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

Re: 2794071
C&H - 38 Osage

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

Pages or sheets covered by this seal: I46162161 thru I46162182

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

Missouri COA: Engineering 001193

May 18,2021

Sevier, Scott ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A1	GABLE COMMON	1	1	I46162161 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:48 2021 Page 1

ID:Yzh5jGTdUuk3JFmon9oxEvzZifN-VQt_Y31wtKsK1L2Iad9TUD3Lbk4?C8MFM6qMzFy_f

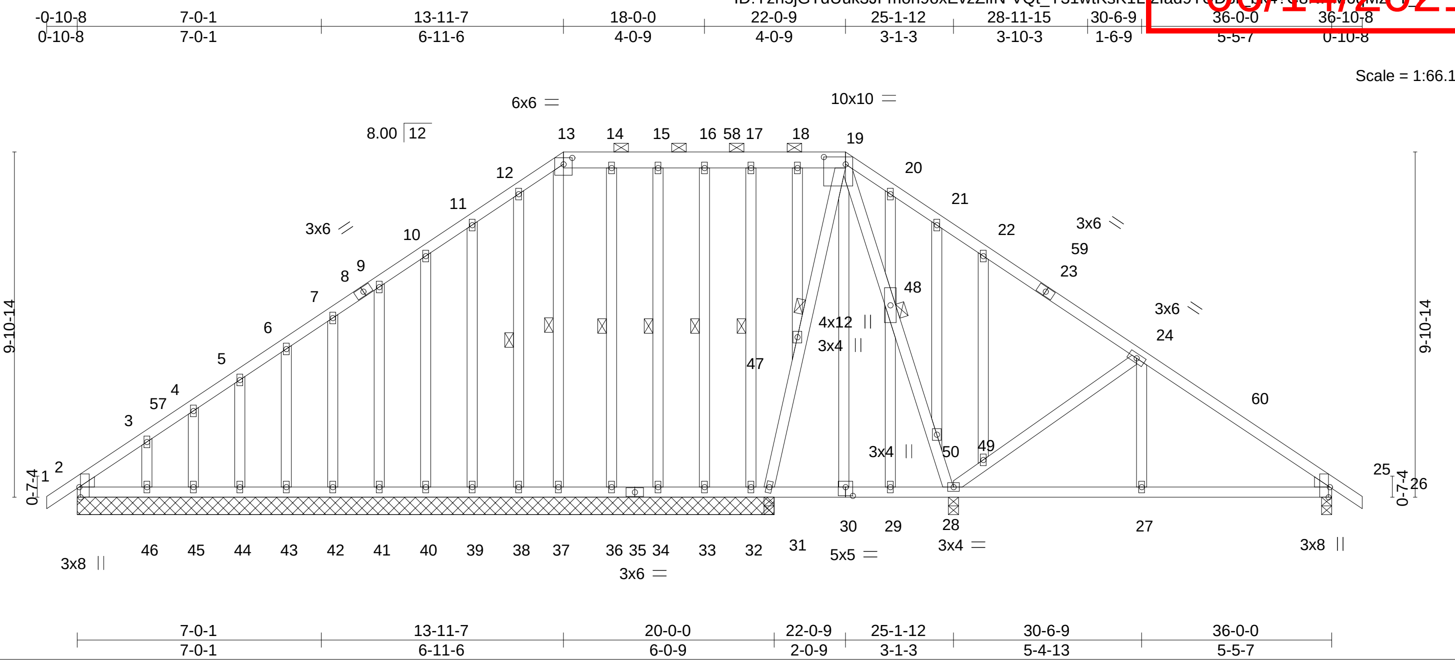

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [13:0-3-0,0-2-3], [19:0-7-8,0-2-8], [25:0-3-8,Edge], [30:0-2-8,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	-0.02	27-28	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.03	27-56	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.37	Horz(CT)	0.01	25	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 275 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
13-19: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 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, except
2-0-0 oc purlins (10-0-0 max.): 13-19.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 13-37, 16-33, 15-34, 14-36, 12-38, 17-32
JOINTS 1 Brace at Jt(s): 47, 48

REACTIONS. All bearings 20-0-0 except (jt=length) 25=0-3-8, 28=0-3-8.
(lb) - Max Horz 2=-260(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 2, 37, 31, 33, 34, 36, 38, 39, 40, 41, 42, 43, 44, 45, 32 except 25=-119(LC 15), 28=-238(LC 15), 46=-123(LC 14)
Max Grav All reactions 250 lb or less at joint(s) 2, 37, 31, 31, 33, 34, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 32, 2 except 25=519(LC 2), 28=815(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 24-25=-506/128
BOT CHORD 27-28=-0/354, 25-27=-0/354
WEBS 28-50=-565/259, 24-50=-500/218, 28-49=-333/83

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 13-11-7, Exterior(2R) 13-11-7 to 19-4-0, Interior(1) 19-4-0 to 22-2-14, Exterior(2R) 22-2-14 to 27-3-15, Interior(1) 27-3-15 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 37, 31, 33, 34, 36, 38, 39, 40, 41, 42, 43, 44, 45, 32, 2 except (jt=lb) 25=119, 28=238, 46=123.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

Continued on page 2

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A1	GABLE COMMON	1	1	I46162161
					Job Reference (optional)

NOTES-

12) 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.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A2	Piggyback Base	2	1	I46162162 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:56 2021 Page 1
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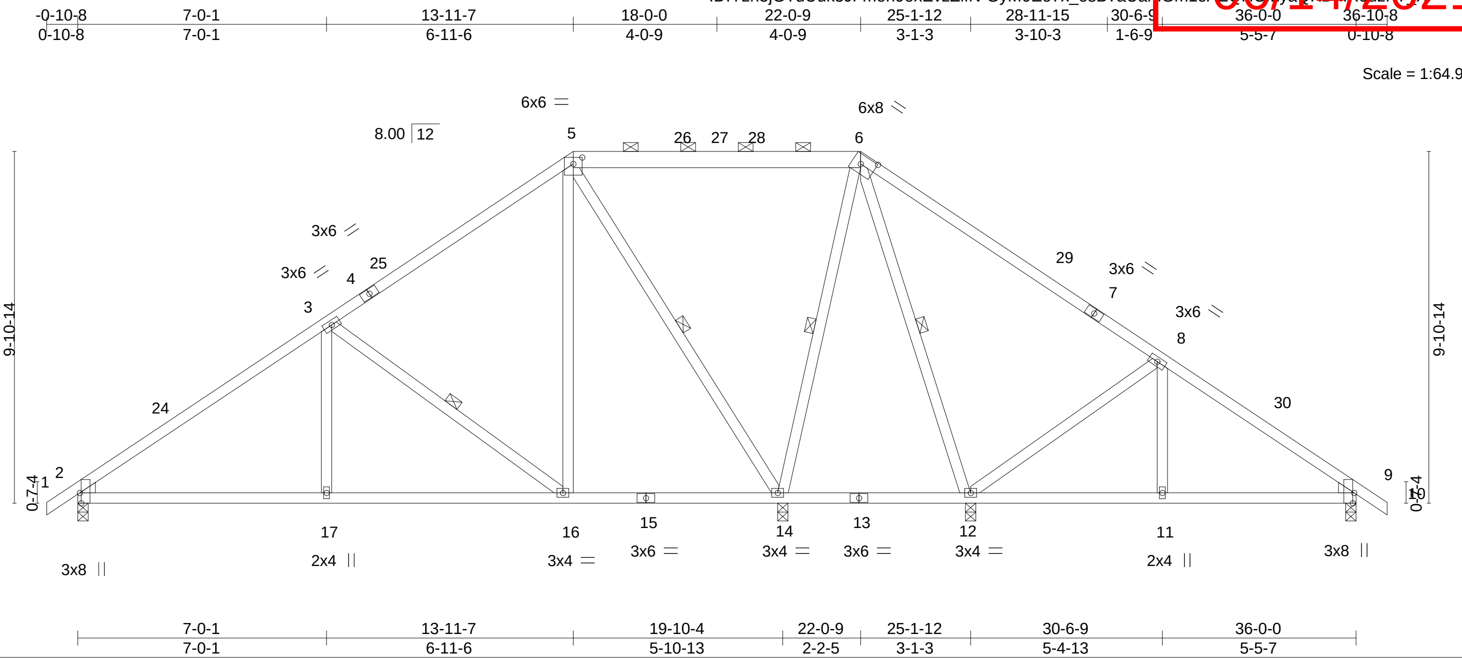

