MiTek®

MiTek, Inc.
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200

RE: P230875-01 - Roof - HR Lot 169

Site Information:

Project Customer: Summit Homes Project Name: Somerview - Craftsman
Lot/Block: 169 Subdivision: Hawthorne Ridge
Model:
Address: 3204 SW Arbor Sound Dr
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 Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16
Roof Load: 45.0 psf Floor Load: N/A psf

Mean Roof Height (feet): 35 Exposure Category: C

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I62145473	A01	11/21/23	35	I62145507	J04	11/21/23
2	I62145474	A02	11/21/23	36	I62145508	J05	11/21/23
3	I62145475	A03	11/21/23	37	I62145509	J06	11/21/23
4	I62145476	A04	11/21/23	38	I62145510	J07	11/21/23
5	I62145477	C01	11/21/23	39	I62145511	J08	11/21/23
6	I62145478	C02	11/21/23	40	I62145512	J09	11/21/23
7	I62145479	CJ01	11/21/23	41	I62145513	J10	11/21/23
8	I62145480	CJ02	11/21/23	42	I62145514	J11	11/21/23
9	I62145481	CJ03	11/21/23	43	I62145515	J12	11/21/23
10	I62145482	D01	11/21/23	44	I62145516	J13	11/21/23
11	I62145483	D02	11/21/23	45	I62145517	J14	11/21/23
12	I62145484	D03	11/21/23	46	I62145518	LGD1	11/21/23
13	I62145485	D04	11/21/23	47	I62145519	LGE1	11/21/23
14	I62145486	D05	11/21/23	48	I62145520	LGH1	11/21/23
15	I62145487	D06	11/21/23	49	I62145521	V4	11/21/23
16	I62145488	DG01	11/21/23	50	I62145522	V5	11/21/23
17	I62145489	E01	11/21/23	51	I62145523	V6	11/21/23
18	I62145490	E02	11/21/23	52	I62145524	V7	11/21/23
19	I62145491	E03	11/21/23	53	I62145525	V8	11/21/23
20	I62145492	E04	11/21/23	54	I62145526	V9	11/21/23
21	I62145493	E05	11/21/23	55	I62145527	V10	11/21/23
22	I62145494	G01	11/21/23	56	I62145528	V11	11/21/23
23	I62145495	G02	11/21/23	57	I62145529	V12	11/21/23
24	I62145496	G03	11/21/23	58	I62145530	V13	11/21/23
25	I62145497	G04	11/21/23	59	I62145531	V14	11/21/23
26	I62145498	H01	11/21/23	60	I62145532	V15	11/21/23
27	I62145499	H02	11/21/23				
28	I62145500	H03	11/21/23				
29	I62145501	H04	11/21/23				
30	I62145502	H05	11/21/23				
31	I62145503	H06	11/21/23				
32	I62145504	J01	11/21/23				
33	I62145505	J02	11/21/23				
34	I62145506	J03	11/21/23				

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

Truss Design Engineer's Name: Sevier, Scott
My license renewal date for the state of Missouri is December 31, 2023.

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

November 21,2023
Sevier, Scott

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	A01	Roof Special	1	1	Job Reference (optional) I62145473

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

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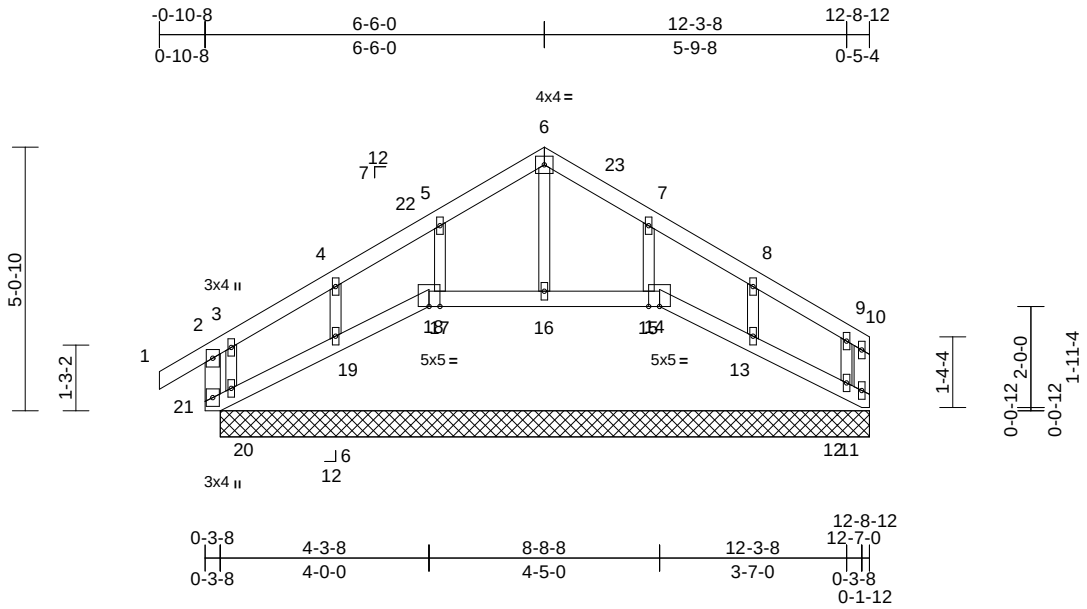

Scale = 1:44.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 55 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 9-12:2x3 SPF No.2
OTHERS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-20,18-19,13-14.

REACTIONS (size) 11=12-5-4, 12=12-5-4, 13=12-5-4, 14=12-5-4, 15=12-5-4, 16=12-5-4, 17=12-5-4, 18=12-5-4, 19=12-5-4, 20=12-5-4
Max Horiz 20=-140 (LC 10)
Max Uplift 11=-35 (LC 20), 12=-44 (LC 13), 13=-70 (LC 13), 15=-74 (LC 13), 17=-81 (LC 12), 18=-34 (LC 8), 19=-130 (LC 12), 20=-96 (LC 8)
Max Grav 11=7 (LC 13), 12=137 (LC 20), 13=184 (LC 20), 14=3 (LC 3), 15=195 (LC 20), 16=200 (LC 22), 17=201 (LC 19), 18=36 (LC 9), 19=236 (LC 19), 20=249 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-126/125, 3-4=-134/137, 4-5=-95/161, 5-6=-107/238, 6-7=-107/238, 7-8=-67/147, 8-9=-32/55, 9-10=-12/22, 2-21=-96/65
BOT CHORD 20-21=-142/157, 19-20=-26/26, 18-19=-18/14, 17-18=0/0, 16-17=0/0, 15-16=0/0, 14-15=0/0, 13-14=-18/14, 12-13=-15/17, 11-12=0/15
WEBS 9-12=-103/108, 10-11=-23/23, 6-16=-158/25, 5-17=-155/138, 4-19=-171/166, 3-20=-103/102, 7-15=-157/156, 8-13=-144/159

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 4-1-8, Exterior(2N) 4-1-8 to 6-6-0, Corner(3R) 6-6-0 to 11-6-0, Exterior(2N) 11-6-0 to 12-7-0 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) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 18, 35 lb uplift at joint 11, 44 lb uplift at joint 12, 81 lb uplift at joint 17, 130 lb uplift at joint 19, 96 lb uplift at joint 20, 74 lb uplift at joint 15 and 70 lb uplift at joint 13.
10) N/A
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 18, 14, 11, 12, 16, 17, 19, 20, 15, 13.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	A02	Roof Special	4	1	Job Reference (optional)

I62145474

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

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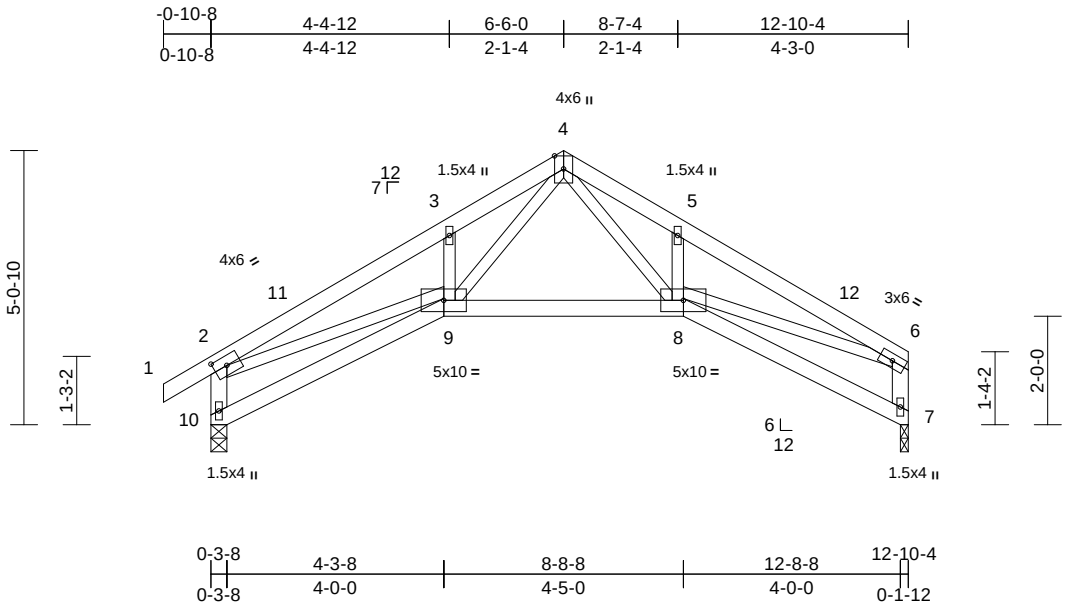

Scale = 1:42.5

Plate Offsets (X, Y): [2:0-2-14,0-2-0]

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	0.29	Vert(LL)	-0.06	8-9	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.11	8-9	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.10	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 62 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 10-2,7-6:2x4 SP No.2

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

REACTIONS (size) 7=0-1-12, 10=0-3-8
Max Horiz 10=159 (LC 9)
Max Uplift 7=-79 (LC 13), 10=-105 (LC 12)
Max Grav 7=562 (LC 1), 10=640 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-1333/340, 3-4=-1299/448, 4-5=-1299/425, 5-6=-1318/316, 2-10=-649/229, 6-7=-561/171
BOT CHORD 9-10=-179/257, 8-9=-107/636, 7-8=-57/116
WEBS 3-9=-221/173, 4-9=-270/792, 4-8=-235/721, 5-8=-246/184, 2-9=-145/984, 6-8=-203/1003

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-4-12, Interior (1) 4-4-12 to 6-6-0, Exterior(2R) 6-6-0 to 11-6-0, Interior (1) 11-6-0 to 12-8-8 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Bearing at joint(s) 10, 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 7.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 105 lb uplift at joint 10 and 79 lb uplift at joint 7.
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

November 21,2023

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Chesterfield, MO 63017
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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145475
P230875-01	A03	Roof Special	1	1	Job Reference (optional)	

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

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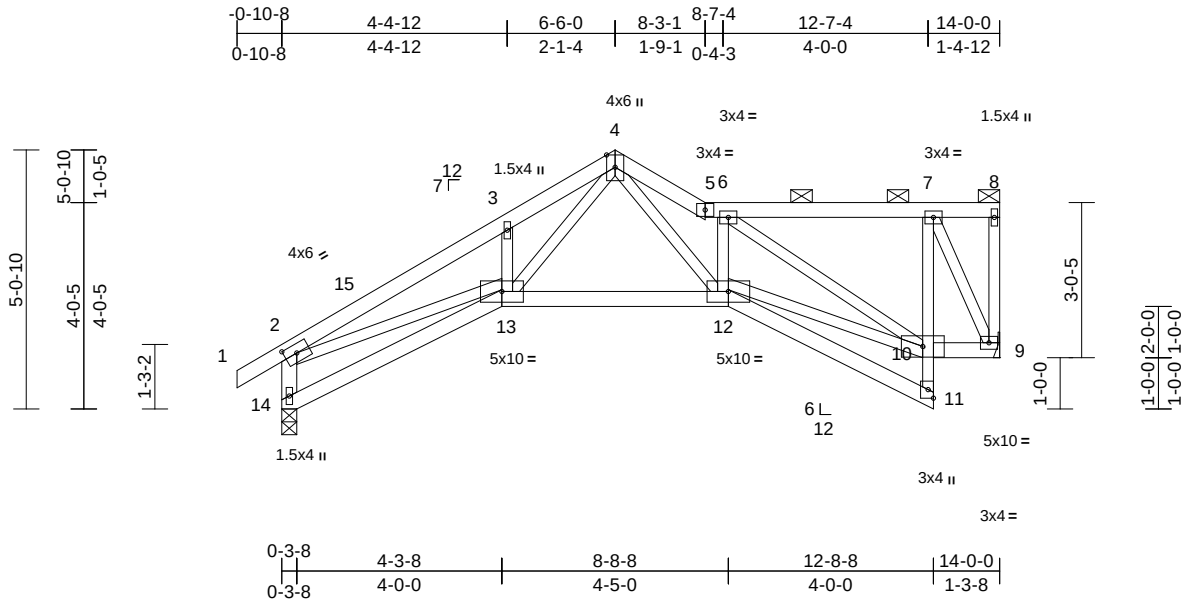

Scale = 1:44.9

Plate Offsets (X, Y): [2:0-2-14,0-2-0]

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	0.31	Vert(LL)	-0.07	12-13	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.15	12-13	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.10	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 74 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 11-7:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-2:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-8 oc purlins, except end verticals, and 2-0-0 oc purlins (4-11-7 max.): 5-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 9= Mechanical, 14=0-3-8
Max Horiz 14=180 (LC 9)
Max Uplift 9=-122 (LC 13), 14=-107 (LC 12)
Max Grav 9=616 (LC 1), 14=693 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-1501/497, 3-4=-1451/594, 4-5=-1407/412, 5-6=-1243/346, 6-7=-269/118, 7-8=-59/61, 8-9=-17/13, 2-14=-705/272
BOT CHORD 13-14=-325/337, 12-13=-328/769, 11-12=-25/119, 10-11=0/43, 7-10=-45/325, 9-10=-113/269
WEBS 3-13=-202/167, 4-13=-386/791, 4-12=-161/754, 7-9=-613/167, 2-13=-284/1123, 6-12=-187/145, 6-10=-1178/377, 10-12=-419/1188

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-4-12, Interior (1) 4-4-12 to 6-6-0, Exterior(2E) 6-6-0 to 8-3-1, Interior (1) 8-3-1 to 13-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Bearings are assumed to be: Joint 14 SP No.2 crushing capacity of 565 psi.
6) Refer to girder(s) for truss to truss connections.
7) Bearing at joint(s) 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 122 lb uplift at joint 9 and 107 lb uplift at joint 14.
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

November 21,2023

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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	A04	Half Hip Girder	1	3	Job Reference (optional) I62145476

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

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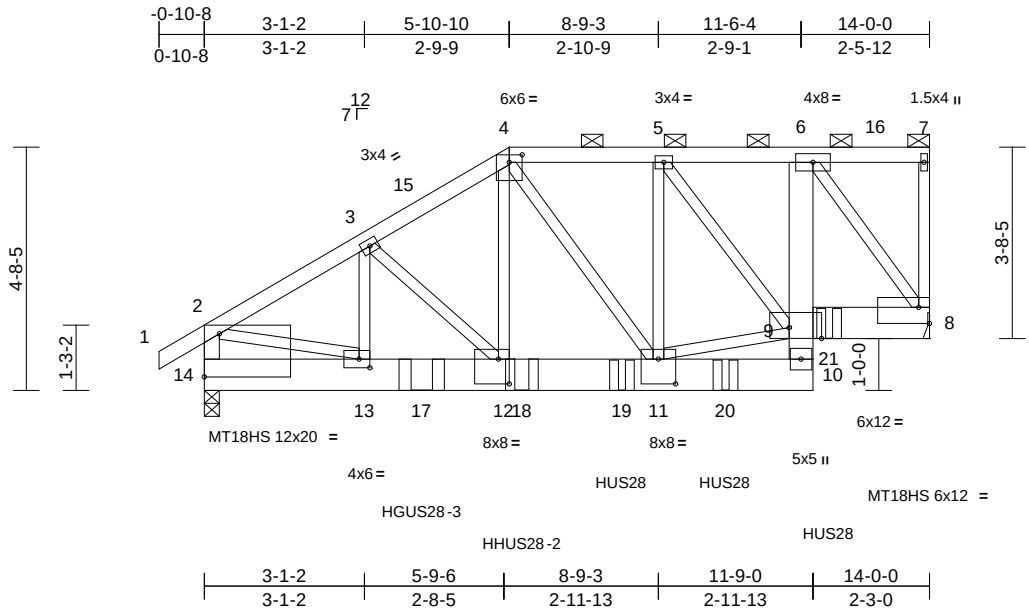

Scale = 1:44.5

Plate Offsets (X, Y): [4:0-3-0,0-1-12], [8:Edge,0-3-12], [9:0-7-8,Edge], [11:0-4-0,0-5-12], [12:0-2-8,0-5-12], [13:0-2-8,0-2-0], [14:Edge,0-10-0]

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	0.32	Vert(LL)	-0.04	12-13	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.08	12-13	>999	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.63	Horz(CT)	0.01	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 275 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SPF No.2 *Except* 10-6:2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 14-2:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 8= Mechanical, 14=0-3-8
Max Horiz 14=173 (LC 9)
Max Uplift 8=-1507 (LC 9), 14=-1446 (LC 12)
Max Grav 8=6600 (LC 1), 14=5504 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/36, 2-3=-6903/1891, 3-4=-6995/1852, 4-5=-5694/1440, 5-6=-3982/987, 6-7=-76/78, 7-8=-128/49, 2-14=-5266/1481
BOT CHORD 13-14=-434/622, 12-13=-1776/5870, 11-12=-1631/5930, 10-11=-460/1886, 9-10=-195/1015, 6-9=-1166/5197, 8-9=-982/4015
WEBS 4-12=-1098/3598, 6-8=-6635/1543, 2-13=-1463/5474, 3-12=-307/206, 3-13=-296/342, 5-11=-533/1981, 5-9=-2721/730, 9-11=-1018/3981, 4-11=-682/351

NOTES
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 4 rows staggered at 0-4-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 5-10-10, Exterior(2R) 5-10-10 to 12-11-8, Interior (1) 12-11-8 to 13-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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) Bearings are assumed to be: Joint 14 SPF No.2 crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1507 lb uplift at joint 8 and 1446 lb uplift at joint 14.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie HGUS28-3 (36-10d Girder, 6-10d Truss) or equivalent at 4-2-6 from the left end to connect truss(es) to front face of bottom chord.
13) Use Simpson Strong-Tie HHUS28-2 (22-10d Girder, 4-10d Truss) or equivalent at 6-1-9 from the left end to connect truss(es) to front face of bottom chord.
14) Use Simpson Strong-Tie HUS28 (22-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 8-0-12 from the left end to 12-0-12 to connect truss(es) to front face of bottom chord.
15) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 4-7=-70, 10-14=-20, 8-9=-20
Concentrated Loads (lb)
Vert: 17=-2899 (F), 18=-1975 (F), 19=-1974 (F), 20=-1974 (F), 21=-1973 (F)

November 21,2023

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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	C01	Common Supported Gable	1	1	Job Reference (optional) I62145477

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:30 Page: 1
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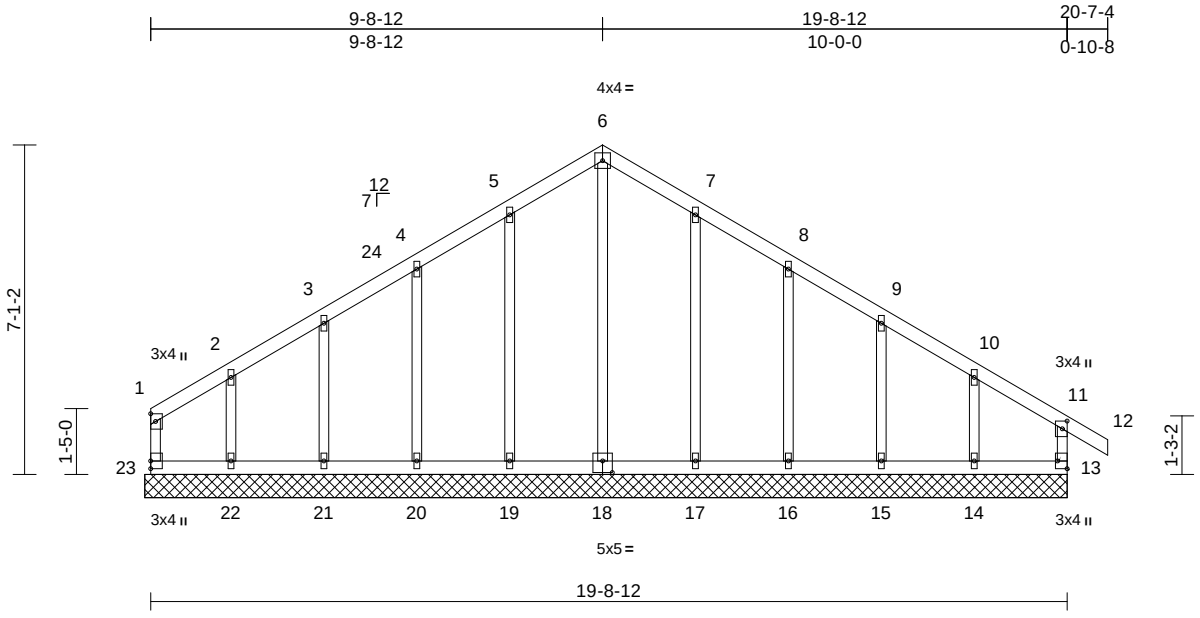

Scale = 1:49.6

Plate Offsets (X, Y): [11:0-2-0,0-1-4], [13:Edge,0-2-8], [18:0-2-8,0-3-0]

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	0.16	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.00	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 95 lb	FT = 20%

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

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

REACTIONS (size) 13=19-10-4, 14=19-10-4, 15=19-10-4, 16=19-10-4, 17=19-10-4, 18=19-10-4, 19=19-10-4, 20=19-10-4, 21=19-10-4, 22=19-10-4, 23=19-10-4
Max Horiz 23=-215 (LC 8)
Max Uplift 13=-94 (LC 9), 14=-125 (LC 13), 15=-55 (LC 13), 16=-76 (LC 13), 17=-64 (LC 13), 19=-64 (LC 12), 20=-75 (LC 12), 21=-60 (LC 12), 22=-112 (LC 12), 23=-92 (LC 8)
Max Grav 13=203 (LC 19), 14=241 (LC 20), 15=183 (LC 1), 16=188 (LC 20), 17=195 (LC 20), 18=200 (LC 21), 19=194 (LC 19), 20=188 (LC 19), 21=182 (LC 1), 22=248 (LC 19), 23=129 (LC 11)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-88/62, 1-2=-105/100, 2-3=-78/111, 3-4=-88/173, 4-5=-121/238, 5-6=-152/295, 6-7=-152/295, 7-8=-121/238, 8-9=-88/173, 9-10=-93/113, 10-11=-131/126, 11-12=0/35, 11-13=-161/118
BOT CHORD 22-23=-120/126, 21-22=-120/126, 20-21=-120/126, 19-20=-120/126, 17-19=-120/126, 16-17=-120/126, 15-16=-120/126, 14-15=-120/126, 13-14=-120/126
WEBS 6-18=-215/56, 5-19=-155/90, 4-20=-146/110, 3-21=-143/121, 2-22=-174/118, 7-17=-155/90, 8-16=-146/106, 9-15=-143/110, 10-14=-168/121

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-4-8 to 5-4-8, Exterior(2N) 5-4-8 to 10-0-0, Corner(3R) 10-0-0 to 15-0-0, Exterior(2N) 15-0-0 to 20-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 1.5x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 92 lb uplift at joint 23, 94 lb uplift at joint 13, 64 lb uplift at joint 19, 75 lb uplift at joint 20, 60 lb uplift at joint 21, 112 lb uplift at joint 22, 64 lb uplift at joint 17, 76 lb uplift at joint 16, 55 lb uplift at joint 15 and 125 lb uplift at joint 14.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145478
P230875-01	C02	Common	11	1	Job Reference (optional)	

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

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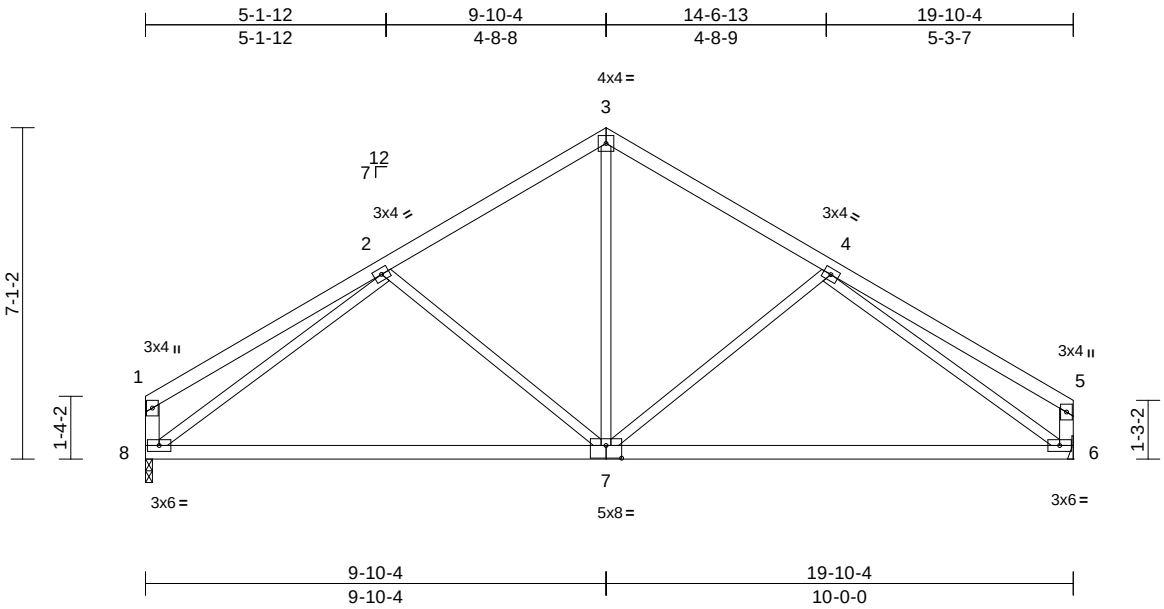

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Plate Offsets (X, Y): [7:0-4-0,0-3-4]

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	0.36	Vert(LL)	-0.19	6-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.38	6-7	>614	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.88	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 92 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 8-1,6-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-11-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS (size) 6= Mechanical, 8=0-1-12
Max Horiz 8=-204 (LC 8)
Max Uplift 6=-126 (LC 13), 8=-125 (LC 12)
Max Grav 6=880 (LC 1), 8=880 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-258/79, 2-3=-874/194, 3-4=-875/194, 4-5=-284/78, 1-8=-249/92, 5-6=-267/97
BOT CHORD 6-8=-175/849
WEBS 3-7=-67/483, 2-8=-881/177, 4-6=-864/175, 2-7=-246/217, 4-7=-265/223

