RE: 2694977
Summit/22 Woodside

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

Site Information:

Customer: Project Name: 2694977
Lot/Block: Model:
Address: Subdivision:
City: State:

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

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.4
Wind Code: N/A Wind Speed: 115 mph
Roof Load: 55.0 psf Floor Load: N/A psf

This package includes 49 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I45148930	A1	3/11/2021	21	I45148950	B2	3/11/2021
2	I45148931	A2	3/11/2021	22	I45148951	B3	3/11/2021
3	I45148932	A3	3/11/2021	23	I45148952	CJ1	3/11/2021
4	I45148933	A4	3/11/2021	24	I45148953	CJ2	3/11/2021
5	I45148934	A5	3/11/2021	25	I45148954	D1	3/11/2021
6	I45148935	A6	3/11/2021	26	I45148955	D2	3/11/2021
7	I45148936	A7	3/11/2021	27	I45148956	E1	3/11/2021
8	I45148937	A8	3/11/2021	28	I45148957	E2	3/11/2021
9	I45148938	A9	3/11/2021	29	I45148958	E3	3/11/2021
10	I45148939	A9A	3/11/2021	30	I45148959	LG1	3/11/2021
11	I45148940	A10	3/11/2021	31	I45148960	LG2	3/11/2021
12	I45148941	A11	3/11/2021	32	I45148961	LG3	3/11/2021
13	I45148942	A12	3/11/2021	33	I45148962	LG4	3/11/2021
14	I45148943	A13	3/11/2021	34	I45148963	M1	3/11/2021
15	I45148944	A14	3/11/2021	35	I45148964	M2	3/11/2021
16	I45148945	A15	3/11/2021	36	I45148965	M3	3/11/2021
17	I45148946	A16	3/11/2021	37	I45148966	M5	3/11/2021
18	I45148947	A17	3/11/2021	38	I45148967	M6	3/11/2021
19	I45148948	A18	3/11/2021	39	I45148968	M7	3/11/2021
20	I45148949	B1	3/11/2021	40	I45148969	M8	3/11/2021

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

Truss Design Engineer's Name: Sevier, Scott

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

Missouri COA: 001193

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

March 11, 2021

Sevier, Scott

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

RE: 2694977 - Summit/22 Woodside

Site Information:

Project Customer: Project Name: 2694977
Lot/Block: Subdivision:
Address:
City, County: State:

No.	Seal#	Truss Name	Date
41	I45148970	V1	3/11/2021
42	I45148971	V2	3/11/2021
43	I45148972	V3	3/11/2021
44	I45148973	V4	3/11/2021
45	I45148974	V5	3/11/2021
46	I45148975	V6	3/11/2021
47	I45148976	V7	3/11/2021
48	I45148977	V8	3/11/2021
49	I45148978	V9	3/11/2021

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside	
2694977	A1	HIP GIRDER	1	2	Job Reference (optional)	I45148930

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:03 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-_iULVAnvzPzkFQKjZCExrw9y2m7WMP5G882frczc2X6

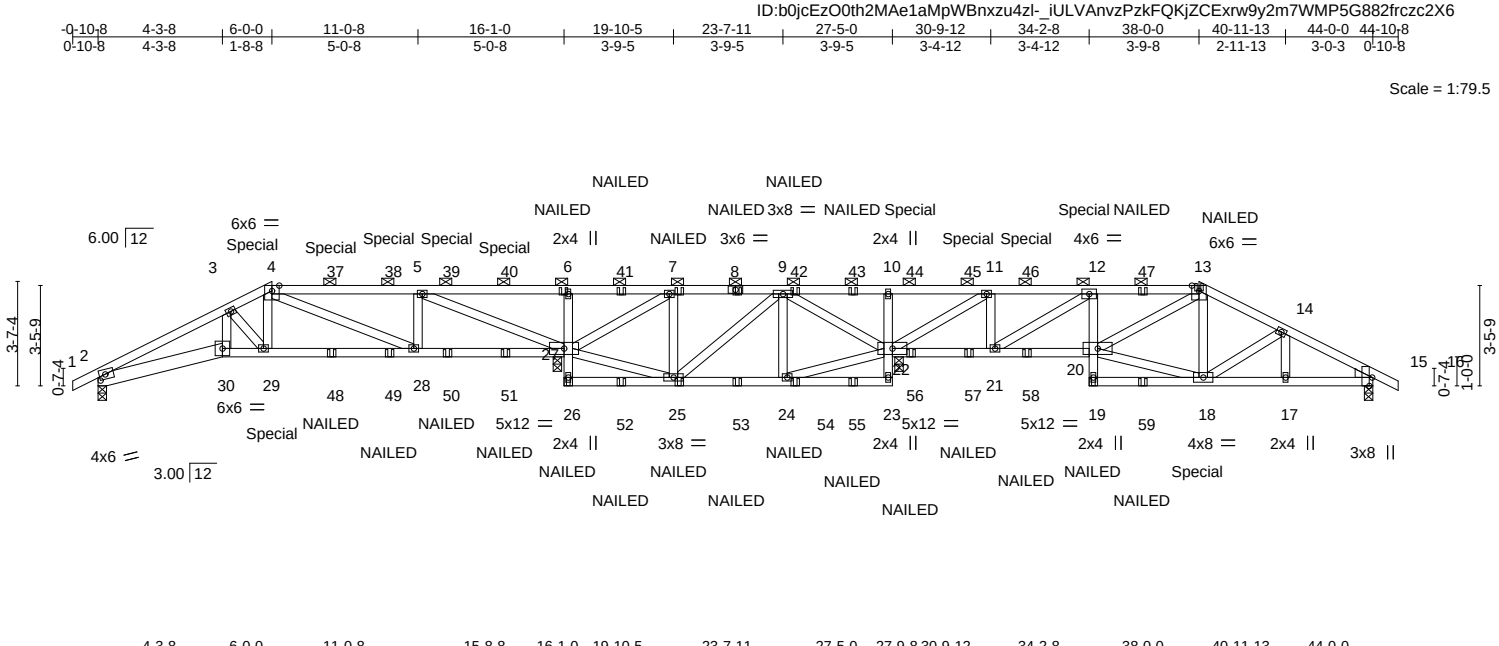


Plate Offsets (X,Y)-- [2:0-2-8,0-2-0], [15:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.64	Vert(LL)	-0.05	29	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.11	28-29	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.47	Horz(CT)	0.07	15	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 389 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
2-30: 2x6 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-13.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 25-26,24-25,23-24.

REACTIONS. All bearings 0-3-8.
(lb) - Max Horz 2=52(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) except 2=-288(LC 8), 27=-686(LC 8), 22=-660(LC 9), 15=-294(LC 9)
Max Grav All reactions 250 lb or less at joint(s) except 2=1299(LC 21), 27=3060(LC 21), 22=3071(LC 22), 15=1371(LC 22)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3199/780, 3-4=-2710/713, 4-5=-1614/427, 5-6=-412/1790, 6-7=-417/1823, 7-9=-115/463, 9-10=-356/1810, 10-11=-360/1816, 11-12=-780/230, 12-13=-2289/584, 13-14=-2047/511, 14-15=-2096/481
BOT CHORD 2-30=-691/2812, 29-30=-667/2718, 28-29=-587/2430, 27-28=-360/1609, 6-27=-736/251, 24-25=-452/188, 10-22=-628/206, 21-22=-150/780, 20-21=-466/2315, 12-20=-0/289, 17-18=-371/1799, 15-17=-371/1799
WEBS 3-30=-93/444, 3-29=-346/98, 4-29=-204/839, 4-28=-898/249, 5-28=-46/447, 5-27=-3684/908, 25-27=-407/173, 7-27=-1607/353, 7-25=0/367, 9-24=0/361, 22-24=-391/163, 9-22=-1610/332, 11-22=-3044/691, 11-21=-175/989, 12-21=-1801/414, 18-20=-356/1724, 13-20=-155/597

NOTES-
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-7-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; 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.

Continued on page 2

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

8) Bearing at joint(s) 2 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 288 lb uplift at joint 2, 686 lb uplift at joint 27, 660 lb uplift at joint 22 and 294 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.
12) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 200 lb down and 96 lb up at 6-0-0, 176 lb down and 96 lb up at 8-0-12, 176 lb down and 96 lb up at 10-0-12, 176 lb down and 96 lb up at 12-0-12, 176 lb down and 96 lb up at 14-0-12, 176 lb down and 96 lb up at 28-0-12, 176 lb down and 96 lb up at 30-0-12, and 176 lb down and 96 lb up at 32-0-12, and 176 lb down and 96 lb up at 34-0-12 on top chord, and 401 lb down and 159 lb up at 6-0-0, and 458 lb down and 150 lb up at 37-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

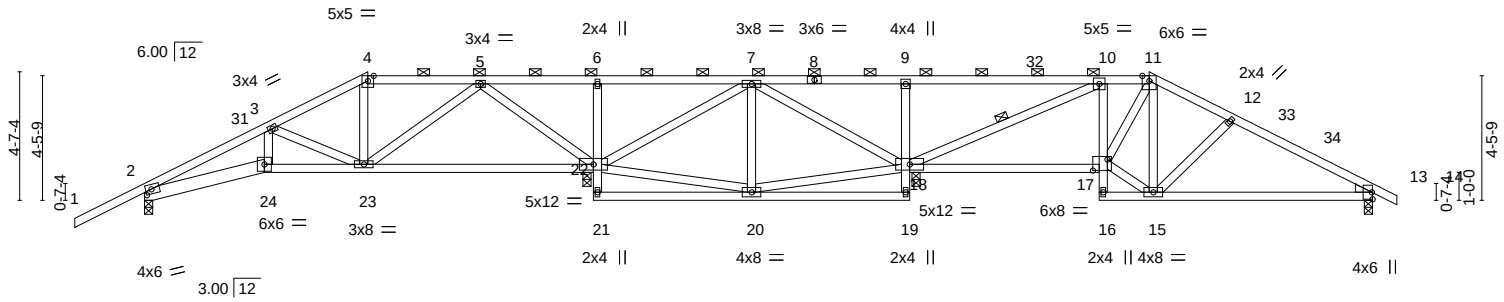
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-4=-90, 4-13=-90, 13-16=-90, 30-31=-20, 27-30=-20, 23-26=-20, 20-22=-20, 19-34=-20
   Concentrated Loads (lb)
   Vert: 4=-176(B) 8=-114(B) 27=-59(B) 6=-114(B) 12=-176(B) 29=-401(B) 25=-59(B) 7=-114(B) 13=-114(B) 18=-458(B) 37=-176(B) 38=-176(B) 39=-176(B) 40=-176(B) 41=-114(B) 42=-114(B) 43=-114(B) 44=-176(B) 45=-176(B) 46=-176(B) 47=-114(B) 52=-59(B) 53=-59(B) 54=-59(B) 55=-59(B) 59=-59(B)

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A2	HIP	1	1	I45148931
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:17 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-ZOKeRzyhgikkxaOPN8UDPtkJ6PuLei8KMJSOJozc2Wu

-2-6-0	4-3-8	8-0-0	12-0-8	16-1-0	21-9-0	27-5-0	34-2-8	36-0-0	38-10-12	44-0-0	44-10-8
2-6-0	4-3-8	3-8-8	4-0-8	4-0-8	5-8-0	5-8-0	6-9-8	1-9-8	2-10-12	5-1-4	0-10-8

Scale = 1:82.6



4-3-8	8-0-0	15-8-8	16-1-0	21-9-0	27-5-0	27-9-8	34-2-8	36-0-0	44-0-0
4-3-8	3-8-8	7-8-8	0-4-8	5-8-0	5-8-0	0-4-8	6-5-0	1-9-8	8-0-0

Plate Offsets (X,Y)-- [2:0-2-8,0-2-0], [17:0-6-4,0-4-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.11	22-23	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.23	22-23	>859	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.05	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 197 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2 *Except* 2-24: 2x6 SPF No.2
WEBS	2x4 SPF No.2
WEDGE	
Right: 2x4 SPF No.2	

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (5-5-0 max.): 4-11.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 10-18

REACTIONS. All bearings 0-3-8.
(lb) - Max Horz 2=94(LC 16)
Max Uplift All uplift 100 lb or less at joint(s) except 2=-152(LC 12), 22=-261(LC 12), 18=-245(LC 13), 13=-140(LC 13)
Max Grav All reactions 250 lb or less at joint(s) except 2=955(LC 25), 22=1769(LC 25), 18=1609(LC 26), 13=884(LC 26)

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

TOP CHORD	2-3=-1487/223, 3-4=-849/133, 4-5=-709/143, 5-6=-92/836, 6-7=-80/824, 7-9=-22/523, 9-10=-17/481, 10-11=-960/201, 11-12=-869/184, 12-13=-1163/212
BOT CHORD	2-24=-203/1266, 23-24=-196/1224, 6-22=-457/128, 9-18=-594/166, 17-18=-53/1015, 13-15=-113/966
WEBS	3-23=-566/157, 5-23=-63/659, 5-22=-1272/230, 7-22=-837/122, 7-18=-533/114, 10-18=-1625/220, 15-17=0/846, 11-17=-68/487, 12-15=-352/125

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-6-0 to 0-5-13, Interior(1) 0-5-13 to 8-0-0, Exterior(2R) 8-0-0 to 12-0-8, Interior(1) 12-0-8 to 36-0-0, Exterior(2R) 36-0-0 to 40-2-15, Interior(1) 40-2-15 to 44-10-8 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) 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) Bearing at joint(s) 2 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 152 lb uplift at joint 2, 261 lb uplift at joint 22, 245 lb uplift at joint 18 and 140 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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

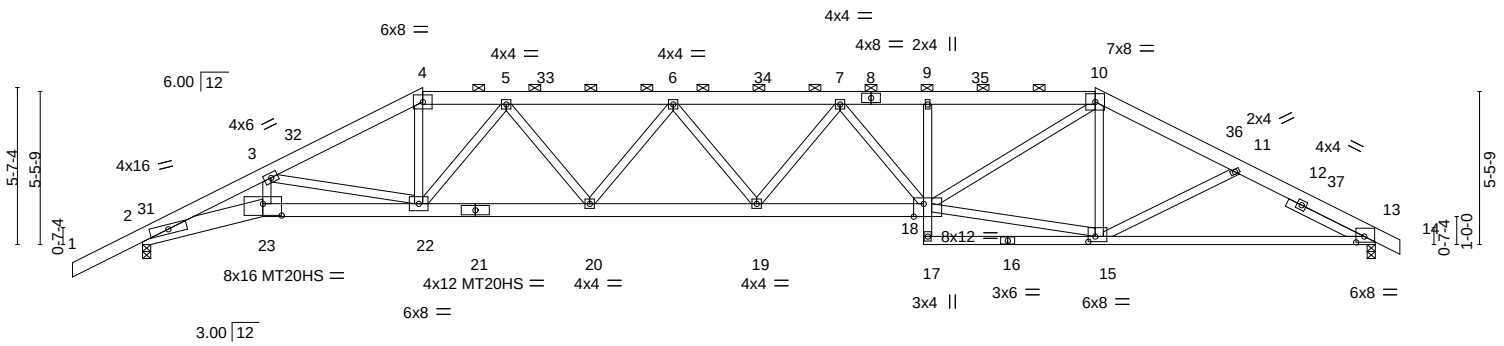
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A3	Hip	1	1	I45148932
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:18 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-2bu0fJzJR0sbYkzbxs?Sx4GXGoCYN3bUazByrEzc2Wt

-2-6-0	4-3-8	10-0-0	12-11-12	18-11-4	24-10-12	27-10-8	34-0-0	38-11-13	44-0-0	44-10-8
2-6-0	4-3-8	5-8-8	2-11-12	5-11-8	5-11-8	2-11-12	6-1-8	4-11-13	5-0-3	0-10-8

Scale = 1:82.2



4-3-8	10-0-0	15-11-8	21-11-0	27-10-8	34-0-0	44-0-0
4-3-8	5-8-8	5-11-8	5-11-8	5-11-8	6-1-8	10-0-0

Plate Offsets (X,Y)-- [13:0-3-8,0-2-8], [15:0-3-0,0-2-4], [18:0-4-4,Edge], [23:0-8-0,0-5-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.58	Vert(LL)	-0.40	19	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.88	18-19	>600	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.35	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 248 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SPF No.2
BOT CHORD	2x6 SPF 2100F 1.8E *Except*
	2-23: 2x8 SP 2400F 2.0E, 9-17,16-17: 2x4 SPF No.2
	13-16: 2x4 SP 2400F 2.0E
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 3-0-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-6-2 max.): 4-10.
BOT CHORD	Rigid ceiling directly applied.

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=110(LC 12)
Max Uplift 2=-316(LC 12), 13=-284(LC 13)
Max Grav 2=2642(LC 1), 13=2499(LC 1)

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

TOP CHORD	2-3=-7477/813, 3-4=-5228/557, 4-5=-4633/538, 5-6=-5988/689, 6-7=-6521/740, 7-9=-6023/696, 9-10=-5994/697, 10-11=-4112/459, 11-13=-4295/508
BOT CHORD	2-23=-753/6749, 22-23=-729/6474, 20-22=-582/5457, 19-20=-711/6475, 18-19=-680/6429, 9-18=-421/118, 15-17=-31/383, 13-15=-370/3770
WEBS	3-23=-90/1296, 3-22=-1872/308, 4-22=-174/1804, 15-18=-279/3334, 10-18=-388/2813, 10-15=-411/142, 5-22=-1475/270, 5-20=-117/960, 6-20=-876/182, 7-18=-717/135

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -2-6-0 to 0-6-0, Interior(1) 0-6-0 to 10-0-0, Exterior(2R) 10-0-0 to 14-2-15, Interior(1) 14-2-15 to 34-0-0, Exterior(2R) 34-0-0 to 38-2-15, Interior(1) 38-2-15 to 44-10-8 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) 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 316 lb uplift at joint 2 and 284 lb uplift at joint 13.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A4	HIP	1	1	I45148933
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:20 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-_z0n4??Zzd6Jo27_2H2w1VMpncpor?Im2Hg2w7zc2Wr

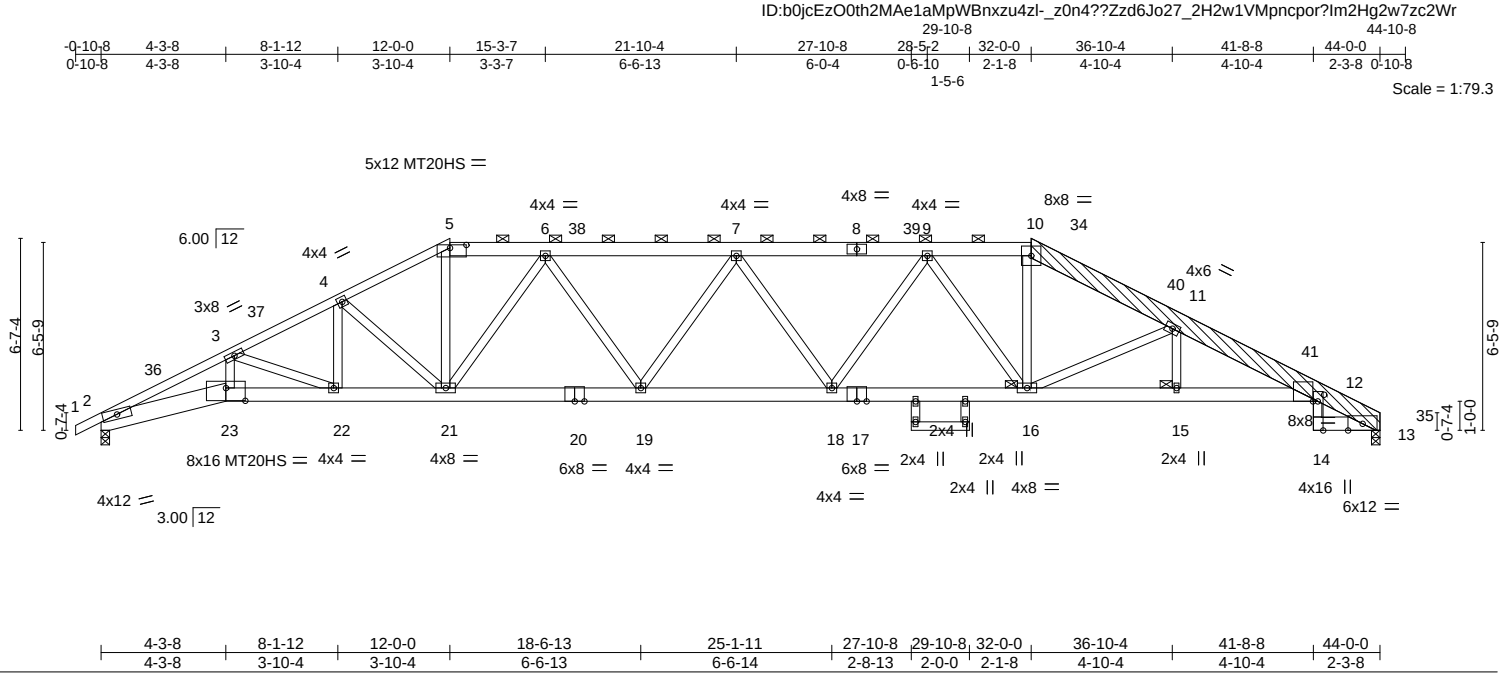


Plate Offsets (X,Y)-- [5:0-6-12,0-1-4], [12:1-2-12,Edge], [12:0-2-0,Edge], [23:0-8-0,0-5-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.37	18-19	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.82	18-19	>642	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.42	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 298 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SPF No.2 *Except* 1-5: 2x4 SPF No.2, 10-13: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except* 2-23: 2x8 SP 2400F 2.0E, 20-23,12-17: 2x6 SPF 2100F 1.8E 13-14,17-20: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	10-13 2x8 SP 2400F 2.0E one side

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-10-15 max.): 5-10.
BOT CHORD	Rigid ceiling directly applied.
JOINTS	1 Brace at Jt(s): 16, 15

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=64(LC 11)
Max Uplift 2=-7(LC 9), 13=-4(LC 8)
Max Grav 2=2492(LC 1), 13=2416(LC 1)

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

TOP CHORD	2-3=-7139/625, 3-4=-5529/521, 4-5=-4659/469, 5-6=-4084/439, 6-7=-5114/510, 7-9=-5124/514, 9-10=-4233/446, 10-11=-4761/469, 11-12=-5980/539, 12-13=-1140/126
BOT CHORD	2-23=-521/6397, 22-23=-505/6202, 21-22=-370/4909, 19-21=-329/4806, 18-19=-373/5332, 16-18=-336/4835, 15-16=-432/5533, 12-15=-432/5533
WEBS	12-14=-38/486, 3-23=-48/985, 5-21=-153/1861, 10-16=-129/1677, 11-16=-1503/192, 6-21=-1386/144, 6-19=-14/655, 7-19=-493/83, 7-18=-472/80, 9-18=-13/622, 9-16=-1173/121, 11-15=0/294, 4-21=-1045/144, 4-22=-41/769, 3-22=-1385/145

NOTES-

1) Attached 13-8-4 scab 10 to 13, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 3-8-15 from end at joint 10, nail 2 row(s) at 7" o.c. for 2-10-2; starting at 8-10-13 from end at joint 10, nail 2 row(s) at 2" o.c. for 4-4-4.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 12-0-0, Exterior(2R) 12-0-0 to 16-2-15, Interior(1) 16-2-15 to 32-0-0, Exterior(2R) 32-0-0 to 36-2-15, Interior(1) 36-2-15 to 43-10-5 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) Bearing at joint(s) 2, 13 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 7 lb uplift at joint 2 and 4 lb uplift at joint 13.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

Continued on page 2

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A5	Hip	1	1	I45148934
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:21 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-SAa9HK?BkxEAQBiAc_Z9Zju?n0CJaQpwGxQcSZzc2Wq