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [5:0-3-0,0-2-3], [6:0-5-0,0-3-0], [9:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	0.06	17-20	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.09	17-20	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.54	Horz(CT)	0.02	14	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 169 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
5-6: 2x6 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, except
2-0-0 oc purlins (10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 3-16, 6-14, 6-12, 5-14

REACTIONS. All bearings 0-3-8.
(lb) - Max Horz 2=-258(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) except 2=-180(LC 14), 9=-112(LC 15), 12=-229(LC 15), 14=-201(LC 14)
Max Grav All reactions 250 lb or less at joint(s) except 2=868(LC 32), 9=458(LC 33), 12=767(LC 33), 14=1387(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1037/221, 3-5=-494/194, 5-6=0/293, 6-8=0/436, 8-9=-408/133
BOT CHORD 2-17=-228/805, 16-17=-228/805, 14-16=-125/318, 11-12=-18/307, 9-11=-18/307
WEBS 3-17=0/287, 3-16=-633/277, 5-16=-103/494, 8-12=-623/291, 6-14=-478/84, 6-12=-339/111, 5-14=-946/234

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 13-11-7, Exterior(2R) 13-11-7 to 19-0-9, Interior(1) 19-0-9 to 22-0-9, Exterior(2R) 22-0-9 to 27-1-11, Interior(1) 27-1-11 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 180 lb uplift at joint 2, 112 lb uplift at joint 9, 229 lb uplift at joint 12 and 201 lb uplift at joint 14.
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.

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A3	Piggyback Base	9	1	I46162163 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:57 2021 Page 1
ID:Yzh5jGTdUuk3JFmon9oxEvzZifN-k9wOR78Zl5_2dk3mJzIGKO5d?cdMh3YT8L15eLzFY_W

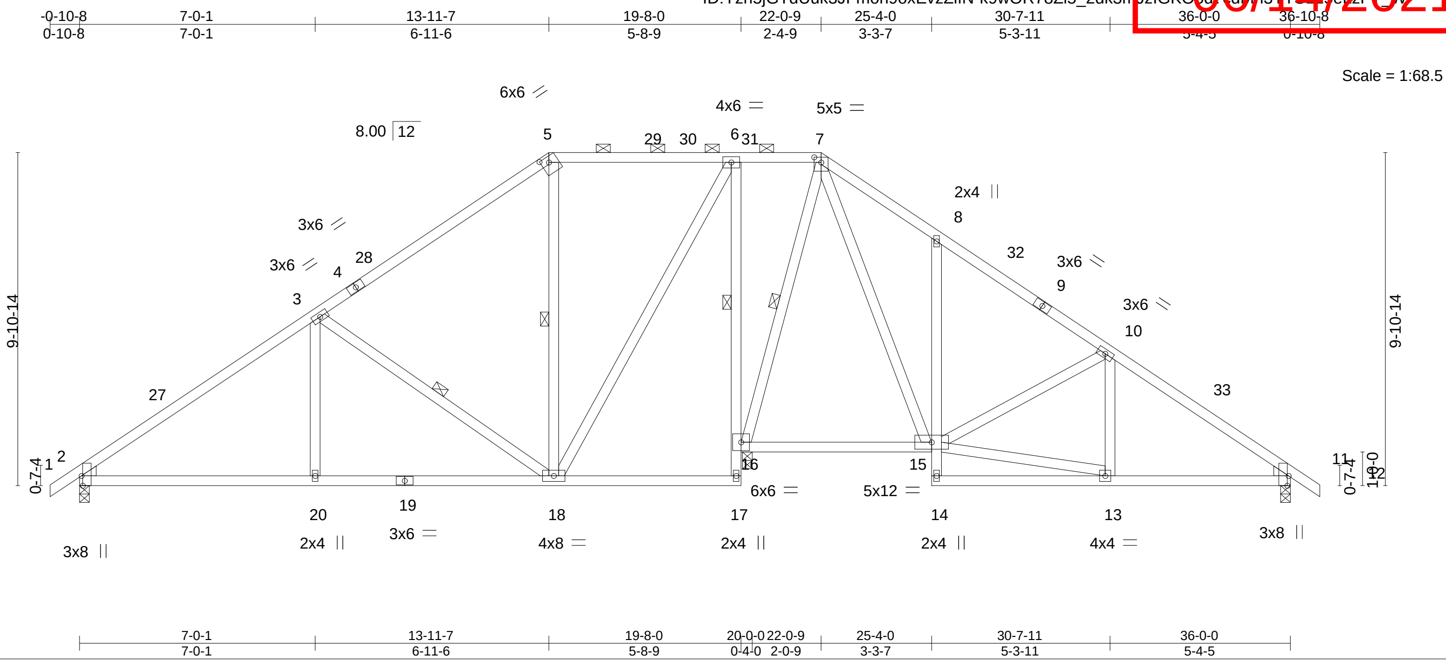

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [5:0-2-12,0-2-0], [7:0-2-8,0-1-13], [11:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	0.05	20-23	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.10	18-20	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.02	16	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 185 lb	FT = 20%
BCDL	10.0											

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, except
2-0-0 oc purlins (6-0-0 max.): 5-7.
BOT CHORD Rigid ceiling directly applied. Except:
1 Row at midpt 6-16
WEBS 1 Row at midpt 3-18, 5-18, 7-16

REACTIONS. (size) 2=0-3-8, 16=0-3-8, 11=0-3-8
Max Horz 2=-259(LC 12)
Max Uplift 2=-216(LC 14), 16=-152(LC 14), 11=-258(LC 15)
Max Grav 2=894(LC 32), 16=1765(LC 2), 11=733(LC 33)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1085/282, 3-5=-524/289, 5-6=-310/276, 6-7=-82/309, 7-8=-553/490,
8-10=-537/355, 10-11=-862/357
BOT CHORD 2-20=-280/843, 18-20=-280/843, 6-16=-1028/236, 8-15=-327/208, 11-13=-188/645
WEBS 3-20=0/292, 3-18=-648/280, 13-15=-172/629, 10-15=-362/165, 7-16=-650/83,
7-15=-288/768, 6-18=-171/816

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 13-11-7, Exterior(2R) 13-11-7 to 19-0-9, Interior(1) 19-0-9 to 22-0-9, Exterior(2R) 22-0-9 to 27-1-11, Interior(1) 27-1-11 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 216 lb uplift at joint 2, 152 lb uplift at joint 16 and 258 lb uplift at joint 11.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A4	Piggyback Base	4	1	I46162164 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:59 2021 Page 1

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-0-10-8	7-0-1	13-11-7	19-8-0	22-0-9	25-4-0	30-7-11	36-0-0	36-10-8
0-10-8	7-0-1	6-11-6	5-8-9	2-4-9	3-3-7	5-3-11	5-4-5	0-10-8

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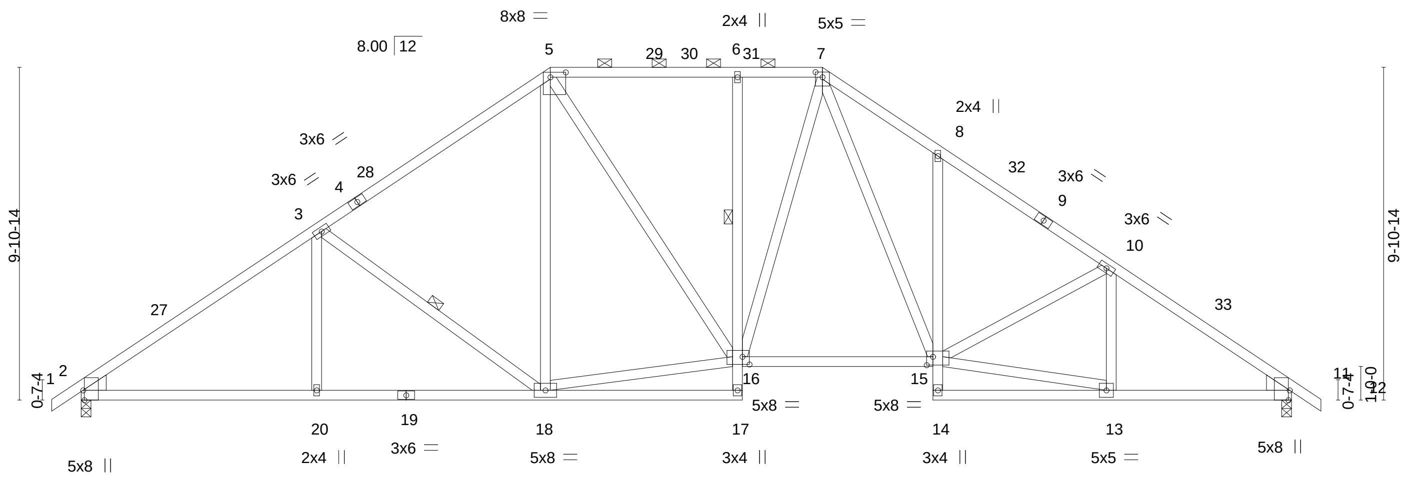