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-3-8 to 5-2-1, Interior (1) 5-2-1 to 10-0-0, Exterior(2R) 10-0-0 to 14-10-1, Interior (1) 14-10-1 to 19-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 8 SP No.2 crushing capacity of 565 psi.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 125 lb uplift at joint 8 and 126 lb uplift at joint 6.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

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LEE'S SUMMIT, MISSOURI

12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	CJ01	Diagonal Hip Girder	2	1	Job Reference (optional) I62145479

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

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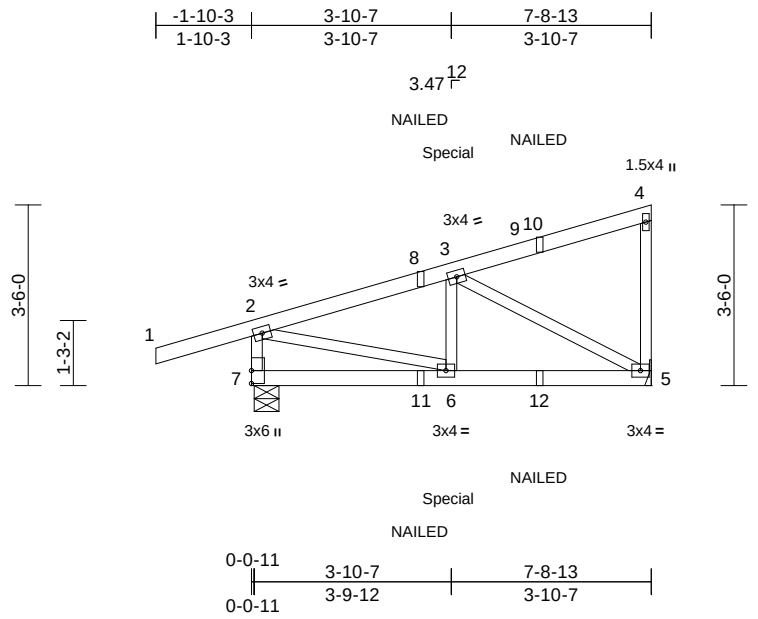

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	0.01	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.02	5-6	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.18	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 37 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-9-11 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-5-12
Max Horiz 7=155 (LC 9)
Max Uplift 5=-122 (LC 12), 7=-186 (LC 8)
Max Grav 5=326 (LC 1), 7=496 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-465/469, 1-2=0/38, 2-3=-393/238, 3-4=-118/71, 4-5=-110/132
BOT CHORD 6-7=-332/169, 5-6=-363/331
WEBS 2-6=-120/380, 3-6=0/123, 3-5=-379/364

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-10-3 to 5-2-11, Exterior(2R) 5-2-11 to 7-7-9 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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 7 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 7 and 122 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 39 lb down and 109 lb up at 3-9-15 on top chord, and 11 lb down and 4 lb up at 3-9-15 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 5-7=-20
Concentrated Loads (lb)
Vert: 6=-5 (F), 11=1 (B), 12=-3 (B)

November 21,2023

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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	CJ02	Diagonal Hip Girder	1	1	Job Reference (optional) I62145480

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

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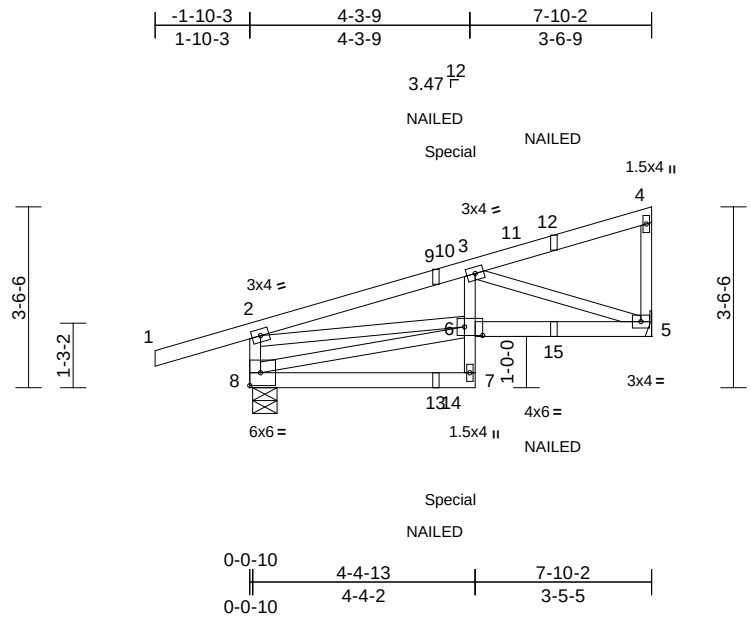

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Plate Offsets (X, Y): [6:0-4-4,0-2-0]

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	0.44	Vert(LL)	0.03	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.05	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	-0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 40 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 7-5-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8=0-5-12
Max Horiz 8=139 (LC 9)
Max Uplift 5=-138 (LC 12), 8=-188 (LC 8)
Max Grav 5=356 (LC 1), 8=508 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-462/511, 1-2=0/38, 2-3=-637/454, 3-4=-95/53, 4-5=-101/114
BOT CHORD 7-8=-18/18, 6-7=0/84, 3-6=-68/153, 5-6=-623/583
WEBS 6-8=-312/128, 2-6=-318/568, 3-5=-618/626

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-10-3 to 5-2-11, Exterior(2R) 5-2-11 to 7-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 8 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 188 lb uplift at joint 8 and 138 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 40 lb down and 111 lb up at 3-11-4 on top chord, and 11 lb down and 4 lb up at 3-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 7-8=-20, 5-6=-20
Concentrated Loads (lb)
Vert: 12=-2 (B), 13=1 (B), 14=-6 (F), 15=-34 (B)

November 21,2023

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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	CJ03	Diagonal Hip Girder	1	1	Job Reference (optional) I62145481

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

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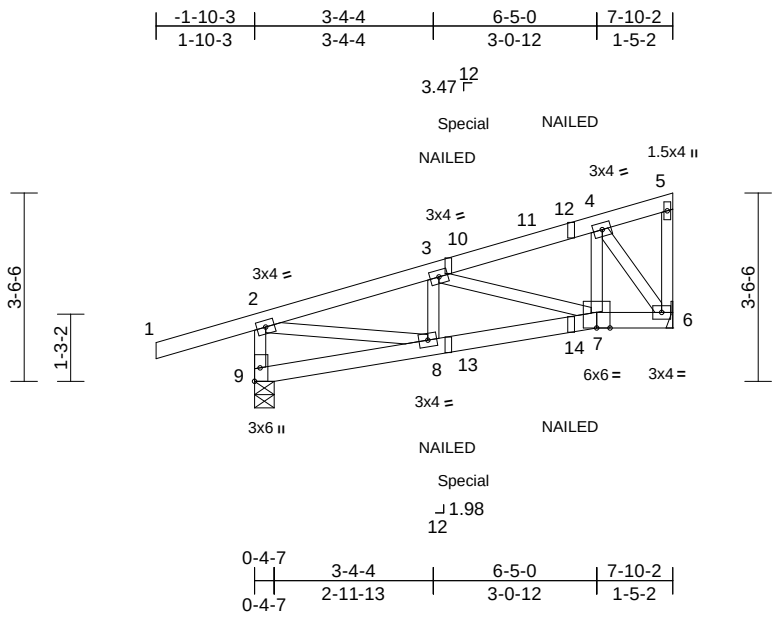

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Plate Offsets (X, Y): [9:0-3-0,Edge]

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	0.42	Vert(LL)	0.01	7-8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.02	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.16	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 38 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-3-4 oc bracing.

REACTIONS (size) 6= Mechanical, 9=0-4-7
Max Horiz 9=140 (LC 9)
Max Uplift 6=-146 (LC 12), 9=-201 (LC 8)
Max Grav 6=345 (LC 1), 9=512 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-9=-485/503, 1-2=0/38, 2-3=-516/345, 3-4=-273/200, 4-5=-51/50, 5-6=-40/50
BOT CHORD 8-9=-313/147, 7-8=-507/467, 6-7=-254/234
WEBS 2-8=-223/461, 3-8=-50/73, 3-7=-232/254, 4-7=-156/191, 4-6=-399/377

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-10-3 to 5-2-11, Exterior(2R) 5-2-11 to 7-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: Joint 9 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 201 lb uplift at joint 9 and 146 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 39 lb down and 94 lb up at 3-11-4 on top chord, and 27 lb down and 32 lb up at 3-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-5=-70, 7-9=-20, 6-7=-20
Concentrated Loads (lb)
Vert: 8=1 (F), 12=-2 (F), 13=-27 (B), 14=-6 (F)

November 21,2023

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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	D01	Hip Girder	1	2	Job Reference (optional) I62145482

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

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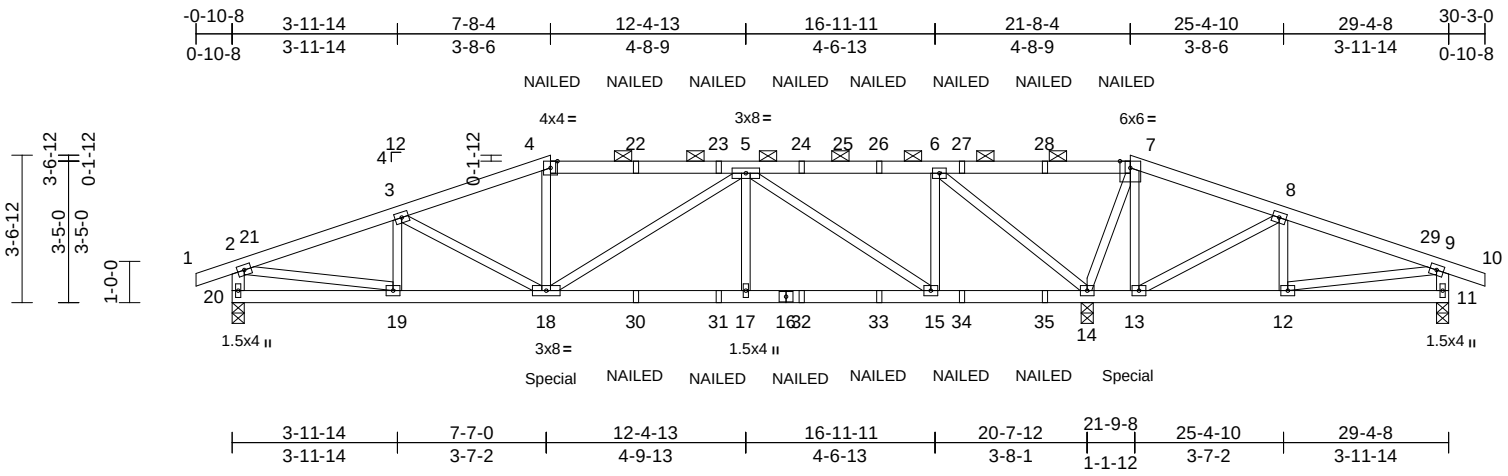

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.39	Vert(LL)	0.04	17-18	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.08	17-18	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.30	Horz(CT)	0.02	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 265 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 20-2,11-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-7.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 11=0-3-8, 14=0-3-8, 20=0-3-8
Max Horiz 20=-25 (LC 17)
Max Uplift 11=-244 (LC 34), 14=-929 (LC 9), 20=-393 (LC 8)
Max Grav 11=92 (LC 12), 14=2701 (LC 1), 20=1163 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=-1876/695, 3-4=-1922/758, 4-5=-1795/746, 5-6=-404/218, 6-7=-399/1237, 7-8=-279/923, 8-9=-210/560, 9-10=0/23, 2-20=-1105/479, 9-11=-146/299
BOT CHORD 19-20=-104/205, 18-19=-619/1733, 17-18=-523/1554, 15-17=-523/1554, 14-15=-113/414, 13-14=-861/386, 12-13=-519/236, 11-12=-47/42
WEBS 3-19=-258/154, 3-18=-206/312, 4-18=-12/261, 5-18=-129/302, 5-17=0/279, 5-15=-1412/530, 6-15=-213/897, 7-13=-180/514, 8-13=-592/228, 8-12=-2/226, 2-19=-524/1556, 9-12=-517/224, 6-14=-2081/804, 7-14=-1207/509

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) 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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 3-11-14, Interior (1) 3-11-14 to 7-8-4, Exterior(2R) 7-8-4 to 14-9-2, Interior (1) 14-9-2 to 21-8-4, Exterior(2R) 21-8-4 to 28-9-2, Interior (1) 28-9-2 to 30-3-0 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
5) Provide adequate drainage to prevent water ponding.
6) All plates are 3x4 MT20 unless otherwise indicated.
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 No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 393 lb uplift at joint 20, 244 lb uplift at joint 11 and 929 lb uplift at joint 14.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 307 lb down and 136 lb up at 7-8-4, and 307 lb down and 136 lb up at 21-7-8 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 4-7=-70, 7-9=-70, 9-10=-70, 11-20=-20
Concentrated Loads (lb)
Vert: 4=-49 (B), 7=-49 (B), 18=-307 (B), 13=-307 (B), 22=-49 (B), 23=-49 (B), 24=-49 (B), 26=-49 (B), 27=-49 (B), 28=-49 (B), 30=-22 (B), 31=-22 (B), 32=-22 (B), 33=-22 (B), 34=-22 (B), 35=-22 (B)

November 21,2023

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Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145483
P230875-01	D02	Hip	1	1	Job Reference (optional)	

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

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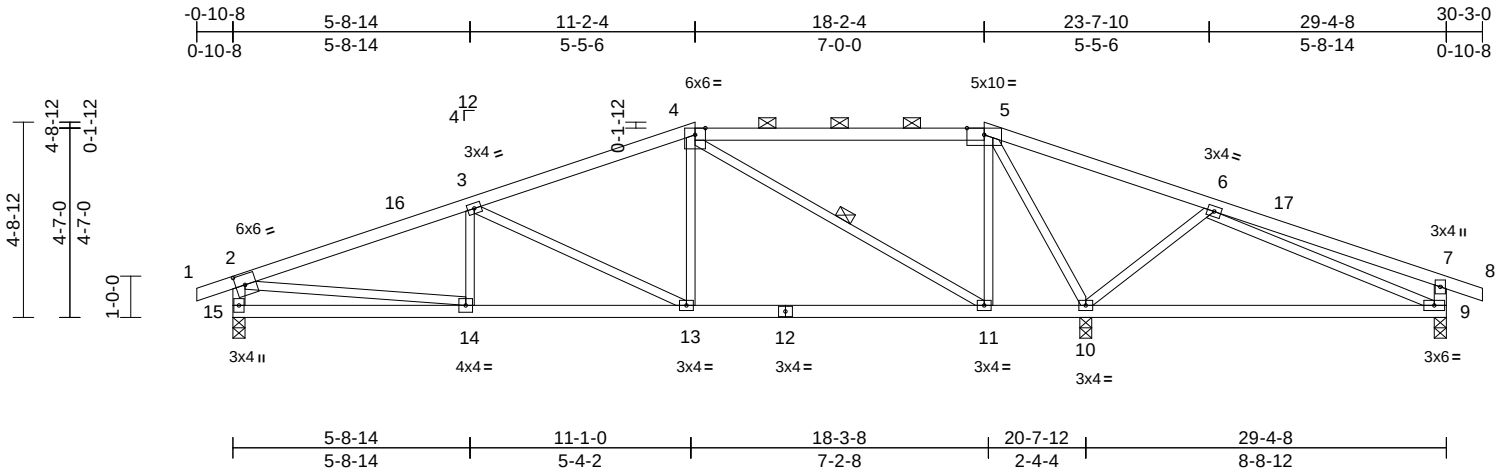

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Plate Offsets (X, Y): [2:0-2-11,0-3-0]

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	0.86	Vert(LL)	-0.13	9-10	>780	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.26	9-10	>394	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 130 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x3 SPF No.2 *Except* 15-2,9-7:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-8 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size) 9=0-3-8, 10=0-3-8, 15=0-3-8
Max Horiz 15=47 (LC 12)
Max Uplift 9=-98 (LC 9), 10=-287 (LC 9), 15=-226 (LC 8)
Max Grav 9=322 (LC 26), 10=1579 (LC 1), 15=919 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=-1466/427, 3-4=-1046/349, 4-5=-171/159, 5-6=-110/536, 6-7=-270/101, 7-8=0/23, 2-15=-857/340, 7-9=-317/216
BOT CHORD 14-15=-118/287, 13-14=-356/1330, 11-13=-193/932, 10-11=0/181, 9-10=-226/61
WEBS 3-14=-48/111, 3-13=-438/182, 4-13=-2/393, 4-11=-897/275, 5-11=-99/525, 5-10=-1266/409, 6-10=-504/282, 2-14=-256/1053, 6-9=-76/362

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 11-2-4, Exterior(2E) 11-2-4 to 18-2-4, Exterior(2R) 18-2-4 to 25-3-2, Interior (1) 25-3-2 to 30-3-0 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) Provide adequate drainage to prevent water ponding.
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 No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 226 lb uplift at joint 15, 287 lb uplift at joint 10 and 98 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	D03	Common Girder	1	1	Job Reference (optional) I62145484

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

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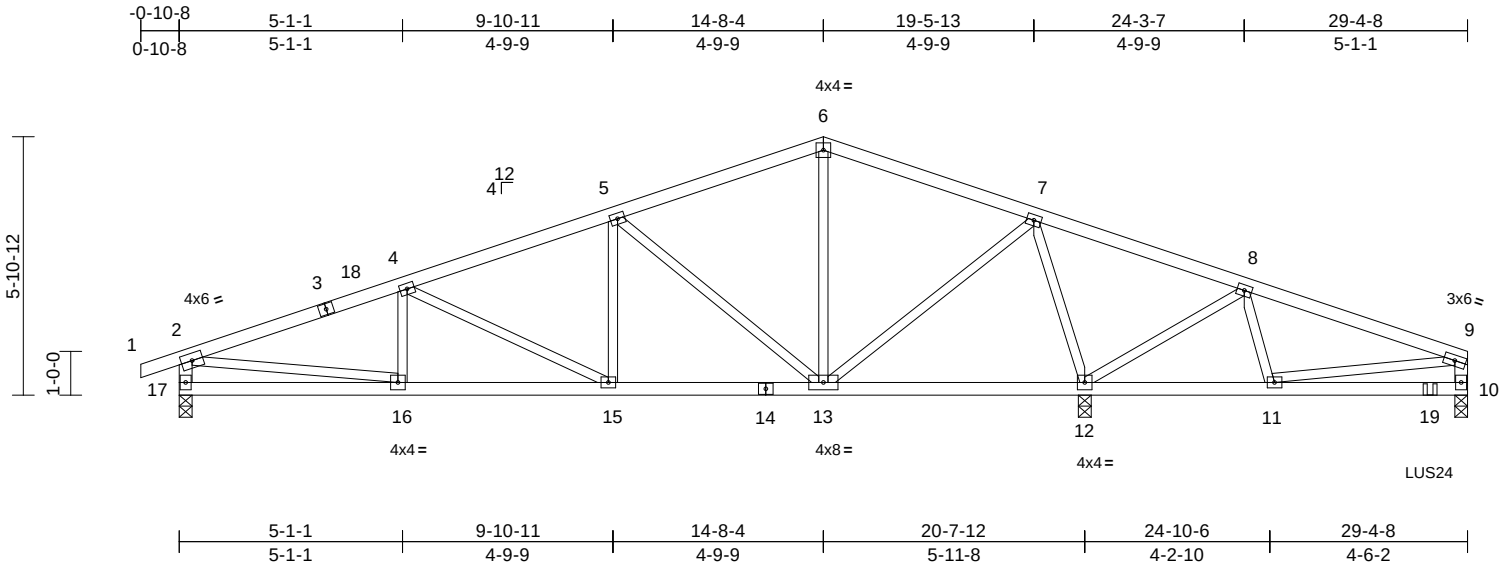

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.05	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.10	15-16	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.66	Horz(CT)	0.02	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 131 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 12=0-3-8, 17=0-3-8
Max Horiz 17=77 (LC 33)
Max Uplift 10=-106 (LC 13), 12=-258 (LC 9), 17=-212 (LC 31)
Max Grav 10=568 (LC 26), 12=1685 (LC 1), 17=893 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-1400/343, 4-5=-1073/304, 5-6=-532/222, 6-7=-533/215, 7-8=-104/649, 8-9=-237/152, 2-17=-837/316, 9-10=-207/88
BOT CHORD 16-17=-141/235, 15-16=-288/1273, 13-15=-187/971, 12-13=-213/106, 11-12=-178/139, 10-11=-80/230
WEBS 4-16=-69/95, 4-15=-347/123, 5-15=-4/288, 5-13=-690/215, 6-13=-17/115, 7-13=-154/855, 7-12=-1288/351, 8-12=-633/233, 8-11=0/232, 2-16=-183/1050, 9-11=-279/94

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 4-1-8, Interior (1) 4-1-8 to 14-8-4, Exterior(2R) 14-8-4 to 19-5-13, Interior (1) 19-5-13 to 29-2-12 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
3) All plates are 3x4 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 212 lb uplift at joint 17, 258 lb uplift at joint 12 and 106 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent at 28-6-4 from the left end to connect truss(es) to front face of bottom chord.
9) Fill all nail holes where hanger is in contact with lumber.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-6=-70, 6-9=-70, 10-17=-20
Concentrated Loads (lb)
Vert: 19=-370 (F)

November 21,2023

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RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	D04	Common Girder	1	2	Job Reference (optional) I62145485

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

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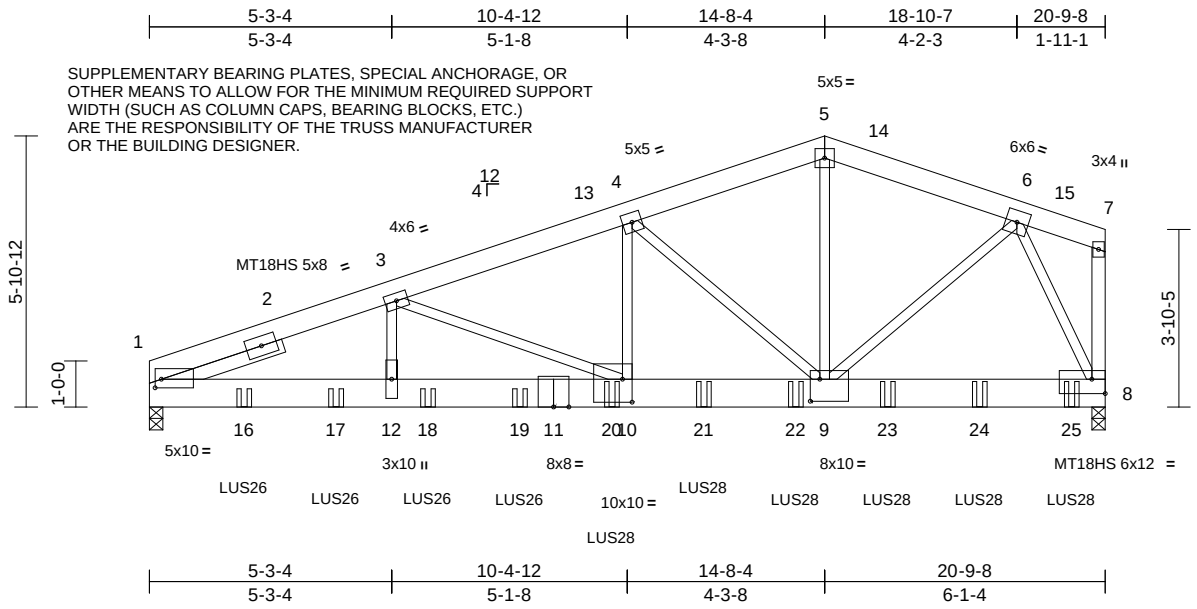

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Plate Offsets (X, Y): [1:0-1-10,0-2-4], [8:Edge,0-3-12], [9:0-2-8,0-5-12], [10:0-2-8,0-6-0]

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)	-0.12	10-12	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.22	10-12	>999	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.66	Horz(CT)	0.04	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 255 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x8 SP 2400F 2.0E *Except* 11-8:2x8 SPF No.2
WEBS 2x3 SPF No.2 *Except* 8-7:2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 2-9-0

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

REACTIONS (size) 1=0-3-8, 8=0-3-8, (req. 0-4-5)
Max Horiz 1=133 (LC 9)
Max Uplift 1=-823 (LC 8), 8=-875 (LC 8)
Max Grav 1=4944 (LC 1), 8=5508 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-9771/1770, 3-4=-7508/1388, 4-5=-4775/943, 5-6=-4741/929, 6-7=-179/114, 7-8=-216/72
BOT CHORD 1-12=-1714/8926, 10-12=-1714/8926, 9-10=-1395/7123, 8-9=-445/1871
WEBS 5-9=-435/2690, 3-12=-256/2097, 3-10=-1985/433, 4-10=-427/2766, 4-9=-3596/699, 6-9=-598/3586, 6-8=-4345/933

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-8-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) 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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-3-4, Interior (1) 5-3-4 to 14-8-4, Exterior(2R) 14-8-4 to 19-8-4, Interior (1) 19-8-4 to 20-7-12 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) 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) WARNING: Required bearing size at joint(s) 8 greater than input bearing size.
8) Bearings are assumed to be: Joint 1 SP 2400F 2.0E crushing capacity of 805 psi, Joint 8 SPF No.2 crushing capacity of 425 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 823 lb uplift at joint 1 and 875 lb uplift at joint 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 8-0-12 to connect truss(es) to front face of bottom chord.
12) Use Simpson Strong-Tie LUS28 (6-10d Girder, 3-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 10-0-12 from the left end to 20-0-12 to connect truss(es) to front face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-5=-70, 5-7=-70, 1-8=-20
Concentrated Loads (lb)
Vert: 16=-860 (F), 17=-860 (F), 18=-860 (F), 19=-860 (F), 20=-860 (F), 21=-860 (F), 22=-860 (F), 23=-860 (F), 24=-860 (F), 25=-864 (F)

November 21,2023

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

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145486
P230875-01	D05	Roof Special	1	1	Job Reference (optional)	12/07/2023

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

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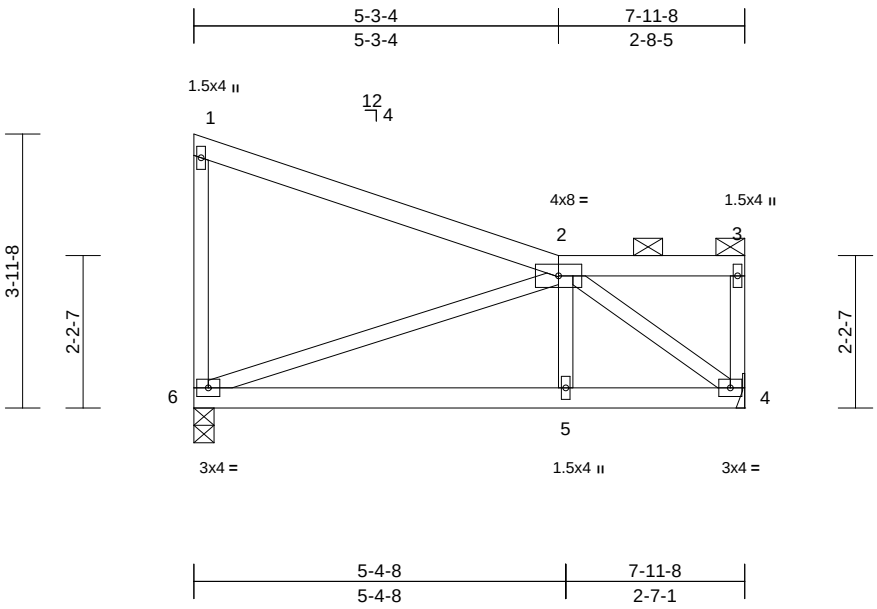