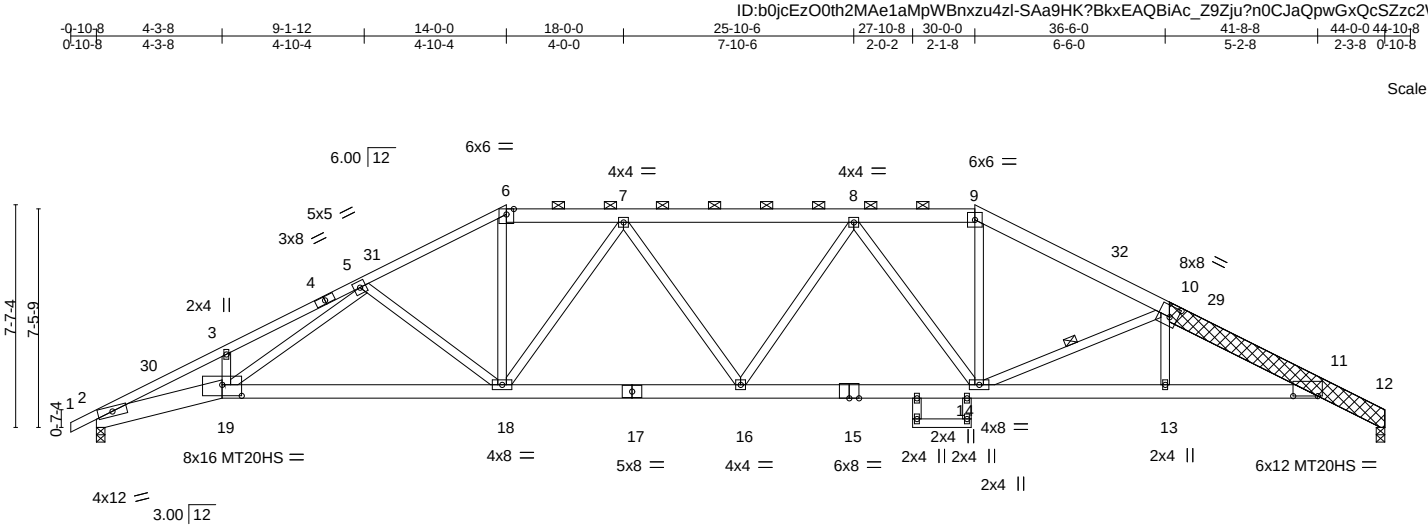


Plate Offsets (X,Y)-- [10:0-3-4,0-4-8], [11:0-10-2,0-0-0], [19:0-8-0,0-4-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.34	18-19	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.79	18-19	>663	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.40	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 294 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF 1650F 1.5E *Except*
	6-9,9-10: 2x6 SPF No.2, 10-12: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except*
	2-19: 2x8 SP 2400F 2.0E, 17-19,11-15: 2x6 SPF 2100F 1.8E
	15-17: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	10-12 2x8 SP 2400F 2.0E both sides

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except
	2-0-0 oc purlins (2-9-14 max.): 6-9.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 10-14

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=122(LC 16)
Max Uplift 2=-203(LC 12), 12=-183(LC 13)
Max Grav 2=2492(LC 1), 12=2416(LC 1)

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

TOP CHORD	2-3=-7258/600, 3-5=-7204/670, 5-6=-4359/447, 6-7=-3792/426, 7-8=-4342/462,
	8-9=-3808/430, 9-10=-4418/446, 10-11=-5689/528, 11-12=-1070/119
BOT CHORD	2-19=-553/6503, 18-19=-359/4609, 16-18=-327/4311, 14-16=-288/4295, 13-14=-417/5308,
	11-13=-419/5299
WEBS	5-19=-279/2291, 5-18=-998/239, 6-18=-129/1671, 9-14=-103/1491, 7-18=-1073/220,
	8-14=-1001/208, 10-14=-1596/275, 10-13=0/266

NOTES-

1) Attached 8-5-15 scab 10 to 12, both face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-0-7 from end at joint 10, nail 2 row(s) at 7" o.c. for 2-0-0; starting at 3-9-10 from end at joint 10, nail 3 row(s) at 4" o.c. for 2-10-5.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 14-0-0, Exterior(2R) 14-0-0 to 18-0-0, Interior(1) 18-0-0 to 30-0-0, Exterior(2R) 30-0-0 to 34-2-15, Interior(1) 34-2-15 to 43-10-4 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
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) Bearing at joint(s) 2, 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 203 lb uplift at joint 2 and 183 lb uplift at joint 12.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

Continued on page 2

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside	I45148935
2694977	A6	Hip	1	1	Job Reference (optional)	

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:23 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-OYivi01SFYUufVsZkPbde8_I_pvt2RNDkFvjXSzc2Wo

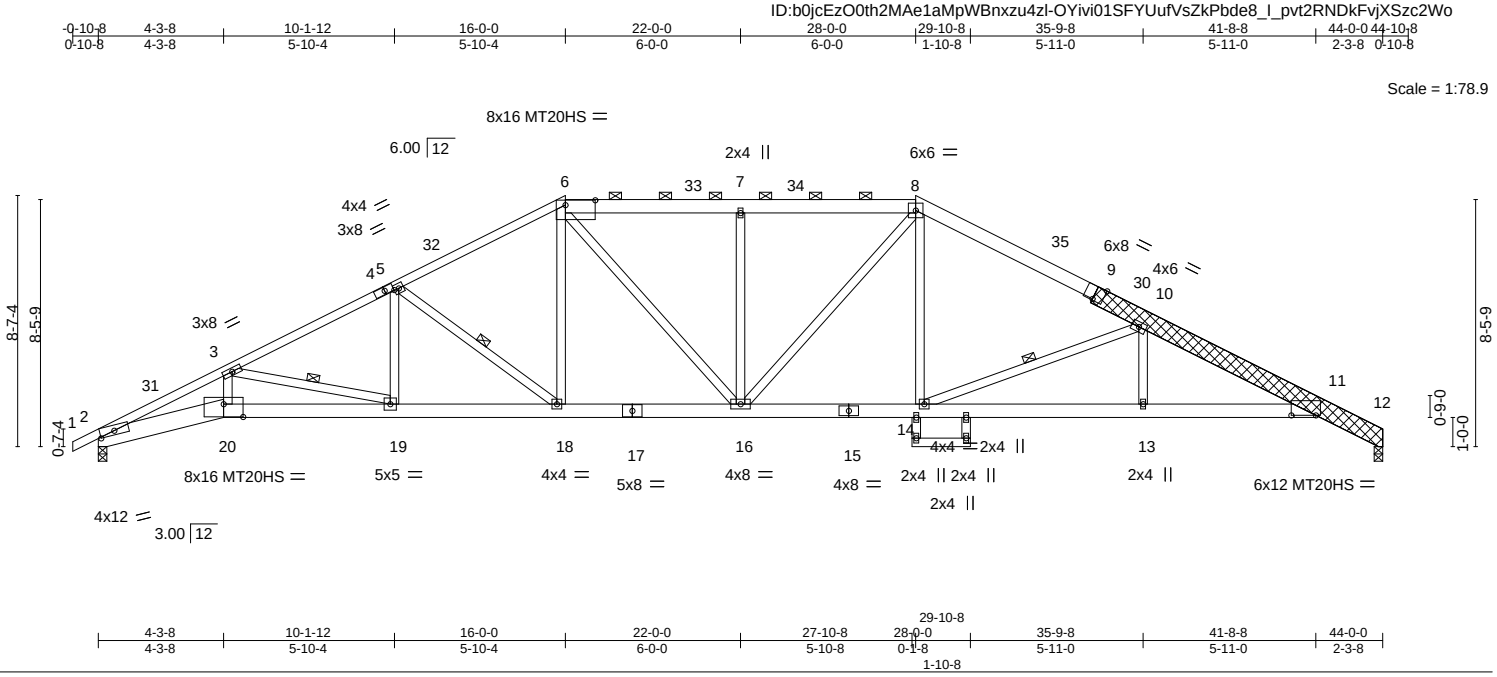


Plate Offsets (X,Y)-- [2:0-6-0,0-1-12], [4:0-3-11,0-1-8], [6:1-0-4,0-2-0], [9:0-4-0,Edge], [11:0-10-2,0-0-0], [20:0-8-0,0-5-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.30	16-18	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.67	16-18	>786	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.58	Horz(CT)	0.38	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 318 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except* 6-8,8-9: 2x6 SPF No.2, 9-12: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except* 2-20: 2x8 SP 2400F 2.0E, 17-20,11-15: 2x6 SPF 2100F 1.8E 15-17: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	9-12 2x8 SP 2400F 2.0E both sides

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (3-6-5 max.): 6-8.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 3-19, 5-18, 10-14

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=138(LC 16)
Max Uplift 2=-221(LC 12), 12=-201(LC 13)
Max Grav 2=2492(LC 1), 12=2416(LC 1)

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

TOP CHORD	2-3=-7261/655, 3-5=-5081/488, 5-6=-3990/439, 6-7=-3820/454, 7-8=-3815/452, 8-10=-4115/438, 10-11=-5591/532, 11-12=-1070/120
BOT CHORD	2-20=-668/6521, 19-20=-647/6311, 18-19=-351/4481, 16-18=-187/3456, 14-16=-186/3506, 13-14=-420/5182, 11-13=-420/5182
WEBS	3-20=-74/1102, 3-19=-1886/306, 5-19=-38/714, 5-18=-1259/250, 6-18=-97/854, 6-16=-140/749, 7-16=-673/174, 8-16=-135/678, 10-13=0/341, 8-14=-73/830, 10-14=-1793/345

NOTES-

1) Attached 11-1-14 scab 9 to 12, both face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 6-7-7 from end at joint 9, nail 3 row(s) at 4" o.c. for 2-10-5.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 16-0-0, Exterior(2R) 16-0-0 to 20-2-15, Interior(1) 20-2-15 to 28-0-0, Exterior(2R) 28-0-0 to 32-2-15, Interior(1) 32-2-15 to 43-10-4 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
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) Bearing at joint(s) 2, 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 221 lb uplift at joint 2 and 201 lb uplift at joint 12.
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.

March 11,2021

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A7	Hip	1	1	I45148936
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:25 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-Kxpg7i2in9kcup?xrqd5kZ3eFdbGWDKVBZOpbKzc2Wm

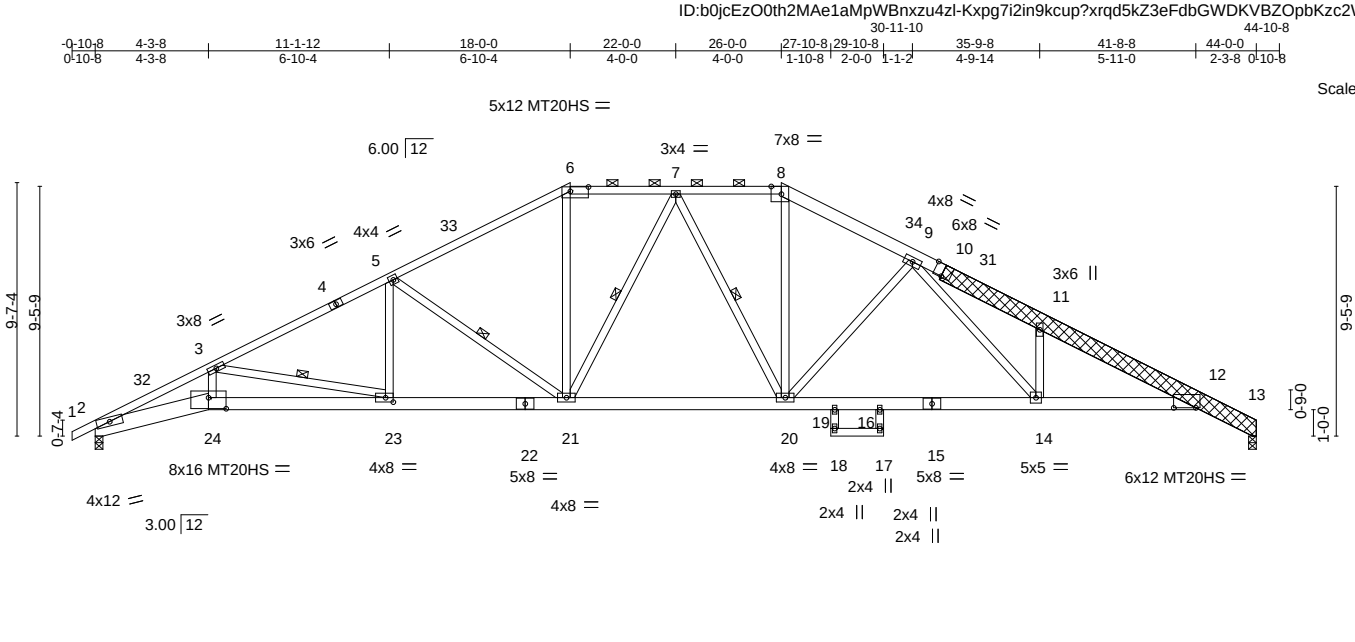


Plate Offsets (X,Y)-- [6:0-8-4,0-2-0], [8:0-4-10,Edge], [10:0-4-0,Edge], [12:0-10-2,0-0-0], [23:0-3-8,0-2-0], [24:0-8-0,0-5-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.30	21	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.68	20-21	>771	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.39	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 334 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except*
	8-10: 2x6 SPF No.2, 1-4: 2x4 SPF 1650F 1.5E
	10-13: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except*
	2-24: 2x8 SP 2400F 2.0E, 22-24,12-15: 2x6 SPF 2100F 1.8E
	15-22: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	10-13 2x8 SP 2400F 2.0E both sides

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except
	2-0-0 oc purlins (2-11-13 max.): 6-8.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 3-23, 5-21, 7-21, 7-20

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=154(LC 16)
Max Uplift 2=-238(LC 12), 13=-217(LC 13)
Max Grav 2=2492(LC 1), 13=2416(LC 1)

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

TOP CHORD	2-3=-7327/727, 3-5=-4925/475, 5-6=-3698/423, 6-7=-3167/414, 7-8=-3182/407,
	8-9=-3673/427, 9-11=-5738/595, 11-12=-5483/480, 12-13=-1070/119
BOT CHORD	2-24=-752/6589, 23-24=-730/6372, 21-23=-379/4305, 20-21=-160/3267, 19-20=-259/3899,
	16-19=-263/3846, 14-16=-259/3899, 12-14=-358/5048
WEBS	3-24=-81/1149, 3-23=-2113/359, 5-23=-30/693, 5-21=-1376/287, 6-21=-81/1124,
	8-20=-96/1170, 9-20=-1071/253, 9-14=-233/1767, 11-14=-1072/237, 7-21=-449/121,
	7-20=-399/122

NOTES-

1) Attached 13-4-12 scab 10 to 13, both face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 8-10-4 from end at joint 10, nail 3 row(s) at 4" o.c. for 2-10-5.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 18-0-0, Exterior(2R) 18-0-0 to 22-0-0, Interior(1) 22-0-0 to 26-0-0, Exterior(2R) 26-0-0 to 30-2-15, Interior(1) 30-2-15 to 43-10-4 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
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) Bearing at joint(s) 2, 13 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 238 lb uplift at joint 2 and 217 lb uplift at joint 13.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

Continued on page 2

March 11,2021

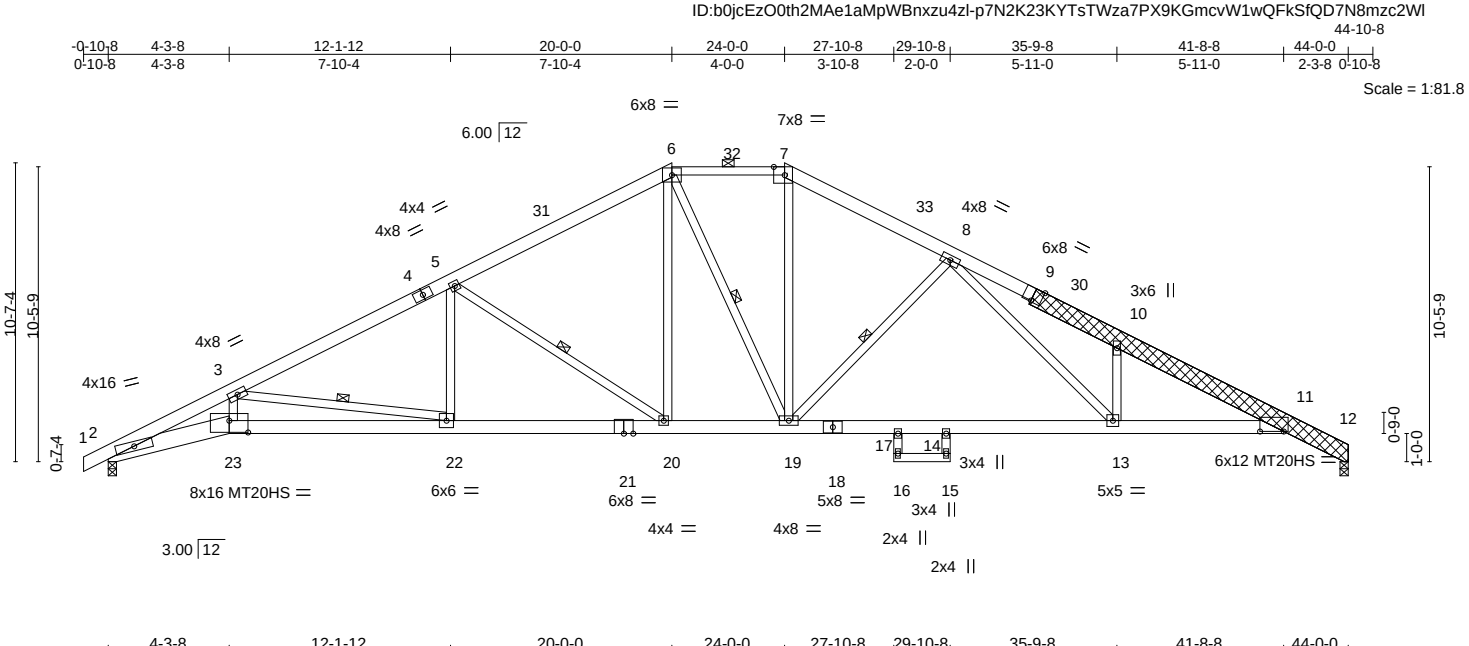
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

10) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A8	Hip	1	1	I45148937
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:26 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-p7N2K23KYTsTWza7PX9KGmcvW1wQFkSfQD7N8mzc2Wl



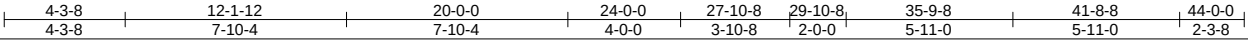


Plate Offsets (X,Y)-- [7:0-4-10,Edge], [9:0-4-0,Edge], [11:0-10-2,0-0-0], [23:0-8-0,0-5-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.28	22-23	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.63	22-23	>834	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.38	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 343 lb	FT = 20%

LUMBER-

TOP CHORD	2x6 SPF No.2 *Except*
	6-7: 2x4 SPF No.2, 9-12: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except*
	2-23: 2x8 SP 2400F 2.0E, 21-23,11-18: 2x6 SPF 2100F 1.8E
	18-21: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	9-12 2x8 SP 2400F 2.0E both sides

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except
	2-0-0 oc purlins (3-2-12 max.): 6-7.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 3-22, 5-20, 6-19, 8-19

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=171(LC 16)
Max Uplift 2=-269(LC 12), 12=-248(LC 13)
Max Grav 2=2492(LC 1), 12=2416(LC 1)

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

TOP CHORD	2-3=-7752/889, 3-5=-4814/507, 5-6=-3439/415, 6-7=-2913/401, 7-8=-3398/418,
	8-10=-5735/661, 10-11=-5485/506, 11-12=-1070/132
BOT CHORD	2-23=-917/7025, 22-23=-886/6716, 20-22=-450/4236, 19-20=-173/2900, 17-19=-244/3731,
	14-17=-260/3660, 13-14=-244/3731, 11-13=-372/5045
WEBS	3-23=-125/1453, 3-22=-2518/443, 5-22=-15/718, 5-20=-1592/331, 6-20=-146/941,
	6-19=-226/290, 7-19=-110/1039, 8-19=-1179/290, 8-13=-264/1900, 10-13=-1070/269

NOTES-

1) Attached 12-7-9 scab 9 to 12, both face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 8-1-2 from end at joint 9, nail 3 row(s) at 4" o.c. for 2-10-5.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 1-10-0, Interior(1) 1-10-0 to 20-0-0, Exterior(2E) 20-0-0 to 24-0-0, Exterior(2R) 24-0-0 to 28-2-15, Interior(1) 28-2-15 to 43-10-4 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
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) Bearing at joint(s) 2, 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 269 lb uplift at joint 2 and 248 lb uplift at joint 12.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

Continued on page 2

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

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

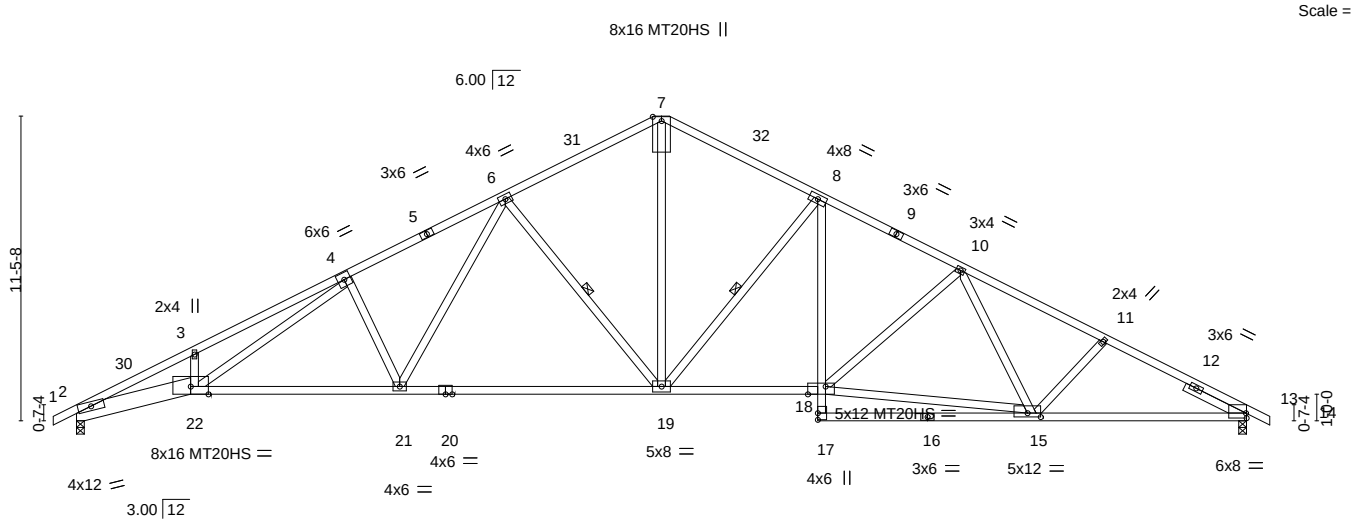
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A9	Roof Special	3	1	I45148938
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:28 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-lWVolk5a446BlGkWWyBpLBh8ZqY7jdlytXcTCfzc2Wj

-0-10-8	4-3-8	10-2-5	16-1-8	22-0-0	27-10-8	33-2-14	38-7-5	44-0-0	44-10-8
0-10-8	4-3-8	5-10-13	5-11-2	5-10-8	5-10-8	5-4-6	5-4-6	5-4-11	0-10-8

Scale = 1:86.6



4-3-8	12-1-13	22-0-0	27-10-8	35-11-1	44-0-0
4-3-8	7-10-5	9-10-3	5-10-8	8-0-9	8-0-15

Plate Offsets (X,Y)-- [13:Edge,0-2-4], [15:0-5-15,0-1-12], [18:0-8-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.38	21-22	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.90	19-21	>587	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.39	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 217 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except*
	1-5,9-14: 2x4 SPF 1650F 1.5E
BOT CHORD	2x4 SPF No.2 *Except*
	2-22: 2x8 SP 2400F 2.0E, 20-22: 2x4 SPF 1650F 1.5E
	13-16: 2x4 SP 2400F 2.0E
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 2-6-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 6-19, 8-19

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=-180(LC 17)
Max Uplift 2=-265(LC 12), 13=-266(LC 13)
Max Grav 2=2490(LC 1), 13=2504(LC 1)

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

TOP CHORD	2-3=-7165/805, 3-4=-7153/914, 4-6=-4551/531, 6-7=-3030/397, 7-8=-3033/395,
	8-10=-3860/422, 10-11=-4043/443, 11-13=-4249/452
BOT CHORD	2-22=-844/6423, 21-22=-501/4381, 19-21=-300/3361, 18-19=-158/3374, 8-18=-100/815,
	15-17=-0/320, 13-15=-321/3693
WEBS	3-22=-296/149, 4-22=-427/2454, 4-21=-982/264, 6-21=-183/1253, 6-19=-1192/297,
	7-19=-207/2030, 8-19=-1188/274, 15-18=-231/3353, 10-18=-455/178

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 25-0-0, Interior(1) 25-0-0 to 44-10-8 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) All plates are MT20 plates unless otherwise indicated.
4) The Fabrication Tolerance at joint 7 = 16%
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 265 lb uplift at joint 2 and 266 lb uplift at joint 13.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A9A	ROOF SPECIAL	1	1	I45148939 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:29 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-Di3Az36DrOE2NQJi4gi2uPEMeEy8S6q56BM1k5zc2Wi