7-0-1	13-11-7	19-8-0	22-0-9	25-4-0	30-7-11	36-0-0
7-0-1	6-11-6	5-8-9	2-4-9	3-3-7	5-3-11	5-4-5

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [5:0-5-8,0-1-12], [7:0-2-8,0-1-13], [11:0-3-8,Edge], [15:0-2-4,0-3-0], [16:0-2-8,0-2-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.14	15-16	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.28	15-16	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.12	11	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 191 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Left: 2x6 SPF No.2 , Right: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (4-2-3 max.): 5-7.
BOT CHORD Rigid ceiling directly applied. Except:
1 Row at midpt 6-16
WEBS 1 Row at midpt 3-18

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=-259(LC 12)
Max Uplift 2=-286(LC 14), 11=-286(LC 15)
Max Grav 2=1681(LC 2), 11=1681(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2412/401, 3-5=-1917/381, 5-6=-1693/359, 6-7=-1694/358, 7-8=-2406/547,
8-10=-2414/412, 10-11=-2429/403
BOT CHORD 2-20=-377/1901, 18-20=-377/1901, 6-16=-331/155, 15-16=-89/1601, 8-15=-349/209,
11-13=-226/1928
WEBS 3-20=0/255, 3-18=-582/273, 5-18=-78/307, 16-18=-151/1449, 5-16=-132/531,
13-15=-216/1859, 10-13=-313/83, 7-16=-176/478, 7-15=-299/884

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 13-11-7, Exterior(2R) 13-11-7 to 19-0-9, Interior(1) 19-0-9 to 22-0-9, Exterior(2R) 22-0-9 to 27-1-11, Interior(1) 27-1-11 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 286 lb uplift at joint 2 and 286 lb uplift at joint 11.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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.

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

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A5	Piggyback Base	7	1	I46162165 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:00 2021 Page 1

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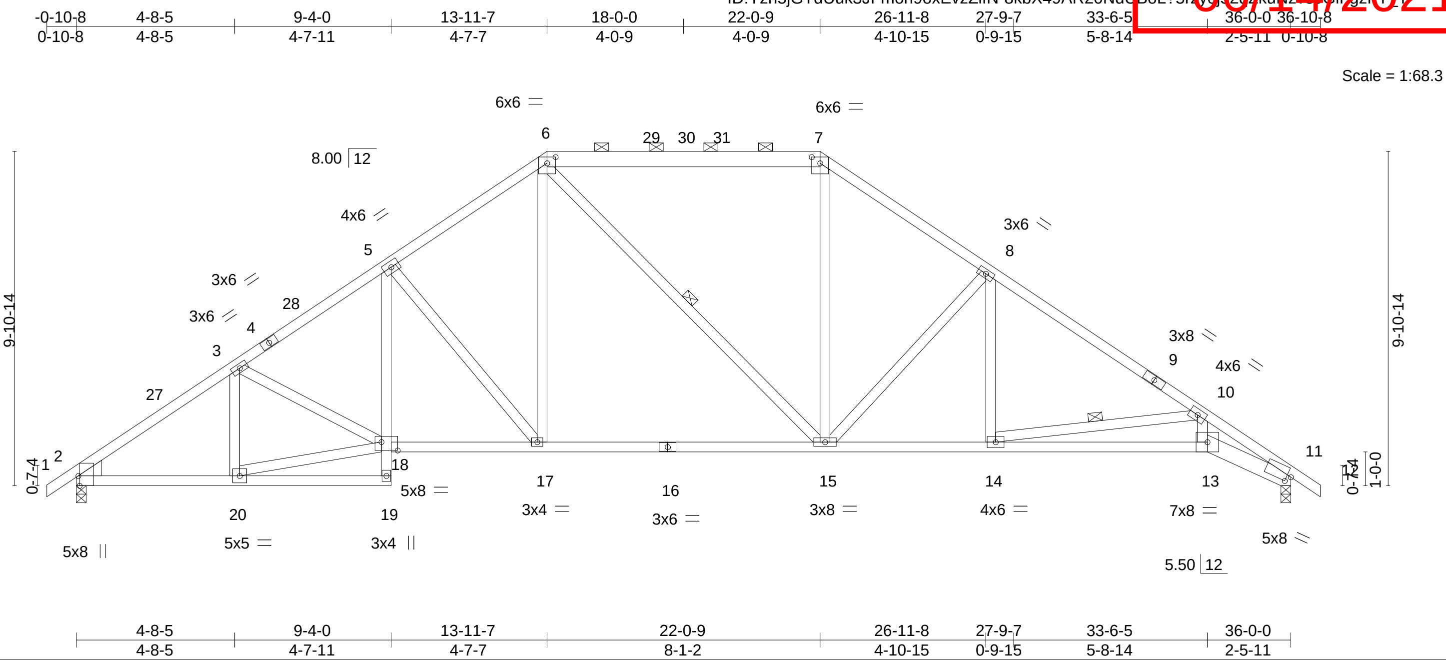

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [6:0-3-0,0-2-3], [7:0-3-0,0-2-3], [11:0-1-7,0-2-2], [18:0-5-12,0-3-0]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.67	Vert(LL)	-0.20	13-14	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.41	15-17	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.64	Horz(CT)	0.22	11	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 182 lb	FT = 20%
BCDL	10.0											

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except*
6-7: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
11-13: 2x6 SPF 2100F 1.8E, 13-16: 2x4 SPF 1650F 1.5E
WEBS 2x4 SPF No.2
WEDGE
Left: 2x6 SPF No.2

BRACING-

TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (4-8-13 max.): 6-7.
BOT CHORD Rigid ceiling directly applied.
WEBS 1 Row at midpt 6-15, 10-14

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=-258(LC 12)
Max Uplift 2=-286(LC 14), 11=-286(LC 15)
Max Grav 2=1681(LC 2), 11=1681(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2425/402, 3-5=-2556/470, 5-6=-2070/418, 6-7=-1636/377, 7-8=-2086/396, 8-10=-2647/422, 10-11=-4695/724
BOT CHORD 2-20=-408/1929, 5-18=-97/434, 17-18=-347/2067, 15-17=-171/1642, 14-15=-161/2138, 13-14=-542/3679, 11-13=-567/4003
WEBS 5-17=-666/268, 6-17=-140/661, 7-15=-100/655, 10-14=-1561/386, 10-13=-92/1204, 3-20=-402/131, 18-20=-401/1825, 8-14=-27/404, 8-15=-718/268

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 13-11-7, Exterior(2R) 13-11-7 to 19-0-9, Interior(1) 19-0-9 to 22-0-9, Exterior(2R) 22-0-9 to 27-1-4, Interior(1) 27-1-4 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 286 lb uplift at joint 2 and 286 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

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

May 18,2021

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A5	Piggyback Base	7	1	I46162155

Job Reference (optional)

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	C&H - 38 Osage
2794071	A6	Hip	1	1	I46162166 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Builders FirstSource (Valley Center), Valley Center, KS - 67147,