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.03	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.29	Vert(CT)	-0.06	5-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 36 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 7-11-8 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 6=0-3-8
Max Horiz 6=-160 (LC 8)
Max Uplift 4=-73 (LC 9), 6=-81 (LC 13)
Max Grav 4=349 (LC 1), 6=349 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-181/235, 1-2=-141/98, 2-3=-39/43, 3-4=-91/97
BOT CHORD 5-6=-190/333, 4-5=-187/339
WEBS 2-6=-355/325, 2-5=0/211, 2-4=-421/198

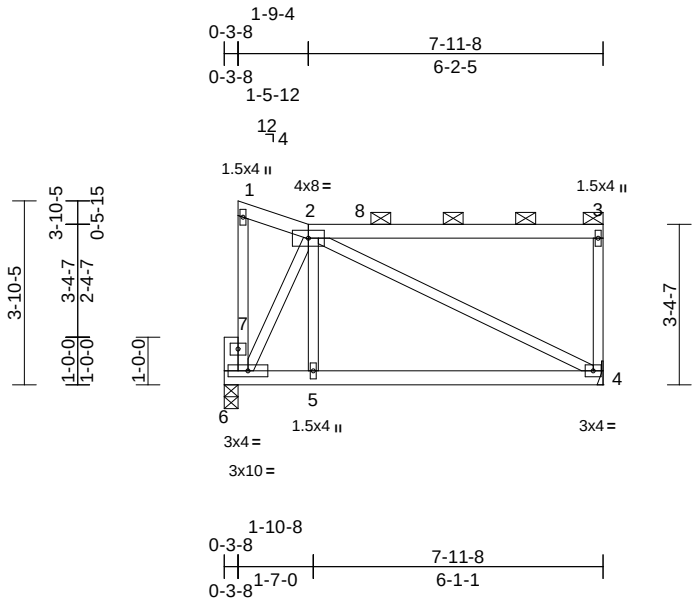
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-3-4, Interior (1) 5-3-4 to 7-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Provide adequate drainage to prevent water ponding.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 6 SP No.2 crushing capacity of 565 psi.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 81 lb uplift at joint 6 and 73 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	D06	Roof Special	1	1	Job Reference (optional) I62145487



Scale = 1:48.4

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	0.91	Vert(LL)	-0.04	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.09	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 39 lb	FT = 20%

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

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

REACTIONS (size) 4= Mechanical, 6=0-3-8
Max Horiz 6=-147 (LC 8)
Max Uplift 4=-96 (LC 9), 6=-55 (LC 13)
Max Grav 4=340 (LC 1), 6=333 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-55/77, 1-2=-74/69, 2-3=-63/69, 3-4=-213/225
BOT CHORD 5-6=-191/262, 4-5=-188/266
WEBS 2-6=-345/179, 2-5=0/260, 2-4=-243/162

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-12 to 1-9-4, Interior (1) 1-9-4 to 7-10-4 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
2) Provide adequate drainage to prevent water ponding.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Bearings are assumed to be: Joint 6 SP No.2 crushing capacity of 565 psi.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 55 lb uplift at joint 6 and 96 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145488
P230875-01	DG01	Jack-Open Girder	1	1	Job Reference (optional)	

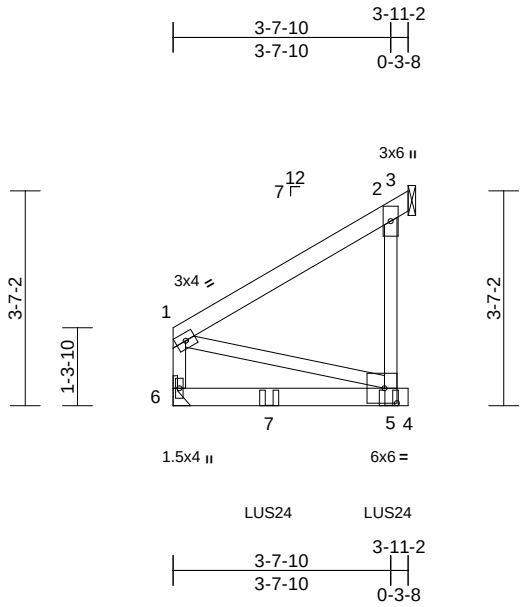


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Plate Offsets (X, Y): [5:0-2-8,0-3-0]

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	0.54	Vert(LL)	-0.05	5-6	>978	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.09	5-6	>519	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.17	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

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

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

REACTIONS (size) 3= Mechanical, 6= Mechanical
Max Horiz 6=80 (LC 12)
Max Uplift 3=-220 (LC 12), 6=-42 (LC 12)
Max Grav 3=609 (LC 1), 6=387 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-163/25, 1-2=-89/45, 2-3=-135/306
BOT CHORD 5-6=-145/88, 4-5=0/0
WEBS 2-5=-158/508, 1-5=-92/152

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Refer to girder(s) for truss to truss connections.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 6 and 220 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-8-2 from the left end to 3-8-2 to connect truss(es) to front face of bottom chord.
8) Fill all nail holes where hanger is in contact with lumber.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 4-6=-20
Concentrated Loads (lb)
Vert: 5=-327 (F), 7=-329 (F)

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	E01	Half Hip Girder	1	3	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

I62145489

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

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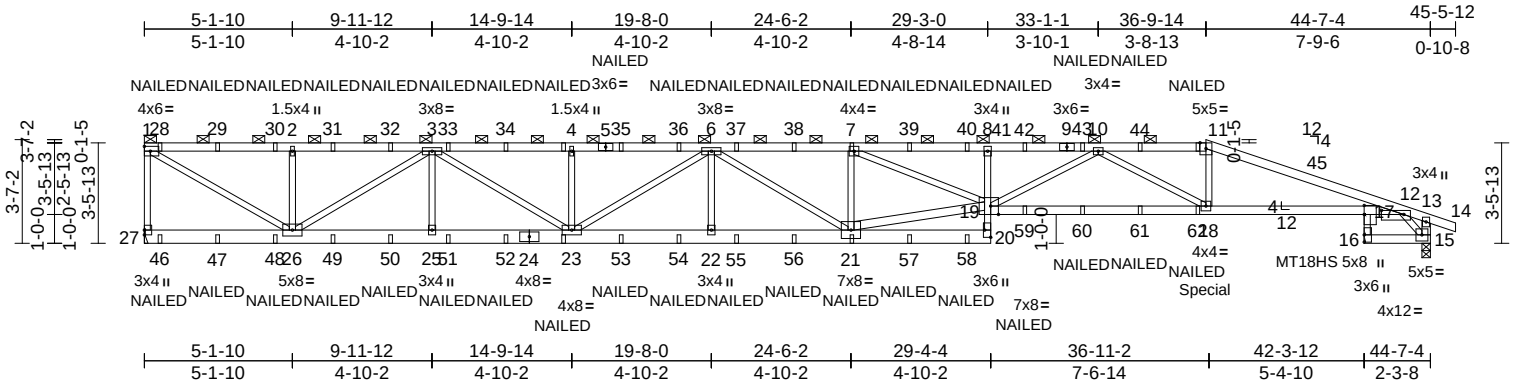

Scale = 1:79.9

Plate Offsets (X, Y): [12:0-9-4,0-1-11], [17:0-3-12,Edge], [19:0-3-4,Edge], [20:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	0.68	18-19	>786	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-1.09	18-19	>490	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.38	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 615 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 11-14:2x4 SP 1650F 1.5E

BOT CHORD 2x6 SPF No.2 *Except* 20-8,17-16:2x3 SPF No.2, 19-12:2x4 SP 2400F 2.0E, 16-15:2x4 SP No.2

WEBS 2x3 SPF No.2 *Except* 21-19,15-13:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-4-14 max.): 1-11.

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

REACTIONS (size) 15=0-3-8, 27= Mechanical
Max Horiz 27=-153 (LC 8)
Max Uplift 15=-1074 (LC 9), 27=-1046 (LC 9)
Max Grav 15=2985 (LC 1), 27=2919 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-27=-2803/1086, 1-2=-4172/1538, 2-3=-4172/1538, 3-4=-9172/3343, 4-6=-9172/3343, 6-7=-10414/3838, 7-8=-13424/5003, 8-10=-13569/5052, 10-11=-8999/3408, 11-12=-9617/3583, 12-13=-429/143, 13-14=0/23, 13-15=-1779/672

BOT CHORD 26-27=-91/225, 25-26=-2508/7185, 23-25=-2508/7185, 22-23=-3663/10311, 21-22=-3663/10311, 20-21=-247/702, 19-20=-2/183, 8-19=-330/213, 18-19=-4254/11573, 17-18=-3323/9116, 12-17=-2947/8143, 16-17=-99/301, 15-16=-376/973

WEBS 1-26=-1743/4861, 2-26=-508/353, 3-26=-3580/1297, 3-25=0/296, 3-23=-858/2362, 4-23=-453/298, 6-23=-1353/523, 6-22=0/304, 6-21=-85/123, 7-21=-1909/856, 19-21=-3539/9893, 7-19=-1284/3316, 10-19=-816/2372, 12-15=-1836/766, 11-18=-914/2555, 10-18=-3100/1145

NOTES

1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-10, Interior (1) 5-1-10 to 36-9-14, Exterior(2R) 36-9-14 to 43-8-7, Interior (1) 43-8-7 to 45-5-12 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) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Bearings are assumed to be: , Joint 15 SP No.2 crushing capacity of 565 psi.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1046 lb uplift at joint 27 and 1074 lb uplift at joint 15.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
13) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 88 lb down and 62 lb up at 36-9-14 on top chord, and 315 lb down and 163 lb up at 36-9-14 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15

November 21,2023

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	E01	Half Hip Girder	1	3	Job Reference (optional) I62145489

Uniform Loads (lb/ft)
Vert: 1-11=-70, 11-13=-70, 13-14=-70, 20-27=-20, 17-19=-20, 15-16=-20
Concentrated Loads (lb)
Vert: 23=-23 (F), 4=-51 (F), 21=-23 (F), 7=-51 (F), 11=-7 (F), 28=-71 (F), 29=-51 (F), 30=-51 (F), 31=-51 (F), 32=-51 (F), 33=-51 (F), 34=-51 (F), 35=-51 (F), 36=-51 (F), 37=-51 (F), 38=-51 (F), 39=-51 (F), 40=-51 (F), 42=-7 (F), 43=-7 (F), 44=-7 (F), 46=-28 (F), 47=-23 (F), 48=-23 (F), 49=-23 (F), 50=-23 (F), 51=-23 (F), 52=-23 (F), 53=-23 (F), 54=-23 (F), 55=-23 (F), 56=-23 (F), 57=-23 (F), 58=-23 (F), 59=-92 (F), 60=-92 (F), 61=-92 (F), 62=-407 (F)

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	E02	Half Hip	1	2	Job Reference (optional) I62145490

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

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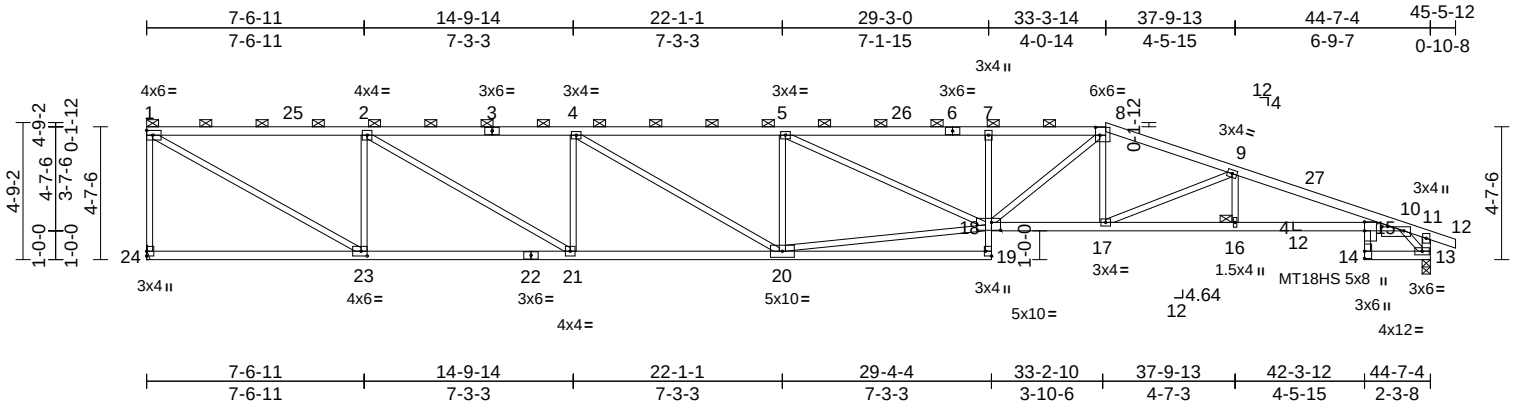

Scale = 1:80

Plate Offsets (X, Y): [8:0-1-12,0-3-4], [10:0-9-4,0-1-11], [15:0-3-12,Edge], [18:0-3-12,0-3-4], [19:Edge,0-2-8], [23:0-2-8,0-2-0]

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	0.83	Vert(LL)	-0.41	7-18	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.75	19-20	>712	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.34	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 398 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 19-7,15-14:2x3 SPF No.2, 18-10:2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 13-11:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-6-1 max.): 1-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
10-0-0 oc bracing: 16-17, 15-16
JOINTS 1 Brace at Jt(s): 1, 16

REACTIONS (size) 13=0-3-8, 24= Mechanical
Max Horiz 24=-208 (LC 8)
Max Uplift 13=-479 (LC 9), 24=-439 (LC 9)
Max Grav 13=2068 (LC 1), 24=1995 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-24=-1926/508, 1-2=-2965/708, 2-4=-4613/1070, 4-5=-5199/1222, 5-7=-5967/1450, 7-8=-5994/1453, 8-9=-5201/1228, 9-10=-6306/1445, 10-11=-296/69, 11-12=0/23, 11-13=-1260/335
BOT CHORD 23-24=-138/269, 21-23=-541/2965, 20-21=-908/4613, 19-20=-58/391, 18-19=0/136, 7-18=-512/252, 17-18=-1011/4913, 16-17=-1294/5964, 15-16=-1294/5964, 10-15=-1124/5313, 14-15=-39/209, 13-14=-170/651
WEBS 5-18=-251/847, 8-18=-347/1501, 10-13=-1222/361, 2-23=-1548/482, 1-23=-749/3395, 2-21=-427/1918, 4-21=-836/300, 4-20=-180/681, 5-20=-887/330, 18-20=-1001/4854, 8-17=-84/548, 9-17=-1160/348, 9-16=-3/391

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) 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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 33-3-14, Exterior(2R) 33-3-14 to 40-4-12, Interior (1) 40-4-12 to 45-5-12 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) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) All plates are 3x4 MT20 unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) Bearings are assumed to be: , Joint 13 SP No.2 crushing capacity of 565 psi.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 439 lb uplift at joint 24 and 479 lb uplift at joint 13.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	E03	Hip	1	1	Job Reference (optional) I62145491

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

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

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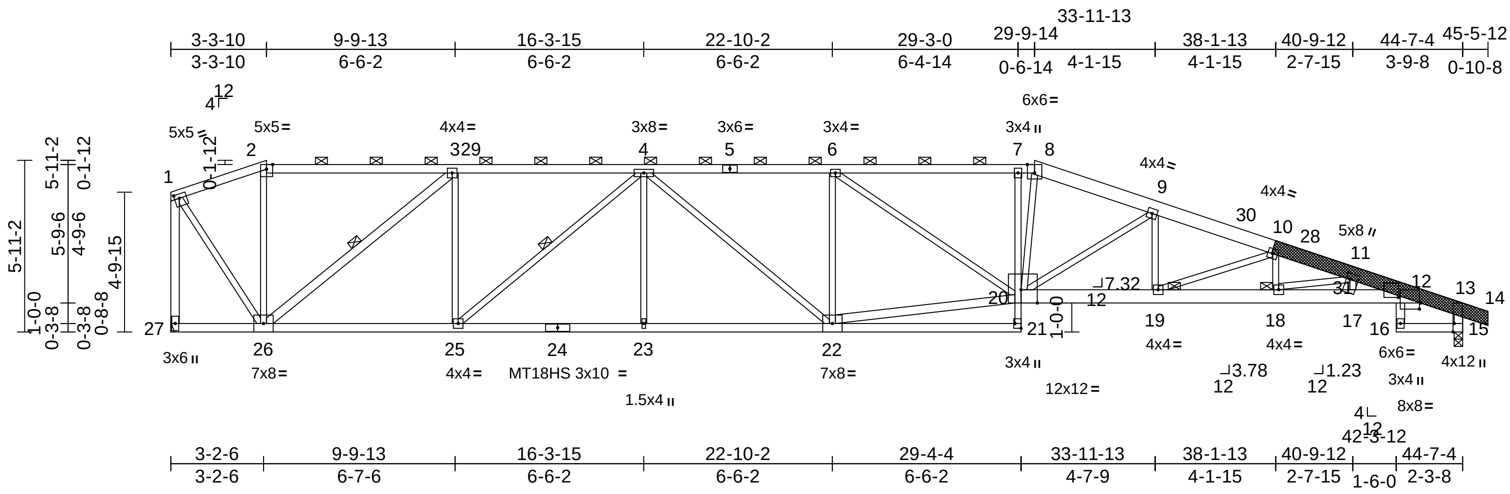

Scale = 1:79.6

Plate Offsets (X, Y): [1:0-2-0,0-1-12], [8:0-3-0,Edge], [11:0-2-8,0-1-8], [12:0-0-8,0-2-9], [12:0-9-4,0-2-5], [15:0-3-8,Edge], [20:0-6-12,Edge], [21:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.48	7-20	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.88	21-22	>606	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.41	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 273 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 8-14:2x6 SPF No.2

BOT CHORD 2x4 SP No.2 *Except* 21-7:2x3 SPF No.2, 20-12:2x6 SP 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 26-3,27-1,15-13,20-22:2x4 SP No.2

LBR SCAB 14-10 SPF No.2 both sides

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-8-10 oc purlins, except end verticals, and 2-0-0 oc purlins (2-1-8 max.): 2-8.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 3-26, 4-25

JOINTS 1 Brace at Jt(s): 19, 18

REACTIONS (size) 15=0-3-8, 27= Mechanical
Max Horiz 27=-208 (LC 8)
Max Uplift 15=-466 (LC 9), 27=-411 (LC 8)
Max Grav 15=2080 (LC 1), 27=1994 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1125/349, 2-3=-1052/353, 3-4=-2808/726, 4-6=-4078/1038, 6-7=-4506/1135, 7-8=-4503/1135, 8-9=-4590/1119, 9-10=-5514/1269, 10-11=-6553/1477, 11-12=-6676/1493, 12-13=-618/188, 13-14=0/23, 1-27=-1973/517, 13-15=-2073/560

BOT CHORD 26-27=-157/275, 25-26=-499/2808, 23-25=-718/3779, 22-23=-718/3779, 21-22=-30/229, 20-21=0/118, 7-20=-337/229, 19-20=-1054/5198, 18-19=-1326/6296, 17-18=-1383/6431, 12-17=-1383/6431, 12-16=0/55, 15-16=-23/0

WEBS 1-26=-481/1877, 2-26=-20/134, 3-26=-2296/543, 6-20=-130/522, 3-25=-103/960, 4-25=-1278/288, 4-23=0/253, 4-22=-122/400, 6-22=-778/299, 20-22=-792/3904, 8-20=-364/1284, 9-20=-1024/291, 9-19=-62/611, 10-19=-1184/293, 10-18=-3/240, 11-17=-142/73, 11-18=-142/64

NOTES

1) Attached 7-10-9 scab 10 to 14, both face(s) 2x6 SPF No.2 with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 4-0-0 from end at joint 14, nail 2 row(s) at 7" o.c. for 3-9-11; starting at 0-3-5 from end at joint 14, nail 3 row(s) at 7" o.c. for 3-4-0.
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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 11-7-8 to 14-9-6, Exterior(2R) 14-9-6 to 21-10-4, Interior (1) 21-10-4 to 41-3-10, Exterior(2R) 41-3-10 to 48-4-8, Interior (1) 48-4-8 to 56-11-8 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
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) Bearings are assumed to be: , Joint 15 SP No.2 crushing capacity of 565 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 411 lb uplift at joint 27 and 466 lb uplift at joint 15.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	E04	Hip	1	1	Job Reference (optional) I62145492

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:40 Page: 1
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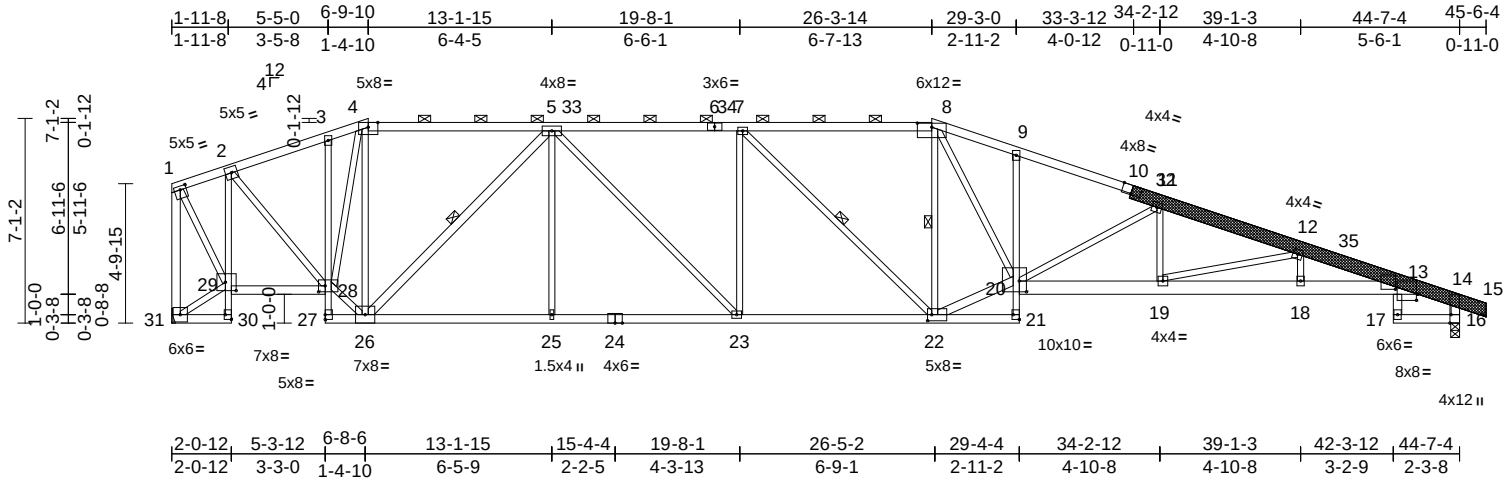

Scale = 1:79.8

Plate Offsets (X, Y): [1:0-2-8,0-1-8], [8:0-6-0,0-1-11], [10:0-4-0,Edge], [13:0-0-8,0-2-9], [13:0-9-4,0-2-1], [16:0-3-8,Edge], [20:0-3-0,0-4-8], [21:Edge,0-2-8], [22:0-1-12,0-2-8], [28:0-2-12,0-2-8], [29:0-4-8,0-3-8], [30:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.45	20	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.80	20	>663	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.43	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 305 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 6-8:2x4 SP 1650F 1.5E, 10-15:2x6 SPF No.2
BOT CHORD 2x4 SP No.2 *Except* 30-2,3-27,21-9:2x3 SPF No.2, 20-13:2x6 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 26-5,22-20,31-1,16-14:2x4 SP No.2
LBR SCAB 15-10 SPF No.2 both sides

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-7-12 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-26, 7-22, 8-22

REACTIONS (size) 16=0-3-10, 31= Mechanical
Max Horiz 31=-192 (LC 8)
Max Uplift 16=-461 (LC 9), 31=-391 (LC 8)
Max Grav 16=2083 (LC 1), 31=1994 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-944/314, 2-3=-1871/541, 3-4=-1776/558, 4-5=-1701/547, 5-7=-3321/920, 7-8=-3202/881, 8-9=-4387/1135, 9-11=-4487/1092, 11-12=-5542/1274, 12-13=-6608/1469, 13-14=-618/189, 14-15=0/24, 1-31=-1964/463, 14-16=-2076/562
BOT CHORD 30-31=-10/10, 29-30=-11/34, 2-29=-1504/545, 28-29=-112/894, 27-28=-64/0, 3-28=-14/191, 26-27=-24/55, 25-26=-512/2801, 23-25=-512/2801, 22-23=-644/3321, 21-22=-42/155, 20-21=0/19, 9-20=-86/125, 19-20=-1070/5237, 18-19=-1342/6340, 13-18=-1342/6340, 13-17=0/55, 16-17=-23/0
WEBS 29-31=-183/315, 1-29=-362/1831, 2-28=-382/1330, 26-28=-314/2087, 4-28=-36/180, 4-26=-99/121, 5-26=-1615/392, 7-22=-428/105, 8-22=-935/258, 20-22=-597/3245, 8-20=-509/2157, 11-20=-1226/313, 11-19=-31/515, 5-25=0/260, 5-23=-189/779, 7-23=-425/218, 12-19=-1146/283, 12-18=0/154

NOTES
1) Attached 13-0-4 scab 10 to 15, both face(s) 2x6 SPF No.2 with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-3-10 from end at joint 15, nail 3 row(s) at 7" o.c. for 3-4-0.
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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 11-7-8 to 16-10-12, Interior (1) 16-10-12 to 18-3-6, Exterior(2R) 18-3-6 to 25-4-4, Interior (1) 25-4-4 to 37-9-10, Exterior(2R) 37-9-10 to 44-10-8, Interior (1) 44-10-8 to 57-0-0 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
4) Provide adequate drainage to prevent water ponding.
5) All plates are 3x4 MT20 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) Bearings are assumed to be: , Joint 16 SP No.2 crushing capacity of 565 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 461 lb uplift at joint 16 and 391 lb uplift at joint 31.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145493
P230875-01	E05	Hip	1	1	Job Reference (optional)	