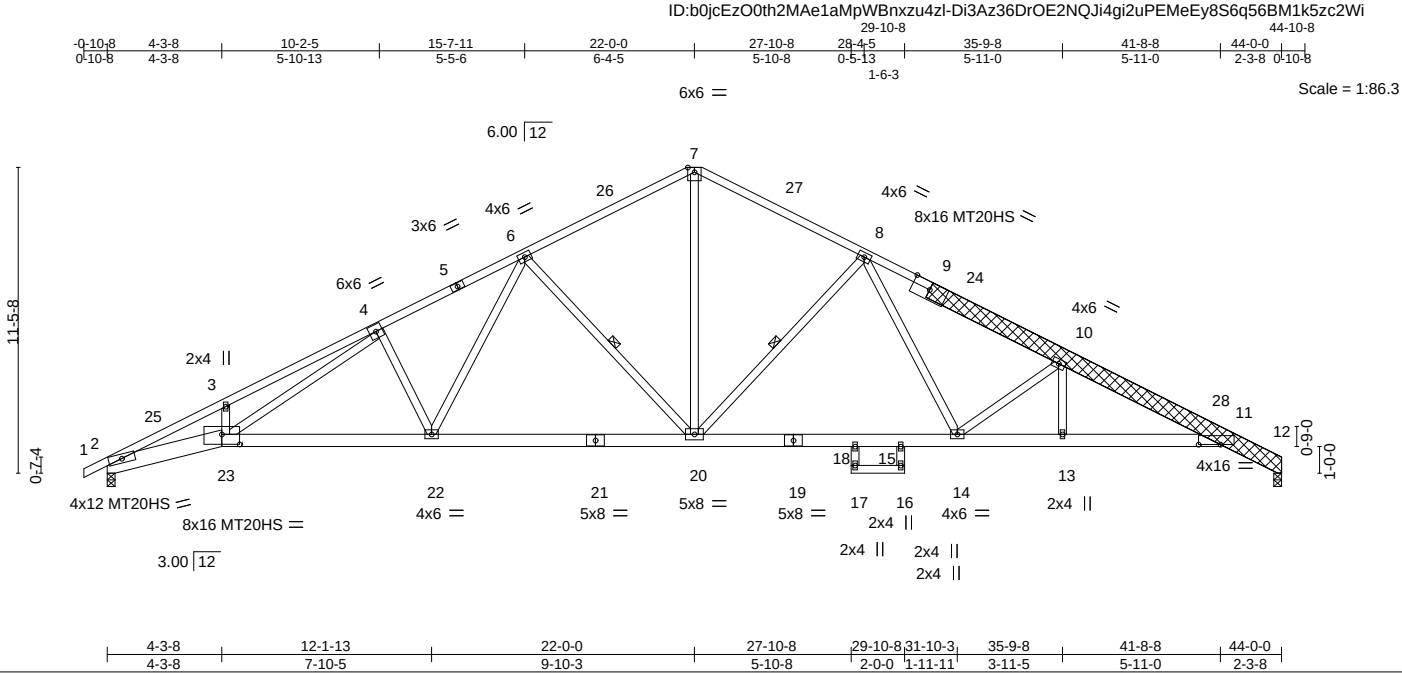


Plate Offsets (X,Y)-- [11:0-9-14,0-0-0], [23:0-8-0,0-4-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.32	22-23	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.72	22-23	>730	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.64	Horz(CT)	0.40	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 340 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF 1650F 1.5E *Except* 1-5: 2x4 SP 2400F 2.0E, 9-12: 2x8 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except* 2-23: 2x8 SP 2400F 2.0E, 21-23,11-19: 2x6 SPF 2100F 1.8E 19-21: 2x6 SPF No.2
WEBS	2x4 SPF No.2
OTHERS	2x8 SP 2400F 2.0E
LBR SCAB	9-12 2x8 SP 2400F 2.0E both sides

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 6-20, 8-20

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=187(LC 12)
Max Uplift 2=-266(LC 12), 12=-244(LC 13)
Max Grav 2=2497(LC 1), 12=2406(LC 1)

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

TOP CHORD	2-3=-7537/852, 3-4=-7324/956, 4-6=-4567/528, 6-7=-3044/393, 7-8=-3043/396, 8-10=-4643/481, 10-11=-5547/547, 11-12=-913/111
BOT CHORD	2-23=-895/6664, 22-23=-503/4381, 20-22=-321/3449, 18-20=-185/3436, 15-18=-191/3392, 14-15=-185/3436, 13-14=-420/5132, 11-13=-420/5132
WEBS	4-23=-469/2605, 4-22=-925/249, 6-22=-172/1207, 6-20=-1261/308, 7-20=-206/2055, 8-20=-1242/298, 8-14=-137/1201, 10-14=-1486/302

NOTES-

1) Attached 14-10-6 scab 9 to 12, both face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 10-3-10 from end at joint 9, nail 2 row(s) at 4" o.c. for 2-11-10.
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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 25-0-0, Interior(1) 25-0-0 to 43-10-4 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
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) Bearing at joint(s) 2, 12 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 266 lb uplift at joint 2 and 244 lb uplift at joint 12.
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.

March 11,2021

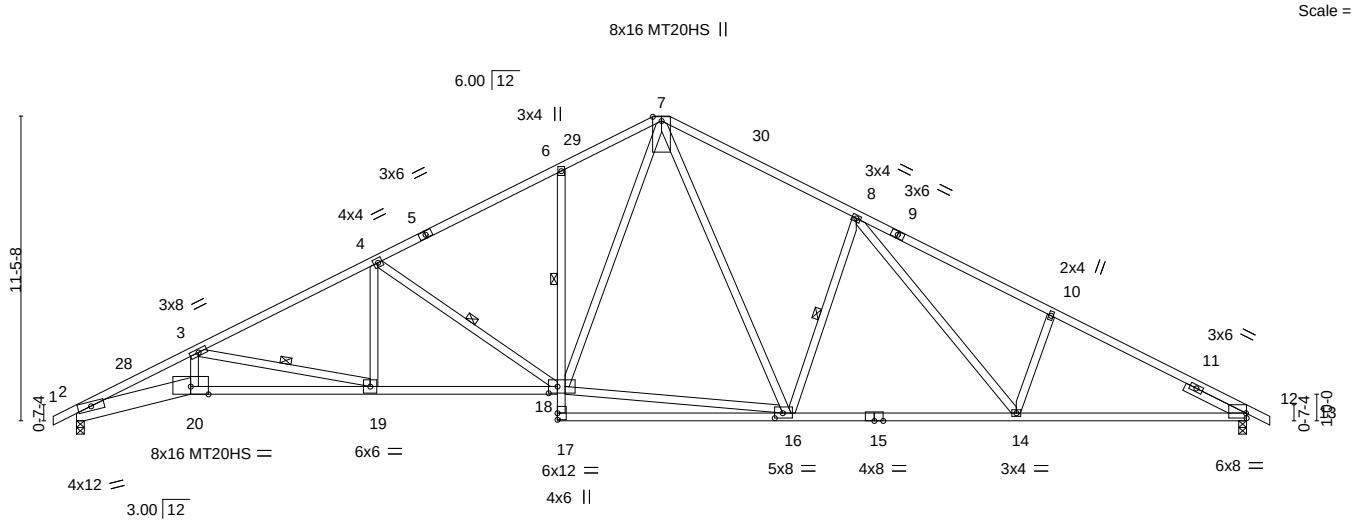
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside	I45148940
2694977	A10	Roof Special	1	1	Job Reference (optional)	

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:04 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-Su2jjWoXki5btavv6wlAN7h2o9Mx5pRQMooCN2zc2X5

-0-10-8	4-3-8	11-2-4	18-1-0	22-0-0	29-3-14	36-7-13	44-0-0	44-10-8
0-10-8	4-3-8	6-10-12	6-10-12	3-11-0	7-3-14	7-3-14	7-4-3	0-10-8

Scale = 1:86.6



4-3-8	11-2-4	18-1-0	26-8-9	35-4-2	44-0-0
4-3-8	6-10-12	6-10-12	8-7-9	8-7-9	8-7-14

Plate Offsets (X,Y)-- [12:Edge,0-2-4], [16:0-3-10,0-2-4], [18:0-4-0,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.32	18-19	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.73	18-19	>723	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.32	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 224 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except*
	1-5,9-13: 2x4 SPF 1650F 1.5E
BOT CHORD	2x4 SPF No.2 *Except*
	2-20: 2x8 SP 2400F 2.0E, 18-20,12-15: 2x4 SP 2400F 2.0E
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 2-6-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied.
BOT CHORD	Rigid ceiling directly applied. Except:
	1 Row at midpt 6-18
WEBS	1 Row at midpt 3-19, 4-18, 8-16

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=180(LC 12)
Max Uplift 2=-265(LC 12), 12=-266(LC 13)
Max Grav 2=2490(LC 1), 12=2504(LC 1)

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

TOP CHORD	2-3=-7209/821, 3-4=-4804/503, 4-6=-3594/409, 6-7=-3458/485, 7-8=-3311/453, 8-10=-4091/510, 10-12=-4243/443
BOT CHORD	2-20=-864/6479, 19-20=-838/6270, 18-19=-462/4221, 6-18=-425/175, 14-16=-168/3123, 12-14=-294/3687
WEBS	3-20=-104/1160, 3-19=-2099/385, 4-19=-26/677, 4-18=-1393/285, 16-18=-115/2261, 7-18=-309/1666, 7-16=-245/974, 8-16=-961/310, 8-14=-163/725, 10-14=-466/207

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 22-0-0, Exterior(2R) 22-0-0 to 25-0-0, Interior(1) 25-0-0 to 44-10-8 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) All plates are MT20 plates unless otherwise indicated.
4) The Fabrication Tolerance at joint 7 = 16%
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 265 lb uplift at joint 2 and 266 lb uplift at joint 12.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

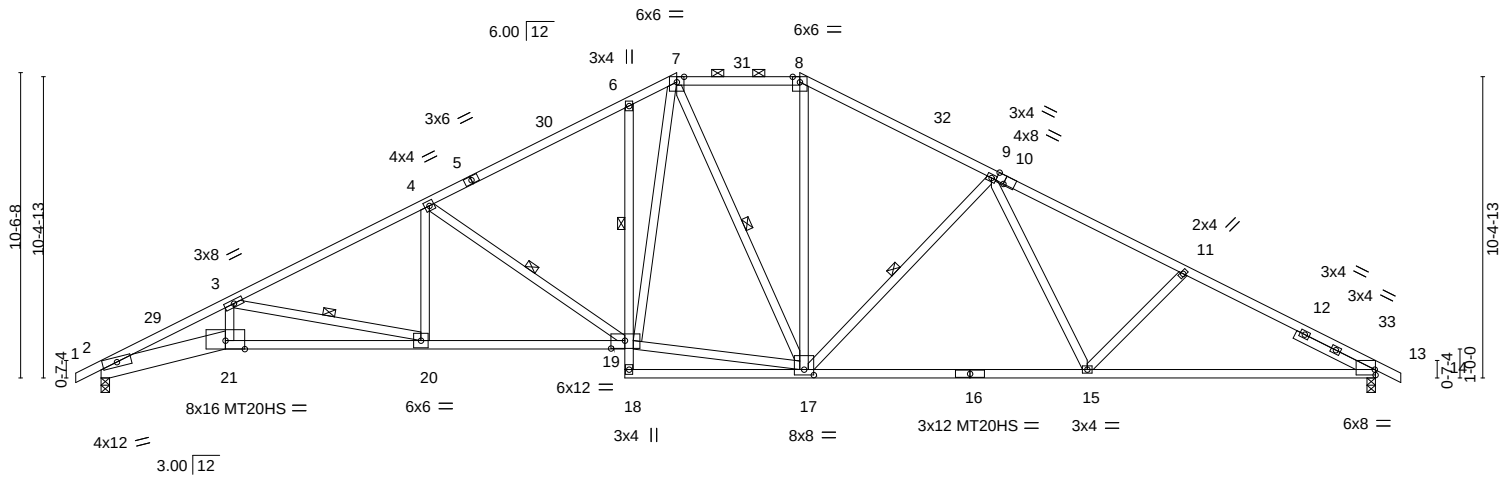
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A11	Hip	1	1	I45148941
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:05 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-w5c6wsp9V0DRVkU5gdGPwLEHuZhSqGoZbSXmvUzc2X4

-0-10-8	4-3-8	11-2-4	18-1-0	19-10-8	24-1-8	30-8-14	37-4-5	44-0-0	44-10-8
0-10-8	4-3-8	6-10-12	6-10-12	1-9-8	4-3-0	6-7-6	6-7-6	6-7-11	0-10-8

Scale = 1:79.6



4-3-8	11-2-4	18-1-0	19-10-8	24-1-8	34-0-9	44-0-0
4-3-8	6-10-12	6-10-12	1-9-8	4-3-0	9-11-1	9-11-7

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

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.32	19-20	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.76	15-17	>694	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.33	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 229 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except* 1-5,10-14: 2x4 SPF 1650F 1.5E
BOT CHORD	2x4 SPF No.2 *Except* 2-21: 2x8 SP 2400F 2.0E, 19-21,13-16: 2x4 SP 2400F 2.0E
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 3-0-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (3-4-11 max.): 7-8.
BOT CHORD	Rigid ceiling directly applied. Except: 1 Row at midpt 6-19
WEBS	1 Row at midpt 3-20, 4-19, 7-17, 9-17

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=-164(LC 17)
Max Uplift 2=-269(LC 12), 13=-270(LC 13)
Max Grav 2=2490(LC 1), 13=2504(LC 1)

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

TOP CHORD	2-3=-7209/823, 3-4=-4804/510, 4-6=-3594/421, 6-7=-3413/480, 7-8=-2602/396, 8-9=-3058/404, 9-11=-3968/444, 11-13=-4238/463
BOT CHORD	2-21=-848/6479, 20-21=-824/6270, 19-20=-452/4221, 6-19=-285/154, 15-17=-207/3240, 13-15=-318/3700
WEBS	3-21=-101/1161, 3-20=-2099/381, 4-20=-25/676, 4-19=-1392/285, 17-19=-131/2638, 7-19=-296/1617, 7-17=-602/140, 8-17=-84/800, 9-17=-933/260, 9-15=-53/537, 11-15=-391/185

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 19-10-8, Exterior(2E) 19-10-8 to 24-1-8, Exterior(2R) 24-1-8 to 28-4-7, Interior(1) 28-4-7 to 44-10-8 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) 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 269 lb uplift at joint 2 and 270 lb uplift at joint 13.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

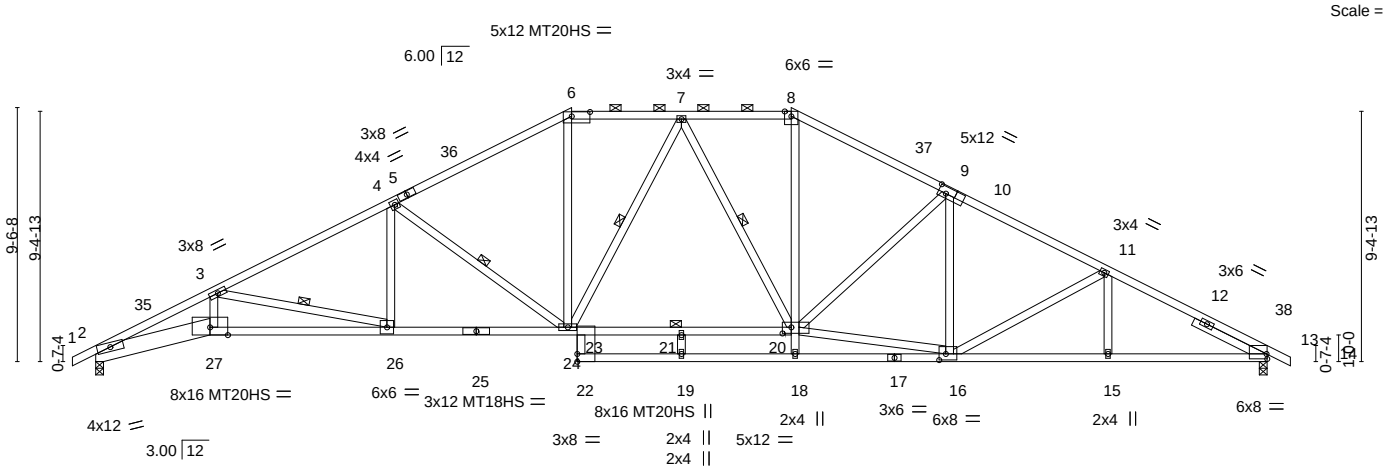
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A12	Hip	1	1	I45148942
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:07 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-sTksLYqP1dT9k2dUo2Jt?mJZvNQxI85s2m1s_Nzc2X2

-0-10-8	4-3-8	11-1-0	17-10-8	22-0-0	26-1-8	32-0-14	38-0-5	44-0-0	44-10-8
0-10-8	4-3-8	6-9-8	6-9-8	4-1-8	4-1-8	5-11-6	5-11-6	5-11-11	0-10-8

Scale = 1:86.5



4-3-8	11-1-0	17-10-8	18-1-0	22-0-0	26-1-8	32-0-14	38-0-5	44-0-0
4-3-8	6-9-8	6-9-8	0-2-8	3-11-0	4-1-8	5-11-6	5-11-6	5-11-11

Plate Offsets (X,Y)-- [6:0-8-4,0-2-0], [10:0-3-8,0-3-0], [13:Edge,0-2-4], [16:0-3-0,0-2-12], [20:0-4-0,0-2-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.33	24-26	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.73	24-26	>717	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.72	Horz(CT)	0.34	13	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 234 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except* 1-5,10-14: 2x4 SPF 1650F 1.5E
BOT CHORD	2x4 SPF No.2 *Except* 2-27: 2x8 SP 2400F 2.0E, 25-27,13-17: 2x4 SP 2400F 2.0E 20-25: 2x4 SPF 1650F 1.5E
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 3-0-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (3-0-5 max.): 6-8.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 3-26, 4-24, 7-24, 7-20
JOINTS	1 Brace at Jt(s): 21

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=147(LC 12)
Max Uplift 2=-272(LC 12), 13=-274(LC 13)
Max Grav 2=2490(LC 1), 13=2504(LC 1)

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

TOP CHORD	2-3=-7203/821, 3-4=-4821/520, 4-6=-3664/421, 6-7=-3137/410, 7-8=-3087/412, 8-9=-3557/422, 9-11=-3860/430, 11-13=-4222/455
BOT CHORD	2-27=-829/6473, 26-27=-805/6265, 24-26=-445/4237, 23-24=-187/3216, 21-23=-199/2797, 20-21=-199/2797, 19-22=0/419, 18-19=0/419, 16-18=0/477, 15-16=-317/3688, 13-15=-317/3688
WEBS	3-27=-97/1156, 3-26=-2080/369, 4-26=-29/670, 8-20=-102/1105, 16-20=-235/2952, 11-16=-382/141, 6-24=-88/1107, 4-24=-1340/281, 9-20=-475/192, 7-24=-404/138, 7-20=-497/135

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 17-10-8, Exterior(2R) 17-10-8 to 22-0-0, Interior(1) 22-0-0 to 26-1-8, Exterior(2R) 26-1-8 to 30-4-7, Interior(1) 30-4-7 to 44-10-8 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) 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 272 lb uplift at joint 2 and 274 lb uplift at joint 13.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

Continued on page 2

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

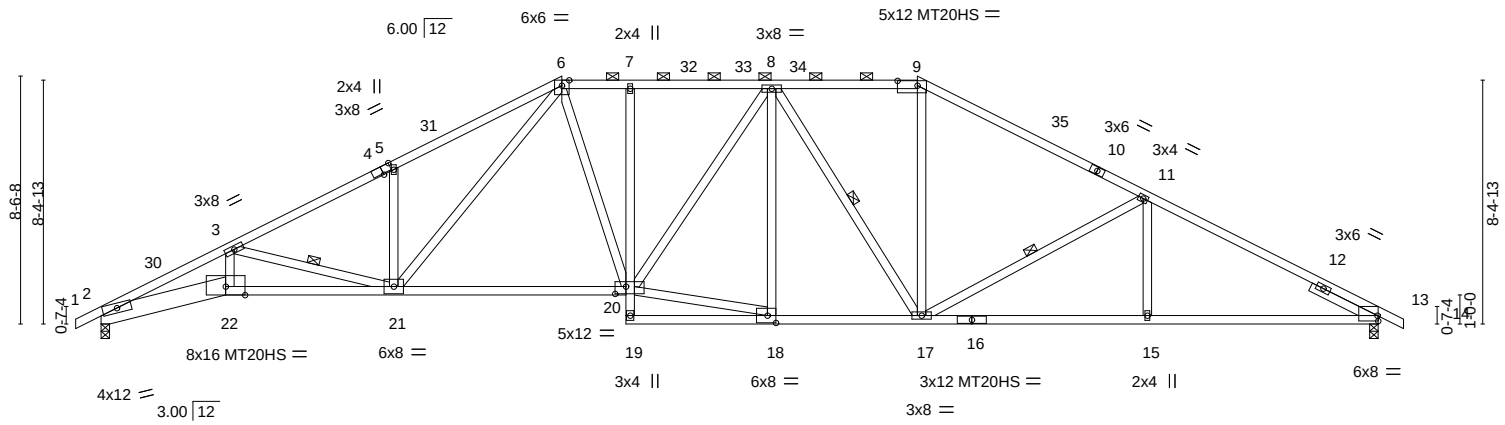
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A13	Hip	1	1	I45148943
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:08 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-KgIEYur2oxb0MCCgLlq6YzsnOnim1aL?HPmQWpzc2X1

-0-10-8 4-3-8 10-1-0 15-10-8 18-1-0 23-1-4 28-1-8 36-0-9 44-0-0 44-10-8
0-10-8 4-3-8 5-9-8 5-9-8 2-2-8 5-0-4 5-0-4 7-11-1 7-11-7 0-10-8

Scale = 1:79.4



4-3-8 10-1-0 15-10-8 18-1-0 23-1-4 28-1-8 36-0-9 44-0-0
4-3-8 5-9-8 5-9-8 2-2-8 5-0-4 5-0-4 7-11-1 7-11-7

Plate Offsets (X,Y)-- [4:0-3-11,Edge], [9:0-8-4,0-2-0], [13:Edge,0-2-4], [18:0-3-8,0-3-0], [20:0-4-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.31	20-21	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.75	20-21	>706	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.33	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 231 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP 2400F 2.0E *Except*
	6-9: 2x4 SPF No.2, 1-4,10-14: 2x4 SPF 1650F 1.5E
BOT CHORD	2x4 SP 2400F 2.0E *Except*
	2-22: 2x8 SP 2400F 2.0E, 7-19,16-19: 2x4 SPF No.2
WEBS	2x4 SPF No.2
SLIDER	Right 2x4 SPF No.2 -t 2-6-0

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except
	2-0-0 oc purlins (2-7-14 max.): 6-9.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 3-21, 8-17, 11-17

REACTIONS. (size) 2=0-3-8, 13=0-3-8
Max Horz 2=131(LC 12)
Max Uplift 2=-275(LC 12), 13=-277(LC 13)
Max Grav 2=2490(LC 1), 13=2504(LC 1)

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

TOP CHORD	2-3=-7153/819, 3-5=-4999/541, 5-6=-5035/664, 6-7=-3625/430, 7-8=-3616/431,
	8-9=-3014/405, 9-11=-3534/401, 11-13=-4237/459
BOT CHORD	2-22=-810/6419, 21-22=-784/6214, 20-21=-269/3410, 7-20=-397/100, 17-18=-182/3269,
	15-17=-303/3680, 13-15=-303/3680
WEBS	3-22=-108/1128, 3-21=-1867/336, 5-21=-545/209, 18-20=-161/3214, 8-20=-135/678,
	8-18=-574/74, 8-17=-671/132, 9-17=-71/921, 11-17=-770/227, 11-15=0/271,
	6-21=-303/1590, 6-20=-119/851

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 15-10-8, Exterior(2R) 15-10-8 to 20-1-7, Interior(1) 20-1-7 to 28-1-8, Exterior(2R) 28-1-8 to 32-4-7, Interior(1) 32-4-7 to 44-10-8 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) 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 275 lb uplift at joint 2 and 277 lb uplift at joint 13.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