8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:03 2021 Page 1

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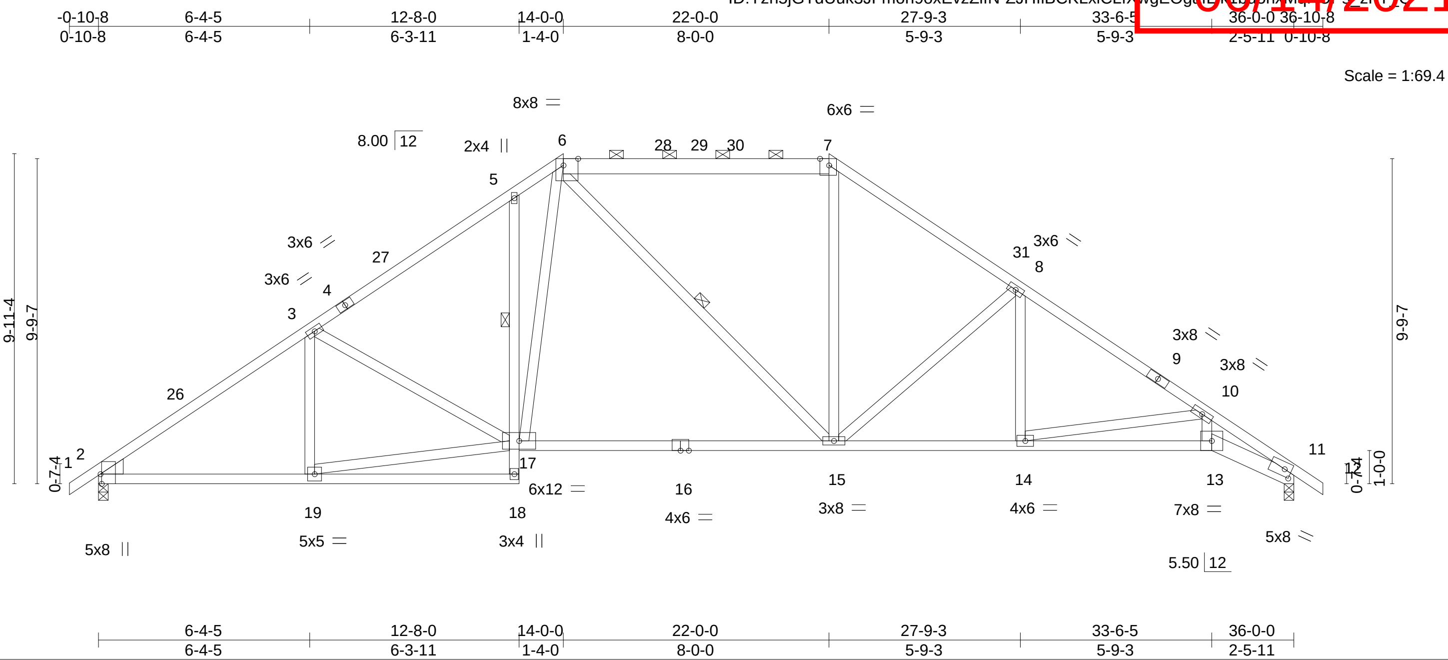

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [6:0-5-5,Edge], [7:0-3-5,Edge], [11:0-2-9,0-2-8]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.25	15-17	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.58	15-17	>748	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.21	11	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 181 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
6-7: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
11-13: 2x6 SPF 2100F 1.8E, 13-16: 2x4 SPF 1650F 1.5E
WEBS 2x4 SPF No.2
WEDGE
Left: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (4-10-1 max.): 6-7.
BOT CHORD Rigid ceiling directly applied. Except:
1 Row at midpt 5-17
WEBS 1 Row at midpt 6-15

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=257(LC 13)
Max Uplift 2=-286(LC 14), 11=-286(LC 15)
Max Grav 2=1681(LC 2), 11=1681(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2421/401, 3-5=-2235/415, 5-6=-2061/502, 6-7=-1656/378, 7-8=-2105/384,
8-10=-2719/437, 10-11=-4644/706
BOT CHORD 2-19=-384/1914, 15-17=-173/1639, 14-15=-187/2212, 13-14=-516/3625, 11-13=-546/3948
WEBS 17-19=-359/1909, 7-15=-84/615, 8-15=-719/272, 8-14=-28/395, 10-14=-1437/335,
10-13=-99/1188, 6-17=-241/792

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 14-0-0, Exterior(2R) 14-0-0 to 19-1-2, Interior(1) 19-1-2 to 22-0-0, Exterior(2R) 22-0-0 to 27-1-2, Interior(1) 27-1-2 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Bearing at joint(s) 11 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 286 lb uplift at joint 2 and 286 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) 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.

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A6	Hip	1	1	I46162156

Job Reference (optional)

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	C&H - 38 Osage
2794071	A7	HIP	1	1	I46162167 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:29:05 2021 Page 1
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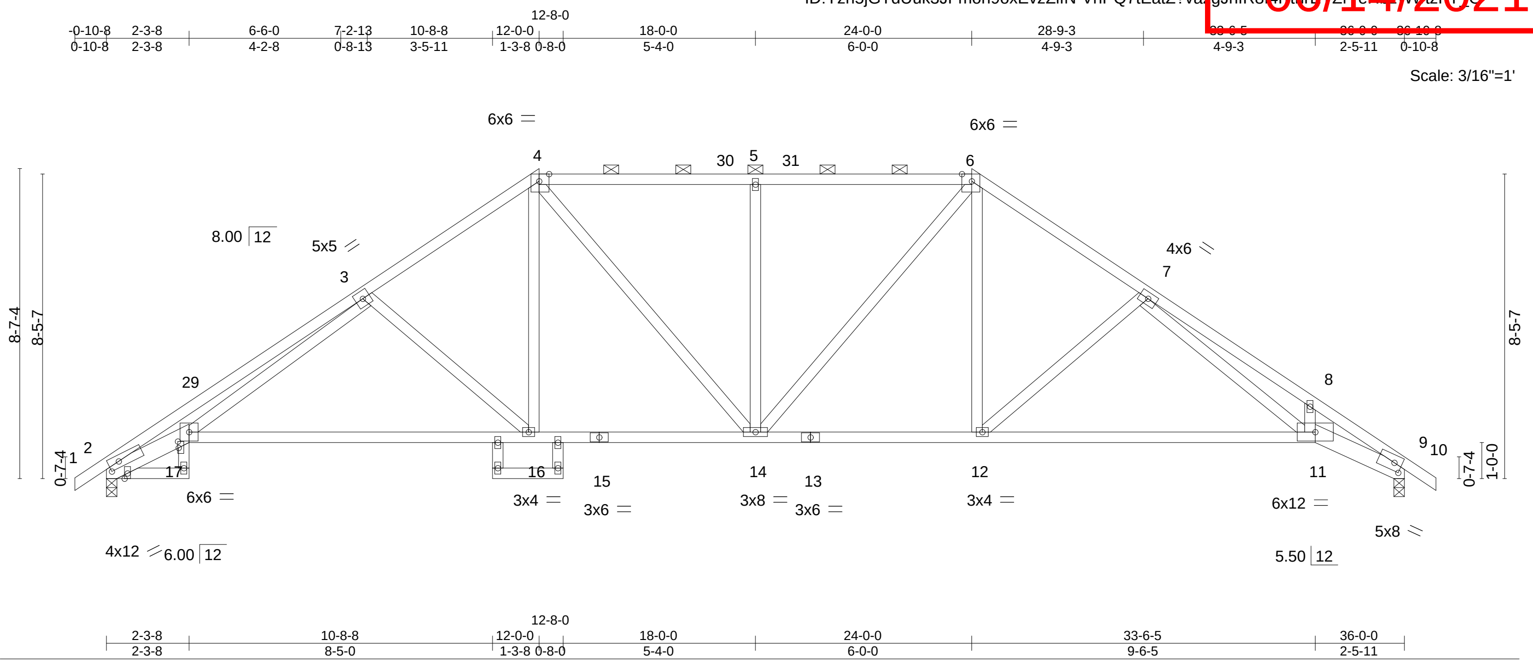

Plate Offsets (X,Y)-- [2:0-3-9,0-2-0], [4:0-3-5,Edge], [6:0-3-5,Edge], [9:0-2-9,0-2-8], [17:0-2-2,0-0-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.33	16-17	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.76	16-17	>570	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.37	9	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 174 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF 1650F 1.5E *Except*
4-6: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
9-11,2-17: 2x6 SPF 2100F 1.8E
WEBS 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (3-6-8 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 16-17.