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

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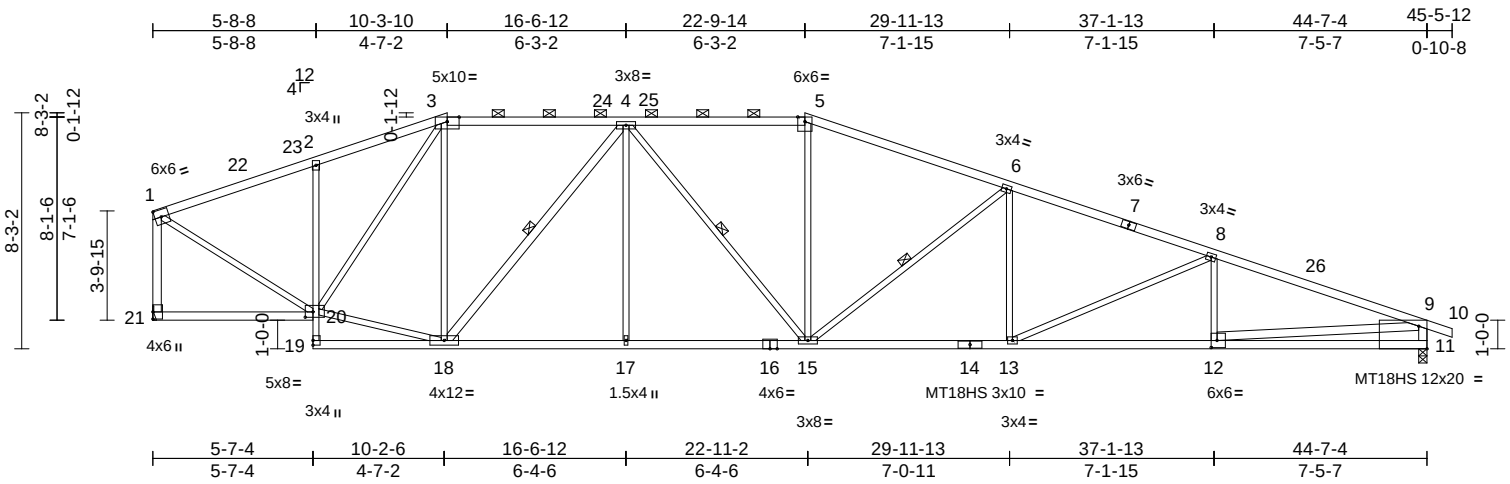

Scale = 1:80.7

Plate Offsets (X, Y): [11:Edge,0-9-8], [12:0-2-8,0-3-0], [20:0-3-4,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.30	12-13	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.56	13-15	>944	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.14	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 234 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-7,7-10:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2 *Except* 2-19:2x3 SPF No.2, 19-16,14-11:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 18-4,11-9,12-9,21-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-9-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-7-15 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 4-18, 4-15, 6-15

REACTIONS (size) 11=0-3-8, 21= Mechanical
Max Horiz 21=-157 (LC 8)
Max Uplift 11=-458 (LC 9), 21=-363 (LC 8)
Max Grav 11=2066 (LC 1), 21=1993 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1971/572, 2-3=-1954/661, 3-4=-1986/660, 4-5=-2826/855, 5-6=-3061/856, 6-8=-3825/976, 8-9=-4197/965, 9-10=0/23, 9-11=-1983/590, 1-21=-1928/566
BOT CHORD 20-21=-126/243, 19-20=0/71, 2-20=-367/236, 18-19=-32/64, 17-18=-506/2675, 15-17=-506/2675, 13-15=-721/3557, 12-13=-827/3899, 11-12=-204/594
WEBS 18-20=-323/1973, 3-20=-482/115, 3-18=-109/644, 4-18=-1172/293, 4-17=0/254, 4-15=-139/312, 5-15=-59/526, 6-15=-937/303, 6-13=0/393, 8-13=-395/176, 8-12=-209/165, 9-12=-656/3322, 1-20=-556/2119

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) 11-7-8 to 16-7-8, Interior (1) 16-7-8 to 21-9-6, Exterior(2R) 21-9-6 to 28-10-4, Interior (1) 28-10-4 to 34-3-10, Exterior(2R) 34-3-10 to 41-5-9, Interior (1) 41-5-9 to 56-11-8 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) 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 11 SP 1650F 1.5E crushing capacity of 565 psi.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 363 lb uplift at joint 21 and 458 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145494
P230875-01	G01	Hip Girder	1	3	Job Reference (optional)	

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

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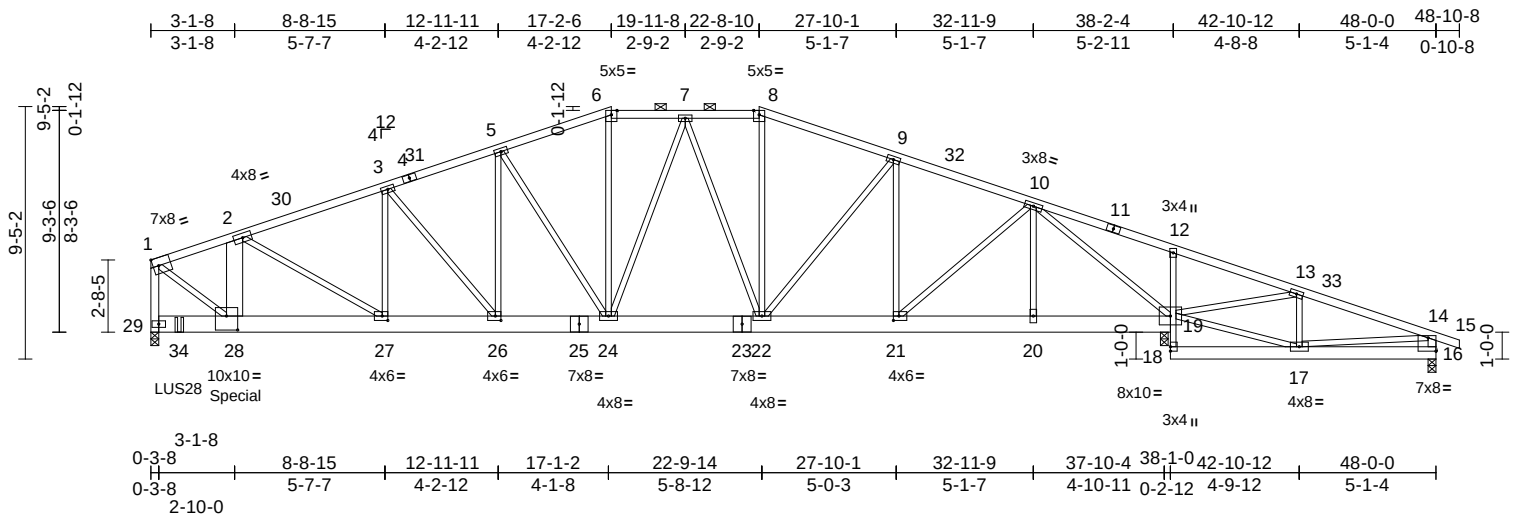

Scale = 1:86.1

Plate Offsets (X, Y): [16:Edge,0-6-0], [21:0-2-8,0-2-0], [26:0-2-8,0-2-0], [27:0-2-8,0-2-0], [28:0-5-0,0-6-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.08	26	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.14	26-27	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.96	Horz(CT)	0.03	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 863 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x8 SPF No.2 *Except* 12-18:2x3 SPF No.2, 18-16:2x6 SPF No.2
WEBS 2x3 SPF No.2 *Except* 2-28:2x8 SPF No.2, 29-1:2x4 SP 1650F 1.5E, 16-14:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 17-18.

REACTIONS (size) 16=0-3-8, 19=0-3-8, 29=0-3-8
Max Horiz 29=-177 (LC 34)
Max Uplift 16=-136 (LC 32), 19=-604 (LC 9), 29=-1840 (LC 8)
Max Grav 16=270 (LC 26), 19=3010 (LC 1), 29=8291 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-7195/1713, 2-3=-5512/1370, 3-5=-4386/1170, 5-6=-3544/1014, 6-7=-3324/982, 7-8=-2830/886, 8-9=-3039/902, 9-10=-2861/813, 10-12=-129/882, 12-13=-207/914, 13-14=-111/249, 14-15=0/23, 1-29=-7488/1796, 14-16=-226/210
BOT CHORD 28-29=-51/239, 27-28=-1487/6790, 26-27=-1097/5176, 24-26=-836/4110, 22-24=-568/3129, 21-22=-481/2663, 20-21=-280/1806, 19-20=-280/1806, 18-19=0/72, 12-19=-385/187, 17-18=-130/35, 16-17=-79/147
WEBS 2-28=-786/1648, 2-27=-2103/791, 3-27=-367/1382, 3-26=-1746/479, 5-26=-301/1319, 5-24=-1518/434, 6-24=-206/878, 7-24=-209/715, 7-22=-1035/277, 8-22=-152/691, 9-22=-84/492, 9-21=-621/228, 10-21=-269/1147, 10-20=0/159, 10-19=-3441/798, 17-19=-111/119, 13-19=-785/255, 13-17=0/229, 1-28=-1989/8384, 14-17=-244/132

NOTES
1) N/A
2) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 4 rows staggered at 0-4-0 oc, 2x3 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc.
3) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
4) Unbalanced roof live loads have been considered for this design.
5) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 5-1-12, Interior (1) 5-1-12 to 17-2-6, Exterior(2E) 17-2-6 to 22-8-10, Exterior(2R) 22-8-10 to 29-9-8, Interior (1) 29-9-8 to 48-10-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
6) Provide adequate drainage to prevent water ponding.
7) All plates are 3x6 MT20 unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) Bearings are assumed to be: Joint 29 SP 1650F 1.5E crushing capacity of 565 psi, Joint 19 SPF No.2 crushing capacity of 425 psi, Joint 16 SPF No.2 crushing capacity of 425 psi.
10) Bearing at joint(s) 29 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 136 lb uplift at joint 16, 604 lb uplift at joint 19 and 1840 lb uplift at joint 29.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

November 21,2023

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	G01	Hip Girder	1	3	Job Reference (optional)

14) Use Simpson Strong-Tie LUS28 (6-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent at 1-0-12 from the left end to connect truss(es) to front face of bottom chord.
15) Fill all nail holes where hanger is in contact with lumber.
16) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 6580 lb down and 1519 lb up at 3-2-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-6=-70, 6-8=-70, 8-14=-70, 14-15=-70, 19-29=-20, 16-18=-20
   Concentrated Loads (lb)
   Vert: 28=-6580 (F), 34=-597 (F)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	G02	Roof Special	1	1	Job Reference (optional) I62145495

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

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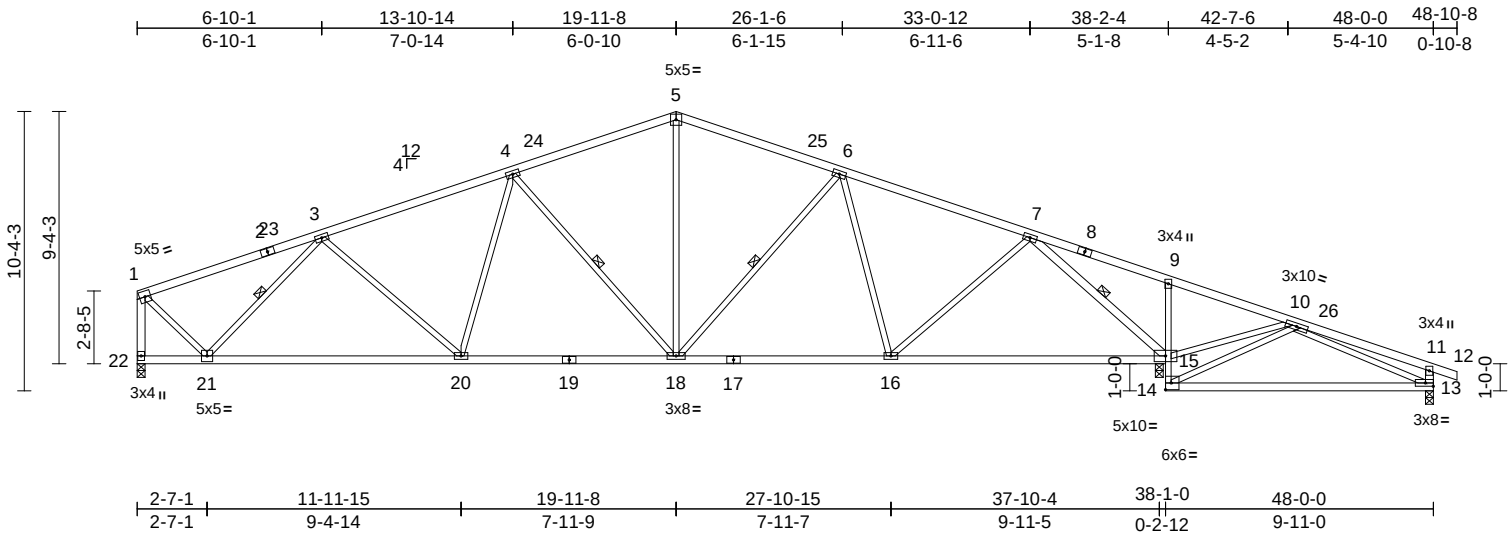

Scale = 1:85.3

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	0.70	Vert(LL)	-0.29	15-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.60	15-16	>762	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.10	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 229 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-14:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-7,13-11,22-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-2-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 3-21, 4-18, 6-18, 7-15

REACTIONS (size) 13=0-3-8, 15=0-3-8, 22=0-3-8
Max Horiz 22=-192 (LC 13)
Max Uplift 13=-95 (LC 9), 15=-441 (LC 9), 22=-294 (LC 8)
Max Grav 13=309 (LC 26), 15=2458 (LC 1), 22=1648 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1257/292, 3-4=-2268/580, 4-5=-1843/560, 5-6=-1845/555, 6-7=-1914/494, 7-9=-115/834, 9-10=-169/834, 10-11=-309/61, 11-12=0/23, 11-13=-321/198, 1-22=-1662/379
BOT CHORD 21-22=-84/204, 20-21=-339/1973, 18-20=-285/2052, 16-18=-212/1825, 15-16=-142/1191, 14-15=0/110, 9-15=-328/162, 13-14=-170/34
WEBS 3-21=-1252/388, 3-20=0/218, 4-20=0/234, 4-18=-652/242, 5-18=-158/747, 6-18=-376/195, 6-16=-315/156, 7-15=-2606/585, 10-15=-763/266, 10-14=-13/190, 10-13=0/448, 1-21=-245/1529, 7-16=-42/748

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) 8-2-12 to 13-2-12, Interior (1) 13-2-12 to 28-0-8, Exterior(2R) 28-0-8 to 33-0-8, Interior (1) 33-0-8 to 56-11-8 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) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 294 lb uplift at joint 22, 441 lb uplift at joint 15 and 95 lb uplift at joint 13.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcscomponents.com)

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	G03	Roof Special	1	1	Job Reference (optional) I62145496

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

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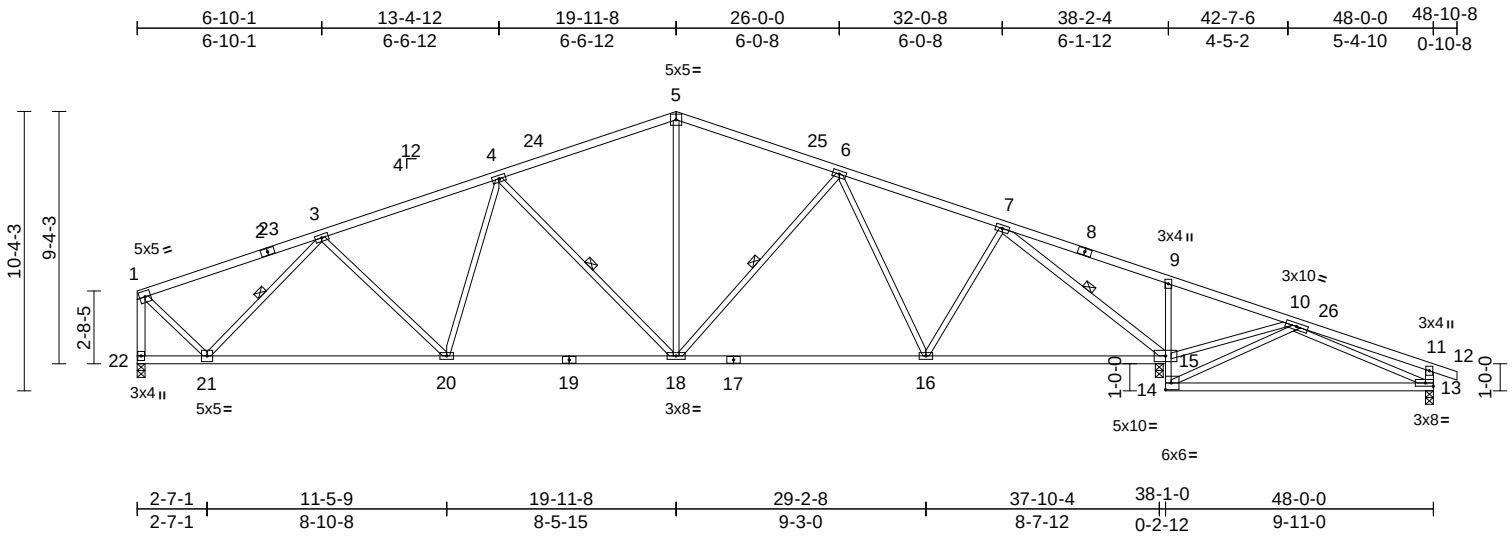

Scale = 1:85.3

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	0.64	Vert(LL)	-0.28	13-14	>408	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.57	13-14	>203	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.11	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 230 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-14:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-7,13-11,22-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-3-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 13-14.
WEBS 1 Row at midpt 3-21, 4-18, 6-18, 7-15

REACTIONS (size) 13=0-3-8, 15=0-3-8, 22=0-3-8
Max Horiz 22=-192 (LC 13)
Max Uplift 13=-94 (LC 9), 15=-442 (LC 9), 22=-294 (LC 8)
Max Grav 13=332 (LC 26), 15=2423 (LC 1), 22=1655 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1257/295, 3-4=-2286/582, 4-5=-1872/555, 5-6=-1865/552, 6-7=-1857/488, 7-9=-85/725, 9-10=-157/731, 10-11=-318/65, 11-12=0/23, 11-13=-329/201, 1-22=-1662/383
BOT CHORD 21-22=-81/204, 20-21=-334/1979, 18-20=-293/2083, 16-18=-216/1832, 15-16=-161/1428, 14-15=0/111, 9-15=-399/200, 13-14=-131/50
WEBS 3-21=-1263/379, 3-20=0/228, 4-20=0/202, 4-18=-636/246, 5-18=-141/728, 6-18=-352/203, 6-16=-319/134, 7-16=-2/553, 7-15=-2649/556, 10-15=-688/240, 10-14=-26/174, 10-13=0/401, 1-21=-247/1520

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) 8-2-12 to 13-2-12, Interior (1) 13-2-12 to 28-0-8, Exterior(2R) 28-0-8 to 33-0-8, Interior (1) 33-0-8 to 56-11-8 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) All plates are 3x6 MT20 unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 294 lb uplift at joint 22, 442 lb uplift at joint 15 and 94 lb uplift at joint 13.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	G04	Roof Special	4	1	Job Reference (optional) I62145497

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:48 Page: 1
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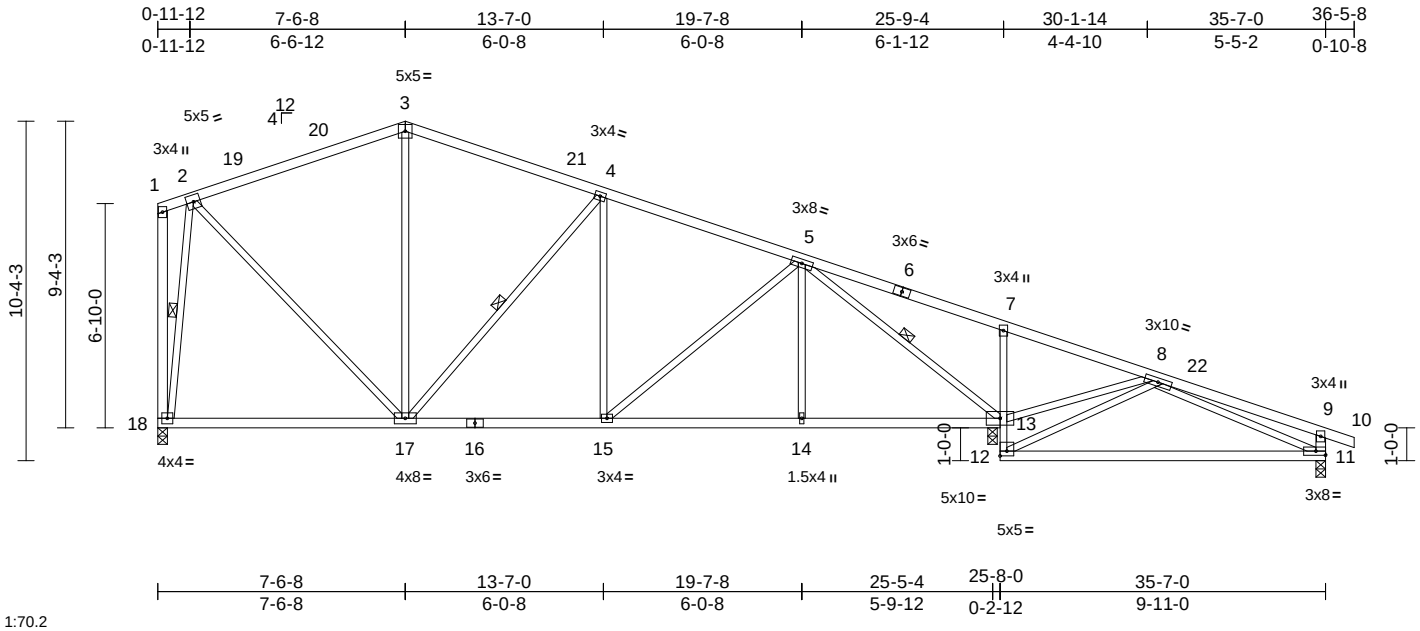

Scale = 1:70.2

Plate Offsets (X, Y): [12:Edge,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.28	11-12	>413	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.82	Vert(CT)	-0.56	11-12	>206	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.89	Horz(CT)	0.03	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 185 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 7-12:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 11-9,18-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-10 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-17, 5-13, 2-18

REACTIONS (size) 11=0-3-8, 13=0-3-8, 18=0-3-8
Max Horiz 18=-312 (LC 8)
Max Uplift 11=-108 (LC 9), 13=-352 (LC 9), 18=-184 (LC 8)
Max Grav 11=435 (LC 26), 13=1693 (LC 1), 18=1123 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-176/170, 2-3=-785/320, 3-4=-779/332, 4-5=-1152/351, 5-7=0/249, 7-8=-73/256, 8-9=-339/72, 9-10=0/23, 9-11=-340/205, 1-18=-267/243
BOT CHORD 17-18=-130/336, 15-17=-38/1030, 14-15=-52/1010, 13-14=-52/1010, 12-13=0/196, 7-13=-397/199, 11-12=-58/260
WEBS 2-17=-199/732, 3-17=-2/191, 4-17=-588/215, 5-13=-1526/293, 8-13=-270/150, 8-12=-217/119, 8-11=0/185, 2-18=-1274/664, 4-15=0/230, 5-15=-43/63, 5-14=0/264

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) 20-7-12 to 25-7-12, Interior (1) 25-7-12 to 28-0-8, Exterior(2R) 28-0-8 to 33-0-8, Interior (1) 33-0-8 to 56-11-8 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 184 lb uplift at joint 18, 352 lb uplift at joint 13 and 108 lb uplift at joint 11.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H01	Half Hip Girder	1	3	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

I62145498

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

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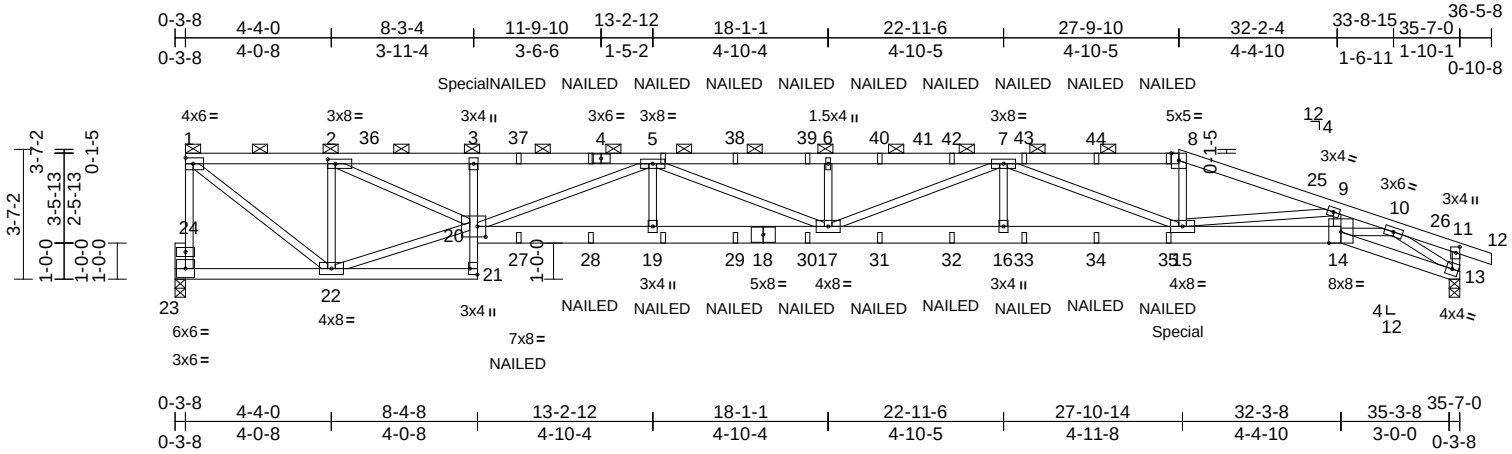

Scale = 1:63.8

Plate Offsets (X, Y): [2:0-2-8,0-1-8], [11:0-2-0,0-1-4], [20:0-2-12,0-3-8], [21:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	0.49	17	>870	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.72	17	>583	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.63	Horz(CT)	0.26	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 488 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 21-3:2x3 SPF No.2, 20-18,18-14:2x6 SPF No.2
WEBS 2x3 SPF No.2
OTHERS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 1-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 13=0-3-8, 23=0-3-8
Max Horiz 23=-155 (LC 8)
Max Uplift 13=-938 (LC 9), 23=-879 (LC 9)
Max Grav 13=2395 (LC 1), 23=2423 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-2390/945, 8-9=-7496/3156, 9-10=-8815/3584, 10-11=-416/198, 11-12=0/22, 11-13=-479/263, 1-2=-2876/1122, 2-3=-7709/3009, 3-5=-7786/3041, 5-6=-10291/4290, 6-7=-10291/4290, 7-8=-7020/2991
BOT CHORD 22-23=-60/234, 21-22=-102/298, 20-21=0/78, 3-20=-837/340, 19-20=-3904/9889, 17-19=-3904/9889, 16-17=-3935/9536, 15-16=-3935/9536, 14-15=-3351/8332, 13-14=-1881/4648
WEBS 1-22=-1381/3585, 2-22=-2895/1158, 20-22=-930/2674, 2-20=-2143/5483, 5-20=-2285/1073, 5-19=-84/315, 5-17=-285/439, 6-17=-359/197, 7-17=-301/915, 7-16=-86/284, 7-15=-2839/1167, 8-15=-797/1970, 9-15=-1235/482, 9-14=-115/458, 10-14=-1601/4023, 10-13=-5259/2137