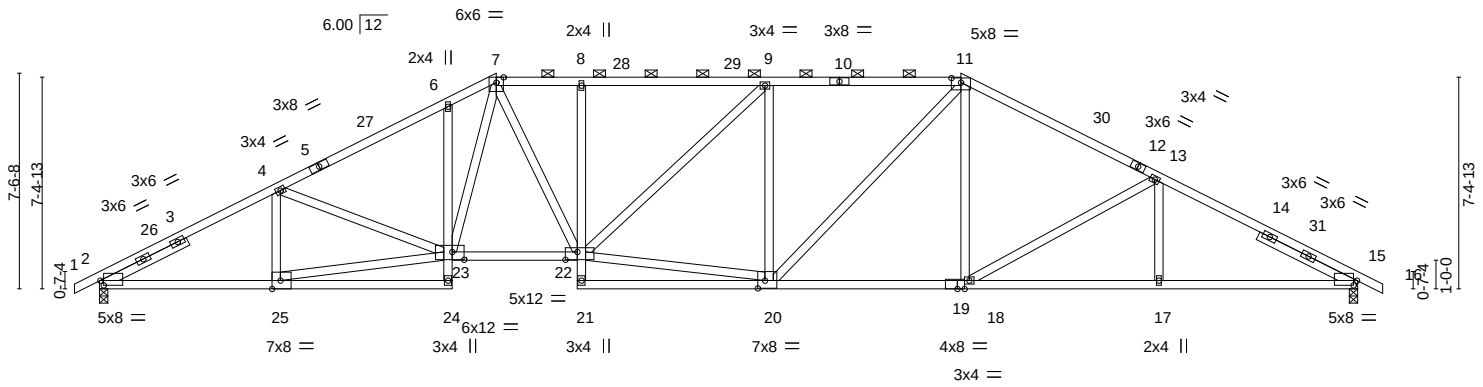
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A14	HIP	1	1	I45148944
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:09 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-osscmEsgYFjtzLnsvTLL4BPvlA4Nm?79W3Wz2Fzc2X0

-0-10-8	6-2-3	12-4-0	13-10-8	16-8-8	23-5-0	30-1-8	37-0-9	44-0-0	44-10-8
0-10-8	6-2-3	6-1-13	1-6-8	2-10-0	6-8-8	6-8-8	6-11-1	6-11-7	0-10-8

Scale = 1:80.6



6-2-3	12-4-0	13-10-8	16-8-8	23-5-0	30-1-8	37-0-9	44-0-0
6-2-3	6-1-13	1-6-8	2-10-0	6-8-8	6-8-8	6-11-1	6-11-7

Plate Offsets (X,Y)-- [2:0-1-7,0-2-0], [11:0-4-0,0-1-15], [15:0-1-7,0-2-0], [19:0-3-0,0-0-0], [20:0-3-0,0-3-4], [22:0-5-0,0-3-4], [23:0-5-0,0-3-4], [25:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.26	22-23	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.60	22-23	>880	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.25	15	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 231 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF 1650F 1.5E *Except* 5-7,11-12: 2x4 SP 2400F 2.0E
BOT CHORD	2x4 SPF No.2 *Except* 2-24,15-19: 2x4 SP 2400F 2.0E, 22-23: 2x4 SPF 1650F 1.5E
WEBS	2x4 SPF No.2
SLIDER	Left 2x4 SPF No.2 -t 3-4-5, Right 2x4 SPF No.2 -t 3-9-8

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-2-0 max.): 7-11.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 15=0-3-8
Max Horz 2=115(LC 12)
Max Uplift 2=-279(LC 12), 15=-279(LC 13)
Max Grav 2=2496(LC 1), 15=2496(LC 1)

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

TOP CHORD	2-4=-4361/462, 4-6=-4455/500, 6-7=-4413/572, 7-8=-4082/474, 8-9=-4066/474, 9-11=-3739/440, 11-13=-3701/420, 13-15=-4342/465
BOT CHORD	2-25=-436/3692, 6-23=-385/151, 22-23=-304/3648, 8-22=-541/147, 18-20=-175/3192, 17-18=-317/3699, 15-17=-317/3699
WEBS	4-25=-500/128, 23-25=-425/3530, 4-23=-70/399, 20-22=-258/3581, 9-22=-148/526, 9-20=-1058/224, 11-20=-169/956, 11-18=-36/477, 13-18=-589/189, 13-17=0/263, 7-23=-218/1038, 7-22=-172/1092

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 13-10-8, Exterior(2R) 13-10-8 to 18-1-7, Interior(1) 18-1-7 to 30-1-8, Exterior(2R) 30-1-8 to 34-4-7, Interior(1) 34-4-7 to 44-10-8 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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 279 lb uplift at joint 2 and 279 lb uplift at joint 15.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

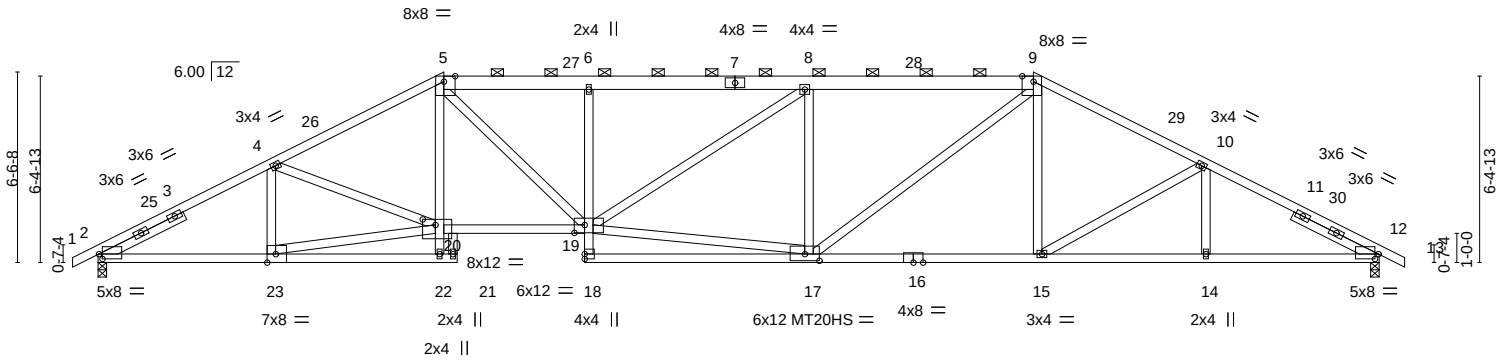
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A15	HIP	1	1	I45148945
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:11 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-lFzNBwuw4szbDfxF1uNp9cUly_IUEvFSzN?478zc2X_

-0-10-8	5-11-7	11-10-8	12-4-0	16-8-8	24-5-0	32-1-8	38-0-9	44-0-0	44-10-8
0-10-8	5-11-7	5-11-1	0-5-8	4-4-8	7-8-8	7-8-8	5-11-1	5-11-7	0-10-8

Scale = 1:79.1



5-11-7	11-10-8	12-4-0	16-8-8	24-5-0	32-1-8	38-0-9	44-0-0
5-11-7	5-11-1	0-5-8	4-4-8	7-8-8	7-8-8	5-11-1	5-11-7

Plate Offsets (X,Y)-- [2:0-1-7,0-2-0], [5:0-4-10,Edge], [9:0-4-10,Edge], [12:0-1-7,0-2-0], [17:0-6-0,0-2-12], [19:0-4-4,0-3-4], [23:0-3-8,Edge], [24:0-5-4,0-2-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.28	6	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.64	17-18	>818	180	MT20HS	148/108
BCLL	0.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.26	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 238 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SP 2400F 2.0E *Except* 5-7,7-9: 2x6 SPF No.2
BOT CHORD	2x4 SPF No.2 *Except* 2-21,12-16: 2x4 SP 2400F 2.0E, 19-20: 2x4 SPF 1650F 1.5E
WEBS	2x4 SPF No.2 *Except* 17-19: 2x4 SPF 1650F 1.5E
SLIDER	Left 2x4 SPF No.2 -t 3-2-12, Right 2x4 SPF No.2 -t 3-2-12

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 2-9-14 oc purlins, except 2-0-0 oc purlins (2-10-9 max.): 5-9.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 15-17.

REACTIONS. (size) 2=0-3-8, 12=0-3-8
Max Horz 2=98(LC 12)
Max Uplift 2=-277(LC 12), 12=-281(LC 13)
Max Grav 2=2505(LC 1), 12=2499(LC 1)

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

TOP CHORD	2-4=-4396/461, 4-5=-4639/503, 5-6=-4988/529, 6-8=-4953/526, 8-9=-4409/478, 9-10=-3880/442, 10-12=-4375/472
BOT CHORD	2-23=-421/3724, 19-20=-357/4081, 6-19=-657/171, 17-18=-16/274, 15-17=-221/3413, 14-15=-333/3705, 12-14=-333/3705
WEBS	4-23=-542/131, 5-19=-233/1420, 17-19=-378/4165, 8-19=-182/725, 8-17=-1226/265, 9-17=-229/1400, 9-15=-16/398, 10-15=-344/146, 5-20=-58/648, 20-23=-418/3689, 4-20=-100/565

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 11-10-8, Exterior(2R) 11-10-8 to 16-1-7, Interior(1) 16-1-7 to 32-1-8, Exterior(2R) 32-1-8 to 36-4-7, Interior(1) 36-4-7 to 44-10-8 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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 277 lb uplift at joint 2 and 281 lb uplift at joint 12.
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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A16	Hip Structural Gable	1	1	I45148946

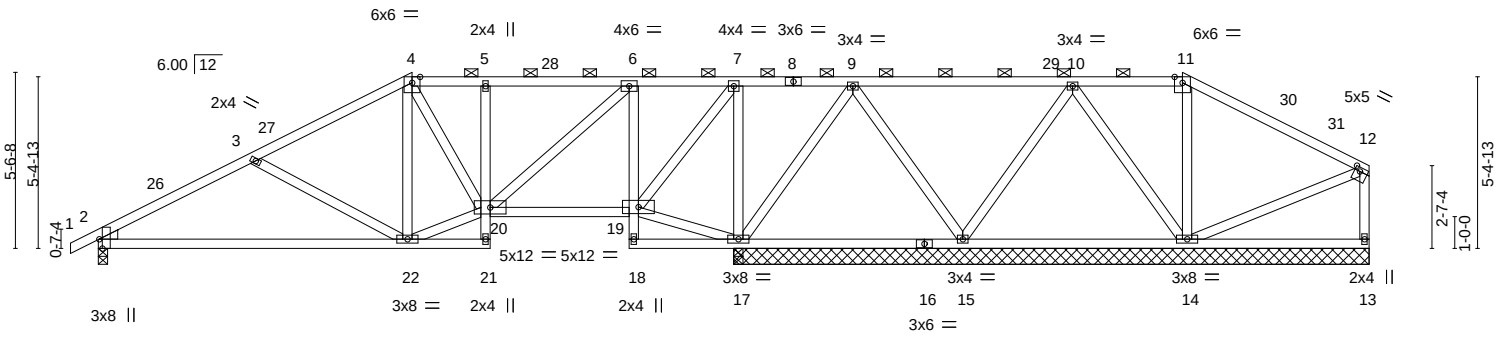
Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:12 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-DRXlOFuYrA5SqpWRabu2ip1TeOAczSGbC1kdeazc2Wz

-0-10-8	4-11-7	9-10-8	12-4-0	16-8-8	23-9-0	30-8-0	34-1-8	40-0-0
0-10-8	4-11-7	4-11-1	2-5-8	4-4-8	7-0-8	6-11-0	3-5-8	5-10-8

Scale = 1:72.5



9-10-8	12-4-0	16-8-8	20-3-8	27-2-8	34-1-8	40-0-0
9-10-8	2-5-8	4-4-8	3-7-0	6-11-0	6-11-0	5-10-8

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

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.14	22-25	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.30	22-25	>814	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.02	17	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 189 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-

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

REACTIONS. All bearings 20-0-0 except (jt=length) 2=0-3-8.
(lb) - Max Horz 2=125(LC 11)
Max Uplift All uplift 100 lb or less at joint(s) 13, 15 except 2=-135(LC 12), 14=-111(LC 13), 17=-311(LC 12)
Max Grav All reactions 250 lb or less at joint(s) 13 except 2=987(LC 1), 14=686(LC 26), 17=2105(LC 1), 17=2105(LC 1), 15=532(LC 26)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1384/219, 3-4=-933/148, 4-5=-713/149, 5-6=-727/152, 7-9=-114/771, 9-10=-47/264
BOT CHORD 2-22=-212/1173, 5-20=-336/95, 6-19=-1067/221, 15-17=-323/118
WEBS 3-22=-490/169, 20-22=-39/788, 6-20=-172/1013, 11-14=-390/103, 7-17=-1098/199, 17-19=-777/204, 7-19=-171/1145, 9-17=-785/150, 10-15=-506/126

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 9-10-8, Exterior(2R) 9-10-8 to 14-1-7, Interior(1) 14-1-7 to 34-1-8, Exterior(2R) 34-1-8 to 38-4-7, Interior(1) 38-4-7 to 39-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 13, 15 except (jt=lb) 2=135, 14=111, 17=311.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A17	ROOF SPECIAL	1	1	I45148947

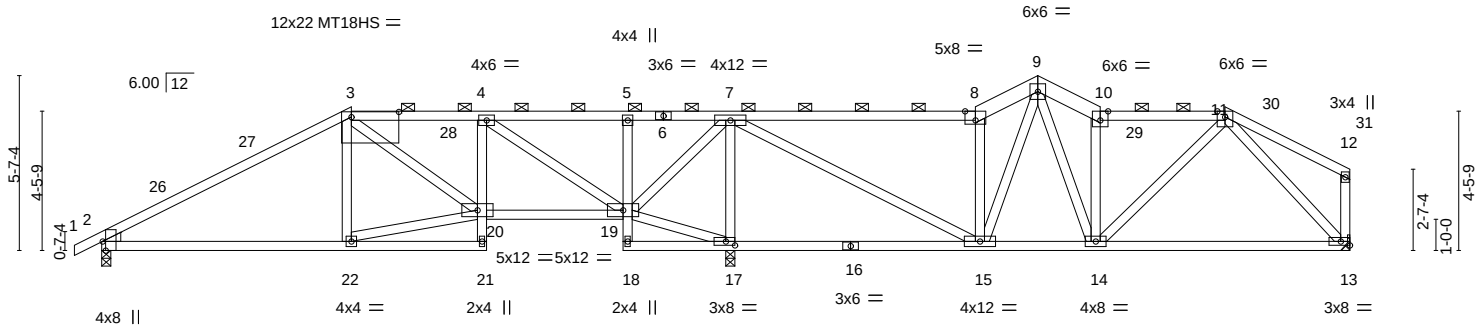
Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:13 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-hd57cbvAcTDJSz5e8JQHF1Zc5oW0it8kRhUBA1zc2Wy

-0-10-8	8-0-0	12-4-0	16-8-8	20-1-12	22-4-4	28-0-0	30-0-0	32-0-0	36-0-0	40-0-0
0-10-8	8-0-0	4-4-0	4-4-8	3-5-4	2-2-8	5-7-12	2-0-0	2-0-0	4-0-0	4-0-0

Scale = 1:73.8



8-0-0	12-4-0	16-8-8	20-1-12	20-3-8	28-0-0	32-0-0	36-0-0	40-0-0
8-0-0	4-4-0	4-4-8	3-5-4	0-1-12	7-8-8	4-0-0	4-0-0	4-0-0

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [3:1-6-4,0-2-0], [8:0-4-0,Edge], [10:0-3-0,Edge], [17:0-3-8,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.11	13-14	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.23	13-14	>999	180	MT18HS	197/144
BCLL	0.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	0.04	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 190 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except* 8-9,9-10: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 16-18: 2x4 SP 2400F 2.0E
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-5-15 max.): 3-8, 10-11.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 2=0-3-8, 17=0-3-8, 13=Mechanical
Max Horz 2=127(LC 11)
Max Uplift 2=-152(LC 12), 17=-332(LC 12), 13=-112(LC 13)
Max Grav 2=998(LC 25), 17=2603(LC 1), 13=875(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1260/202, 3-4=-969/217, 7-8=-748/157, 8-9=-909/200, 9-10=-1001/194, 10-11=-877/157
BOT CHORD 2-22=-164/1002, 4-20=-20/339, 19-20=-160/998, 15-17=-847/132, 14-15=-80/645, 13-14=-108/610
WEBS 20-22=-158/983, 4-19=-1231/182, 17-19=-851/157, 7-19=-151/1014, 7-17=-2172/353, 7-15=-202/1800, 8-15=-937/217, 9-15=-101/265, 9-14=-104/610, 10-14=-718/148, 11-14=-10/378, 11-13=-811/141

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 8-0-0, Exterior(2R) 8-0-0 to 11-0-0, Interior(1) 11-0-0 to 30-0-0, Exterior(2E) 30-0-0 to 32-0-0, Interior(1) 32-0-0 to 36-0-0, Exterior(2R) 36-0-0 to 39-0-0, Interior(1) 39-0-0 to 39-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) All plates are MT20 plates unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=152, 17=332, 13=112.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	A18	Roof Special Girder	1	1	I45148948

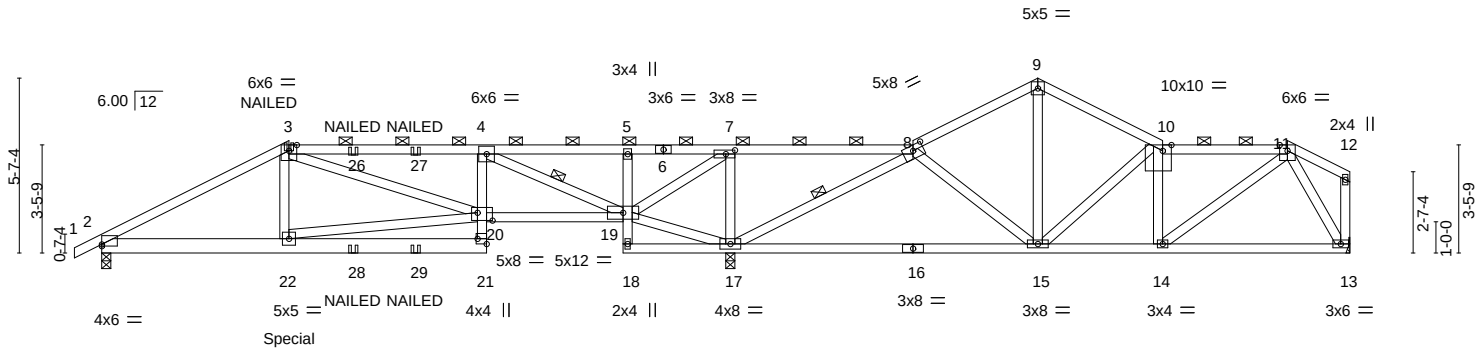
Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:15 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-d0Du1HxR85T1hGF0GjSlKSfyJbAmAqW1u?zHFvzc2Ww

-0-10-8	3-0-3	6-0-0	9-2-0	12-4-0	16-8-8	20-1-12	21-4-4	26-0-0	30-0-0	34-0-0	38-0-0	40-0-0
0-10-8	3-0-3	2-11-13	3-2-0	3-2-0	4-4-8	3-5-4	1-2-8	4-7-12	4-0-0	4-0-0	4-0-0	2-0-0

Scale = 1:73.8



3-0-3	6-0-0	12-4-0	16-8-8	20-1-12	26-0-0	30-0-0	34-0-0	38-0-0	40-0-0
3-0-3	2-11-13	6-4-0	4-4-8	3-5-4	5-10-4	4-0-0	4-0-0	4-0-0	2-0-0

Plate Offsets (X,Y)-- [2:0-0-0,0-0-11], [7:0-3-8,0-1-8], [8:0-4-0,0-2-0], [10:0-3-6,Edge], [20:0-5-12,0-3-0], [21:Edge,0-3-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.88	Vert(LL)	-0.15	15-17	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.31	15-17	>775	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.50	Horz(CT)	0.06	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 186 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except* 3-6,6-8: 2x4 SPF 1650F 1.5E

BOT CHORD 2x4 SPF No.2 *Except* 2-21: 2x6 SPF No.2, 16-18: 2x4 SP 2400F 2.0E

WEBS 2x4 SPF No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied or 3-3-2 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-10 max.): 3-8, 10-11.

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

WEBS 1 Row at midpt 4-19, 8-17

REACTIONS. (size) 2=0-3-8, 13=Mechanical, 17=0-3-8
Max Horz 2=126(LC 7)
Max Uplift 2=-290(LC 8), 13=-79(LC 9), 17=-493(LC 8)
Max Grav 2=1466(LC 21), 13=747(LC 1), 17=3180(LC 1)

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

TOP CHORD 2-3=-2422/498, 3-4=-2018/468, 4-5=-87/595, 5-7=-84/630, 7-8=-346/1949, 8-9=-684/58, 9-10=-674/41, 10-11=-858/79

BOT CHORD 2-22=-456/2071, 21-22=-27/286, 4-20=-12/488, 19-20=-412/1973, 15-17=-227/408, 14-15=-75/867, 13-14=-63/377

WEBS 3-22=0/442, 4-19=-2751/567, 8-15=-64/612, 9-15=-37/268, 10-15=-509/114, 10-14=-315/45, 7-17=-1378/310, 17-19=-1916/390, 7-19=-317/1600, 8-17=-2152/295, 11-14=-18/639, 11-13=-712/106, 20-22=-434/1788

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 13 except (jt=lb) 2=290, 17=493.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 458 lb down and 150 lb up at 6-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
11) 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

March 11,2021

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-3=-90, 3-8=-90, 8-9=-90, 9-10=-90, 10-11=-90, 11-12=-90, 21-23=-20, 19-20=-20, 13-18=-20
   Concentrated Loads (lb)
   Vert: 3=-114(F) 22=-458(F) 26=-114(F) 27=-114(F) 28=-59(F) 29=-59(F)

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	B1	Common Supported Gable	1	1	I45148949

Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:31 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-95BxNl7TN?UlckT5C5kWzqJu12oEwASOaUr8p_zc2Wg

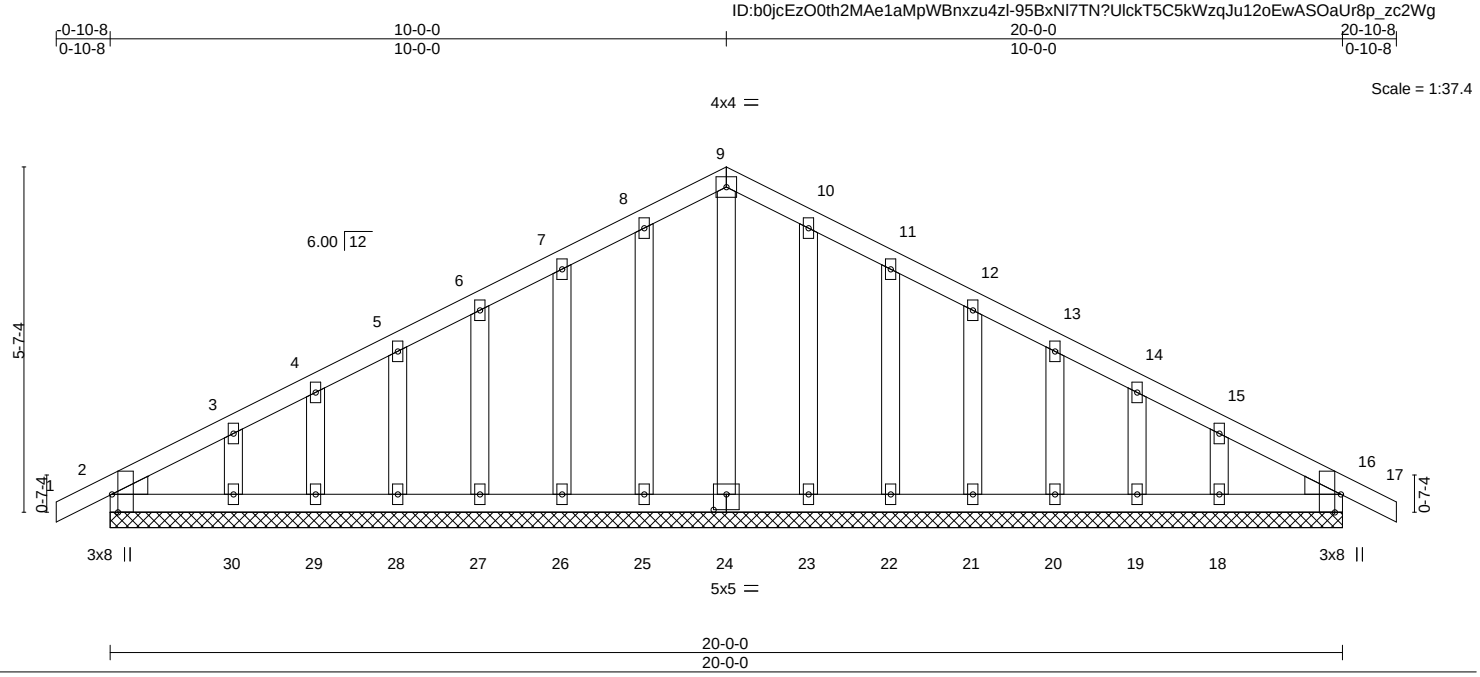


Plate Offsets (X,Y)-- [2:0-3-8,Edge], [16:0-3-8,Edge], [24:0-2-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	-0.00	16	n/r	120	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	16	n/r	120		
BCLL	0.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	16	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 95 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 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. All bearings 20-0-0.