REACTIONS. (size) 9=0-3-8, 2=0-3-8
Max Horz 2=-222(LC 12)
Max Uplift 9=-292(LC 15), 2=-292(LC 14)
Max Grav 9=1681(LC 2), 2=1681(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-4950/948, 3-4=-2306/442, 4-5=-2070/393, 5-6=-2070/393, 6-7=-2304/413,
7-8=-4554/805, 8-9=-4681/682
BOT CHORD 16-17=-444/2305, 14-16=-229/1829, 12-14=-99/1828, 11-12=-248/2307, 9-11=-515/3966,
2-17=-867/4233
WEBS 4-14=-213/509, 5-14=-513/207, 6-14=-213/512, 6-12=-97/600, 7-12=-612/262,
4-16=-118/609, 7-11=-354/1939, 3-16=-623/295, 3-17=-457/2238

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 12-0-0, Exterior(2R) 12-0-0 to 17-1-2, Interior(1) 17-1-2 to 24-0-0, Exterior(2R) 24-0-0 to 28-10-11, Interior(1) 28-10-11 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) Bearing at joint(s) 9, 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 292 lb uplift at joint 9 and 292 lb uplift at joint 2.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A8	HIP	1	1	I46162168 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:06 2021 Page 1

ID:Yzh5jGTdUuk3JFmon9oxEvzZifN-zuzoKCFCds7mC6FVLMyNCHz6rEl0I5loWFjiS3zFY_N

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

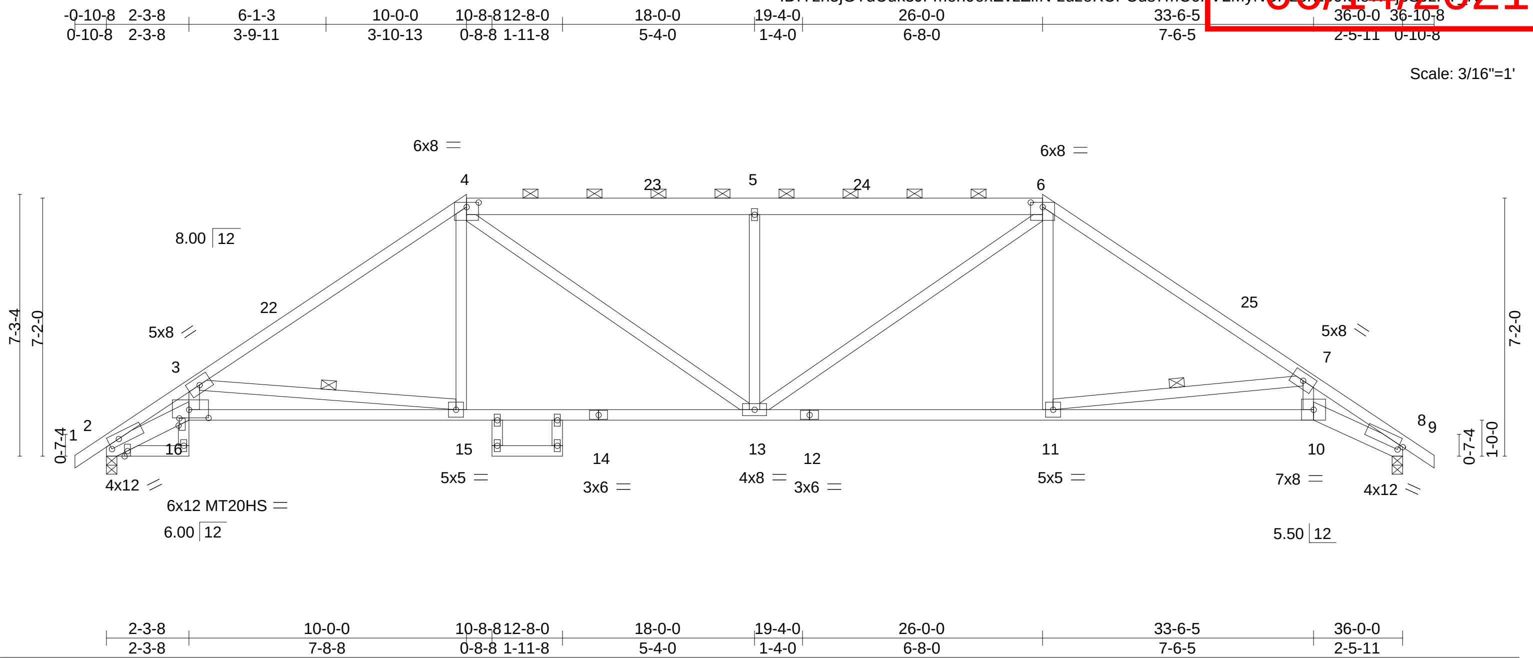

Plate Offsets (X,Y)-- [2:0-3-9,0-2-0], [4:0-4-0,0-1-9], [6:0-4-0,0-1-9], [8:0-1-4,0-1-7], [16:0-2-6,0-0-4], [16:0-6-8,0-2-12]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	-0.23	15-16	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.48	15-16	>895	180	MT20HS	148/108
TCDL	10.0	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.42	8	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 182 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SP 2400F 2.0E *Except*
4-6: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
14-16,10-12: 2x4 SPF 1650F 1.5E, 8-10,2-16: 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-3-8 oc purlins, except
2-0-0 oc purlins (4-2-15 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 7-4-3 oc bracing.
WEBS 1 Row at midpt 7-11, 3-15

REACTIONS. (size) 2=0-3-8, 8=0-3-8
Max Horz 2=-187(LC 12)
Max Uplift 2=-298(LC 14), 8=-298(LC 15)
Max Grav 2=1678(LC 2), 8=1678(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-5624/1176, 3-4=-2554/435, 4-5=-2557/428, 5-6=-2557/428, 6-7=-2548/411,
7-8=-5220/898
BOT CHORD 15-16=-957/4003, 13-15=-325/2012, 11-13=-167/2008, 10-11=-648/3799, 8-10=-731/4418,
2-16=-1115/4793
WEBS 7-10=-223/1817, 4-15=-14/488, 6-11=-5/489, 3-16=-402/2100, 7-11=-1798/524,
5-13=-671/284, 6-13=-278/819, 4-13=-281/817, 3-15=-1996/685

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-5-4, Interior(1) 2-5-4 to 10-0-0, Exterior(2R) 10-0-0 to 15-1-2, Interior(1) 15-1-2 to 26-0-0, Exterior(2R) 26-0-0 to 31-1-2, Interior(1) 31-1-2 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) Bearing at joint(s) 2, 8 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 298 lb uplift at joint 2 and 298 lb uplift at joint 8.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A9	Hip	1	1	I46162169 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:08 2021 Page 1
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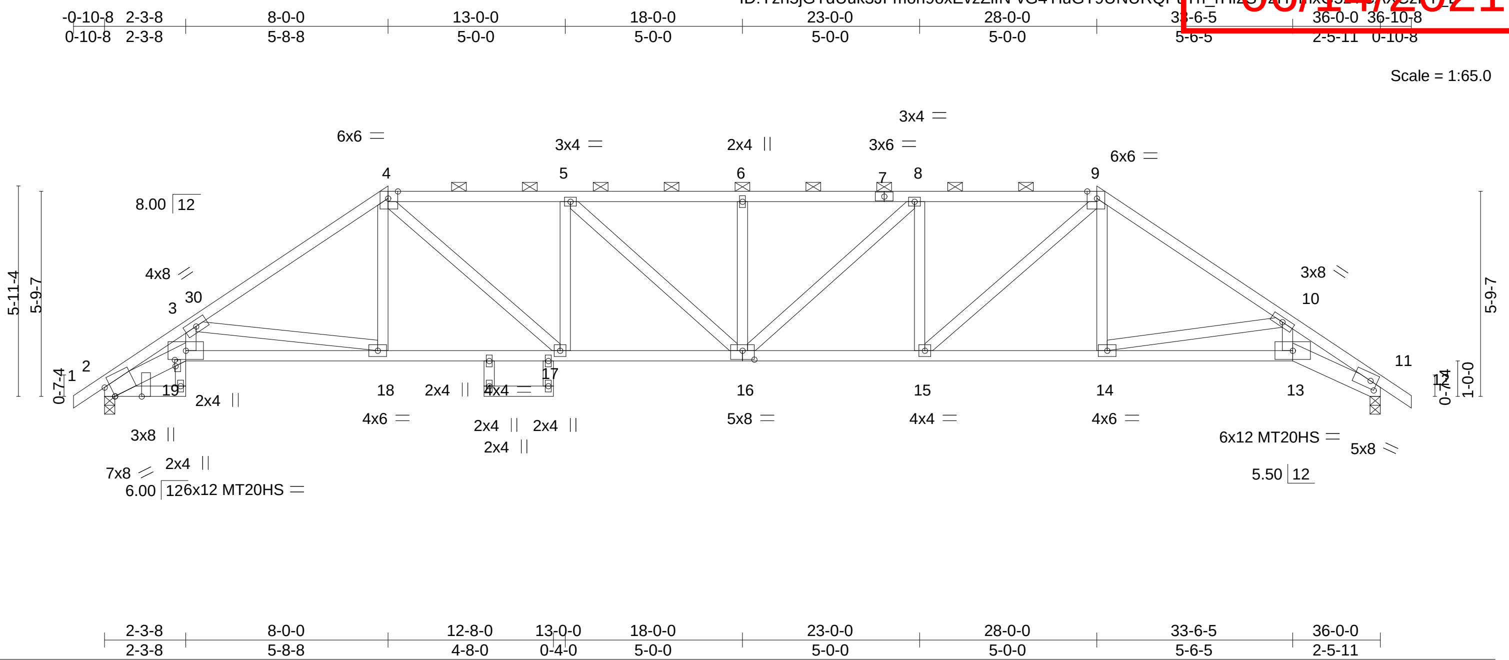