NOTES
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x3 - 1 row at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x3 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x3 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) 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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-12 to 5-4-12, Interior (1) 5-4-12 to 27-9-10, Exterior(2R) 27-9-10 to 34-10-8, Interior (1) 34-10-8 to 36-5-8 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
5) Provide adequate drainage to prevent water ponding.
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) Bearing at joint(s) 13 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 938 lb uplift at joint 13 and 879 lb uplift at joint 23.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) "NAILED" indicates Girder: 3-10d (0.148" x 3") toe-nails per NDS guidelines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 539 lb down and 207 lb up at 8-0-4, and 106 lb down and 72 lb up at 27-9-10 on top chord, and 305 lb down and 170 lb up at 27-9-10 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 8-11=-70, 11-12=-70, 21-23=-20, 14-20=-20, 13-14=-20, 1-8=-70
Concentrated Loads (lb)

November 21,2023

Continued on page 2

MiTek®
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Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H01	Half Hip Girder	1	3	Job Reference (optional) I62145498

Vert: 3=-539 (B), 5=-19 (B), 19=-54 (B), 4=-19 (B), 8=-19 (B), 27=-61 (B), 28=-54 (B), 29=-54 (B), 30=-54 (B), 31=-54 (B), 32=-54 (B), 33=-54 (B), 34=-54 (B), 35=-359 (B), 37=-22 (B), 38=-19 (B), 39=-19 (B), 40=-19 (B), 42=-19 (B), 43=-19 (B), 44=-19 (B)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H02	Half Hip	1	1	Job Reference (optional) I62145499

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

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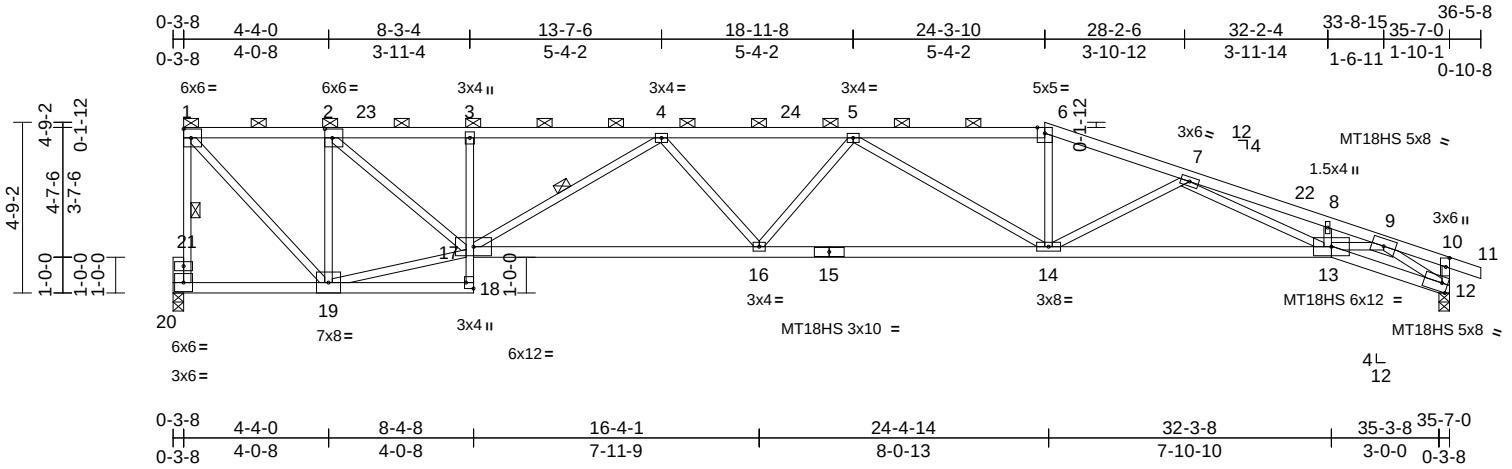

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Plate Offsets (X, Y): [2:0-2-8,0-3-0], [10:0-3-0,0-1-4], [12:0-1-15,Edge], [18:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.45	14-16	>932	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.84	14-16	>502	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.41	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 160 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 18-3:2x3 SPF No.2, 17-15,15-13:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2
OTHERS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-5-1 oc purlins, except end verticals, and 2-0-0 oc purlins (2-3-8 max.): 1-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 1-20, 4-17

REACTIONS (size) 12=0-3-8, 20=0-3-8
Max Horiz 20=-209 (LC 8)
Max Uplift 12=-386 (LC 9), 20=-349 (LC 9)
Max Grav 12=1653 (LC 1), 20=1575 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-20=-1551/414, 6-7=-3847/931, 7-8=-5703/1393, 8-9=-5708/1345, 9-10=-245/91, 10-11=0/22, 10-12=-334/175, 1-2=-1335/382, 2-3=-2958/720, 3-4=-2984/722, 4-5=-4153/994, 5-6=-3598/901
BOT CHORD 19-20=-129/266, 18-19=-34/52, 17-18=0/66, 3-17=-325/149, 16-17=-815/3962, 14-16=-913/4206, 13-14=-962/4258, 12-13=-738/3117
WEBS 2-17=-442/2124, 6-14=-138/893, 8-13=-108/106, 2-19=-1651/416, 1-19=-464/1925, 17-19=-183/1324, 7-14=-718/313, 7-13=-301/1304, 9-13=-533/2479, 9-12=-3565/847, 4-16=-13/352, 4-17=-1151/312, 5-16=-86/145, 5-14=-878/225

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-12 to 5-4-12, Interior (1) 5-4-12 to 24-3-10, Exterior(2R) 24-3-10 to 31-4-8, Interior (1) 31-4-8 to 36-5-8 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) 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 386 lb uplift at joint 12 and 349 lb uplift at joint 20.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER PE-2001018807
PROFESSIONAL ENGINEER
November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H03	Half Hip	1	1	Job Reference (optional) I62145500

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:46 Page: 1
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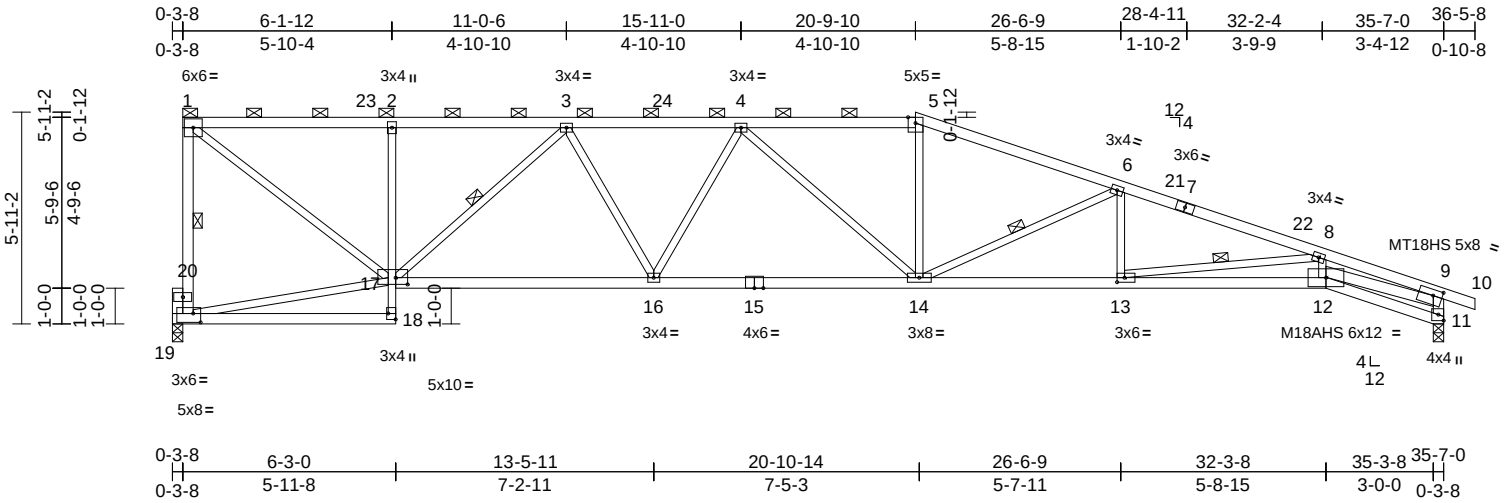

Scale = 1:64.5

Plate Offsets (X, Y): [9:0-3-0,0-2-0], [13:0-2-8,0-1-8], [17:0-4-0,0-2-4], [18:Edge,0-2-8], [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	0.79	Vert(LL)	-0.35	13-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.64	12-13	>659	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.34	11	n/a	n/a	M18AHS	142/136
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 171 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 7-10:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2 *Except* 18-2:2x3 SPF No.2, 15-12:2x4 SP 2400F 2.0E
WEBS 2x3 SPF No.2 *Except* 19-1,9-11:2x4 SP No.2, 12-9:2x4 SP 1650F 1.5E
OTHERS 2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-0-7 max.): 1-5.
BOT CHORD Rigid ceiling directly applied or 7-5-7 oc bracing.
WEBS 1 Row at midpt 1-19, 6-14, 8-13, 3-17

REACTIONS (size) 11=0-3-8, 19=0-3-8
Max Horiz 19=-264 (LC 8)
Max Uplift 11=-384 (LC 9), 19=-352 (LC 9)
Max Grav 11=1654 (LC 1), 19=1570 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-19=-1522/400, 5-6=-3223/805, 6-8=-4222/986, 8-9=-5709/1332, 9-10=0/23, 9-11=-1654/485, 1-2=-1759/491, 2-3=-1764/490, 3-4=-2901/749, 4-5=-2989/787
BOT CHORD 18-19=-17/32, 17-18=0/120, 2-17=-403/218, 16-17=-494/2638, 14-16=-619/3075, 13-14=-823/3977, 12-13=-1212/5295, 11-12=-70/315
WEBS 17-19=-161/317, 8-12=-37/496, 9-12=-1154/5061, 5-14=-92/677, 6-14=-1082/335, 6-13=0/380, 8-13=-1332/394, 3-16=-91/549, 3-17=-1188/304, 4-16=-366/202, 4-14=-347/86, 1-17=-470/2165

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-4 to 5-5-4, Interior (1) 5-5-4 to 20-9-10, Exterior(2R) 20-9-10 to 27-10-8, Interior (1) 27-10-8 to 36-5-8 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) 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 352 lb uplift at joint 19 and 384 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145501
P230875-01	H04	Half Hip	1	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:46 Page: 1
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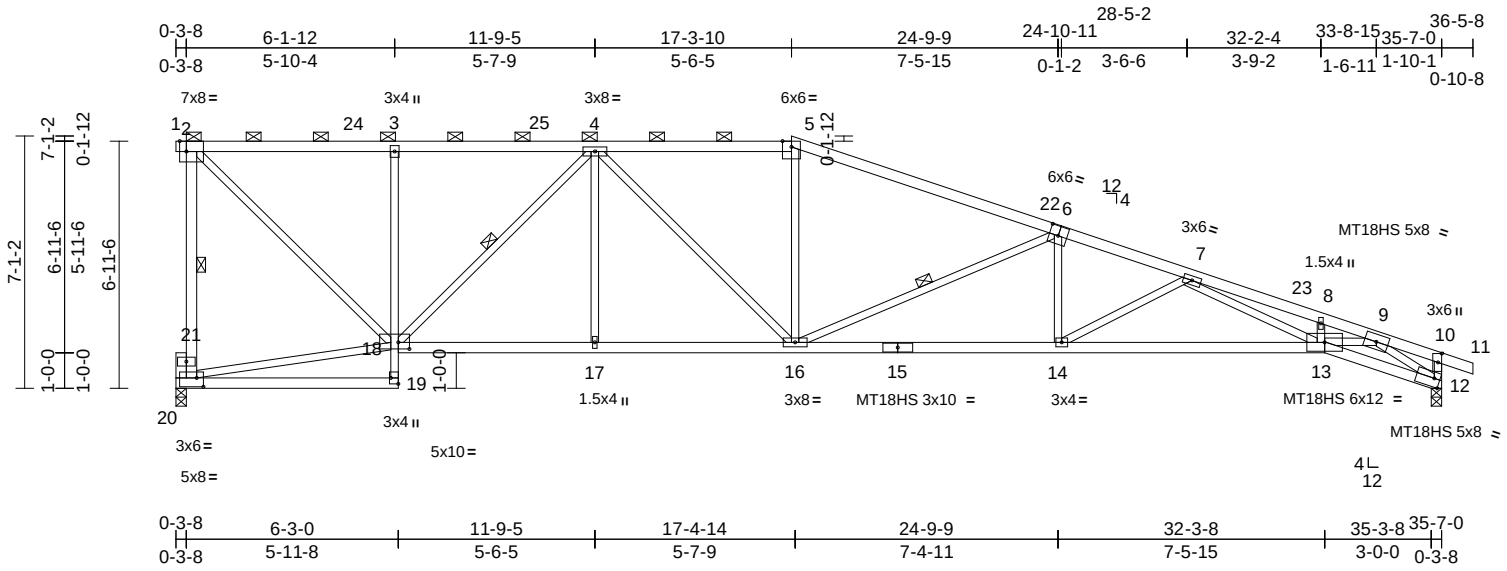

Scale = 1:64.8

Plate Offsets (X, Y): [2:0-2-4,Edge], [6:0-3-0,0-3-4], [10:0-3-0,0-1-4], [12:0-1-15,Edge], [18:0-3-12,0-2-4], [19:Edge,0-2-8], [20:0-2-4,0-3-0]

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	0.96	Vert(LL)	-0.37	13-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.71	13-14	>595	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.35	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 176 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP 1650F 1.5E
BOT CHORD 2x4 SP No.2 *Except* 19-3:2x3 SPF No.2, 15-13:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 20-2:2x4 SP No.2
OTHERS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-4-0 max.): 1-5.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 2-20, 4-18, 6-16

REACTIONS (size) 12=0-3-8, 20=0-3-8
Max Horiz 20=-320 (LC 8)
Max Uplift 12=-379 (LC 9), 20=-365 (LC 9)
Max Grav 12=1653 (LC 1), 20=1588 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-20=-1534/411, 5-7=-3905/906, 7-8=-5723/1346, 8-9=-5720/1295, 9-10=-247/85, 10-11=0/22, 10-12=-336/174, 1-3=-1400/442, 3-4=-1404/442, 4-5=-2473/690
BOT CHORD 19-20=-17/52, 18-19=0/123, 3-18=-424/229, 17-18=-375/2201, 16-17=-375/2201, 14-16=-719/3691, 13-14=-907/4273, 12-13=-707/3112
WEBS 18-20=-230/376, 4-18=-1130/297, 8-13=-132/116, 5-16=-9/429, 4-16=-183/382, 6-16=-1326/374, 6-14=-4/516, 7-14=-668/213, 7-13=-314/1310, 9-13=-517/2499, 9-12=-3558/812, 4-17=0/232, 2-18=-435/1927

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 5-0-0, Interior (1) 5-0-0 to 17-3-10, Exterior(2R) 17-3-10 to 24-4-8, Interior (1) 24-4-8 to 36-5-8 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) 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 379 lb uplift at joint 12 and 365 lb uplift at joint 20.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H05	Hip	1	1	Job Reference (optional) I62145502

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

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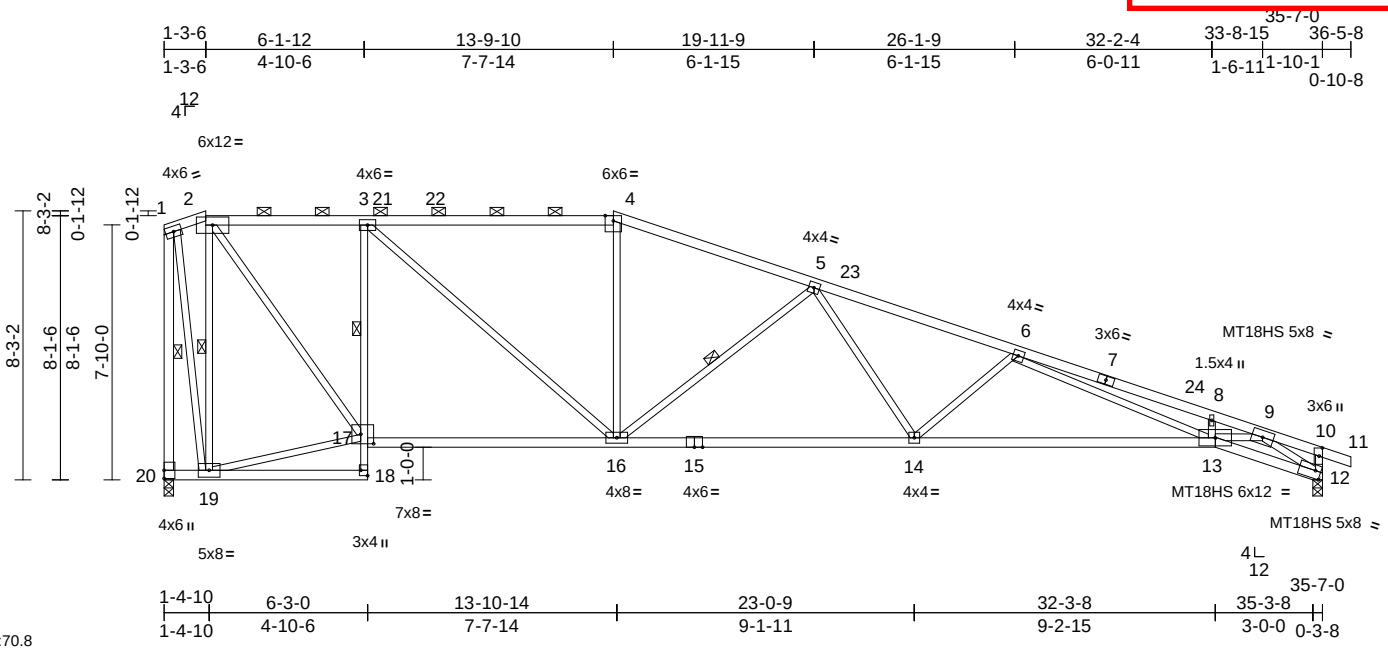

Scale = 1:70.8

Plate Offsets (X, Y): [10:0-3-0,0-1-4], [12:0-1-15,Edge], [17:0-4-12,0-3-8], [18:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.39	13-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.86	13-14	>494	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.89	Horz(CT)	0.35	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 186 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 1650F 1.5E *Except* 1-2:2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 18-3:2x3 SPF No.2, 15-13:2x4 SP 1650F 1.5E
WEBS 2x3 SPF No.2 *Except* 20-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-1-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-10-9 max.): 2-4.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 3-17
WEBS 1 Row at midpt 2-19, 5-16, 1-20

REACTIONS (size) 12=0-3-8, 20=0-3-8
Max Horiz 20=-361 (LC 8)
Max Uplift 12=-375 (LC 9), 20=-348 (LC 9)
Max Grav 12=1659 (LC 1), 20=1589 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-343/255, 2-3=-1242/446, 3-4=-1983/592, 4-5=-2152/592, 5-6=-3567/815, 6-8=-5837/1364, 8-9=-5804/1287, 9-10=-255/89, 10-11=0/22, 10-12=-351/180, 1-20=-1530/446
BOT CHORD 19-20=-251/447, 18-19=-21/14, 17-18=0/92, 3-17=-1213/482, 16-17=-133/1249, 14-16=-513/2853, 13-14=-799/3912, 12-13=-677/3105
WEBS 1-19=-426/1381, 2-19=-1408/478, 17-19=-110/409, 2-17=-398/1743, 3-16=-313/978, 4-16=0/313, 5-16=-1119/359, 5-14=-108/868, 6-14=-794/315, 6-13=-420/1763, 8-13=-247/172, 9-13=-545/2599, 9-12=-3544/770

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) 20-7-12 to 21-9-6, Exterior(2R) 21-9-6 to 28-10-4, Interior (1) 28-10-4 to 34-3-10, Exterior(2R) 34-3-10 to 41-4-8, Interior (1) 41-4-8 to 56-11-8 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) 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Bearing at joint(s) 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 375 lb uplift at joint 12 and 348 lb uplift at joint 20.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	H06	Hip	1	1	Job Reference (optional) I62145503

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

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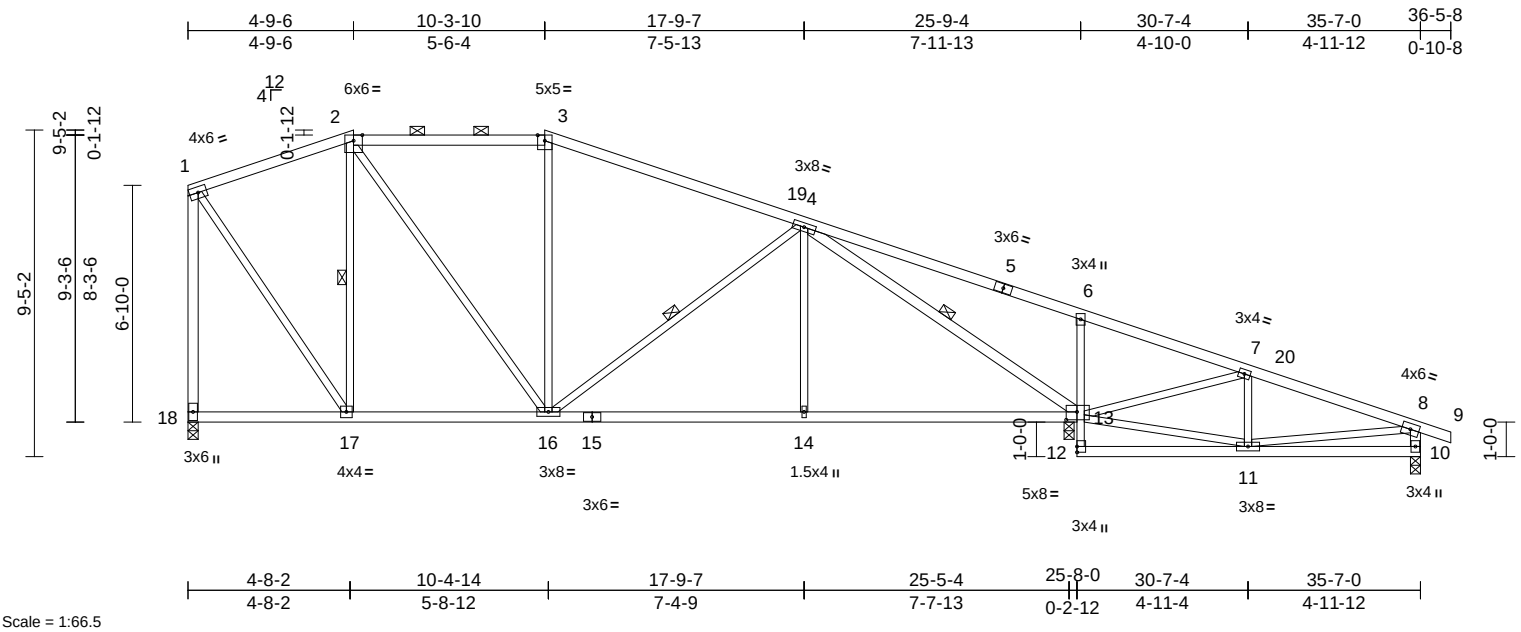

Scale = 1:66.5

Plate Offsets (X, Y): [13:0-3-12,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.10	13-14	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.21	13-14	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 189 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 6-12:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-4,10-8,18-1:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-4-6 max.): 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 11-12.
WEBS 1 Row at midpt 2-17, 4-16, 4-13

REACTIONS (size) 10=0-3-8, 13=0-3-8, 18=0-3-8
Max Horiz 18=-326 (LC 8)
Max Uplift 10=-110 (LC 9), 13=-363 (LC 9), 18=-215 (LC 8)
Max Grav 10=418 (LC 26), 13=1715 (LC 1), 18=1117 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-603/305, 2-3=-864/377, 3-4=-997/361, 4-6=0/284, 6-7=-68/286, 7-8=-380/82, 8-9=0/23, 8-10=-373/197, 1-18=-1077/422
BOT CHORD 17-18=-238/416, 16-17=0/540, 14-16=-88/1103, 13-14=-88/1103, 12-13=0/81, 6-13=-481/244, 11-12=-47/0, 10-11=-65/160
WEBS 2-17=-655/372, 2-16=-229/600, 3-16=-169/167, 4-16=-318/176, 4-14=0/335, 4-13=-1572/302, 8-11=0/149, 1-17=-354/921, 7-11=0/146, 11-13=0/327, 7-13=-532/187

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) 20-7-12 to 30-9-10, Exterior(2R) 30-9-10 to 37-10-8, Interior (1) 37-10-8 to 56-11-8 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) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 215 lb uplift at joint 18, 110 lb uplift at joint 10 and 363 lb uplift at joint 13.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J01	Jack-Open	2	1	Job Reference (optional) I62145504

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:48 Page: 1
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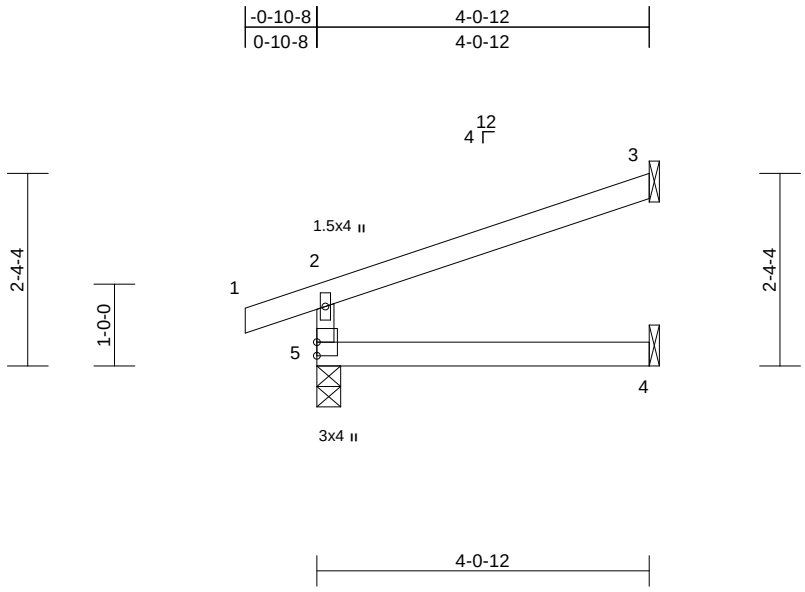


Scale = 1:28.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	0.02	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.02	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 14 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=63 (LC 9)
Max Uplift 3=-68 (LC 12), 5=-67 (LC 8)
Max Grav 3=123 (LC 1), 4=75 (LC 3), 5=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-218/249, 1-2=0/22, 2-3=-70/31
BOT CHORD 4-5=0/0