(lb) - Max Horz 2=86(LC 16)
Max Uplift All uplift 100 lb or less at joint(s) 2, 25, 26, 27, 28, 29, 30, 23, 22, 21, 20, 19, 18, 16
Max Grav All reactions 250 lb or less at joint(s) 2, 24, 25, 26, 27, 28, 29, 30, 23, 22, 21, 20, 19, 18, 16

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

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 10-0-0, Corner(3R) 10-0-0 to 13-0-0, Exterior(2N) 13-0-0 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 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 25, 26, 27, 28, 29, 30, 23, 22, 21, 20, 19, 18, 16.
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 16.
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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	B2	Common	3	1	I45148950
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:32 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-dHkJb5858JdcEu2HloFlW1s?sSz5fZ_Xo8ahLQzc2Wf

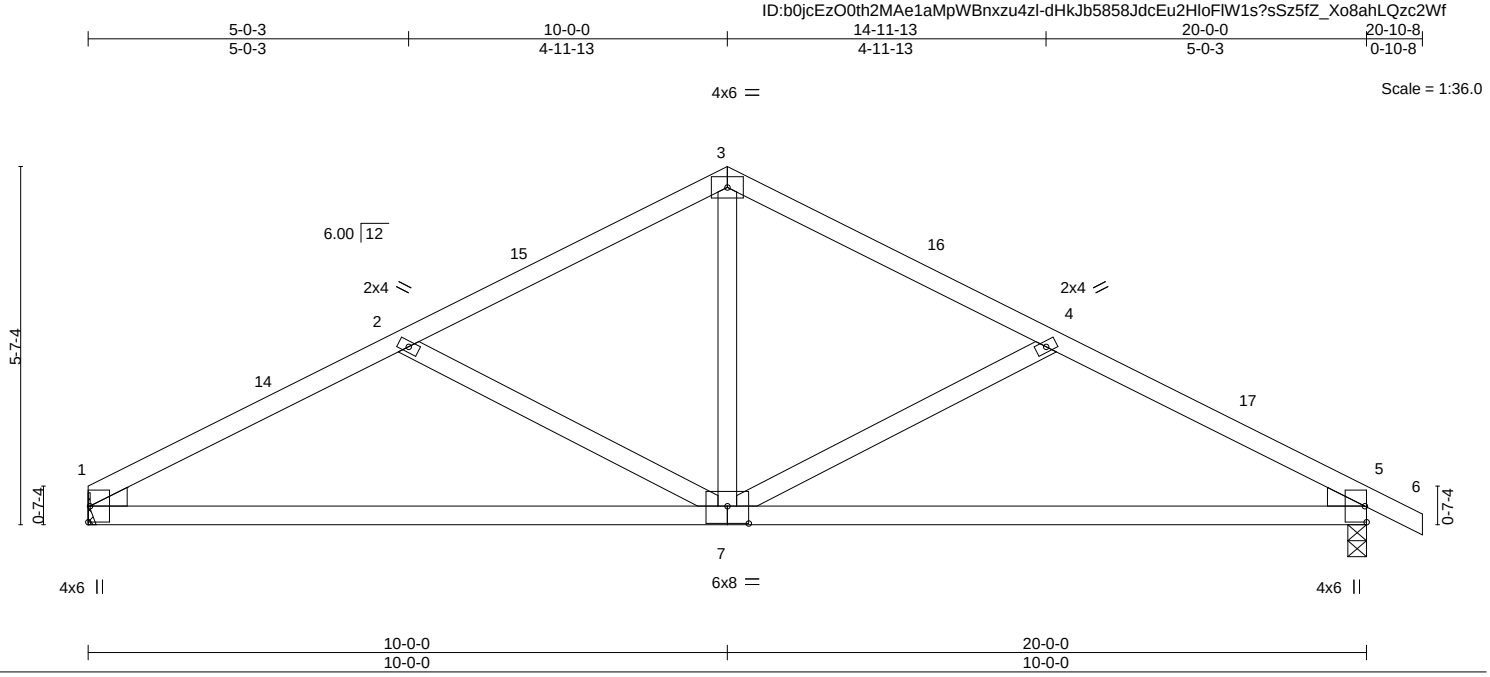


Plate Offsets (X,Y)-- [7:0-4-0,0-3-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.13	7-10	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.28	7-10	>862	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 69 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 1=Mechanical, 5=0-3-8
Max Horz 1=-93(LC 17)
Max Uplift 1=-112(LC 12), 5=-129(LC 13)
Max Grav 1=1098(LC 1), 5=1180(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1770/306, 2-3=-1323/242, 3-4=-1323/240, 4-5=-1765/301
BOT CHORD 1-7=-197/1511, 5-7=-196/1504
WEBS 3-7=-64/638, 4-7=-499/178, 2-7=-507/179

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 10-0-0, Exterior(2R) 10-0-0 to 13-0-0, Interior(1) 13-0-0 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=112, 5=129.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	B3	Common	5	1	I45148951
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:33 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-5TIhoR9jvdlTs1dUJVn_2FOAcrIIO0Eh1oKEtszc2We

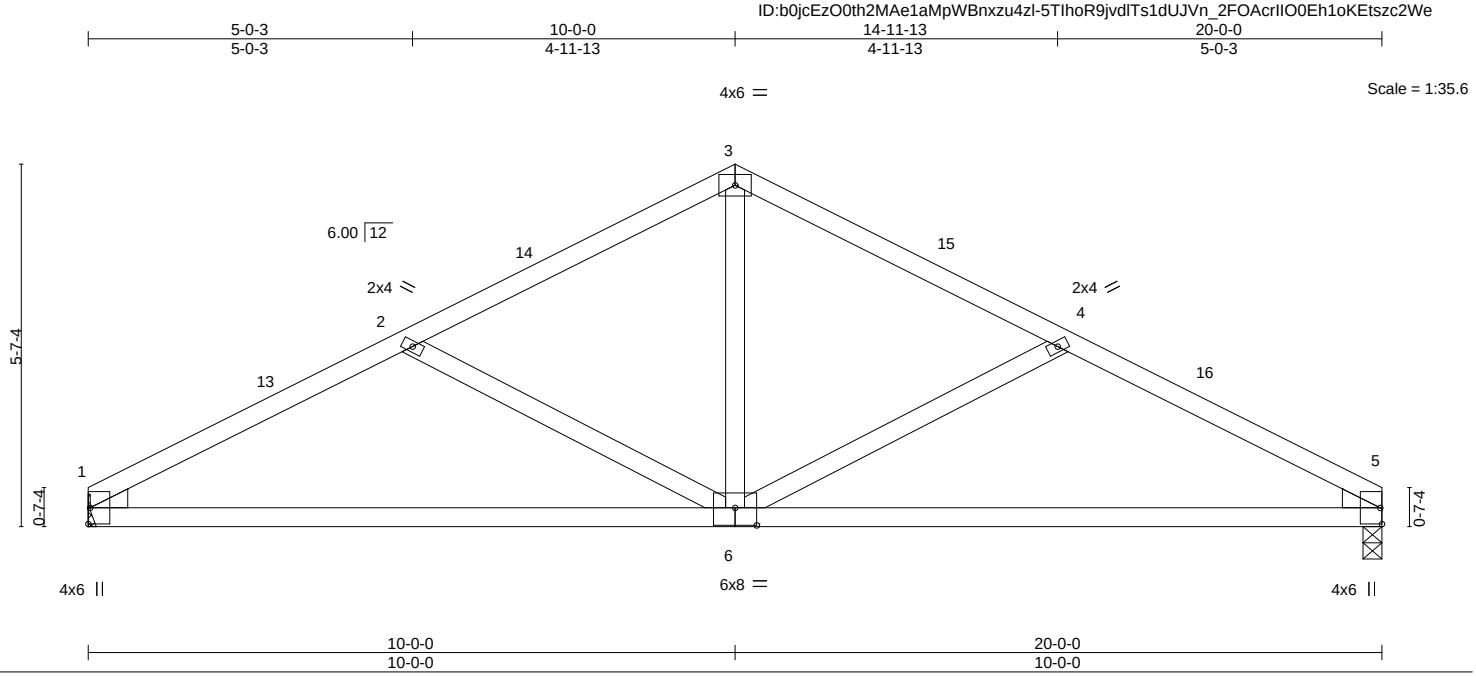


Plate Offsets (X,Y)-- [6:0-4-0,0-3-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.13	6-9	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.28	6-9	>866	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 68 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 1=Mechanical, 5=0-3-8
Max Horz 1=79(LC 16)
Max Uplift 1=-112(LC 12), 5=-112(LC 13)
Max Grav 1=1100(LC 1), 5=1100(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-1774/307, 2-3=-1327/243, 3-4=-1327/243, 4-5=-1774/307
BOT CHORD 1-6=-216/1514, 5-6=-211/1514
WEBS 3-6=-64/640, 4-6=-507/180, 2-6=-507/179

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 10-0-0, Exterior(2R) 10-0-0 to 13-0-0, Interior(1) 13-0-0 to 20-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 1=112, 5=112.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	CJ1	Diagonal Hip Girder	4	1	I45148952

Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:34 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-ags30n9LgwtKTBCgtDIDbSxLRFlZ7UXqGS3oQJzc2Wd

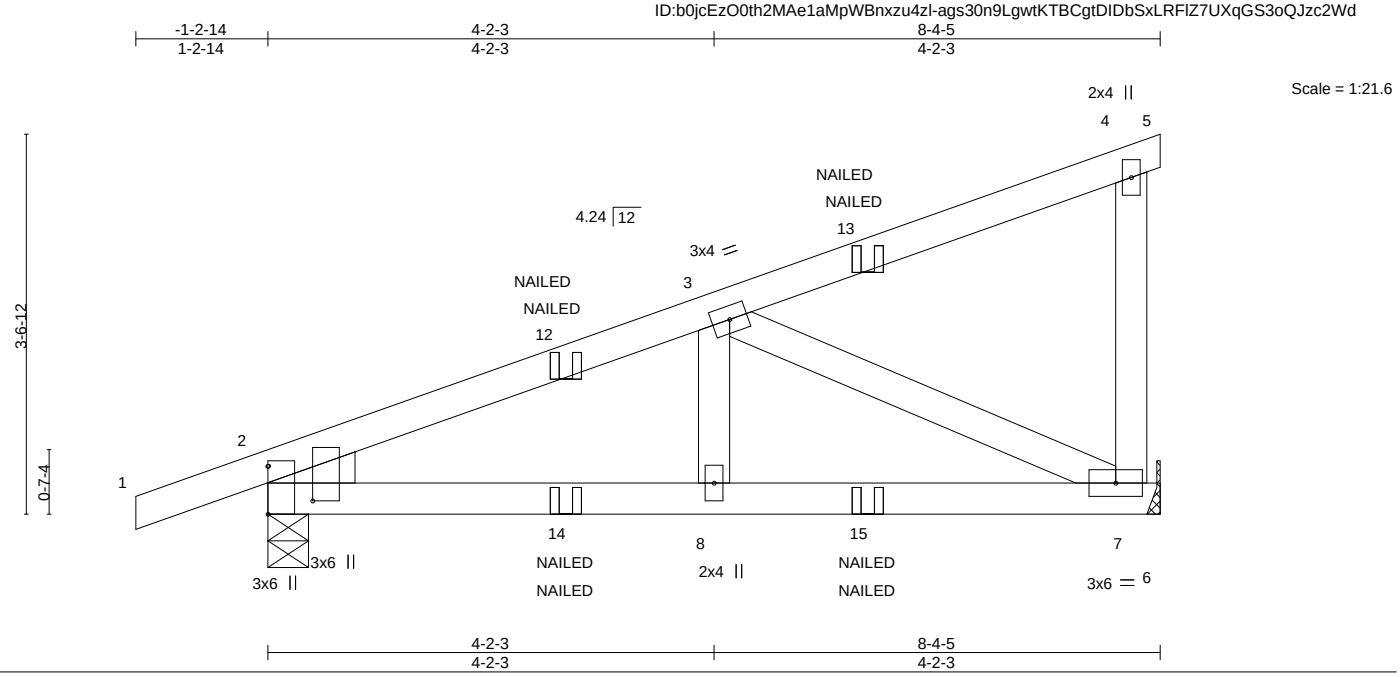


Plate Offsets (X,Y)-- [2:0-3-14,0-5-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.01	7-8	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.03	7-8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.23	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 32 lb	FT = 20%

LUMBER-

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-

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

REACTIONS. (size) 7=Mechanical, 2=0-4-9
Max Horz 2=134(LC 7)
Max Uplift 7=-128(LC 8), 2=-135(LC 4)
Max Grav 7=511(LC 1), 2=597(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-724/150
BOT CHORD 2-8=-174/642, 7-8=-174/642
WEBS 3-7=-705/205

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 7=128, 2=135.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
6) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
7) 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 (plf)
   Vert: 1-4=-90, 4-5=-40, 6-9=-20
   Concentrated Loads (lb)
   Vert: 13=-27(F=-14, B=-14) 14=-12(F=-6, B=-6) 15=-51(F=-25, B=-25)

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	CJ2	Diagonal Hip Girder	1	1	I45148953
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:35 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-2sQRD7AzRE?B5LmsRwpS8gUYif5esze_U6pLylzc2Wc

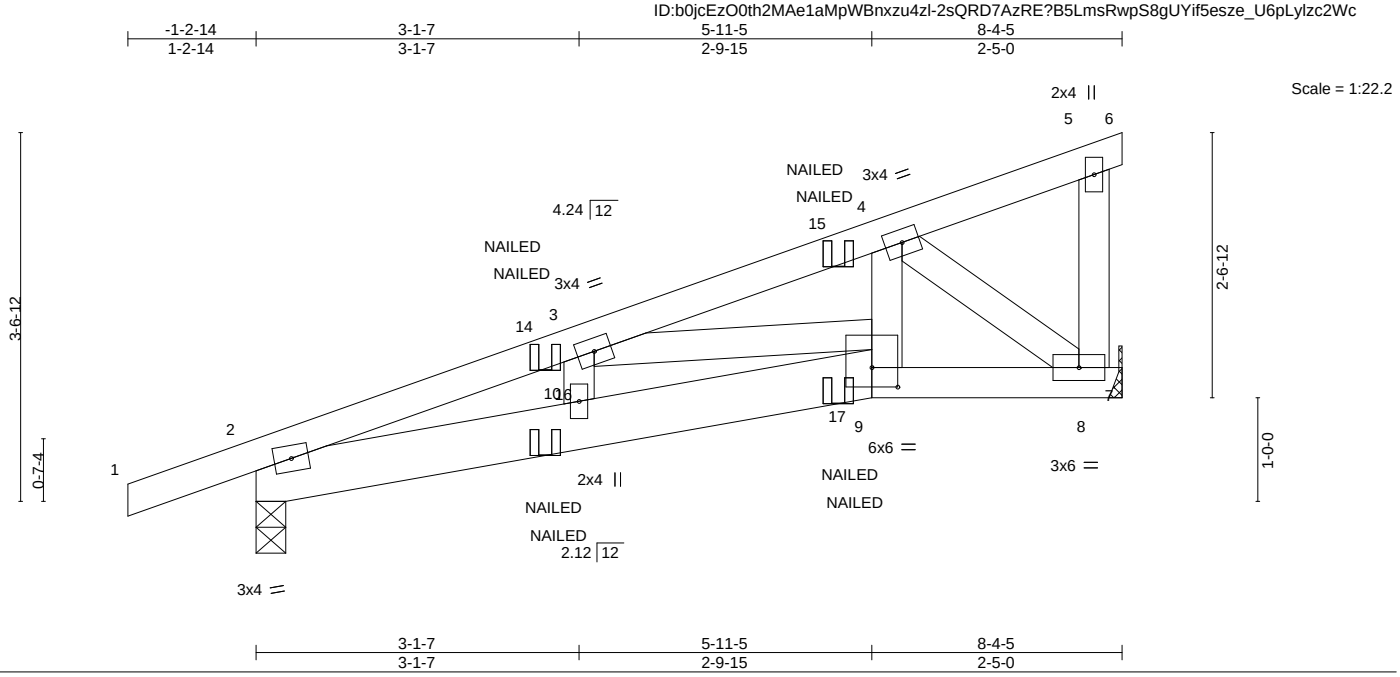


Plate Offsets (X,Y)-- [9:0-3-0,0-2-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	-0.02	10	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.04	9-10	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.11	Horz(CT)	0.01	8	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 35 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
2-9: 2x6 SPF No.2
WEBS 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-7-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=Mechanical, 2=0-3-7
Max Horz 2=116(LC 5)
Max Uplift 8=-130(LC 8), 2=-138(LC 4)
Max Grav 8=514(LC 1), 2=599(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1072/245, 3-4=-683/159
BOT CHORD 2-10=-273/977, 9-10=-278/1002, 8-9=-170/570
WEBS 3-9=-369/112, 4-9=-79/362, 4-8=-706/212

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Refer to girder(s) for truss to truss connections.
4) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 8=130, 2=138.
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 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
8) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-5=-90, 5-6=-40, 9-11=-20, 7-9=-20
Concentrated Loads (lb)
Vert: 15=-4(F=-2, B=-2) 16=-15(F=-8, B=-8) 17=-76(F=-38, B=-38)

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	D1	Common Supported Gable	1	1	I45148954
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:36 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-W2_qRTBcCY72jVL2_eKhgt0lm3VQbRE7jmYvUBzc2Wb

-0-10-8 0-10-8 | 4-7-8 4-7-8 | 9-3-0 4-7-8 | 10-1-8 0-10-8

Scale = 1:20.2

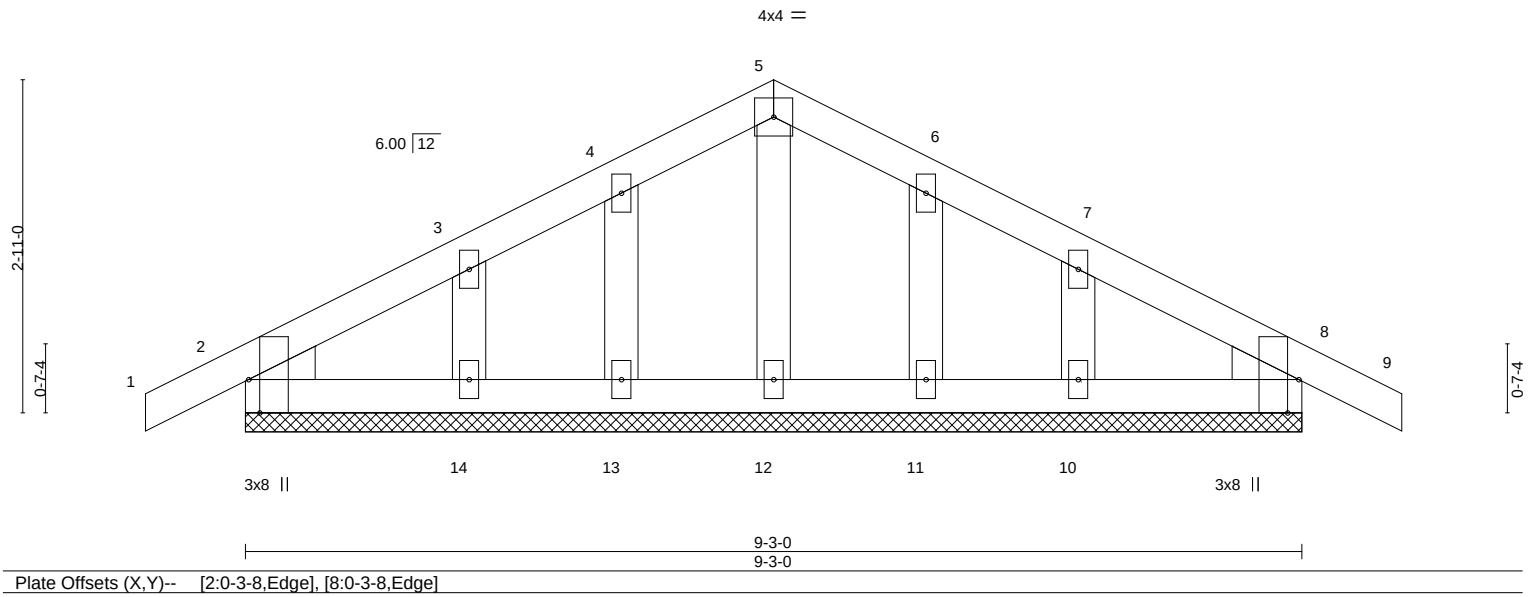


Plate Offsets (X,Y)-- [2:0-3-8,Edge], [8:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	-0.00	8	n/r	120	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	9	n/r	120		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 35 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 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. All bearings 9-3-0.
(lb) - Max Horz 2=-44(LC 13)
Max Uplift All uplift 100 lb or less at joint(s) 2, 8, 13, 14, 11, 10
Max Grav All reactions 250 lb or less at joint(s) 2, 8, 12, 13, 14, 11, 10

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 1-11-8, Exterior(2N) 1-11-8 to 4-7-8, Corner(3R) 4-7-8 to 7-7-8, Exterior(2N) 7-7-8 to 10-1-8 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 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 1-4-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 8, 13, 14, 11, 10.
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.

March 11,2021

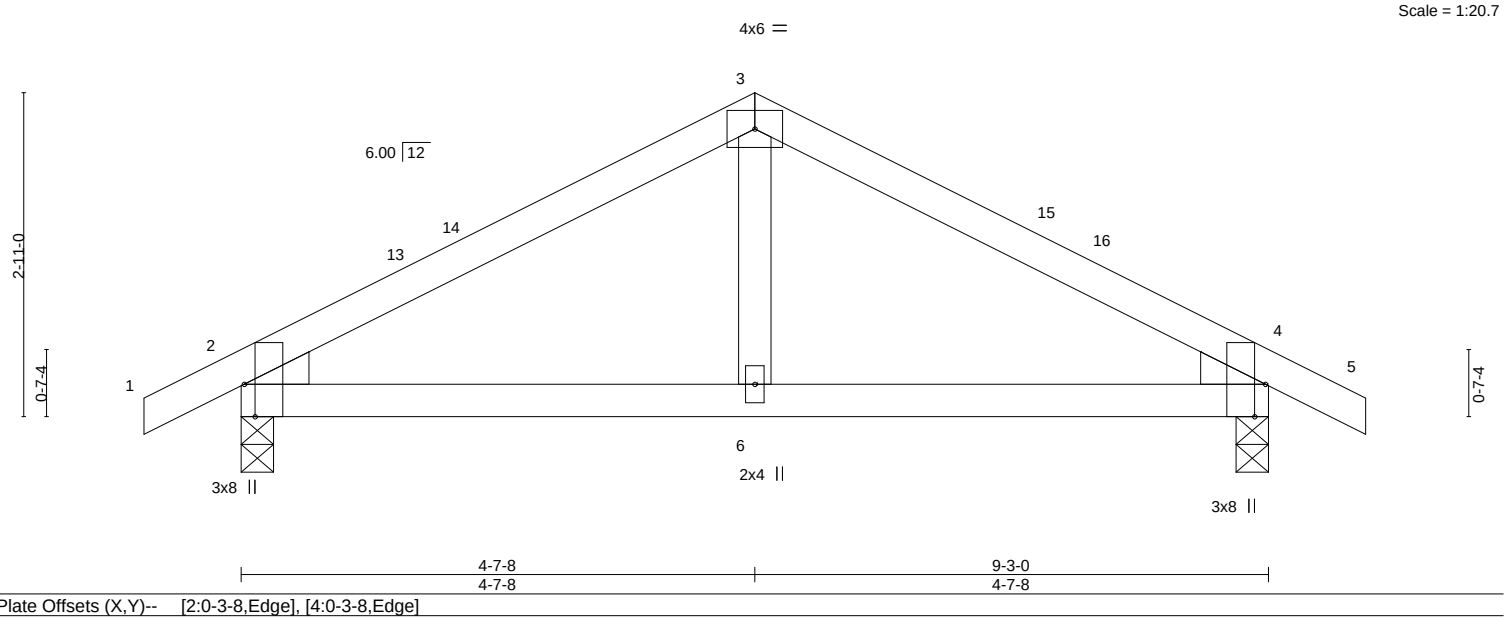
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	D2	Common	4	1	I45148955
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:36 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-W2_qRTBcCY72jVL2_eKhgt0iI3SabRv7jmYvUBzc2Wb

-0-10-8 / 0-10-8 | 4-7-8 / 4-7-8 | 9-3-0 / 4-7-8 | 10-1-8 / 0-10-8

Scale = 1:20.7



4-7-8 / 4-7-8 | 9-3-0 / 4-7-8

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

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	-0.02	6-9	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.03	6-9	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.01	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 29 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 2=0-3-8, 4=0-3-8
Max Horz 2=-44(LC 13)
Max Uplift 2=-69(LC 12), 4=-69(LC 13)
Max Grav 2=587(LC 1), 4=587(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-637/220, 3-4=-637/220
BOT CHORD 2-6=-93/500, 4-6=-93/500

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 4-7-8, Exterior(2R) 4-7-8 to 7-7-8, Interior(1) 7-7-8 to 10-1-8 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 4.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
6) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

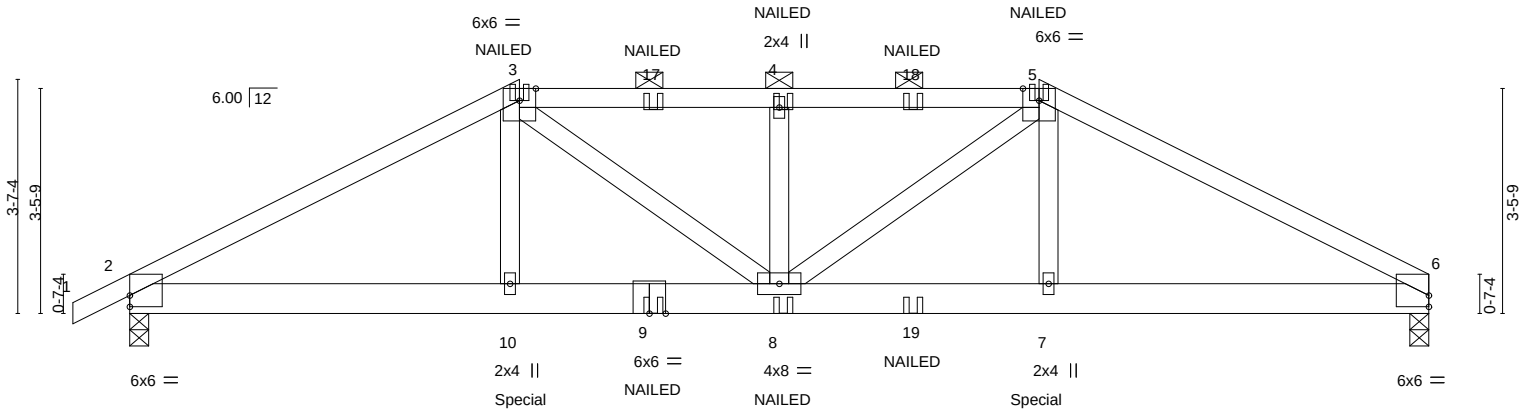
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	E1	Hip Girder	1	1	I45148956
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:38 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-SR6ar8Csj9NmypVR63M9lI5taszC3IdQB41?Z4zc2WZ

-0-10-8	3-0-3	6-0-0	10-0-0	14-0-0	16-11-13	20-0-0
0-10-8	3-0-3	2-11-13	4-0-0	4-0-0	2-11-13	3-0-3

Scale = 1:35.5



6-0-0	10-0-0	14-0-0	20-0-0
6-0-0	4-0-0	4-0-0	6-0-0

Plate Offsets (X,Y)-- [2:0-0-0,0-2-1], [6:0-0-0,0-2-1]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.12	8	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.23	8	>999	180		
BCLL	0.0	Rep Stress Incr	NO	WB	0.22	Horz(CT)	0.06	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 82 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied, except 2-0-0 oc purlins (2-5-3 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 9-5-0 oc bracing.