Plate Offsets (X,Y)-- [2:0-1-14,0-4-4], [4:0-3-5,Edge], [9:0-3-5,Edge], [11:0-2-5,0-2-8], [16:0-4-0,0-3-0], [19:0-2-2,0-0-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.31	16	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.56	16-17	>774	180	MT20HS	148/108
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.36	11	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 167 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
16-19,13-16: 2x4 SPF 1650F 1.5E, 11-13,2-19: 2x6 SPF 2100F 1.8E
WEBS 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied, except
2-0-0 oc purlins (2-11-11 max.): 4-9.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 2=0-3-8, 11=0-3-8
Max Horz 2=-153(LC 12)
Max Uplift 2=-301(LC 14), 11=-301(LC 15)
Max Grav 2=1681(LC 2), 11=1681(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-4895/948, 3-4=-2797/496, 4-5=-3020/543, 5-6=-3275/559, 6-8=-3275/559, 8-9=-3021/521, 9-10=-2788/469, 10-11=-4625/764
BOT CHORD 18-19=-808/3800, 17-18=-417/2271, 16-17=-553/3018, 15-16=-480/3019, 14-15=-255/2267, 13-14=-565/3618, 11-13=-598/3931, 2-19=-873/4189
WEBS 9-14=-33/430, 10-14=-1363/357, 10-13=-114/1154, 3-19=-210/1310, 4-18=-45/431, 3-18=-1537/473, 8-15=-656/247, 6-16=-353/139, 5-17=-655/247, 4-17=-307/1100, 9-15=-304/1104, 8-16=-148/402, 5-16=-147/403

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-5-4, Interior(1) 2-5-4 to 8-0-0, Exterior(2R) 8-0-0 to 13-0-0, Interior(1) 13-0-0 to 28-0-0, Exterior(2R) 28-0-0 to 33-4-9, Interior(1) 33-4-9 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) Bearing at joint(s) 2, 11 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 301 lb uplift at joint 2 and 301 lb uplift at joint 11.
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) 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A10	HIP	1	1	I46162170 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:50 2021 Page 1
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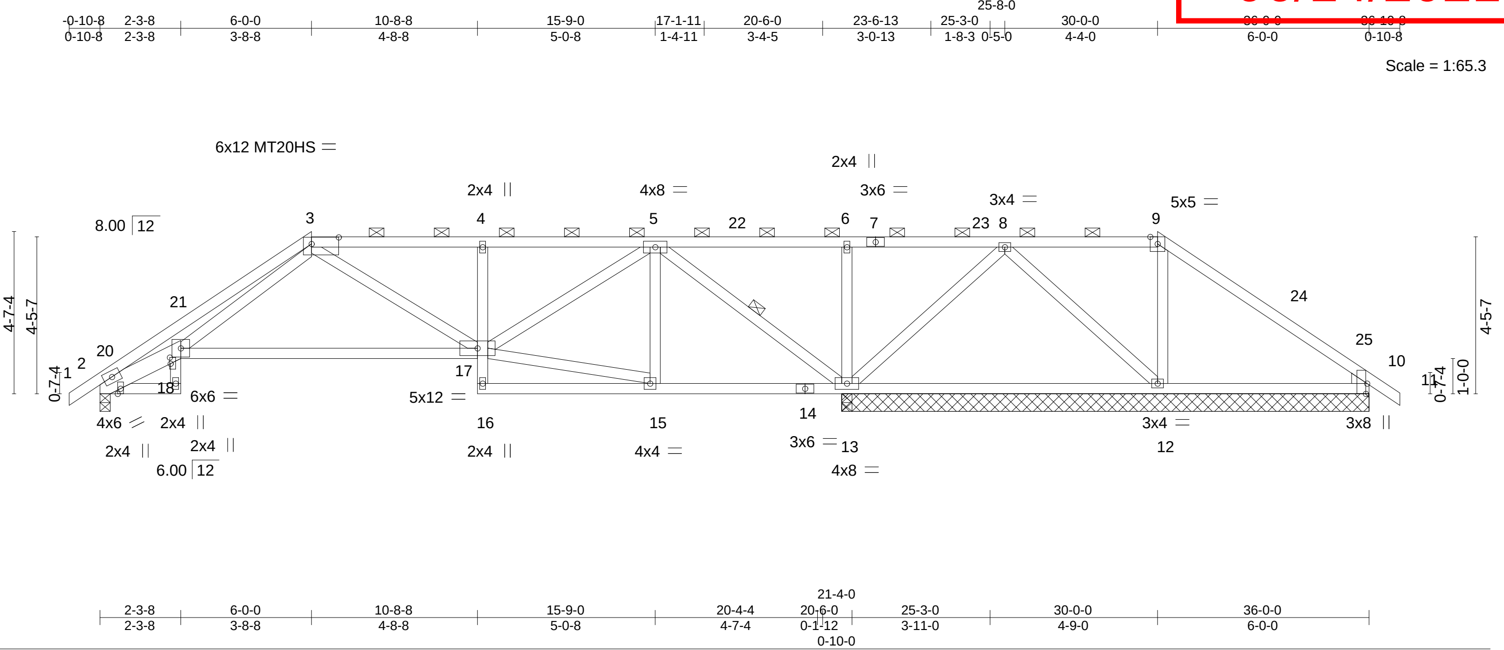

Plate Offsets (X,Y)-- [3:0-9-4,0-2-4], [10:0-3-8,Edge], [18:0-2-2,0-0-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.23	17-18	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.52	17-18	>487	180	MT20HS	148/108
TCDL	10.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.13	13	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 155 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
2-18: 2x6 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
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 (6-0-0 max.): 3-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 5-13

REACTIONS. All bearings 14-11-8 except (jt=length) 2=0-3-8.
(lb) - Max Horz 2=119(LC 13)
Max Uplift All uplift 100 lb or less at joint(s) 12 except 2=-114(LC 14), 10=-102(LC 15), 13=-474(LC 11)
Max Grav All reactions 250 lb or less at joint(s) 10 except 2=711(LC 2), 12=256(LC 33), 13=2290(LC 32), 13=2038(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2428/358, 3-4=-628/233, 4-5=-604/231, 5-6=-279/1496, 6-8=-279/1496, 9-10=-71/310
BOT CHORD 17-18=-197/674, 4-17=-360/155, 12-13=-661/85, 2-18=-375/2107
WEBS 9-12=-475/103, 3-18=-179/1583, 5-17=-191/927, 6-13=-366/147, 5-13=-1630/354, 8-12=-54/714, 8-13=-1141/262