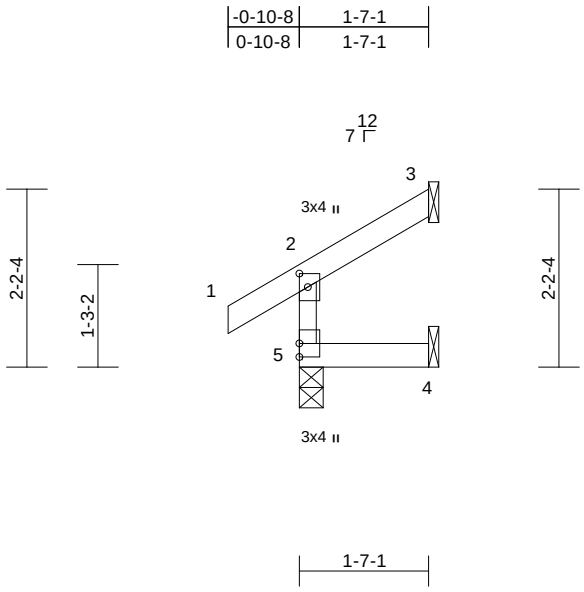
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 5 and 68 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J02	Jack-Open	2	1	Job Reference (optional) I62145505



Scale = 1:28.3

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

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	0.16	Vert(LL)	0.00	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 7 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-7-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=55 (LC 9)
Max Uplift 3=-40 (LC 12), 4=-8 (LC 12), 5=-6 (LC 12)
Max Grav 3=42 (LC 19), 4=28 (LC 3), 5=158 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-141/97, 1-2=0/35, 2-3=-41/30
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 5, 8 lb uplift at joint 4 and 40 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J03	Jack-Open	2	1	Job Reference (optional) I62145506

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

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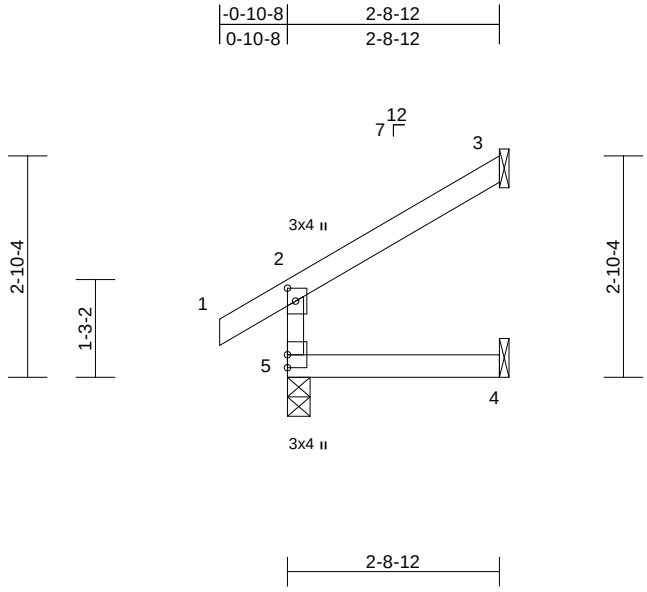

Scale = 1:29.7

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

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	0.22	Vert(LL)	0.01	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	-0.01	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 11 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-8-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=72 (LC 12)
Max Uplift 3=-65 (LC 12), 4=-3 (LC 12), 5=-7 (LC 12)
Max Grav 3=86 (LC 19), 4=49 (LC 3), 5=197 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-172/102, 1-2=0/35, 2-3=-63/43
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 5, 65 lb uplift at joint 3 and 3 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145507
P230875-01	J04	Jack-Open	8	1	Job Reference (optional)	

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

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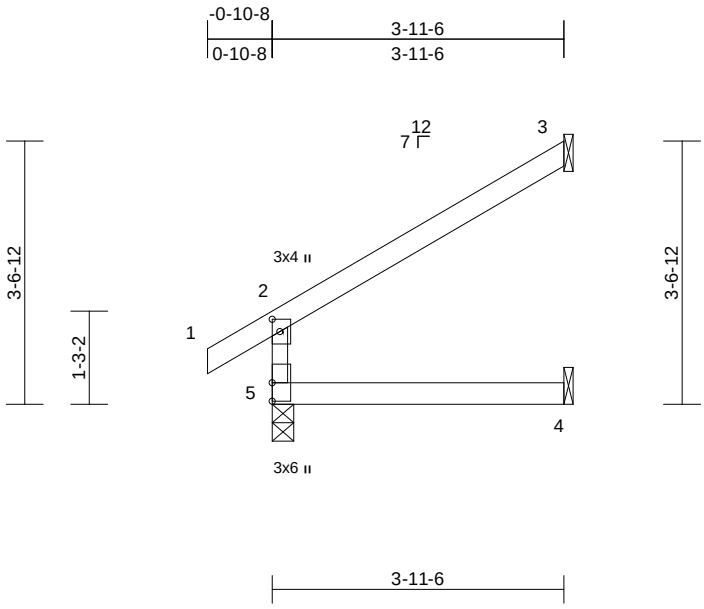

Scale = 1:31.2

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

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	0.33	Vert(LL)	0.02	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.02	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.04	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 15 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=102 (LC 12)
Max Uplift 3=-91 (LC 12), 5=-9 (LC 12)
Max Grav 3=130 (LC 19), 4=73 (LC 3), 5=248 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-214/114, 1-2=0/35, 2-3=-90/56
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 5 and 91 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145508
P230875-01	J05	Jack-Open	1	1	Job Reference (optional)	

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

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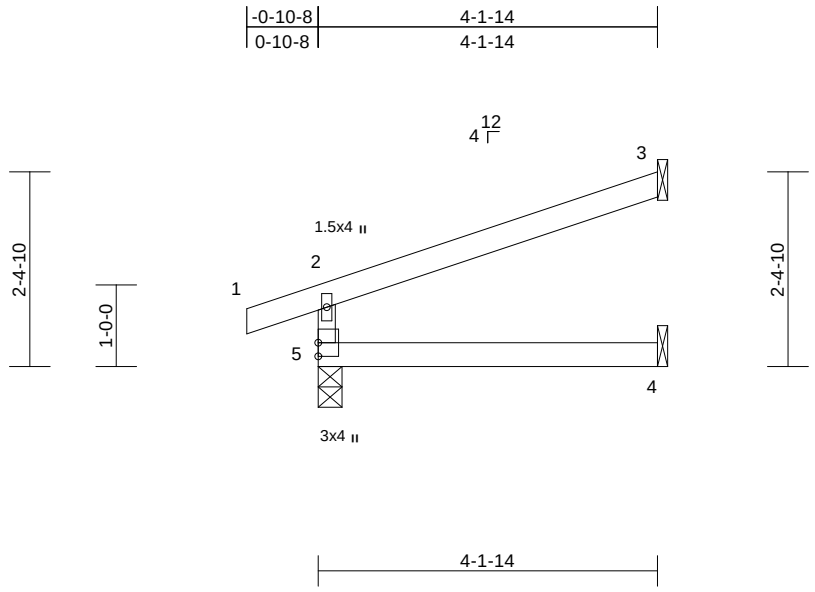

Scale = 1:28.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	0.02	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.03	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 15 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=64 (LC 9)
Max Uplift 3=-69 (LC 12), 5=-68 (LC 8)
Max Grav 3=126 (LC 1), 4=76 (LC 3), 5=256 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-222/253, 1-2=0/22, 2-3=-72/31
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 5 and 69 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145509
P230875-01	J06	Jack-Open	1	1	Job Reference (optional)	

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

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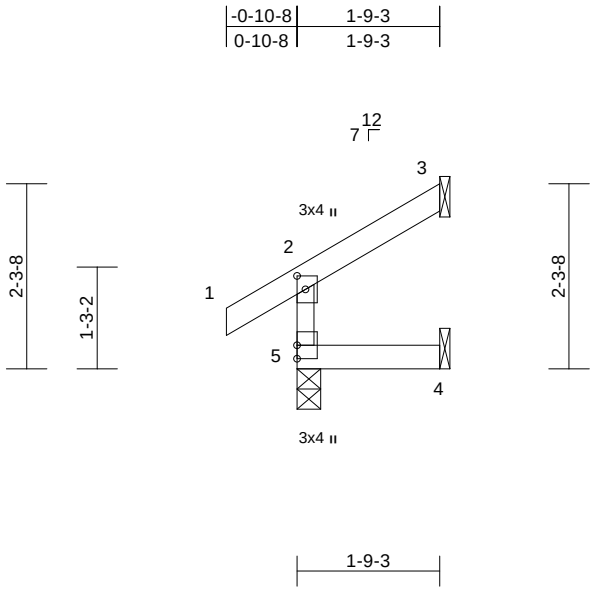

Scale = 1:28.5

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

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	0.16	Vert(LL)	0.00	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-9-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=58 (LC 9)
Max Uplift 3=-44 (LC 12), 4=-7 (LC 12), 5=-6 (LC 12)
Max Grav 3=50 (LC 19), 4=32 (LC 3), 5=163 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-145/97, 1-2=0/35, 2-3=-44/32
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 5, 7 lb uplift at joint 4 and 44 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145510
P230875-01	J07	Jack-Open	1	1	Job Reference (optional)	

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

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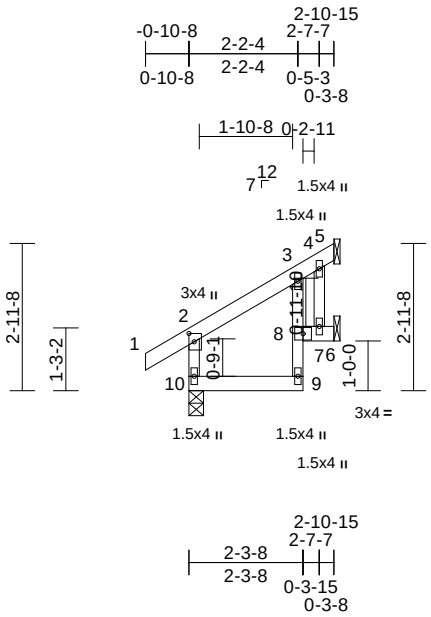

Scale = 1:46.3

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

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	0.14	Vert(LL)	0.00	8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	0.00	9	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	-0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 14 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-3:2x3 SPF No.2
WEBS 2x3 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 6= Mechanical, 10=0-3-8
Max Horiz 10=76 (LC 12)
Max Uplift 5=-26 (LC 12), 6=-46 (LC 12), 10=-7 (LC 12)
Max Grav 5=59 (LC 19), 6=70 (LC 19), 10=204 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-10=-180/99, 1-2=0/35, 2-3=-74/2, 3-4=-9/20, 4-5=-22/29
BOT CHORD 9-10=-56/44, 8-9=-19/40, 3-8=-58/103, 7-8=0/0, 6-7=0/0
WEBS 4-7=-40/24

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 10 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 10, 26 lb uplift at joint 5 and 46 lb uplift at joint 6.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J08	Jack-Open	4	1	Job Reference (optional) I62145511

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

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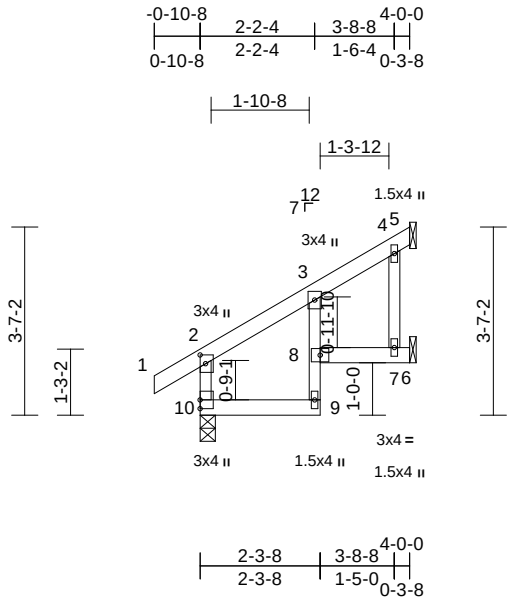

Scale = 1:44

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

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	0.17	Vert(LL)	0.02	8	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	-0.03	9	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	-0.02	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 18 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-3:2x3 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS (size) 5= Mechanical, 6= Mechanical, 10=0-3-8
Max Horiz 10=104 (LC 12)
Max Uplift 5=-43 (LC 12), 6=-47 (LC 12), 10=-10 (LC 12)
Max Grav 5=65 (LC 19), 6=116 (LC 19), 10=250 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-10=-222/108, 1-2=0/35, 2-3=-116/0, 3-4=-56/50, 4-5=-35/37
BOT CHORD 9-10=-84/74, 8-9=-25/38, 3-8=-2/48, 7-8=0/0, 6-7=0/0
WEBS 4-7=-62/31

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 10 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 10, 43 lb uplift at joint 5 and 47 lb uplift at joint 6.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145512
P230875-01	J09	Jack-Open	15	1	Job Reference (optional)	

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:50 Page: 1
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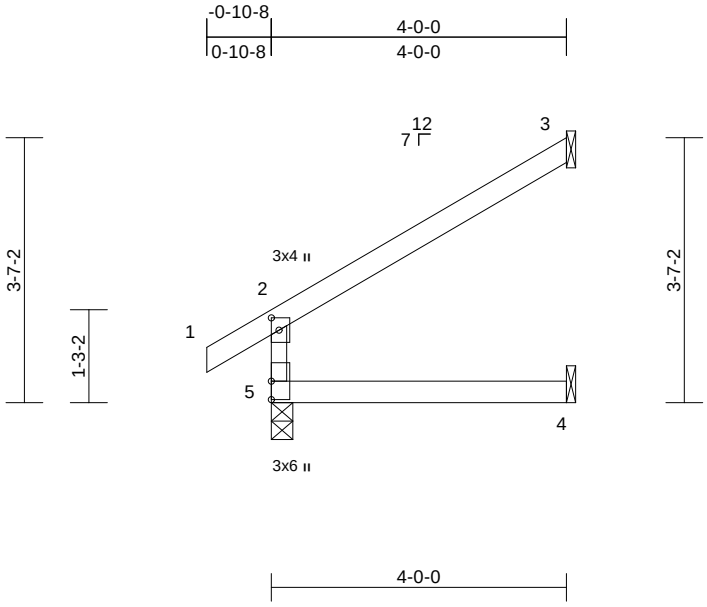


Scale = 1:31.2

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

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	0.33	Vert(LL)	0.02	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.02	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.04	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 15 lb	FT = 20%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=104 (LC 12)
Max Uplift 3=-93 (LC 12), 5=-10 (LC 12)
Max Grav 3=132 (LC 19), 4=74 (LC 3), 5=250 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-216/115, 1-2=0/35, 2-3=-91/57
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 5 and 93 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

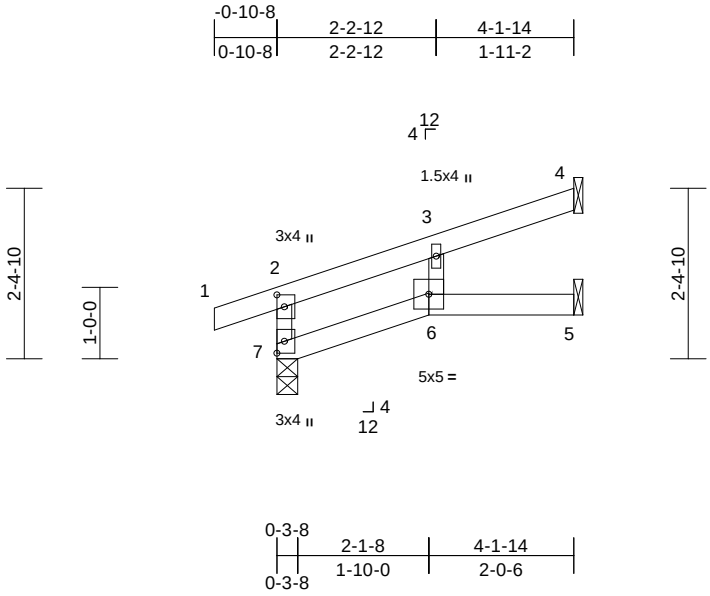
LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145513
P230875-01	J10	Jack-Open	1	1	Job Reference (optional)	



Scale = 1:32.2

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

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	0.23	Vert(LL)	0.03	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.03	6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	-0.03	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-3-8
Max Horiz 7=65 (LC 9)
Max Uplift 4=-49 (LC 12), 5=-10 (LC 12), 7=-67 (LC 8)
Max Grav 4=107 (LC 1), 5=65 (LC 1), 7=256 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-191/184, 1-2=0/22, 2-3=-107/32, 3-4=-50/30
BOT CHORD 6-7=-25/27, 5-6=0/0
WEBS 3-6=-50/114

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 7 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 7, 49 lb uplift at joint 4 and 10 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J11	Jack-Open	1	1	Job Reference (optional) I62145514

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

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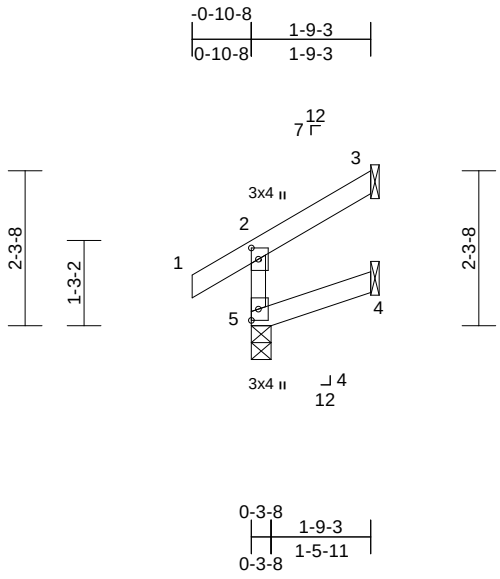

Scale = 1:34.1

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

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	0.17	Vert(LL)	0.00	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-9-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=59 (LC 9)
Max Uplift 3=-45 (LC 12), 4=-8 (LC 12), 5=-4 (LC 12)
Max Grav 3=50 (LC 19), 4=32 (LC 3), 5=163 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-145/95, 1-2=0/35, 2-3=-45/33
BOT CHORD 4-5=-15/9

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 5, 45 lb uplift at joint 3 and 8 lb uplift at joint 4.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J12	Jack-Open	1	1	Job Reference (optional)

I62145515

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

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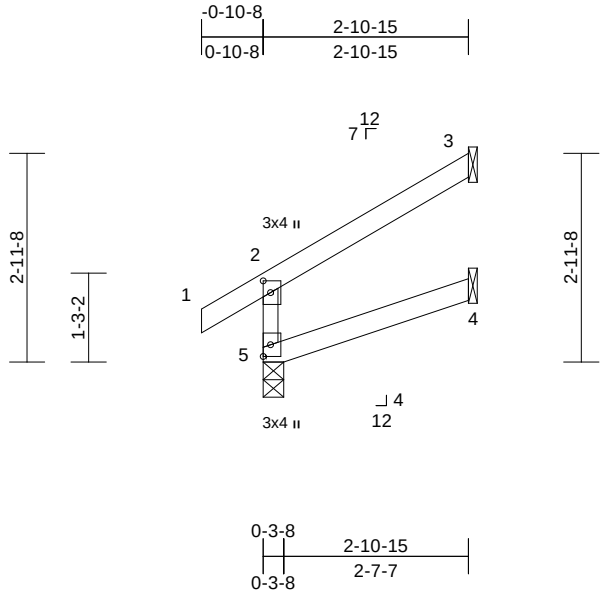

Scale = 1:32.7

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

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	0.25	Vert(LL)	0.01	4-5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.01	4-5	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 12 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=75 (LC 12)
Max Uplift 3=-70 (LC 12), 4=-2 (LC 12), 5=-6 (LC 12)
Max Grav 3=94 (LC 19), 4=53 (LC 3), 5=204 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-178/102, 1-2=0/35, 2-3=-67/45
BOT CHORD 4-5=-16/13

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 5 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 5, 70 lb uplift at joint 3 and 2 lb uplift at joint 4.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	J13	Jack-Open	9	1	Job Reference (optional)

I62145516

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

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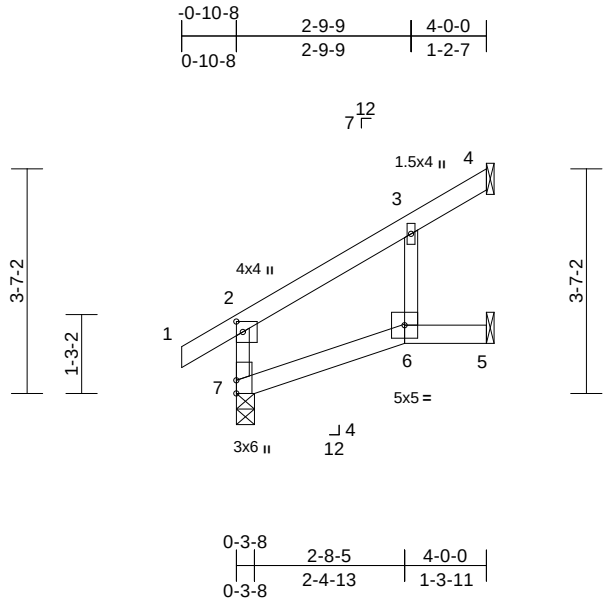

Scale = 1:36.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	0.03	6-7	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.03	6-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.04	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

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

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-3-8
Max Horiz 7=103 (LC 12)
Max Uplift 4=-55 (LC 12), 5=-37 (LC 12), 7=-8 (LC 12)
Max Grav 4=100 (LC 19), 5=82 (LC 19), 7=250 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-195/81, 1-2=0/35, 2-3=-107/58, 3-4=-49/47
BOT CHORD 6-7=-19/10, 5-6=0/0
WEBS 3-6=-54/80

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 7 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 7, 55 lb uplift at joint 4 and 37 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145517
P230875-01	J14	Jack-Open	1	1	Job Reference (optional)	

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

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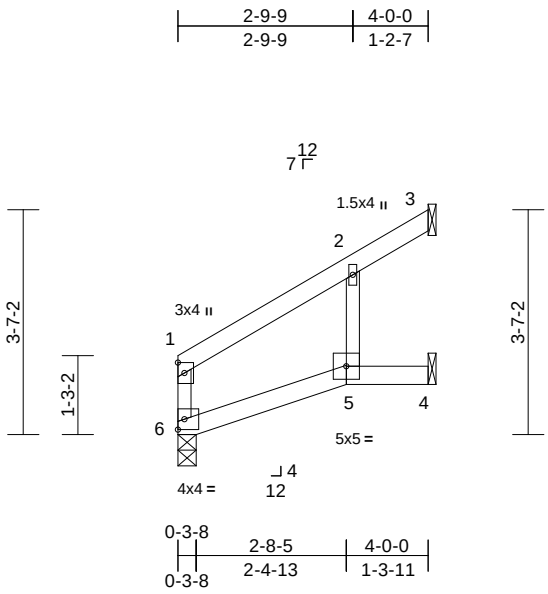

Scale = 1:36.8

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	0.26	Vert(LL)	0.03	5-6	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	5-6	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.04	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 15 lb	FT = 20%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 6=0-3-8
Max Horiz 6=82 (LC 12)
Max Uplift 3=-53 (LC 12), 4=-38 (LC 12)
Max Grav 3=102 (LC 19), 4=88 (LC 19), 6=173 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-6=-117/8, 1-2=-112/58, 2-3=-47/48
BOT CHORD 5-6=-19/11, 4-5=0/0
WEBS 2-5=-61/92

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Bearings are assumed to be: , Joint 6 SP No.2 crushing capacity of 565 psi.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 3 and 38 lb uplift at joint 4.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145518
P230875-01	LGD1	Lay-In Gable	1	1	Job Reference (optional)	

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

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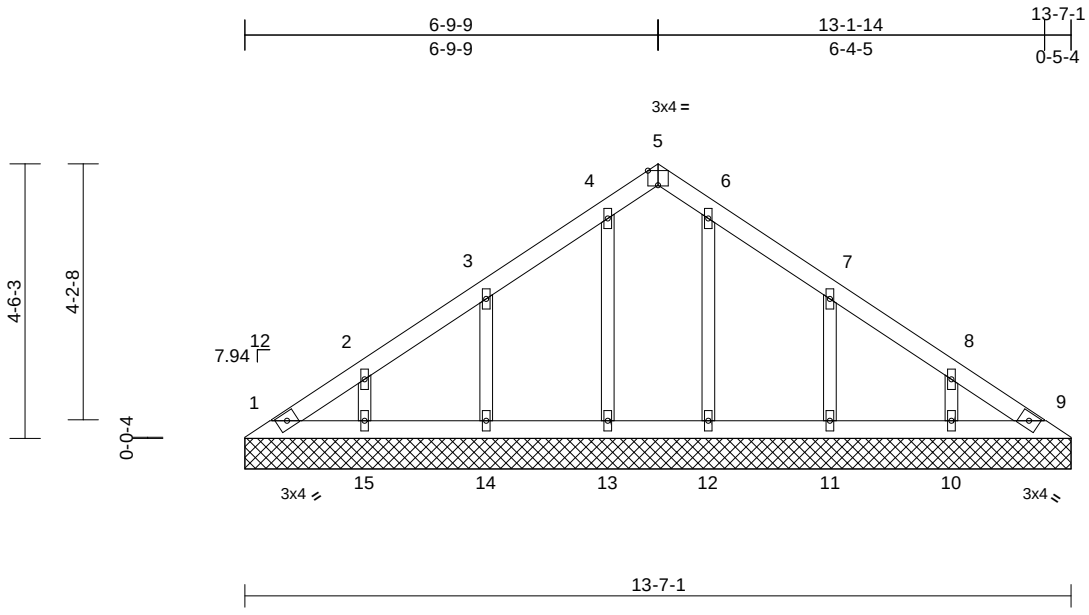

Scale = 1:37.9

Plate Offsets (X, Y): [5:0-2-0,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	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	YES	WB	0.04	Horiz(TL)	0.00	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 53 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=13-7-1, 9=13-7-1, 10=13-7-1, 11=13-7-1, 12=13-7-1, 13=13-7-1, 14=13-7-1, 15=13-7-1
Max Horiz 1=117 (LC 11)
Max Uplift 1=-12 (LC 8), 10=-73 (LC 13), 11=-90 (LC 13), 12=-12 (LC 13), 13=-24 (LC 12), 14=-88 (LC 12), 15=-73 (LC 12)
Max Grav 1=82 (LC 21), 9=74 (LC 22), 10=182 (LC 20), 11=199 (LC 20), 12=148 (LC 1), 13=159 (LC 19), 14=197 (LC 19), 15=183 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-138/86, 2-3=-89/64, 3-4=-77/56, 4-5=-55/66, 5-6=-55/66, 6-7=-61/43, 7-8=-76/39, 8-9=-120/66
BOT CHORD 1-15=-57/114, 14-15=-57/114, 13-14=-57/114, 12-13=-57/114, 11-12=-57/114, 10-11=-57/114, 9-10=-57/114
WEBS 2-15=-141/93, 3-14=-156/122, 4-13=-124/46, 8-10=-140/93, 7-11=-158/123, 6-12=-112/34

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-13 to 5-5-13, Interior (1) 5-5-13 to 6-9-15, Exterior(2R) 6-9-15 to 11-7-13, Interior (1) 11-7-13 to 13-2-0 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 73 lb uplift at joint 15, 88 lb uplift at joint 14, 24 lb uplift at joint 13, 73 lb uplift at joint 10, 90 lb uplift at joint 11 and 12 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	LGE1	Lay-In Gable	1	1	Job Reference (optional) I62145519

