBS 2-4=-91/60

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) 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 requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
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.

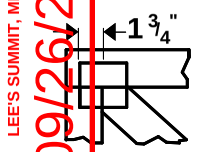
LOAD CASE(S) Standard

June 30,2023

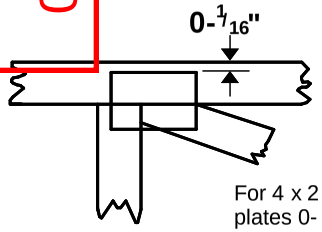
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

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.

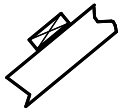
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

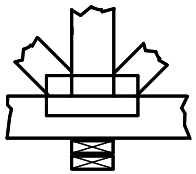
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

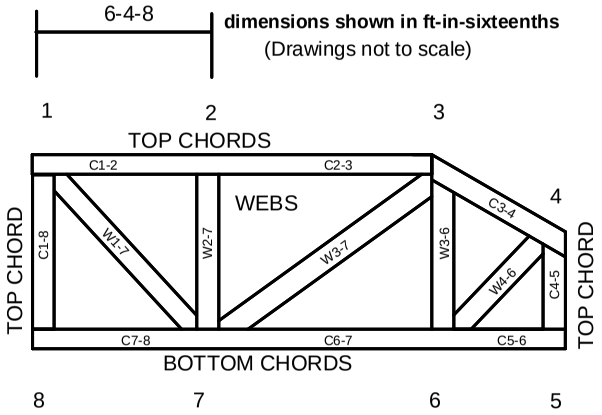


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.