REACTIONS. (size) 6=0-3-8, 2=0-3-8
Max Horz 2=59(LC 8)
Max Uplift 6=-377(LC 9), 2=-394(LC 8)
Max Grav 6=1929(LC 1), 2=2010(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3515/720, 3-4=-3656/758, 4-5=-3656/758, 5-6=-3527/723
BOT CHORD 2-10=-617/3044, 8-10=-614/3021, 7-8=-571/3032, 6-7=-574/3055
WEBS 3-10=-64/496, 5-7=-66/505, 4-8=-741/267, 5-8=-201/894, 3-8=-203/903

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Provide adequate drainage to prevent water ponding.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 6=377, 2=394.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
8) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 458 lb down and 150 lb up at 6-0-0, and 458 lb down and 150 lb up at 13-11-4 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 (plf)
Vert: 1-3=-90, 3-5=-90, 5-6=-90, 11-14=-20
Concentrated Loads (lb)
Vert: 3=-114(F) 5=-114(F) 9=-59(F) 10=-458(F) 7=-458(F) 4=-114(F) 8=-59(F) 17=-114(F) 18=-114(F) 19=-59(F)

March 11,2021

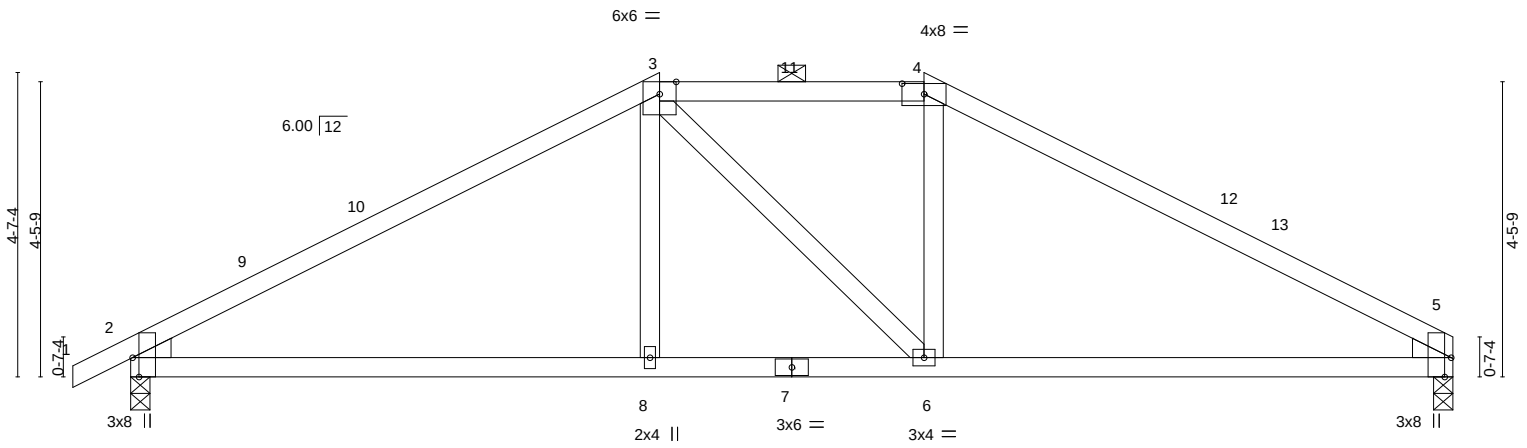
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	E2	HIP	1	1	I45148957
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:39 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-wdgy3UDUUTVday4dgmtOIWe2QGL0onpZPknZ5Wzc2WY

-0-10-8 8-0-0 12-0-0 20-0-0
0-10-8 8-0-0 4-0-0 8-0-0

Scale = 1:34.9



8-0-0 12-0-0 20-0-0
8-0-0 4-0-0 8-0-0

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [4:0-4-0,0-1-15], [5:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.87	Vert(LL)	-0.12	5-6	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.30	5-6	>800	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 73 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E *Except*
3-4: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except 2-0-0 oc purlins (4-7-15 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 5=0-3-8
Max Horz 2=71(LC 12)
Max Uplift 2=-134(LC 12), 5=-114(LC 13)
Max Grav 2=1178(LC 1), 5=1082(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1628/219, 3-4=-1286/248, 4-5=-1594/216
BOT CHORD 2-8=-113/1287, 6-8=-115/1282, 5-6=-101/1291
WEBS 3-8=0/262, 4-6=-1/262

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 8-0-0, Exterior(2E) 8-0-0 to 12-0-0, Exterior(2R) 12-0-0 to 16-2-15, Interior(1) 16-2-15 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) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 2=134, 5=114.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	E3	HIP GIRDER	1	2	I45148958
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:41 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-s0njUAFk04lLpGE0nBwsNxjQa42?GcFst2GfAPzc2WW

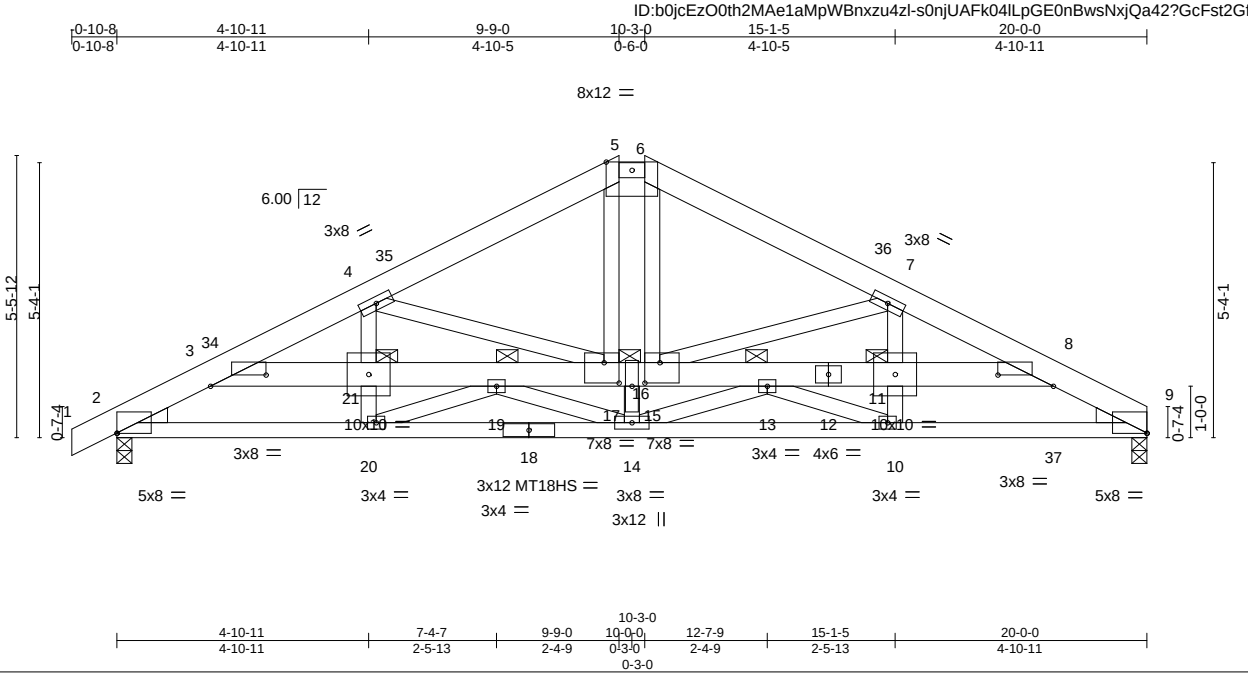


Plate Offsets (X,Y)-- [2:Edge,0-0-2], [3:1-0-15,0-2-10], [5:0-6-0,0-1-15], [8:1-0-15,0-2-10], [9:0-0-0,0-0-2], [15:0-3-8,0-4-12], [17:0-3-8,0-4-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.11	13	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.25	13	>978	180	MT18HS	244/190
BCLL	0.0	Rep Stress Incr	NO	WB	0.42	Horz(CT)	0.10	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 276 lb	FT = 20%

LUMBER-
TOP CHORD 2x6 SPF No.2 *Except*
5-6: 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2 *Except*
2-18,9-18: 2x4 SP 2400F 2.0E
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SP No.3 , Right: 2x4 SP No.3

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-8-11 oc purlins, except
2-0-0 oc purlins (4-4-12 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 21, 17, 11, 19, 13

REACTIONS. (size) 9=0-3-8, 2=0-3-8
Max Horz 2=55(LC 9)
Max Uplift 9=-183(LC 13), 2=-191(LC 12)
Max Grav 9=6254(LC 1), 2=6336(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 3-26=-11150/1570, 3-4=-11664/1654, 4-5=-8399/1225, 5-6=-7347/1107, 6-7=-8400/1229, 7-8=-11662/1649, 8-9=-11167/1591
BOT CHORD 2-20=-1313/9416, 14-20=-1234/8770, 10-14=-1227/8778, 9-10=-1319/9437, 3-21=-135/1069, 19-21=-135/1069, 17-19=-509/3633, 16-17=-16/497, 15-16=-16/497, 13-15=-508/3630, 11-13=-130/1061, 8-11=-130/1061
WEBS 4-21=-249/2087, 4-17=-3175/502, 5-17=-491/3422, 6-15=-494/3423, 7-15=-3174/502, 7-11=-247/2086, 14-16=-209/1784, 20-21=-304/95, 19-20=-92/705, 14-19=-2156/320, 10-11=-309/100, 10-13=-107/718, 13-14=-2164/323

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 0-7-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-6-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 9-9-0, Exterior(2E) 9-9-0 to 10-3-0, Exterior(2R) 10-3-0 to 14-5-15, Interior(1) 14-5-15 to 20-0-0 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
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) except (jt=lb) 9=183, 2=191.

March 11,2021

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

NOTES-

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

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-5=-90, 5-6=-90, 6-9=-90, 22-25=-20, 28-31=-630(F=-610)

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	LG1	GABLE	1	1	I45148959
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:42 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-LCL5hWGMnOtBRQpCLuR5w8Gl1UYS?7v06i?Dirzc2WV

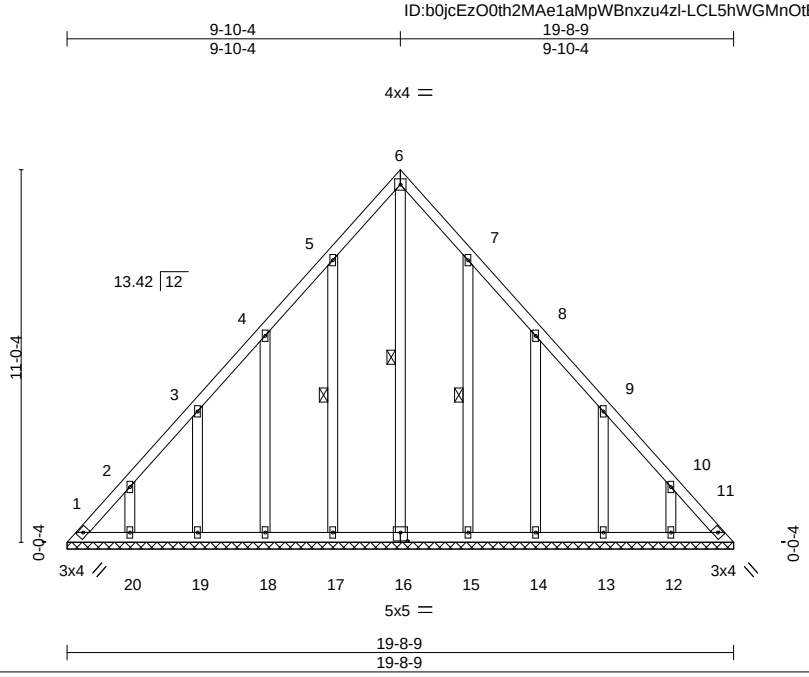


Plate Offsets (X,Y)-- [16:0-2-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.01	11	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 111 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 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 6-16, 5-17, 7-15

REACTIONS. All bearings 19-8-9.
(lb) - Max Horz 1=258(LC 9)
Max Uplift All uplift 100 lb or less at joint(s) 11 except 1=-112(LC 10), 17=-122(LC 12), 18=-127(LC 12), 19=-124(LC 12), 20=-122(LC 12), 15=-120(LC 13), 14=-128(LC 13), 13=-124(LC 13), 12=-122(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 11, 16, 18, 19, 20, 14, 13, 12 except 1=265(LC 12), 17=254(LC 19), 15=252(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-369/232, 2-3=-256/190, 10-11=-333/231

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-15 to 3-3-15, Interior(1) 3-3-15 to 9-10-4, Exterior(2R) 9-10-4 to 12-10-4, Interior(1) 12-10-4 to 19-4-10 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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 11 except (jt=lb) 1=112, 17=122, 18=127, 19=124, 20=122, 15=120, 14=128, 13=124, 12=122.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	LG2	GABLE	1	1	I45148960
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:45 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-ln1DJYIF4JFmItXn01_oYmuGThaRCTjSogEtJAzc2WS

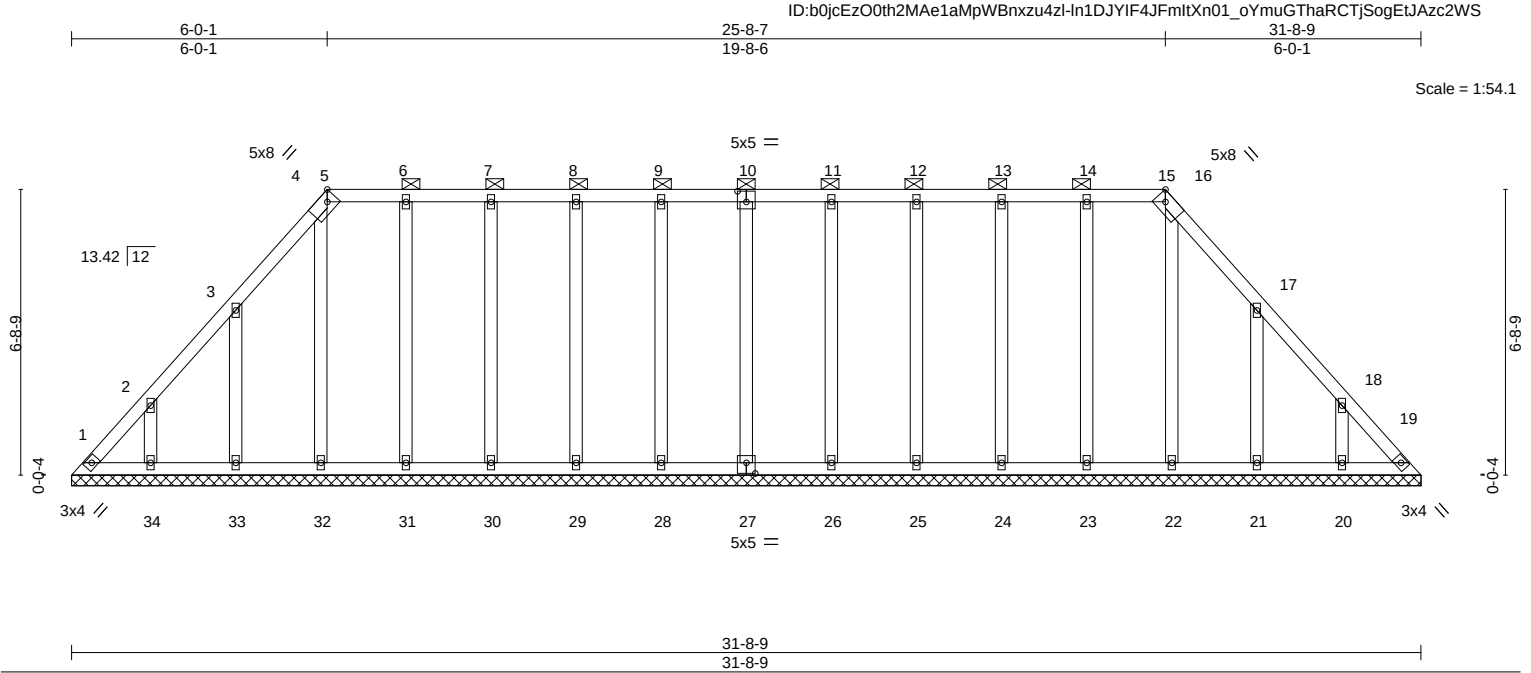


Plate Offsets (X,Y)-- [5:0-2-10,Edge], [10:0-2-8,0-3-0], [15:0-2-10,Edge], [27:0-2-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.01	19	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 167 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 5-15.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 31-8-9.
(lb) - Max Horz 1=-156(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) 1, 19, 27, 28, 29, 30, 31, 32, 26, 25, 24, 23 except 33=-136(LC 12), 34=-119(LC 12), 21=-138(LC 13), 20=-119(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 1, 19, 27, 28, 29, 30, 31, 32, 34, 26, 25, 24, 23, 22, 20 except 33=253(LC 19), 21=255(LC 20)

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

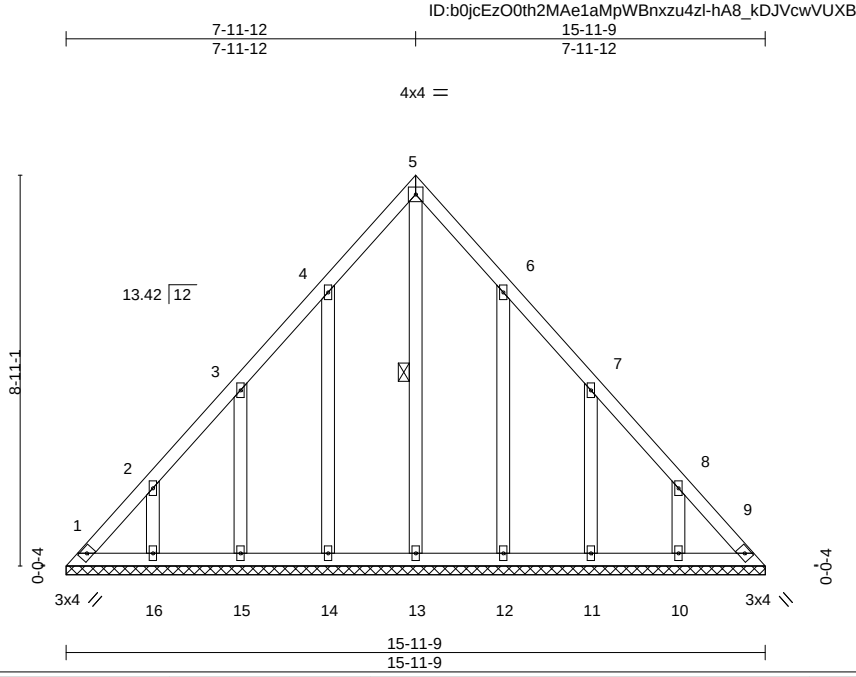
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-15 to 3-3-15, Interior(1) 3-3-15 to 6-0-1, Exterior(2R) 6-0-1 to 10-3-0, Interior(1) 10-3-0 to 25-8-7, Exterior(2R) 25-8-7 to 29-10-4, Interior(1) 29-10-4 to 31-4-10 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) Provide adequate drainage to prevent water ponding.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 19, 27, 28, 29, 30, 31, 32, 26, 25, 24, 23 except (jt=lb) 33=136, 34=119, 21=138, 20=119.
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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	LG3	GABLE	1	1	I45148961
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:47 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-hA8_kDJVcwVUXBhA8S1GdBzcsVFjgN0lF_j_N3zc2WQ



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.00	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 80 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 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 5-13

REACTIONS. All bearings 15-11-9.
(lb) - Max Horz 1=207(LC 9)
Max Uplift All uplift 100 lb or less at joint(s) 1, 9 except 14=-126(LC 12), 15=-126(LC 12), 16=-126(LC 12), 12=-124(LC 13), 11=-126(LC 13), 10=-125(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 1, 9, 13, 15, 16, 11, 10 except 14=255(LC 19), 12=253(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-282/185, 8-9=-253/179

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-15 to 3-3-15, Interior(1) 3-3-15 to 7-11-12, Exterior(2R) 7-11-12 to 10-11-12, Interior(1) 10-11-12 to 15-7-10 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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 9 except (jt=lb) 14=126, 15=126, 16=126, 12=124, 11=126, 10=125.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

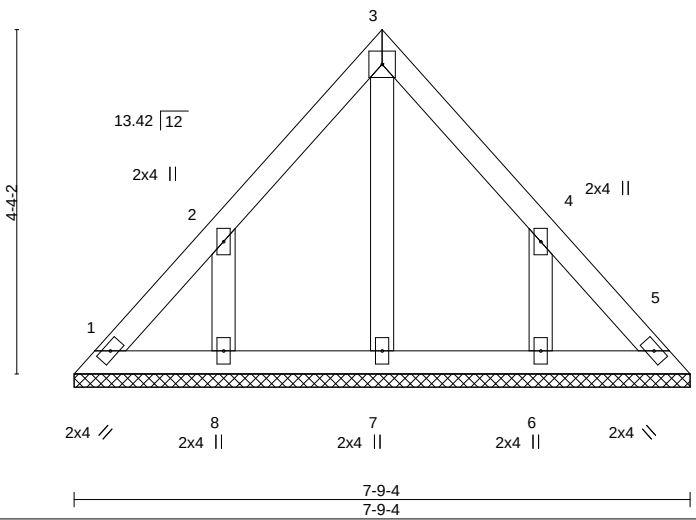
Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	LG4	GABLE	1	1	I45148962
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:48 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-9MiMyZK7NEeL9LGMh9YV9PWneubAPs7uUeSXvVzc2WP