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:52 Page: 1
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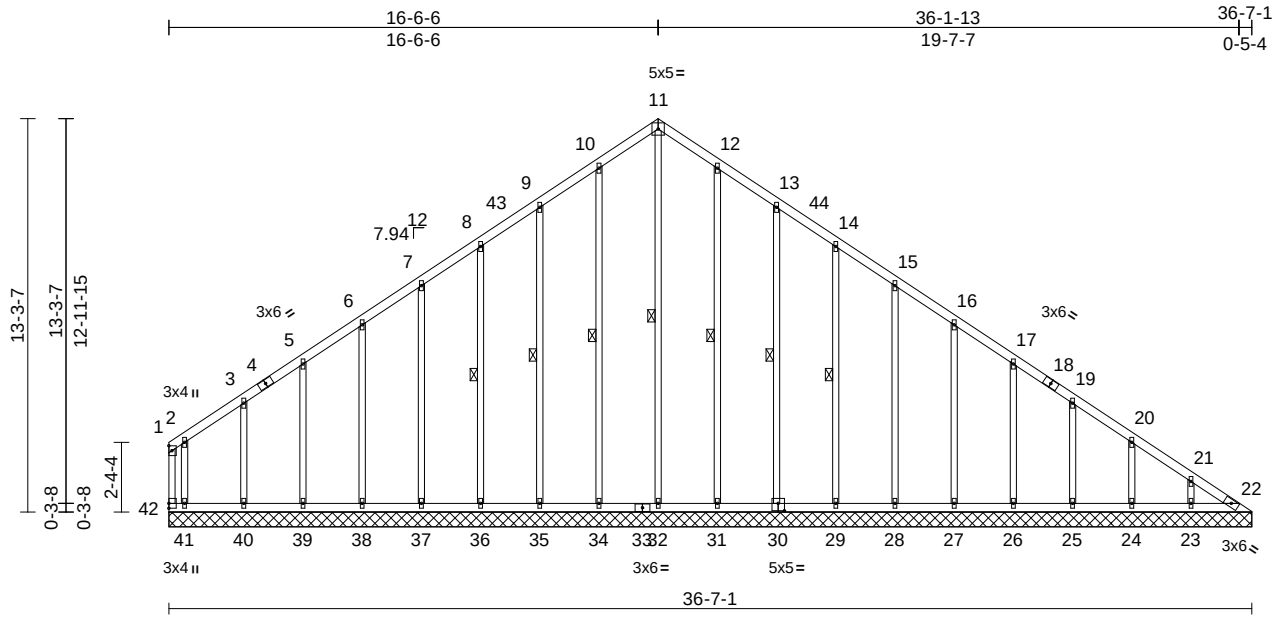

Scale = 1:77.8

Plate Offsets (X, Y): [30:0-2-8,0-3-0]

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	0.14	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.67	Horiz(TL)	0.02	22	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 220 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 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 11-32, 10-34, 9-35, 8-36, 12-31, 13-30, 14-29

REACTIONS (size) 22=36-7-1, 23=36-7-1, 24=36-7-1, 25=36-7-1, 26=36-7-1, 27=36-7-1, 28=36-7-1, 29=36-7-1, 30=36-7-1, 31=36-7-1, 32=36-7-1, 34=36-7-1, 35=36-7-1, 36=36-7-1, 37=36-7-1, 38=36-7-1, 39=36-7-1, 40=36-7-1, 41=36-7-1, 42=36-7-1
Max Horiz 42=-393 (LC 8)
Max Uplift 22=-181 (LC 9), 23=-77 (LC 13), 24=-78 (LC 13), 25=-77 (LC 13), 26=-77 (LC 13), 27=-78 (LC 13), 28=-77 (LC 13), 29=-77 (LC 13), 30=-89 (LC 13), 31=-54 (LC 13), 32=-124 (LC 10), 34=-41 (LC 12), 35=-94 (LC 12), 36=-75 (LC 12), 37=-78 (LC 12), 38=-78 (LC 12), 39=-76 (LC 12), 40=-86 (LC 12), 41=-201 (LC 12), 42=-168 (LC 10)
Max Grav 22=232 (LC 10), 23=189 (LC 20), 24=189 (LC 20), 25=189 (LC 20), 26=189 (LC 20), 27=189 (LC 20), 28=189 (LC 20), 29=189 (LC 20), 30=185 (LC 20), 31=207 (LC 20), 32=464 (LC 12), 34=188 (LC 25), 35=193 (LC 19), 36=188 (LC 19), 37=189 (LC 19), 38=189 (LC 19), 39=187 (LC 19), 40=198 (LC 19), 41=254 (LC 19), 42=184 (LC 12)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-42=-108/58, 1-2=-99/69, 2-3=-68/69, 3-5=-109/127, 5-6=-146/180, 6-7=-184/235, 7-8=-222/289, 8-9=-258/344, 9-10=-302/421, 10-11=-324/471, 11-12=-324/484, 12-13=-302/466, 13-14=-265/418, 14-15=-285/380, 15-16=-304/341, 16-17=-324/344, 17-19=-343/349, 19-20=-363/354, 20-21=-382/362, 21-22=-412/386
BOT CHORD 41-42=-319/351, 40-41=-319/351, 39-40=-319/351, 38-39=-319/351, 37-38=-319/351, 36-37=-319/351, 35-36=-319/351, 34-35=-319/351, 32-34=-319/351, 31-32=-319/351, 29-31=-320/351, 28-29=-320/351, 27-28=-320/351, 26-27=-320/351, 25-26=-320/351, 24-25=-320/351, 23-24=-320/351, 22-23=-320/351
WEBS 11-32=-441/241, 10-34=-148/65, 9-35=-153/118, 8-36=-148/99, 7-37=-149/102, 6-38=-149/102, 5-39=-147/99, 3-40=-159/113, 2-41=-144/140, 12-31=-166/78, 13-30=-145/113, 14-29=-150/100, 15-28=-149/102, 16-27=-149/101, 17-26=-149/102, 19-25=-149/101, 20-24=-150/102, 21-23=-145/98

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-4 to 5-1-4, Interior (1) 5-1-4 to 16-6-6, Exterior(2R) 16-6-6 to 21-6-6, Interior (1) 21-6-6 to 36-1-10 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.

November 21,2023

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145519
P230875-01	LGE1	Lay-In Gable	1	1	Job Reference (optional)	

8) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 168 lb uplift at joint 42, 124 lb uplift at joint 32, 41 lb uplift at joint 34, 94 lb uplift at joint 35, 75 lb uplift at joint 36, 78 lb uplift at joint 37, 78 lb uplift at joint 38, 76 lb uplift at joint 39, 86 lb uplift at joint 40, 201 lb uplift at joint 41, 54 lb uplift at joint 31, 89 lb uplift at joint 30, 77 lb uplift at joint 29, 77 lb uplift at joint 28, 78 lb uplift at joint 27, 77 lb uplift at joint 26, 77 lb uplift at joint 25, 78 lb uplift at joint 24, 77 lb uplift at joint 23 and 181 lb uplift at joint 22.
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

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	LGH1	Lay-In Gable	1	1	I62145520 Job Reference (optional)

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

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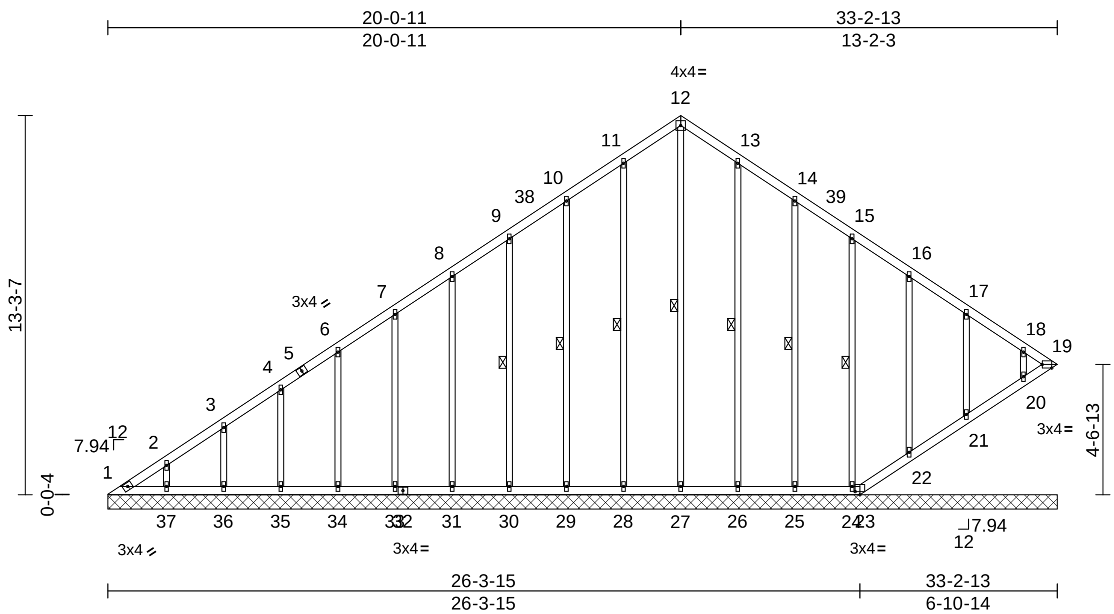

Scale = 1:80.7

Plate Offsets (X, Y): [19:0-4-1,Edge], [23:0-2-0,0-1-5]

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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.01	19	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 198 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.
WEBS 1 Row at midpt 12-27, 11-28, 10-29, 9-30, 13-26, 14-25, 15-24

REACTIONS (size) 1=33-2-13, 19=33-2-13, 20=33-2-13, 21=33-2-13, 22=33-2-13, 23=33-2-13, 24=33-2-13, 25=33-2-13, 26=33-2-13, 27=33-2-13, 28=33-2-13, 29=33-2-13, 30=33-2-13, 31=33-2-13, 33=33-2-13, 34=33-2-13, 35=33-2-13, 36=33-2-13, 37=33-2-13

Max Horiz 1=354 (LC 12)

Max Uplift 1=-101 (LC 10), 19=-114 (LC 11), 20=-66 (LC 13), 21=-79 (LC 13), 22=-75 (LC 13), 23=-107 (LC 13), 24=-82 (LC 13), 25=-85 (LC 13), 26=-63 (LC 13), 28=-66 (LC 12), 29=-84 (LC 12), 30=-77 (LC 12), 31=-78 (LC 12), 33=-77 (LC 12), 34=-77 (LC 12), 35=-77 (LC 12), 36=-78 (LC 12), 37=-78 (LC 12)

Max Grav 1=235 (LC 12), 19=214 (LC 13), 20=160 (LC 20), 21=194 (LC 20), 22=187 (LC 20), 23=66 (LC 11), 24=185 (LC 20), 25=191 (LC 20), 26=192 (LC 20), 27=202 (LC 13), 28=196 (LC 19), 29=189 (LC 19), 30=189 (LC 19), 31=189 (LC 19), 33=189 (LC 19), 34=189 (LC 19), 35=189 (LC 19), 36=189 (LC 19), 37=189 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-449/253, 2-3=-384/229, 3-4=-315/204, 4-6=-245/179, 6-7=-181/154, 7-8=-151/129, 8-9=-137/120, 9-10=-122/155, 10-11=-128/197, 11-12=-161/227, 12-13=-161/215, 13-14=-128/166, 14-15=-88/119, 15-16=-97/80, 16-17=-111/75, 17-18=-141/102, 18-19=-194/119

BOT CHORD 1-37=-95/167, 36-37=-95/167, 35-36=-95/167, 34-35=-95/167, 33-34=-95/167, 31-33=-95/167, 30-31=-95/167, 29-30=-95/167, 28-29=-95/167, 27-28=-95/167, 26-27=-95/167, 25-26=-95/167, 24-25=-95/167, 23-24=-95/167, 22-23=-122/208, 21-22=-124/206, 20-21=-125/206, 19-20=-122/201

WEBS 12-27=-178/71, 11-28=-156/90, 10-29=-149/108, 9-30=-149/101, 8-31=-149/102, 7-33=-149/101, 6-34=-149/102, 4-35=-149/101, 3-36=-150/103, 2-37=-145/97, 13-26=-152/87, 14-25=-150/109, 15-24=-148/100, 16-22=-148/101, 17-21=-153/104, 18-20=-125/85

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-5-13 to 5-5-13, Interior (1) 5-5-13 to 20-1-1, Exterior(2R) 20-1-1 to 25-1-1, Interior (1) 25-1-1 to 33-0-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.

November 21,2023

Continued on page 2

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	LGH1	Lay-In Gable	1	1	Job Reference (optional) I62145520

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 114 lb uplift at joint 19, 101 lb uplift at joint 1, 107 lb uplift at joint 23, 66 lb uplift at joint 28, 84 lb uplift at joint 29, 77 lb uplift at joint 30, 78 lb uplift at joint 31, 77 lb uplift at joint 33, 77 lb uplift at joint 34, 77 lb uplift at joint 35, 78 lb uplift at joint 36, 78 lb uplift at joint 37, 63 lb uplift at joint 26, 85 lb uplift at joint 25, 82 lb uplift at joint 24, 75 lb uplift at joint 22, 79 lb uplift at joint 21 and 66 lb uplift at joint 20.
10) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 19, 22, 21, 20.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V4	Valley	1	1	Job Reference (optional)

I62145521

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

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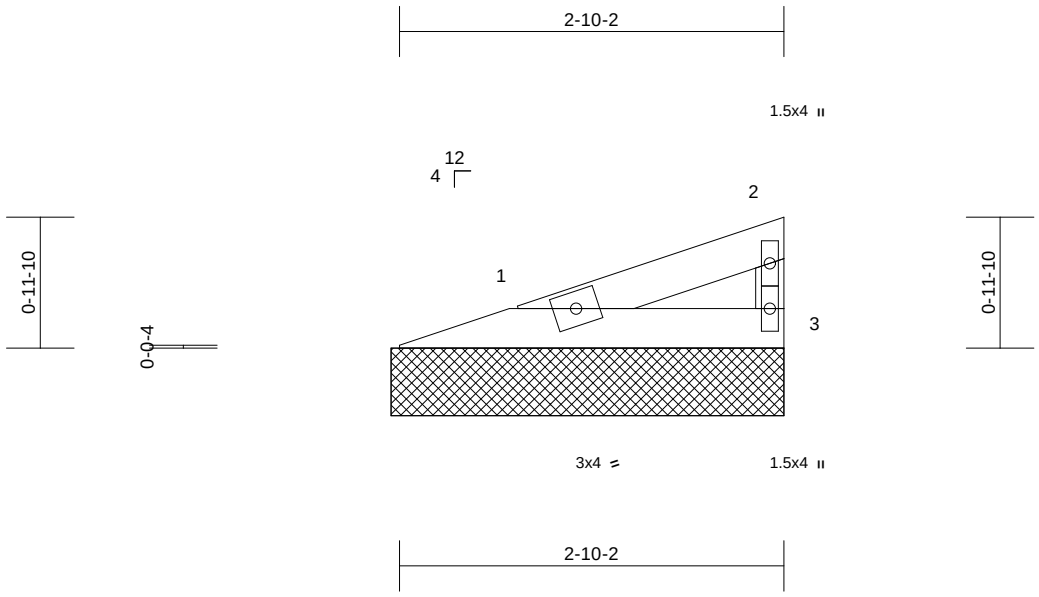

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 8 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-10-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-10-14, 3=2-10-14
Max Horiz 1=30 (LC 9)
Max Uplift 1=-16 (LC 8), 3=-21 (LC 12)
Max Grav 1=84 (LC 1), 3=84 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-43/26, 2-3=-65/86
BOT CHORD 1-3=-13/14

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 1 and 21 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V5	Valley	1	1	Job Reference (optional) I62145522

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

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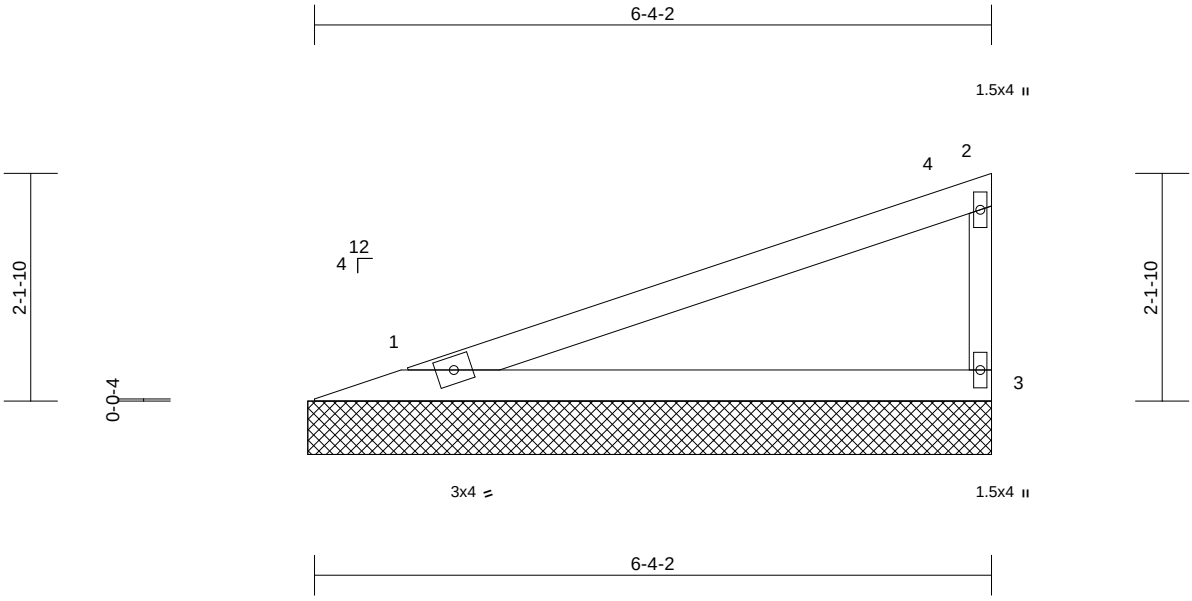

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.36	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 19 lb	FT = 20%

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

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

REACTIONS (size) 1=6-4-14, 3=6-4-14
Max Horiz 1=86 (LC 9)
Max Uplift 1=-46 (LC 8), 3=-59 (LC 12)
Max Grav 1=241 (LC 1), 3=241 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-117/73, 2-3=-188/234
BOT CHORD 1-3=-37/40

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 6-3-10 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 46 lb uplift at joint 1 and 59 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V6	Valley	1	1	Job Reference (optional)

I62145523

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

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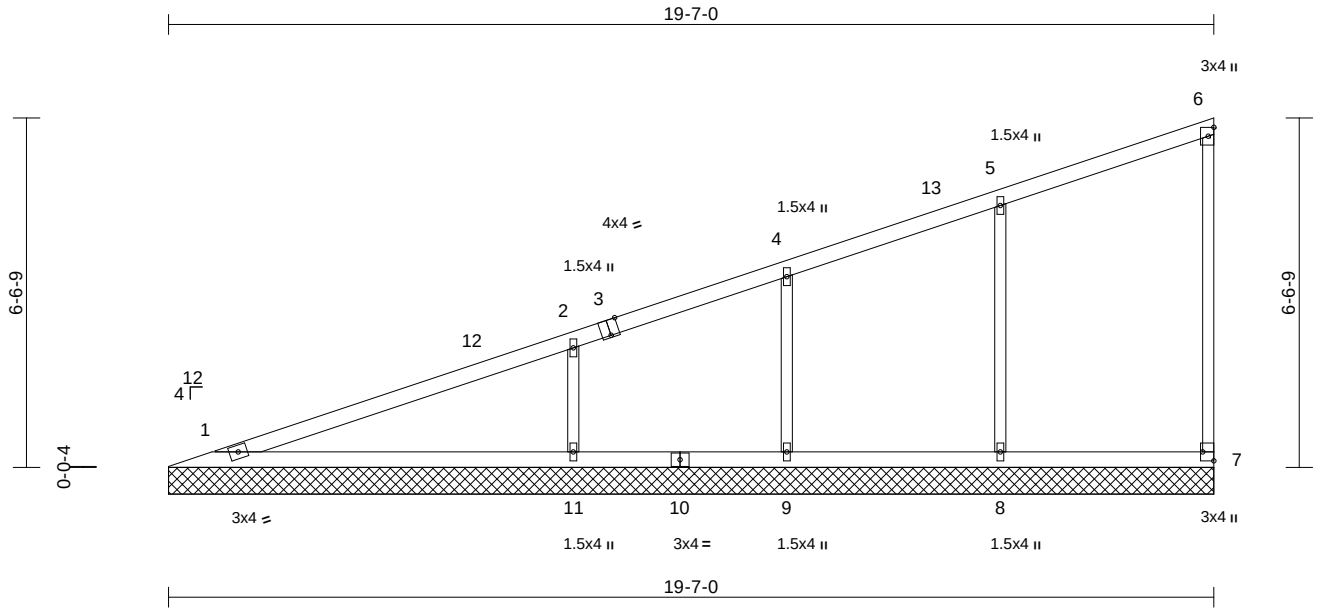

Scale = 1:43.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.37	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 71 lb	FT = 20%

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

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

REACTIONS (size) 1=19-7-0, 7=19-7-0, 8=19-7-0, 9=19-7-0, 11=19-7-0
Max Horiz 1=296 (LC 9)
Max Uplift 7=-33 (LC 9), 8=-114 (LC 8), 9=-68 (LC 12), 11=-169 (LC 12)
Max Grav 1=247 (LC 1), 7=137 (LC 1), 8=420 (LC 1), 9=251 (LC 1), 11=619 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-363/219, 2-4=-268/162, 4-5=-224/154, 5-6=-132/120, 6-7=-107/102
BOT CHORD 1-11=-125/136, 9-11=-125/136, 8-9=-125/136, 7-8=-125/136
WEBS 5-8=-325/255, 4-9=-203/113, 2-11=-464/281

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 19-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 7, 114 lb uplift at joint 8, 68 lb uplift at joint 9 and 169 lb uplift at joint 11.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V7	Valley	1	1	Job Reference (optional) I62145524

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Tue Nov 21 09:45:54 Page: 1
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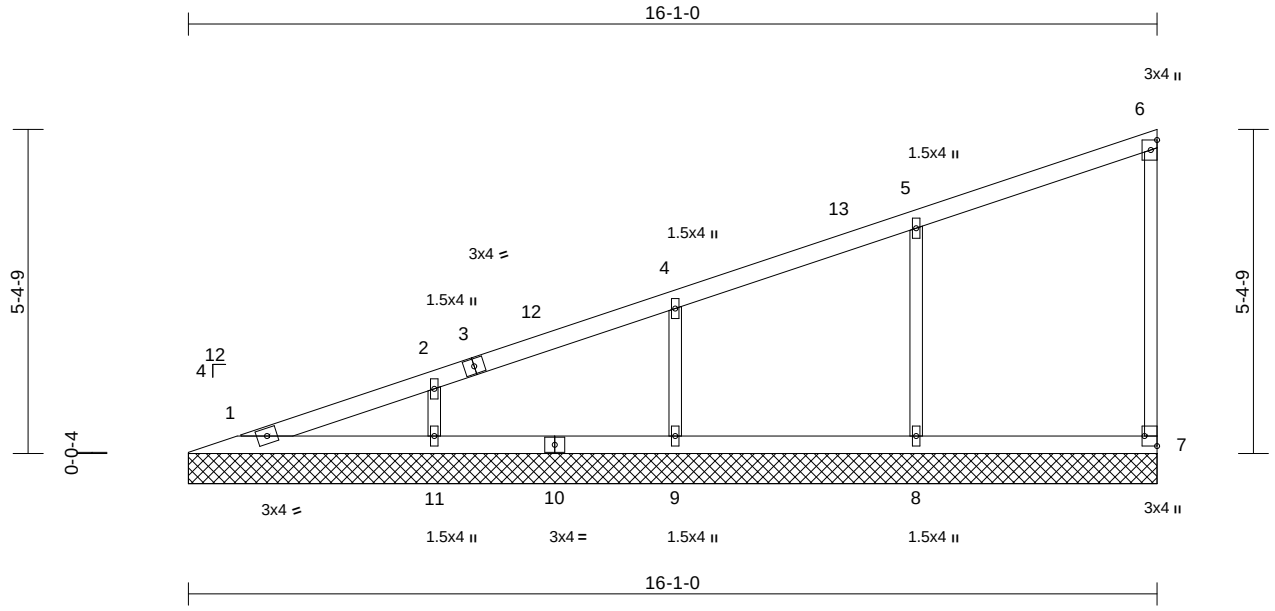

Scale = 1:38.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 57 lb	FT = 20%

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

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

REACTIONS (size) 1=16-1-0, 7=16-1-0, 8=16-1-0, 9=16-1-0, 11=16-1-0
Max Horiz 1=240 (LC 9)
Max Uplift 7=-30 (LC 9), 8=-107 (LC 8), 9=-96 (LC 12), 11=-99 (LC 12)
Max Grav 1=117 (LC 20), 7=142 (LC 1), 8=394 (LC 1), 9=352 (LC 1), 11=363 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-333/182, 2-4=-273/157, 4-5=-215/134, 5-6=-117/96, 6-7=-110/114
BOT CHORD 1-11=-102/112, 9-11=-102/112, 8-9=-102/112, 7-8=-102/112
WEBS 5-8=-307/263, 4-9=-275/155, 2-11=-277/231

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 16-0-8 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 7, 107 lb uplift at joint 8, 96 lb uplift at joint 9 and 99 lb uplift at joint 11.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V8	Valley	1	1	Job Reference (optional) I62145525

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

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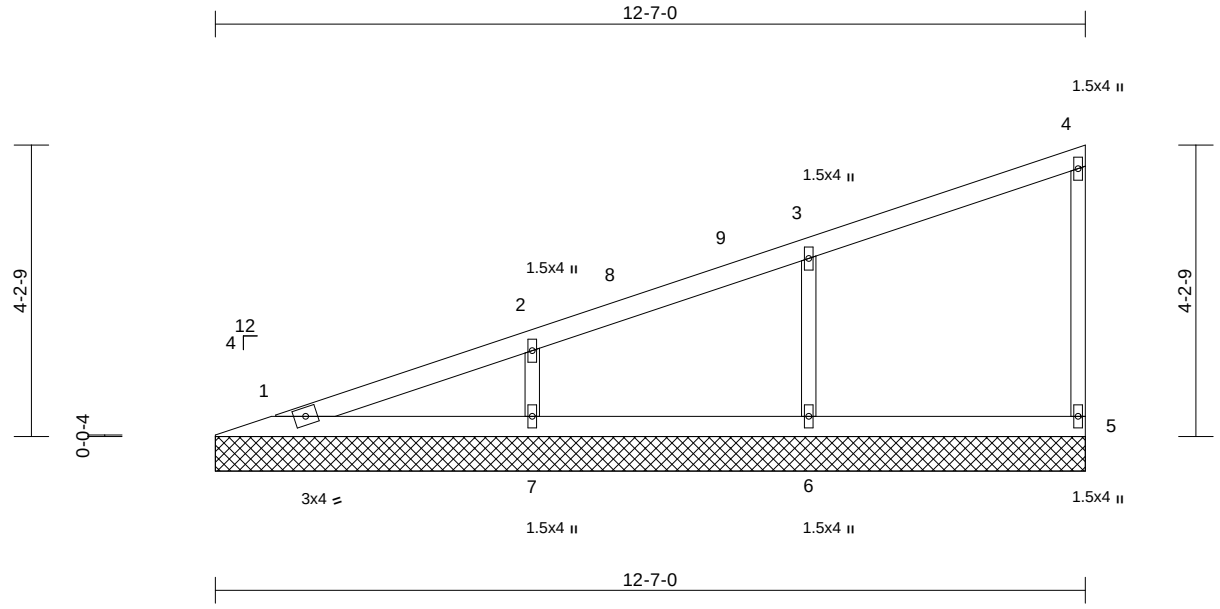


Scale = 1:33.3

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	0.23	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	YES	WB	0.07	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 43 lb	FT = 20%

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

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

REACTIONS (size) 1=12-7-0, 5=12-7-0, 6=12-7-0, 7=12-7-0
Max Horiz 1=185 (LC 9)
Max Uplift 5=-26 (LC 9), 6=-105 (LC 8), 7=-104 (LC 12)
Max Grav 1=133 (LC 1), 5=144 (LC 1), 6=386 (LC 1), 7=382 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-282/149, 2-3=-210/118, 3-4=-103/79, 4-5=-111/126
BOT CHORD 1-7=-76/85, 6-7=-76/85, 5-6=-76/85
WEBS 3-6=-302/290, 2-7=-290/273

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 12-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 5, 105 lb uplift at joint 6 and 104 lb uplift at joint 7.
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.