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-8-11, Interior(1) 2-8-11 to 6-0-0, Exterior(2R) 6-0-0 to 10-10-4, Interior(1) 10-10-4 to 30-0-0, Exterior(2R) 30-0-0 to 35-1-2, Interior(1) 35-1-2 to 36-10-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) 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 100 lb uplift at joint(s) 12 except (jt=lb) 2=114, 10=102, 13=474.
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.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage	
2794071	A11	Hip Girder	1	1	Job Reference (optional)	I46162171

RELEASE FOR CONSTRUCTION
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:27:54 2021 Page 1

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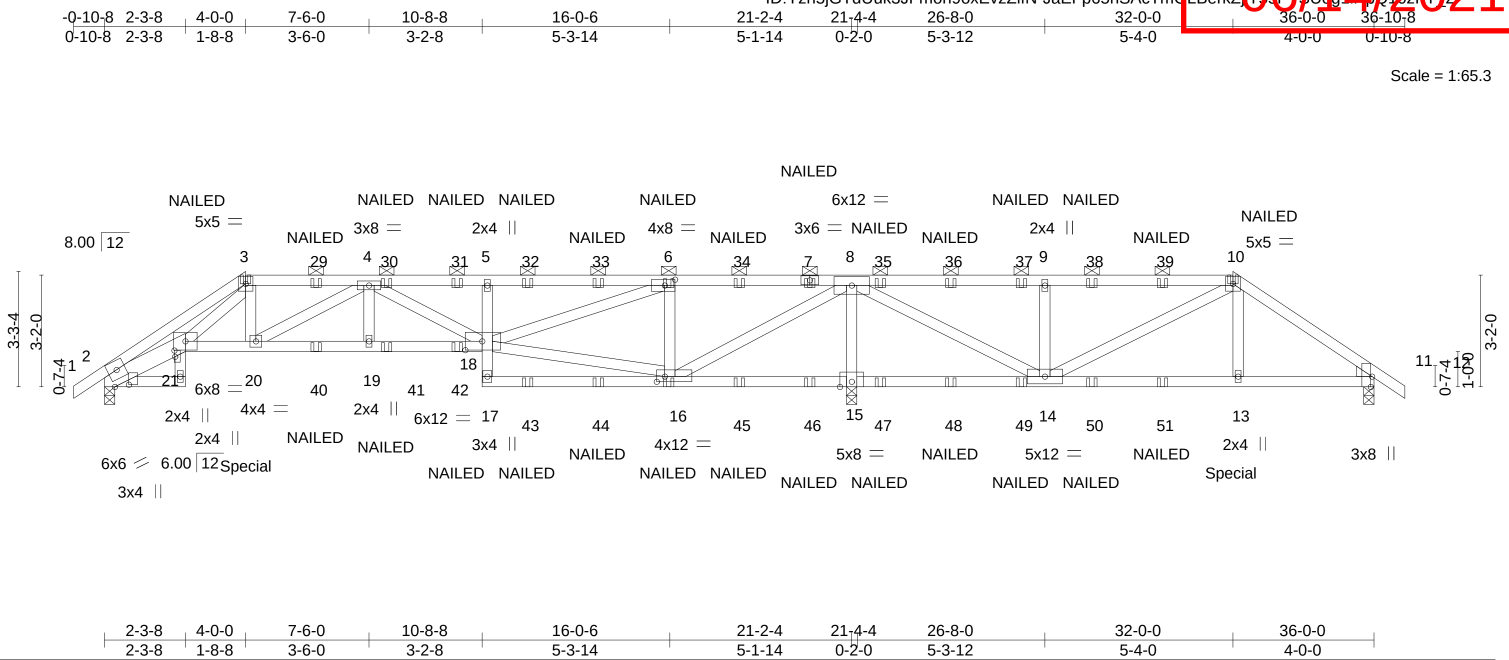

Plate Offsets (X,Y)-- [2:0-0-12,0-4-12], [6:0-3-8,0-2-0], [11:0-3-8,Edge], [16:0-2-12,0-1-12], [18:0-5-12,0-3-0], [21:0-2-2,0-0-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.57	Vert(LL)	0.19	18-19	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.31	18-19	>828	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.12	15	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MS							Weight: 153 lb	FT = 20%
BCDL	10.0											

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
2-21: 2x6 SPF No.2
WEBS 2x4 SPF No.2
WEDGE
Right: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-0-14 oc purlins, except
2-0-0 oc purlins (3-6-12 max.): 3-10.
BOT CHORD Rigid ceiling directly applied or 3-8-14 oc bracing.

REACTIONS. (size) 2=0-3-8, 11=0-3-8, 15=0-3-8
Max Horz 2=-84(LC 34)
Max Uplift 2=-426(LC 10), 11=-240(LC 11), 15=-1235(LC 7)
Max Grav 2=1178(LC 2), 11=625(LC 29), 15=3205(LC 2)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3148/1221, 3-4=-2054/853, 4-5=-2255/933, 5-6=-2213/926, 10-11=-740/330
BOT CHORD 20-21=-778/1993, 19-20=-995/2547, 18-19=-995/2547, 5-18=-381/209, 15-16=-2269/895, 14-15=-2269/895, 13-14=-183/548, 11-13=-187/570, 2-21=-1031/2680
WEBS 3-20=-313/797, 4-20=-618/291, 4-18=-363/125, 6-18=-844/2115, 6-16=-1212/565, 9-14=-539/308, 10-14=-773/302, 10-13=-85/429, 8-15=-3019/1237, 8-16=-1083/2800, 8-14=-893/2398, 3-21=-336/883

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=25ft; 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) Bearing at joint(s) 2, 15 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 100 lb uplift at joint(s) except (jt=lb) 2=426, 11=240, 15=1235.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.

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Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	A11	Hip Girder	1	1	I46162171 Job Reference (optional)

NOTES-

12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 344 lb down and 162 lb up at 4-0-0, and 324 lb down and 135 lb up at 31-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

13) 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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (plf)

Vert: 1-2=-60, 2-3=-60, 3-10=-60, 10-12=-60, 18-21=-20, 17-26=-20, 21-23=-20

Concentrated Loads (lb)

Vert: 3=-22(B) 7=-41(B) 20=-344(B) 16=-30(B) 6=-41(B) 10=-41(B) 13=-324(B) 29=-22(B) 30=-22(B) 31=-22(B) 32=-41(B) 33=-41(B) 34=-41(B) 35=-41(B) 36=-41(B) 37=-41(B) 38=-41(B) 39=-41(B) 40=-49(B) 41=-49(B) 42=-49(B) 43=-30(B) 44=-30(B) 45=-30(B) 46=-30(B) 47=-30(B) 48=-30(B) 49=-30(B) 50=-30(B) 51=-30(B)

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	B1	Common Supported Gable	1	1	I46162172 Job Reference (optional)

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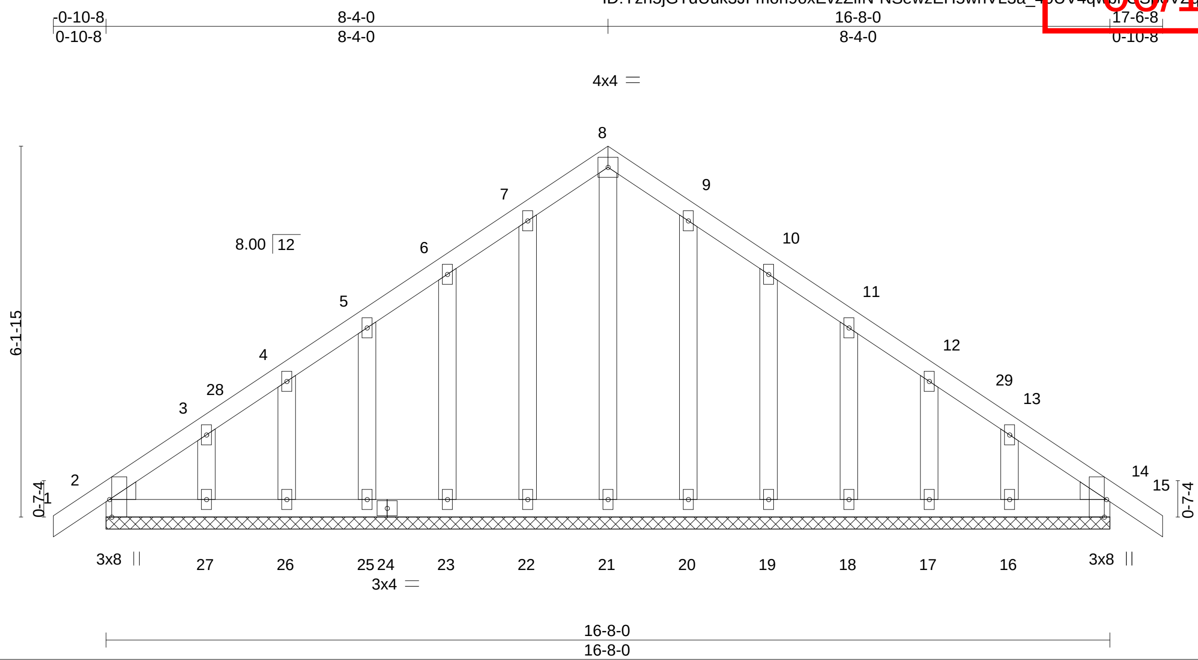