3-10-10 7-9-4
3-10-10 3-10-10

4x4 =

Scale = 1:29.1



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 29 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 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. All bearings 7-9-4.
(lb) - Max Horz 1=-96(LC 8)
Max Uplift All uplift 100 lb or less at joint(s) 1, 5 except 8=-140(LC 12), 6=-140(LC 13)
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7 except 8=266(LC 19), 6=266(LC 20)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-8=-254/156, 4-6=-254/156

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-15 to 3-3-15, Interior(1) 3-3-15 to 3-10-10, Exterior(2R) 3-10-10 to 6-10-10, Interior(1) 6-10-10 to 7-5-5 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) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 5 except (jt=lb) 8=140, 6=140.
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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M1	Jack-Open	8	1	I45148963
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:49 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-dYGk9vLl8XmCnVrYFs3kic3yPIxJ8Jo2jIC5Sxzc2WO

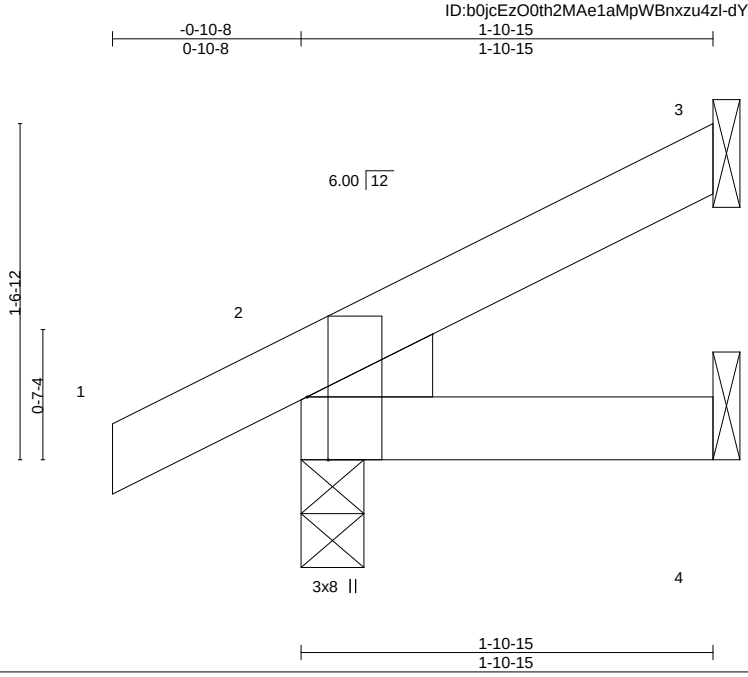


Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	-0.00	7	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 7 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=49(LC 12)
Max Uplift 3=-23(LC 12), 2=-22(LC 12), 4=-3(LC 12)
Max Grav 3=60(LC 1), 2=201(LC 1), 4=35(LC 3)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 3, 2, 4.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M2	Jack-Open	8	1	I45148964
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:50 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-6lq6NFMOuru3OfQlpaazEqb5ZiF5tm2Bxyxe_Nzc2WN

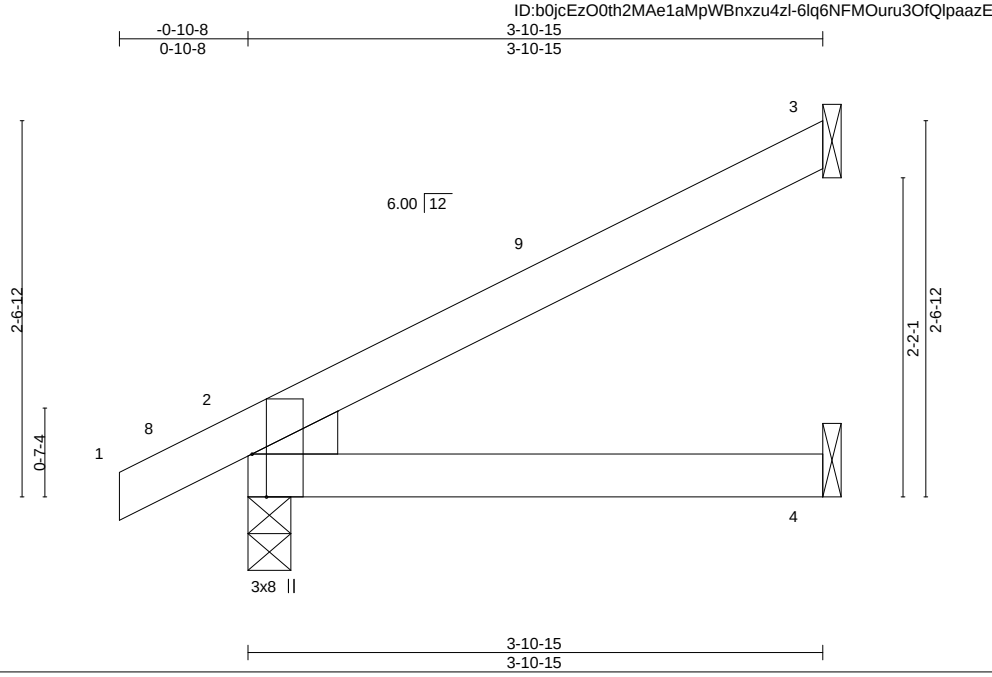


Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	0.02	4-7	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.03	4-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 11 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=84(LC 12)
Max Uplift 3=-52(LC 12), 2=-27(LC 12), 4=-1(LC 12)
Max Grav 3=143(LC 1), 2=299(LC 1), 4=76(LC 3)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 3-10-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 3, 2, 4.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M3	Jack-Open	16	1	I45148965
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:50 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-6lq6NFMOuru3OfQlpaazEqb1Oi90tmkBxyxe_Nzc2WN

-0-10-8 4-5-10 6-0-0
0-10-8 4-5-10 1-6-6

Scale = 1:20.7

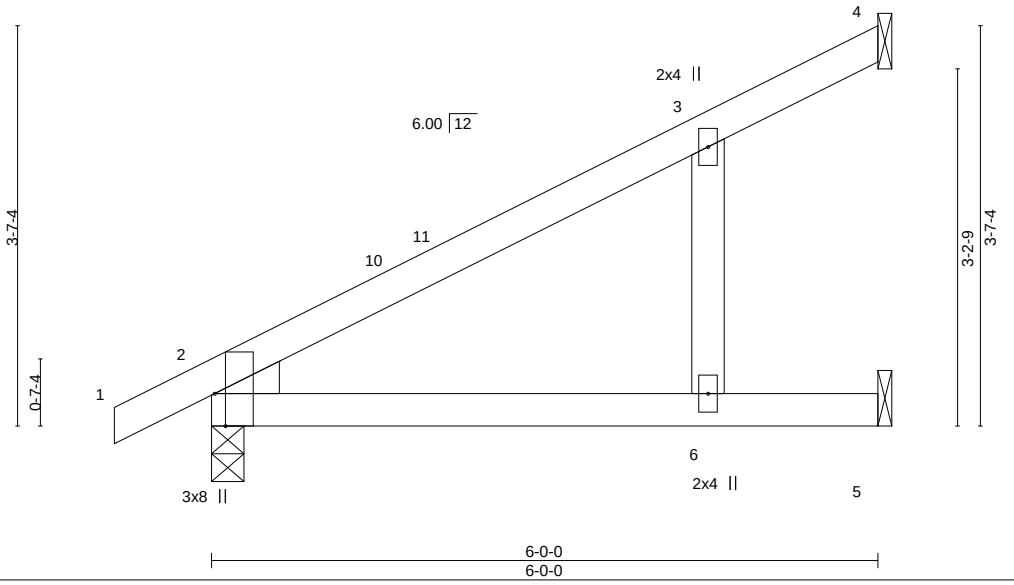


Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	0.10	6-9	>731	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.51	Vert(CT)	-0.19	6-9	>375	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.03	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 19 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 4=Mechanical, 2=0-3-8, 5=Mechanical
Max Horz 2=123(LC 12)
Max Uplift 4=-42(LC 12), 2=-34(LC 12), 5=-38(LC 12)
Max Grav 4=163(LC 1), 2=411(LC 1), 5=158(LC 1)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 5-11-4 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4, 2, 5.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
6) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

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

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M5	Monopitch Supported Gable	2	1	I45148966
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:52 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-27ytoxNeQS8neya7w?cRKFhTUWy1LgYUPGQl2Gzc2WL

-0-6-0 2-0-0
0-6-0 2-0-0

Scale = 1:10.9

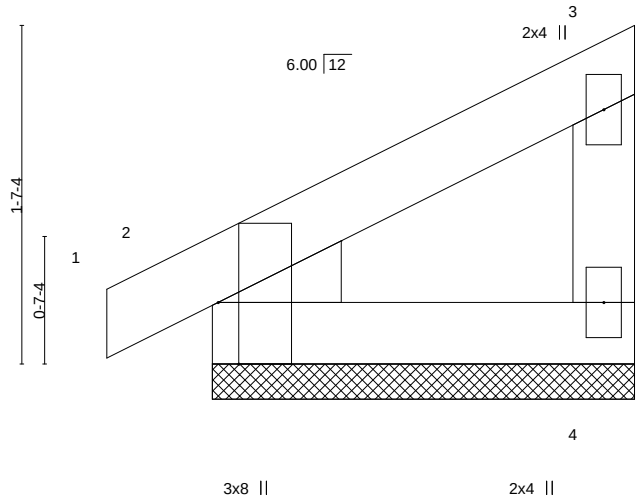


Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	-0.00	1	n/r	120	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	0.00	1	n/r	120		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 7 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

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

REACTIONS. (size) 4=2-0-0, 2=2-0-0
Max Horz 2=45(LC 9)
Max Uplift 4=-21(LC 12), 2=-19(LC 12)
Max Grav 4=96(LC 1), 2=153(LC 1)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) 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 1-4-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4, 2.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M6	Jack-Open	9	1	I45148967
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:53 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-WKWF?HOGBmGeF68KUi8gsSDVXvDd47DddwAIbizc2WK

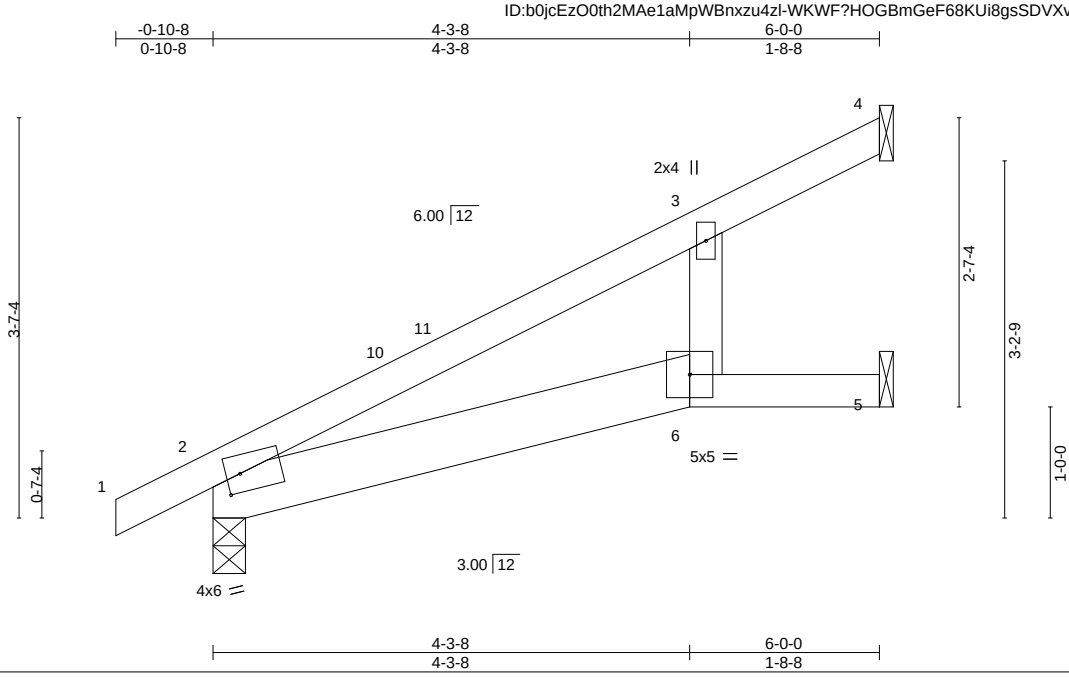


Plate Offsets (X,Y)-- [2:0-1-8,0-2-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	0.10	6	>711	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.19	6	>375	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 20 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 4=Mechanical, 2=0-3-8, 5=Mechanical
Max Horz 2=123(LC 12)
Max Uplift 4=-86(LC 12), 2=-34(LC 12)
Max Grav 4=304(LC 1), 2=411(LC 1), 5=33(LC 3)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 5-11-4 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) 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4, 2.
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) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M7	Jack-Open	2	1	I45148968
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:53 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-WKWF?HOGBmGeF68KUi8gsSDdXvGk47oddwAIbizc2WK

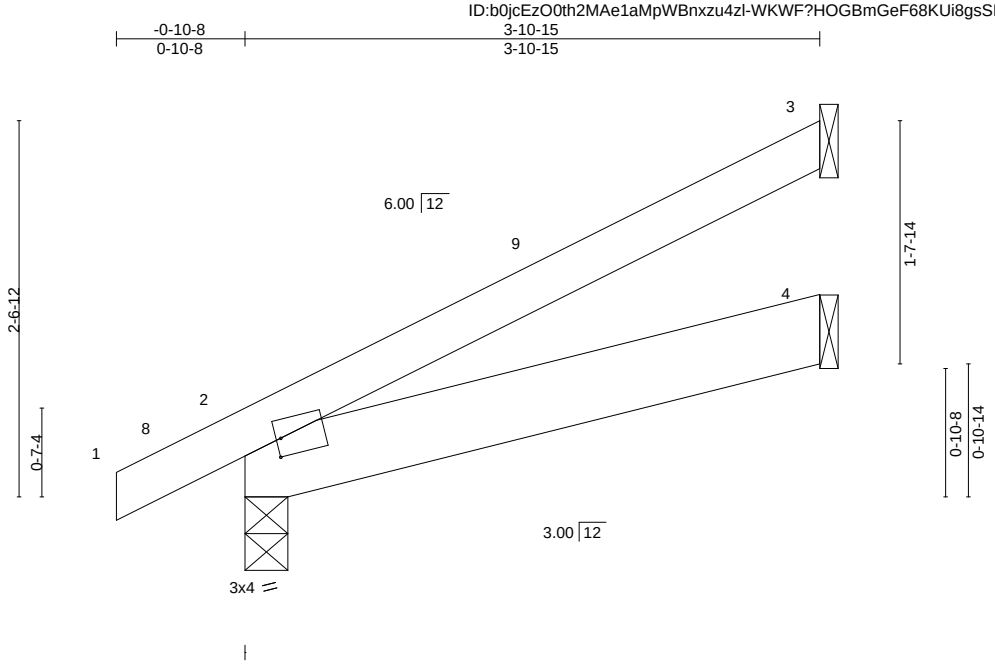


Plate Offsets (X,Y)-- [2:0-0-6,0-1-8]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	4-7	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	4-7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 14 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=84(LC 12)
Max Uplift 3=-47(LC 12), 2=-27(LC 12), 4=-5(LC 12)
Max Grav 3=128(LC 1), 2=299(LC 1), 4=89(LC 3)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior(1) 2-1-8 to 3-10-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 3, 2, 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.

March 11,2021

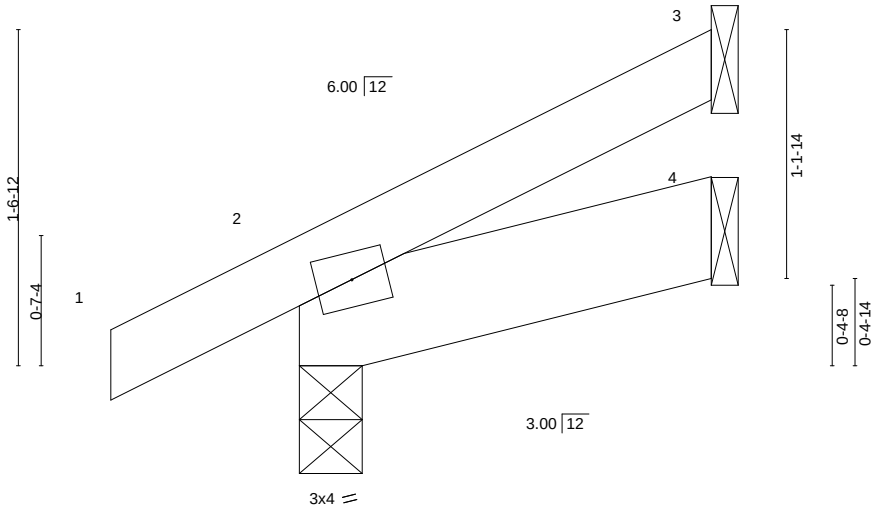
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	M8	Jack-Open	2	1	I45148969
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:56 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-wvBOdIQ8UheC6atu9rhNU5r8e7K5HUX3KtOyB1zc2WH

-0-10-8 1-10-15
0-10-8 1-10-15

Scale = 1:10.7



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	-0.00	7	>999	240	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	7	>999	180		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 7 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=49(LC 12)
Max Uplift 3=-21(LC 12), 2=-22(LC 12), 4=-4(LC 12)
Max Grav 3=55(LC 1), 2=201(LC 1), 4=41(LC 3)

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

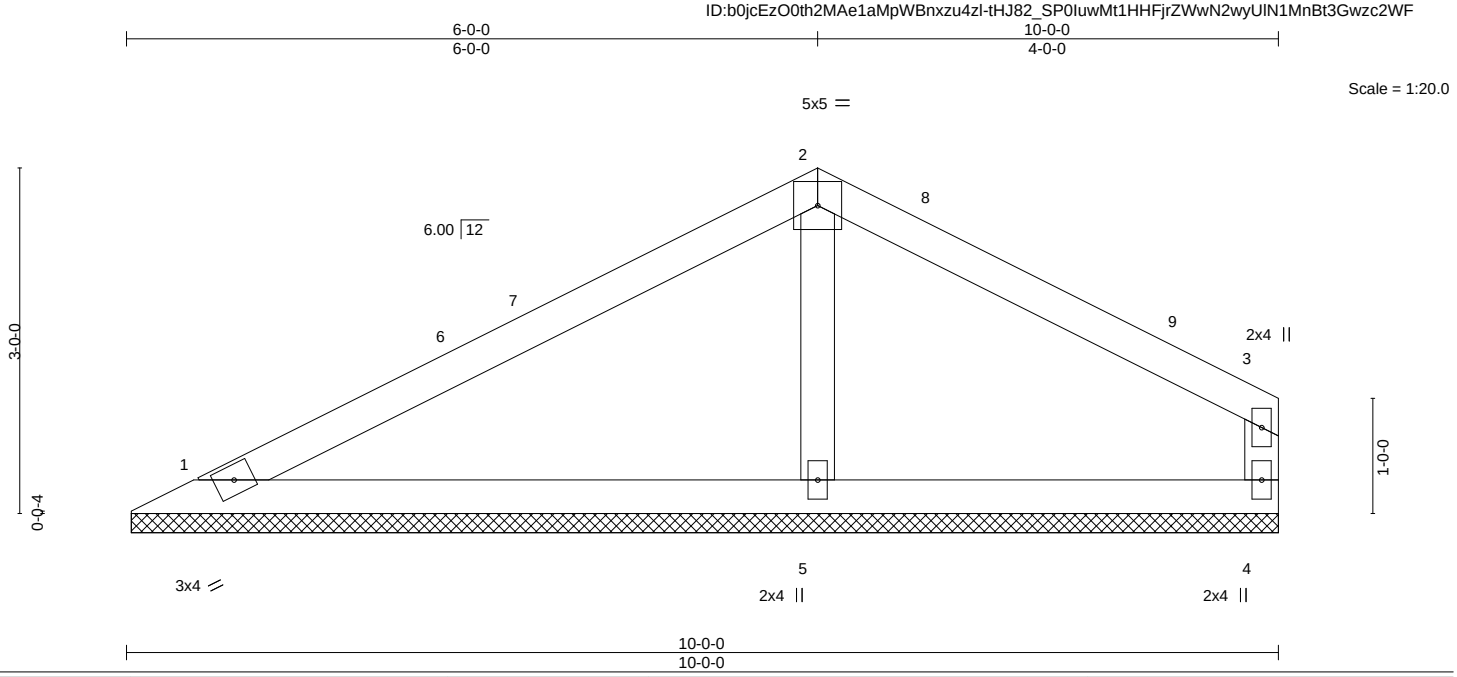
NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions 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) Bearing at joint(s) 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 3, 2, 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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V1	Valley	1	1	I45148970
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:58 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-tHJ82_SP0IuwMt1HHFjrZWwN2wyUlN1MnBt3Gwzc2WF



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 27 lb	FT = 20%

LUMBER-

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

BRACING-

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

REACTIONS. (size) 1=9-11-8, 4=9-11-8, 5=9-11-8
Max Horz 1=51(LC 9)
Max Uplift 1=-37(LC 12), 4=-59(LC 13), 5=-45(LC 12)
Max Grav 1=289(LC 1), 4=230(LC 26), 5=523(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-5=-383/164

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-7-9 to 3-7-9, Interior(1) 3-7-9 to 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior(1) 9-0-0 to 9-10-4 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) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 4, 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.