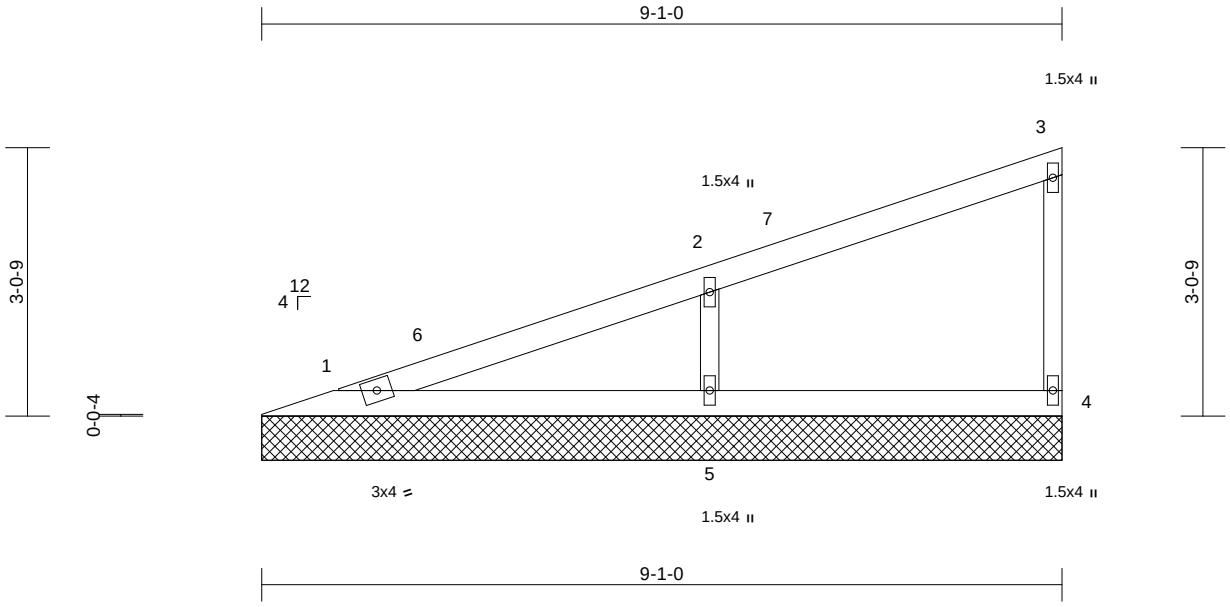
LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V9	Valley	1	1	Job Reference (optional) I62145526



Scale = 1:26.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 29 lb	FT = 20%

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

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

REACTIONS (size) 1=9-1-0, 4=9-1-0, 5=9-1-0
Max Horiz 1=129 (LC 9)
Max Uplift 1=-12 (LC 8), 4=-26 (LC 12), 5=-122 (LC 12)
Max Grav 1=149 (LC 1), 4=132 (LC 1), 5=448 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-214/112, 2-3=-88/59, 3-4=-103/120
BOT CHORD 1-5=-50/57, 4-5=-50/57
WEBS 2-5=-342/357

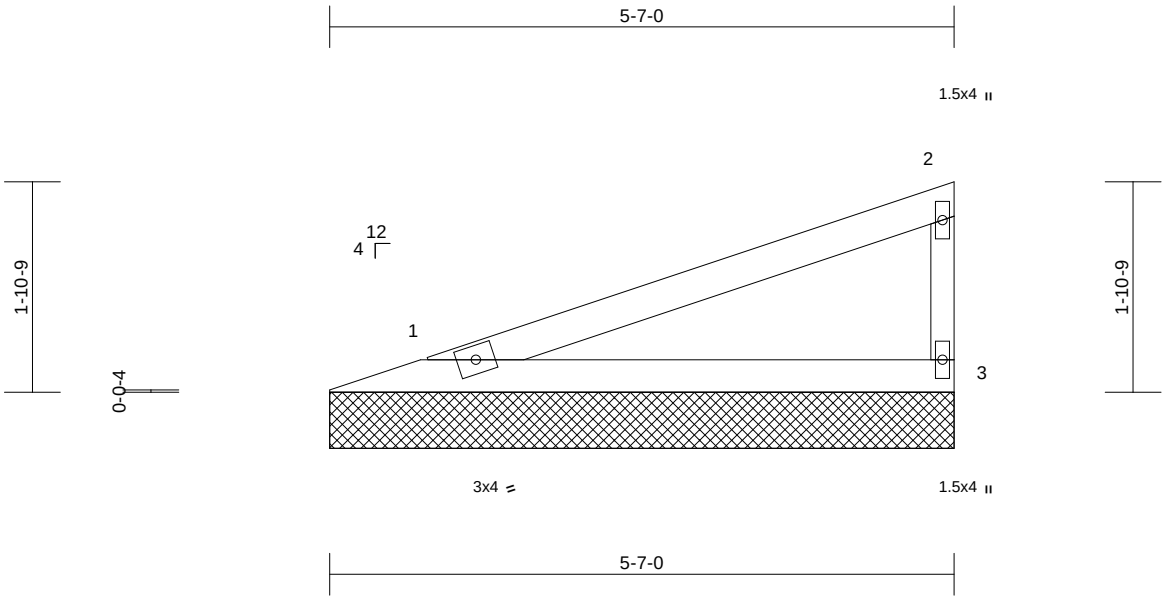
NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 9-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 26 lb uplift at joint 4 and 122 lb uplift at joint 5.
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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V10	Valley	1	1	Job Reference (optional) I62145527



Scale = 1:20.6

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	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 lb	FT = 20%

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

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

REACTIONS (size) 1=5-7-0, 3=5-7-0
Max Horiz 1=74 (LC 9)
Max Uplift 1=-40 (LC 8), 3=-51 (LC 12)
Max Grav 1=207 (LC 1), 3=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-103/63, 2-3=-161/207
BOT CHORD 1-3=-32/35

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 4-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 40 lb uplift at joint 1 and 51 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V11	Valley	1	1	Job Reference (optional) I62145528

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

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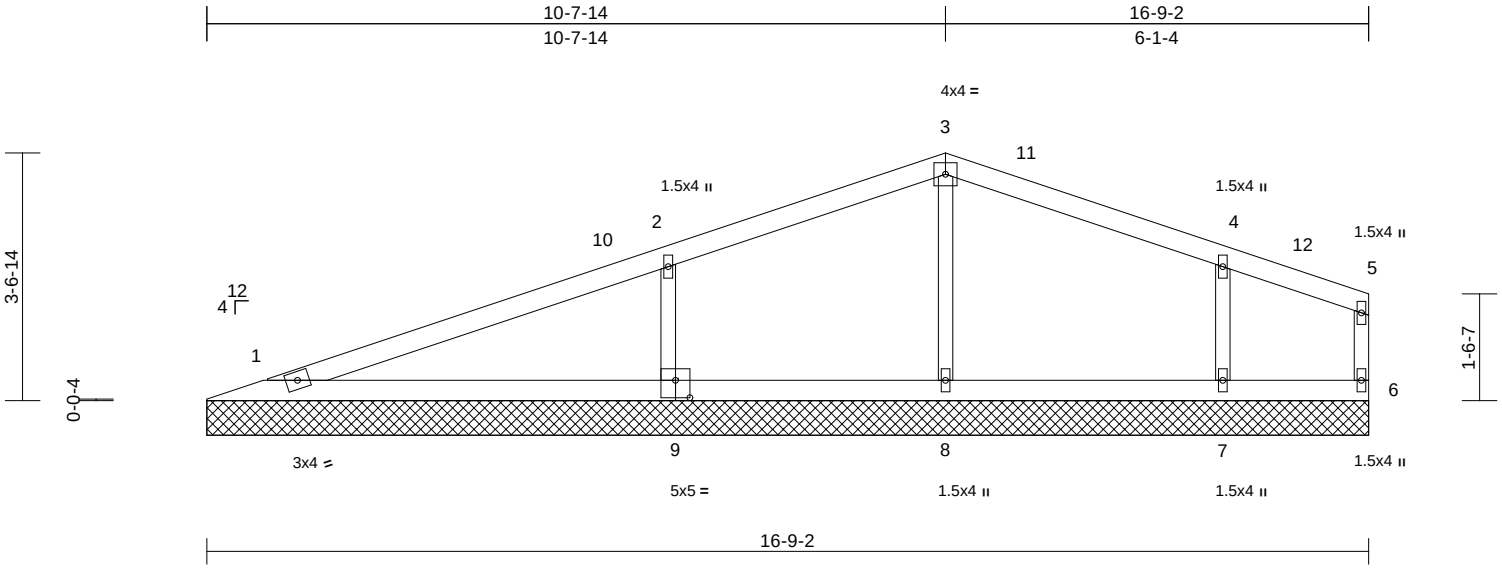

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Plate Offsets (X, Y): [9:0-2-8,0-3-0]

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	0.49	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 56 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing, Except:
10-0-0 oc bracing: 1-9.

REACTIONS (size) 1=16-9-2, 6=16-9-2, 7=16-9-2, 8=16-9-2, 9=16-9-2
Max Horiz 1=66 (LC 16)
Max Uplift 1=-37 (LC 8), 6=-7 (LC 8), 7=-100 (LC 13), 8=-6 (LC 9), 9=-150 (LC 12)
Max Grav 1=219 (LC 1), 6=31 (LC 1), 7=348 (LC 26), 8=283 (LC 1), 9=548 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-80/56, 2-3=-70/137, 3-4=-65/117, 4-5=-30/38, 5-6=-23/15
BOT CHORD 1-8=-30/34, 7-8=-28/34, 6-7=-28/34
WEBS 3-8=-223/116, 2-9=-414/271, 4-7=-274/228

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-11-5, Interior (1) 5-11-5 to 10-8-10, Exterior(2R) 10-8-10 to 15-8-10, Interior (1) 15-8-10 to 16-8-10 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 1, 7 lb uplift at joint 6, 150 lb uplift at joint 9, 6 lb uplift at joint 8 and 100 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V12	Valley	1	1	Job Reference (optional) I62145529

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

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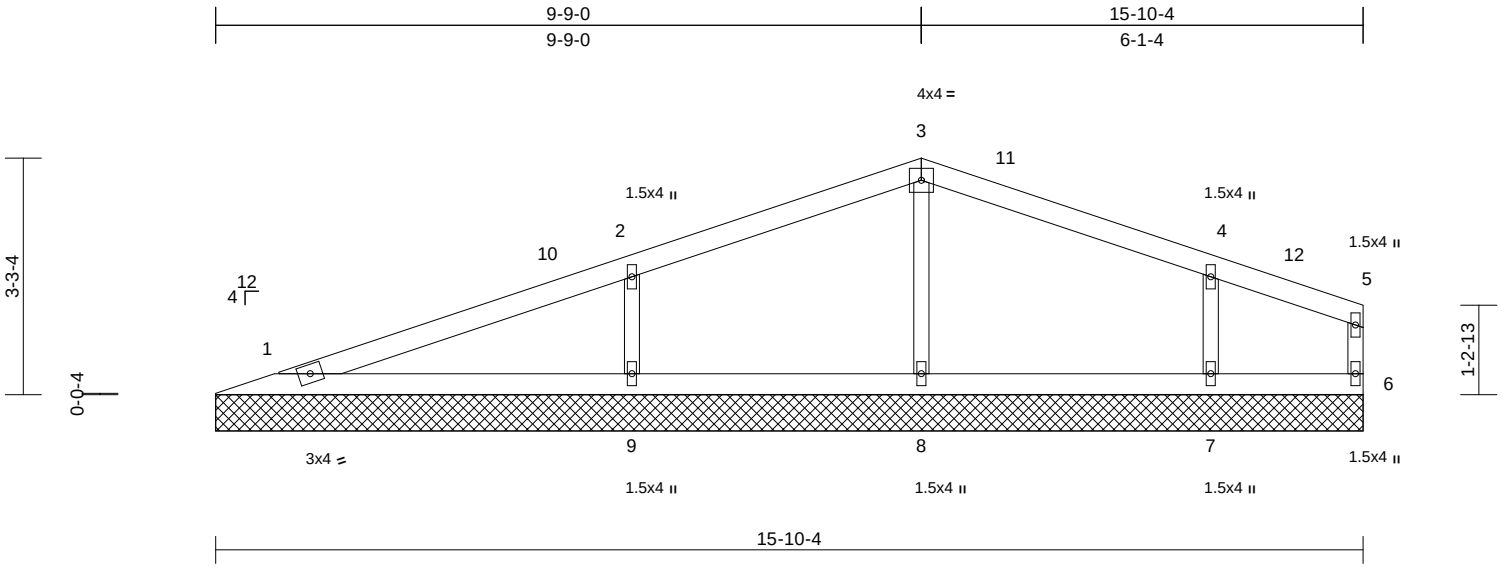

Scale = 1:31.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 52 lb	FT = 20%

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

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

REACTIONS (size) 1=15-10-4, 6=15-10-4, 7=15-10-4, 8=15-10-4, 9=15-10-4
Max Horiz 1=59 (LC 12)
Max Uplift 1=-27 (LC 8), 6=-6 (LC 8), 7=-102 (LC 13), 8=-5 (LC 9), 9=-137 (LC 12)
Max Grav 1=176 (LC 1), 6=35 (LC 1), 7=343 (LC 26), 8=310 (LC 1), 9=487 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-62/64, 2-3=-63/128, 3-4=-59/110, 4-5=-23/37, 5-6=-26/18
BOT CHORD 1-9=-21/29, 8-9=-21/29, 7-8=-21/29, 6-7=-21/29
WEBS 3-8=-239/127, 2-9=-373/264, 4-7=-273/233

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-11-5 to 5-9-12, Interior (1) 5-9-12 to 9-9-12, Exterior(2R) 9-9-12 to 14-9-12, Interior (1) 14-9-12 to 15-9-12 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
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1, 6 lb uplift at joint 6, 5 lb uplift at joint 8, 137 lb uplift at joint 9 and 102 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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

November 21,2023

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria, and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcscomponents.com)

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Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169	I62145530
P230875-01	V13	Valley	1	1	Job Reference (optional)	

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

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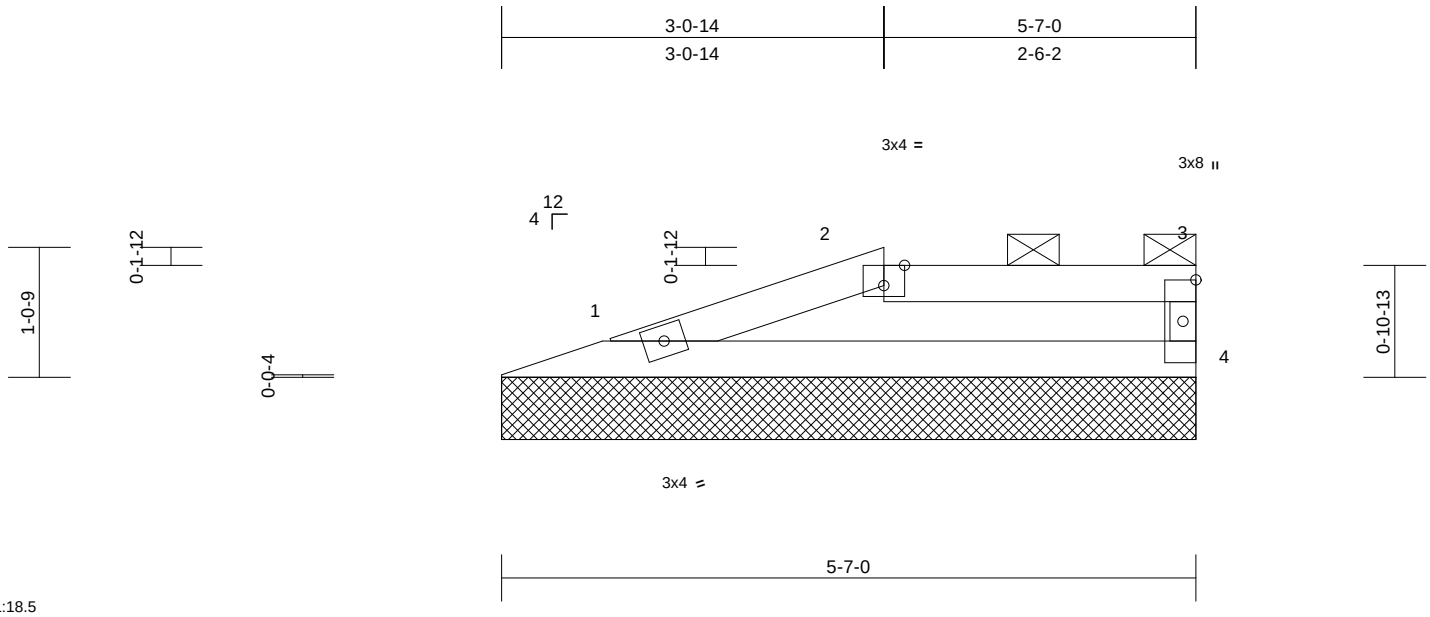

Scale = 1:18.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.32	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	YES	WB	0.00	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 16 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-12 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=5-7-0, 4=5-7-0
Max Horiz 1=28 (LC 9)
Max Uplift 1=-44 (LC 8), 4=-46 (LC 8)
Max Grav 1=207 (LC 1), 4=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-272/243, 2-3=-234/246, 3-4=-145/175
BOT CHORD 1-4=-234/231

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 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 No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 1 and 46 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

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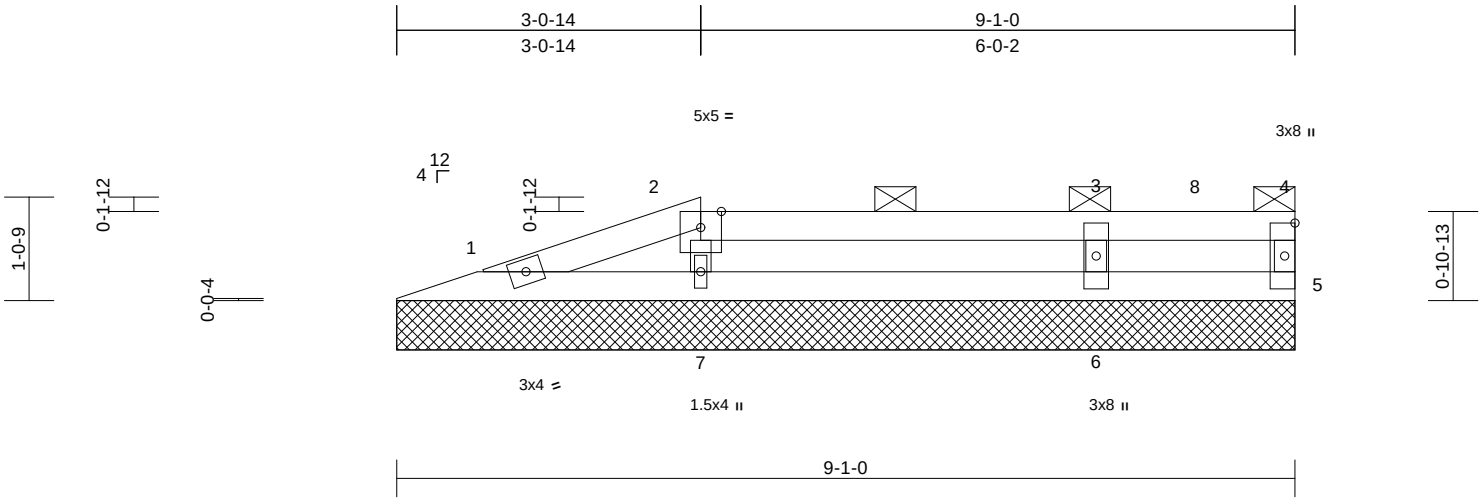
Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V14	Valley	1	1	Job Reference (optional) I62145531



Scale = 1:23.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 27 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 9-1-12 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-4.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-1-0, 5=9-1-0, 6=9-1-0, 7=9-1-0
Max Horiz 1=28 (LC 11)
Max Uplift 1=-21 (LC 12), 5=-4 (LC 8), 6=-79 (LC 9), 7=-60 (LC 8)
Max Grav 1=67 (LC 1), 5=25 (LC 1), 6=342 (LC 26), 7=299 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-51/33, 2-3=-11/16, 3-4=-11/16, 4-5=-18/20
BOT CHORD 1-7=-16/22, 6-7=-16/22, 5-6=-16/22
WEBS 2-7=-223/278, 3-6=-271/350

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=35ft; Ke=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-11-5 to 3-1-10, Corner(3R) 3-1-10 to 8-1-10, Exterior(2N) 8-1-10 to 9-0-8 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) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 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 No.2 crushing capacity of 565 psi.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 4 lb uplift at joint 5, 60 lb uplift at joint 7 and 79 lb uplift at joint 6.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

November 21,2023

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Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/07/2023

Job	Truss	Truss Type	Qty	Ply	Roof - HR Lot 169
P230875-01	V15	Valley	1	1	Job Reference (optional) I62145532

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

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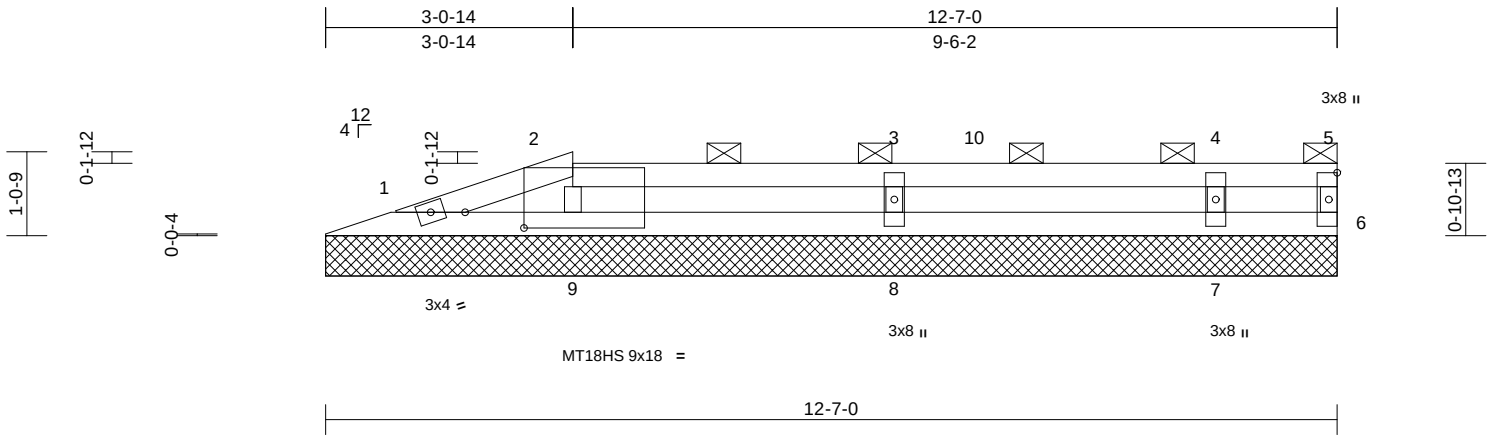


Scale = 1:28.7

Plate Offsets (X, Y): [9:0-8-13,0-2-6]

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	0.25	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	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 37 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 2-5.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=12-7-0, 6=12-7-0, 7=12-7-0, 8=12-7-0, 9=12-7-0
Max Horiz 1=28 (LC 9)
Max Uplift 1=-21 (LC 12), 6=-1 (LC 3), 7=-62 (LC 8), 8=-90 (LC 9), 9=-58 (LC 8)
Max Grav 1=70 (LC 1), 6=1 (LC 26), 7=292 (LC 1), 8=398 (LC 26), 9=287 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-43/32, 2-3=-11/20, 3-4=-10/16, 4-5=-10/16, 5-6=-1/3
BOT CHORD 1-9=-16/18, 8-9=-16/18, 7-8=-16/18, 6-7=-16/18
WEBS 2-9=-214/216, 3-8=-313/319, 4-7=-226/203

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=1.00; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-11-5 to 3-1-10, Corner(3R) 3-1-10 to 8-1-10, Exterior(2N) 8-1-10 to 12-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 1 lb uplift at joint 6, 58 lb uplift at joint 9, 90 lb uplift at joint 8 and 62 lb uplift at joint 7.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

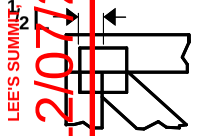
STATE OF MISSOURI
SCOTT M. SEVIER
NUMBER PE-2001018807
PROFESSIONAL ENGINEER

November 21,2023

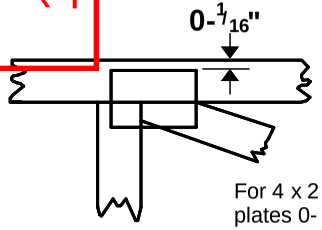
MiTek®
16023 Swingley Ridge Rd.
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

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.

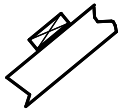
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

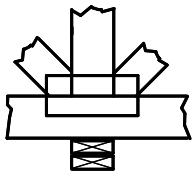
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

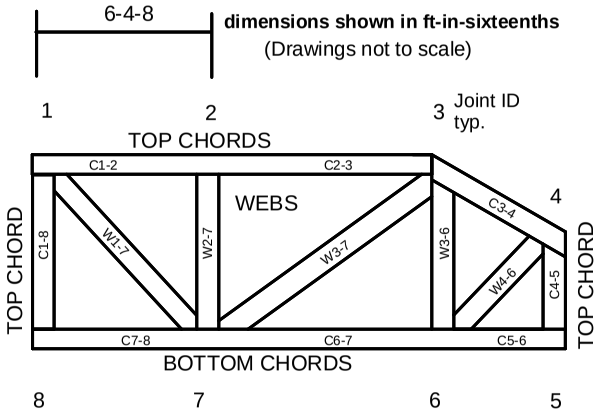


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & 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-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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®

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.