March 11,2021

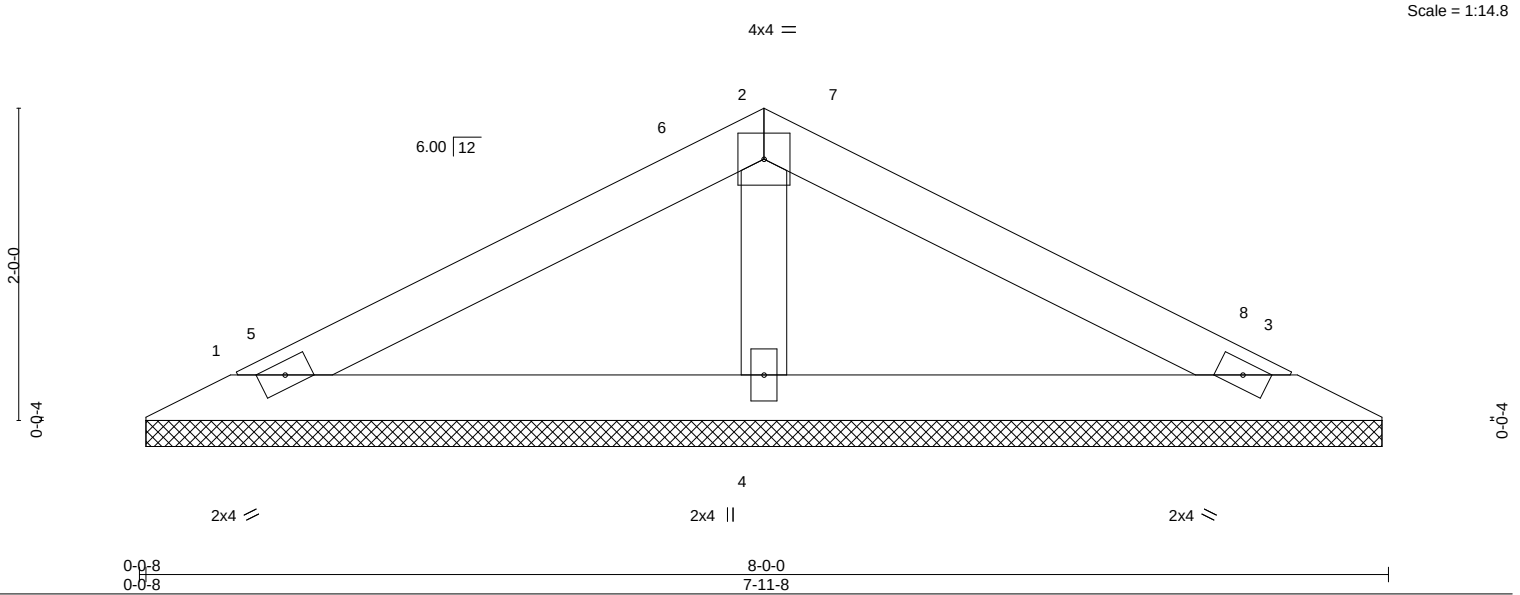
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V2	Valley	1	1	I45148971
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:27:59 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-LUtWGKT1nc0nz1cTrzE46jTcpKKdUrjW0rdcoMzc2WE

4-0-0 8-0-0
4-0-0 4-0-0

Scale = 1:14.8



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 19 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x4 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=7-11-0, 3=7-11-0, 4=7-11-0
Max Horz 1=27(LC 12)
Max Uplift 1=-32(LC 12), 3=-37(LC 13), 4=-11(LC 12)
Max Grav 1=191(LC 1), 3=191(LC 1), 4=359(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-274/135

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-7-9 to 3-7-9, Interior(1) 3-7-9 to 4-0-0, Exterior(2R) 4-0-0 to 7-0-0, Interior(1) 7-0-0 to 7-4-7 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) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V3	Valley	1	1	I45148972
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:00 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-pgRuTgUfYw8ebBBgOgmJex0r3kg5DIWfEVMAKozc2WD

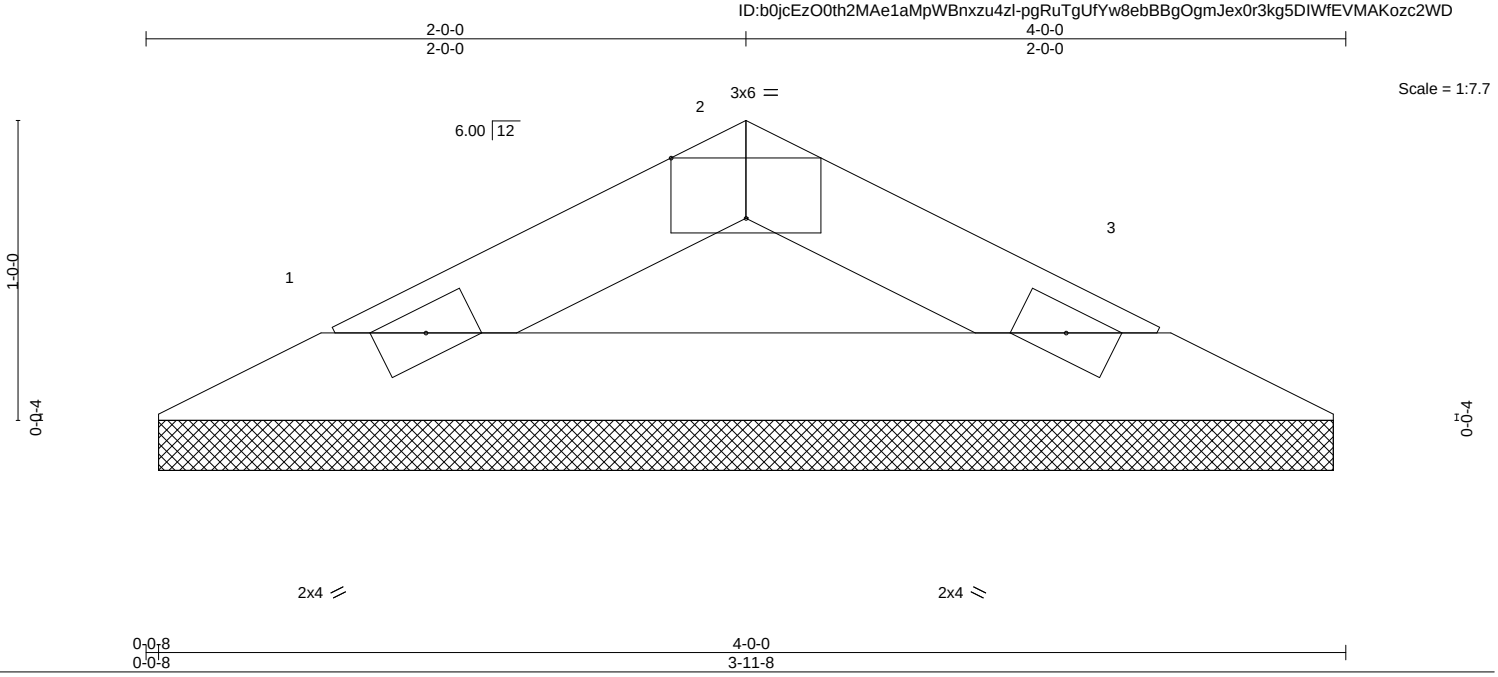


Plate Offsets (X,Y)-- [2:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 8 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2

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

REACTIONS. (size) 1=3-11-0, 3=3-11-0
Max Horz 1=11(LC 16)
Max Uplift 1=-15(LC 12), 3=-15(LC 13)
Max Grav 1=151(LC 1), 3=151(LC 1)

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end 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) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 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.

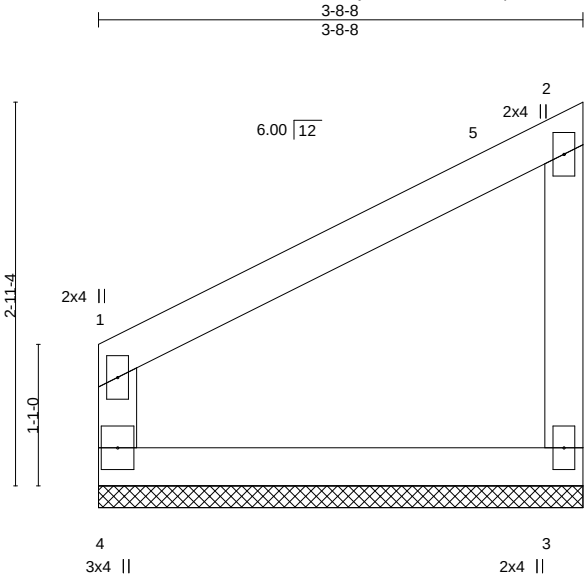
March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V4	Valley	1	1	I45148973
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:01 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-Hs?Hg0UHJDGVDLmsyOHYB8Y_R80mykmpT96jtFzc2WC



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 12 lb	FT = 20%

LUMBER-

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

BRACING-

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

REACTIONS. (size) 4=3-8-8, 3=3-8-8
Max Horz 4=93(LC 9)
Max Uplift 4=-15(LC 12), 3=-41(LC 12)
Max Grav 4=188(LC 1), 3=188(LC 1)

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

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior(1) 3-1-12 to 3-6-12 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
2) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 4, 3.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

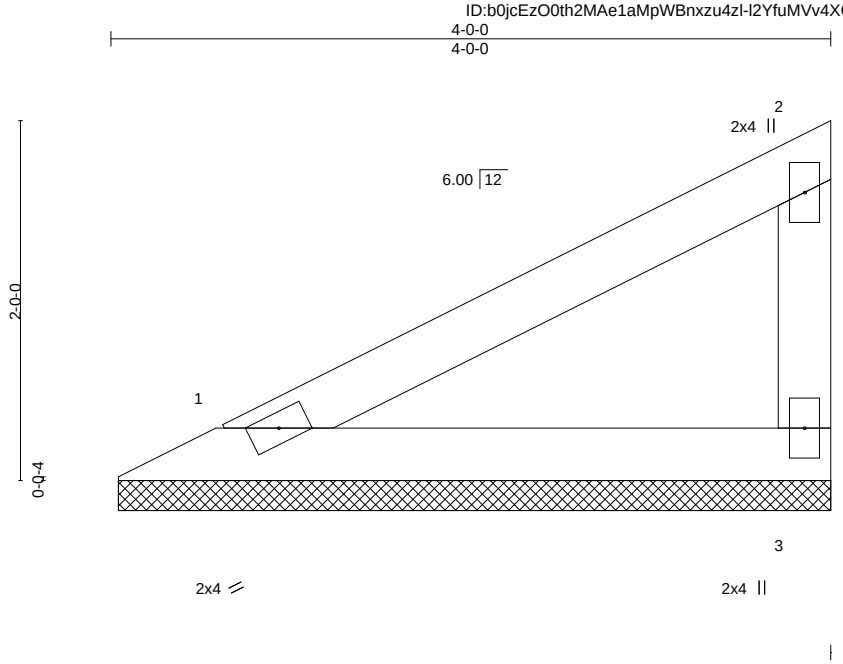
March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V5	Valley	1	1	I45148974
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:02 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-l2YfuMVv4XOMqVL2W5onkM58QYMHhB0yiprHPhzc2WB



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 20%

LUMBER-

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

BRACING-

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

REACTIONS. (size) 1=3-11-8, 3=3-11-8
Max Horz 1=60(LC 11)
Max Uplift 1=-19(LC 12), 3=-34(LC 12)
Max Grav 1=177(LC 1), 3=177(LC 1)

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

NOTES-

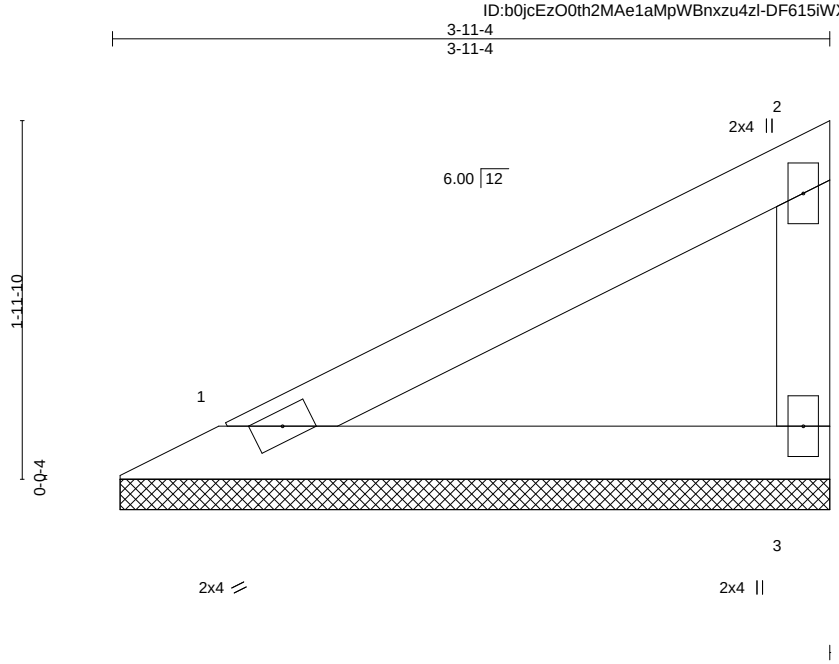
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V6	Valley	1	1	I45148975
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:03 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zI-DF615iWXrrWDSfvF4pJ0GZeJKxiaQeG5xTbqx7zc2WA



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 20%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-11-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=3-10-12, 3=3-10-12
Max Horz 1=59(LC 9)
Max Uplift 1=-18(LC 12), 3=-33(LC 12)
Max Grav 1=174(LC 1), 3=174(LC 1)

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

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end 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) Gable requires continuous bottom chord bearing.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

March 11,2021

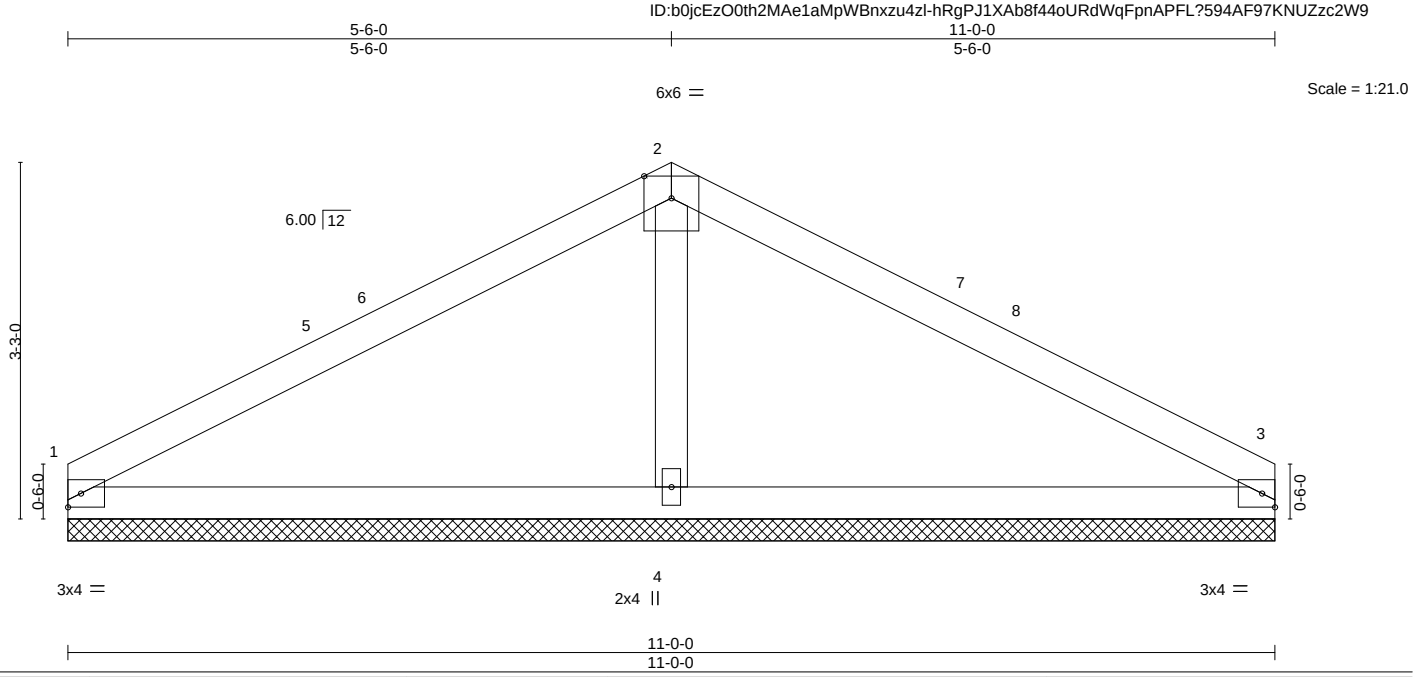
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V7	Valley	1	1	I45148976

Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:04 2021 Page 1

ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-hRgPJ1XAb8f44oURdWqFpnAPFL?594AF97KNUZzc2W9



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 30 lb	FT = 20%

LUMBER-

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
OTHERS	2x4 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=11-0-0, 3=11-0-0, 4=11-0-0
Max Horz 1=47(LC 16)
Max Uplift 1=-43(LC 12), 3=-52(LC 13), 4=-37(LC 12)
Max Grav 1=284(LC 25), 3=284(LC 26), 4=645(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-469/178

NOTES-

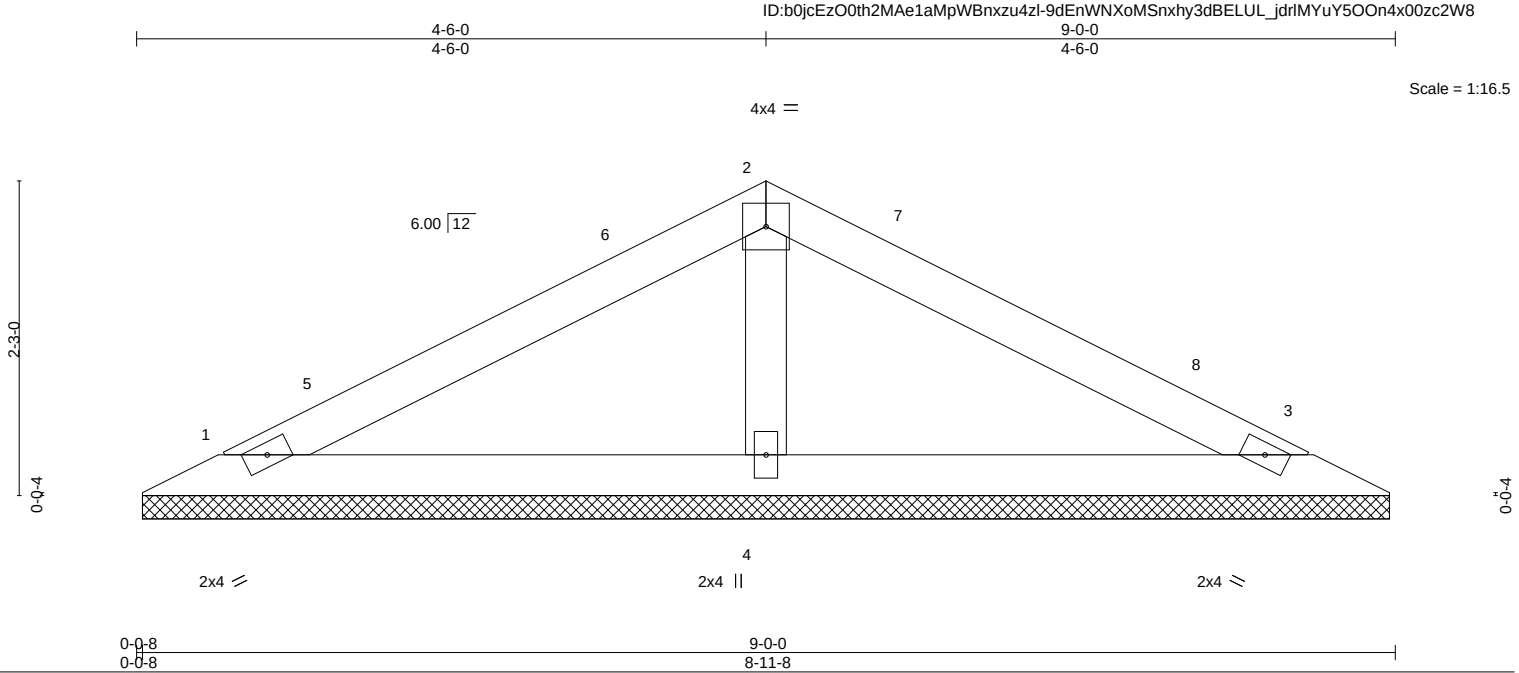
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior(1) 3-0-0 to 5-6-0, Exterior(2R) 5-6-0 to 8-6-0, Interior(1) 8-6-0 to 11-0-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V8	Valley	1	1	I45148977
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:05 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-9dEnWNXoMSnxhy3dBELUL_jdrlMYuY5OOn4x00zc2W8



LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	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	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 22 lb	FT = 20%

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

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

REACTIONS. (size) 1=8-11-0, 3=8-11-0, 4=8-11-0
Max Horz 1=31(LC 16)
Max Uplift 1=-37(LC 12), 3=-43(LC 13), 4=-13(LC 12)
Max Grav 1=220(LC 1), 3=220(LC 1), 4=412(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-315/143

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=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-7-9 to 3-7-9, Interior(1) 3-7-9 to 4-6-0, Exterior(2R) 4-6-0 to 7-6-0, Interior(1) 7-6-0 to 8-4-7 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) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 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.

March 11,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Summit/22 Woodside
2694977	V9	Valley	1	1	I45148978
					Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Feb 12 2021 MiTek Industries, Inc. Thu Mar 11 08:28:07 2021 Page 1
ID:b0jcEzO0th2MAe1aMpWBnxzu4zl-60MYx3Z2u31exGD0JeOyRPo1mZ2cMSFhr5Z24uzc2W6

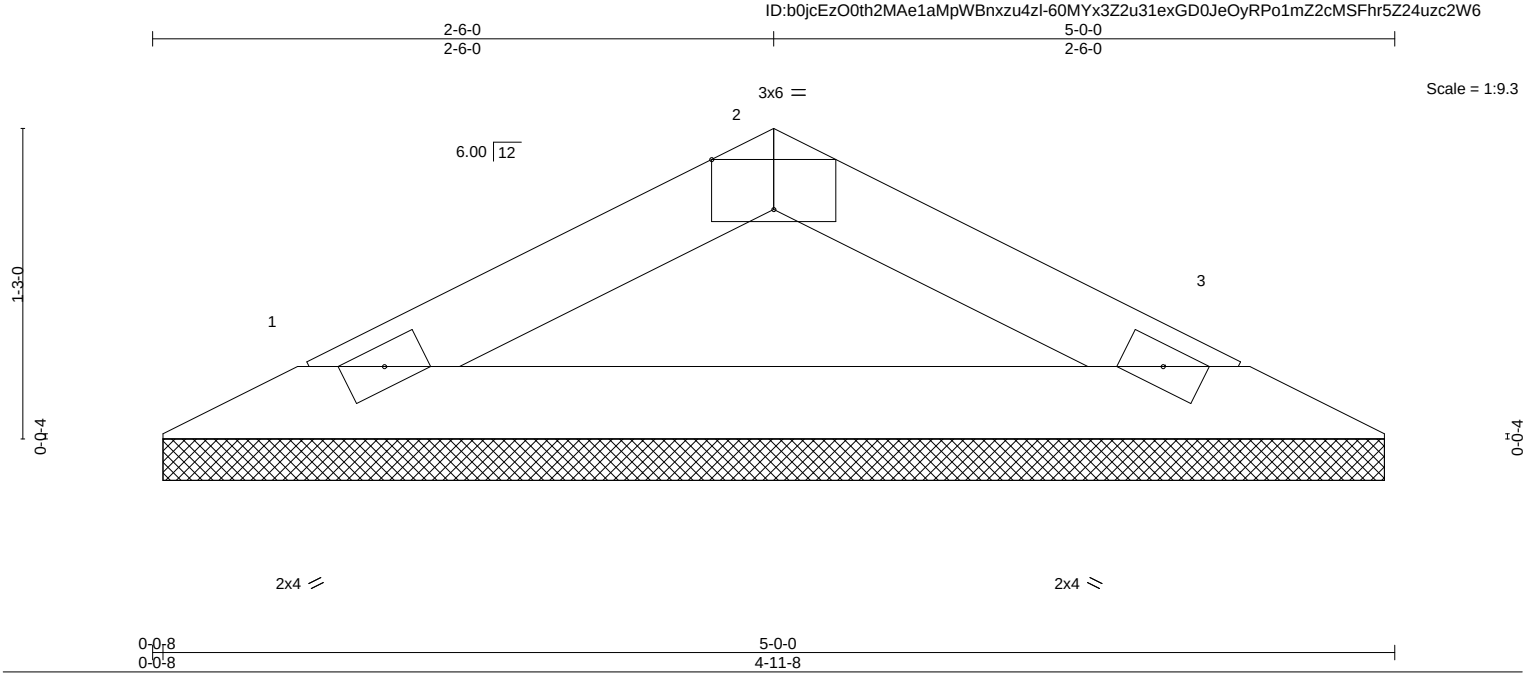


Plate Offsets (X,Y)-- [2:0-3-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 10 lb	FT = 20%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2

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

REACTIONS. (size) 1=4-11-0, 3=4-11-0
Max Horz 1=15(LC 16)
Max Uplift 1=-21(LC 12), 3=-21(LC 13)
Max Grav 1=206(LC 1), 3=206(LC 1)

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

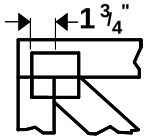
NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=15ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Gable requires continuous bottom chord bearing.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 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.

March 11,2021

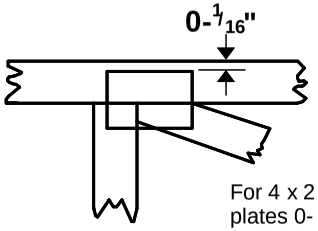
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Symbols

PLATE LOCATION AND ORIENTATION



Center plate on joint unless x, y offsets are indicated. Dimensions are in ft-in-sixteenths. Apply plates to both sides of truss and fully embed teeth.



For 4 x 2 orientation, locate plates 0- 1/16" from outside edge of truss.

This symbol indicates the required direction of slots in connector plates.

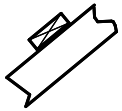
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

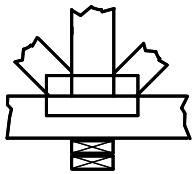
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



Indicated by symbol shown and/or by text in the bracing section of the output. Use T or I bracing if indicated.

BEARING

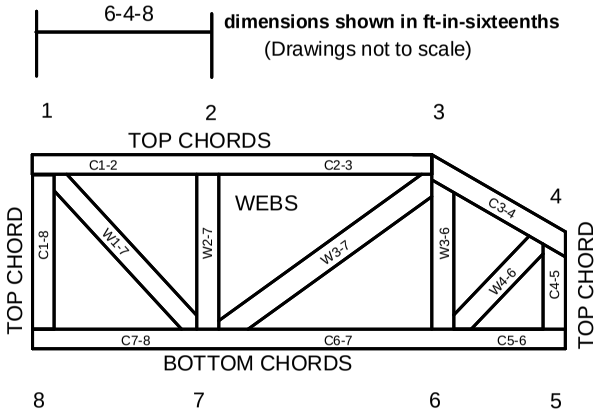


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-89: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



JOINTS ARE GENERALLY NUMBERED/LETTERED CLOCKWISE AROUND THE TRUSS STARTING AT THE JOINT FARTHEST TO THE LEFT.

CHORDS AND WEBS ARE IDENTIFIED BY END JOINT NUMBERS/LETTERS.

PRODUCT CODE APPROVALS

ICC-ES Reports:

ESR-1311, ESR-1352, ESR1988
ER-3907, ESR-2362, ESR-1397, ESR-3282

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.

Lumber design values are in accordance with ANSI/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek Engineering Reference Sheet: MII-7473 rev. 5/19/2020

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TPI 1 Quality Criteria.

21.The design does not take into account any dynamic or other loads other than those expressly stated.