Plate Offsets (X,Y)-- [2:0-3-8,Edge], [14:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	-0.00	14	n/r	120	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	15	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 86 lb	FT = 20%
BCDL	10.0											

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 16-8-0.
(lb) - Max Horz 2=-160(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 2, 22, 23, 25, 26, 27, 20, 19, 18, 17, 16, 14
Max Grav All reactions 250 lb or less at joint(s) 2, 21, 22, 23, 25, 26, 27, 20, 19, 18, 17, 16, 14

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 8-4-0, Corner(3R) 8-4-0 to 11-4-0, Exterior(2N) 11-4-0 to 17-6-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 2, 22, 23, 25, 26, 27, 20, 19, 18, 17, 16, 14.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

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MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
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Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	CJ1	Diagonal Hip Girder	1	1	I46162173 Job Reference (optional)

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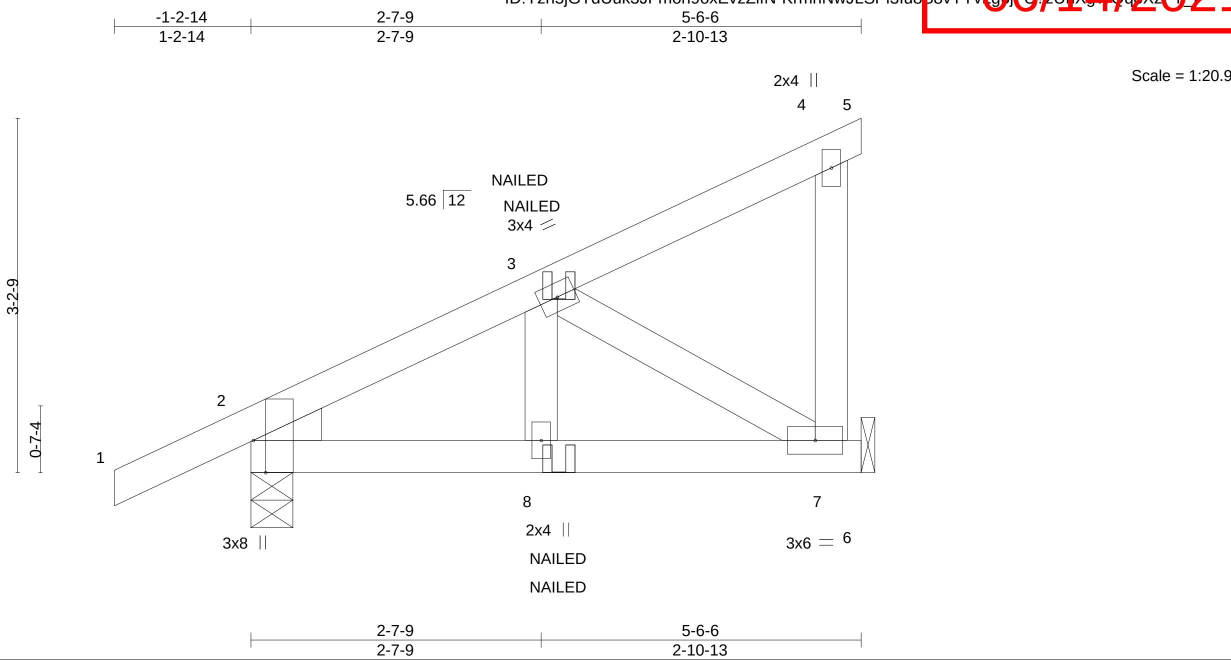

Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	-0.00	8	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	7	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 23 lb	FT = 20%
BCDL	10.0											

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 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-4-9, 7=Mechanical
Max Horz 2=127(LC 11)
Max Uplift 2=-81(LC 12), 7=-85(LC 12)
Max Grav 2=382(LC 19), 7=322(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-339/61
BOT CHORD 2-8=-96/277, 7-8=-96/277
WEBS 3-7=-321/116

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=25ft; 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) 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) 2, 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-4=-60, 4-5=-60, 6-9=-20
Concentrated Loads (lb)
Vert: 8=-8(F=-4, B=-4)

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RELEASE FOR CONSTRUCTION
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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	CJ2	Diagonal Hip Girder	1	1	Job Reference (optional)

I46162174

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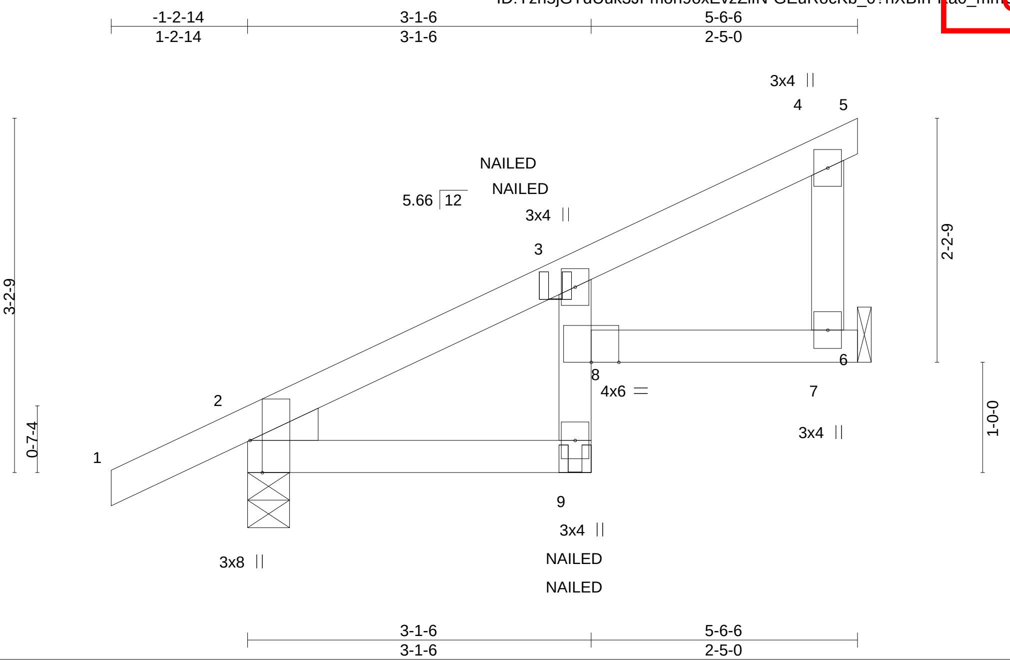

Plate Offsets (X,Y)-- [2:0-3-8,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	-0.03	8	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.04	8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MR							Weight: 19 lb	FT = 20%
BCDL	10.0											

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 5-6-6 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=107(LC 9)
Max Uplift 7=-88(LC 12), 2=-77(LC 12)
Max Grav 7=323(LC 19), 2=382(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-331/57

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=4.2psf; h=25ft; 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) 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) 7, 2.
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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
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 + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-4=-60, 4-5=-60, 9-10=-20, 6-8=-20
Concentrated Loads (lb)
Vert: 9=-8(F=-4, B=-4)

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

May 18,2021

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	J1	Jack-Open	11	1	I46162175 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:17 2021 Page 1
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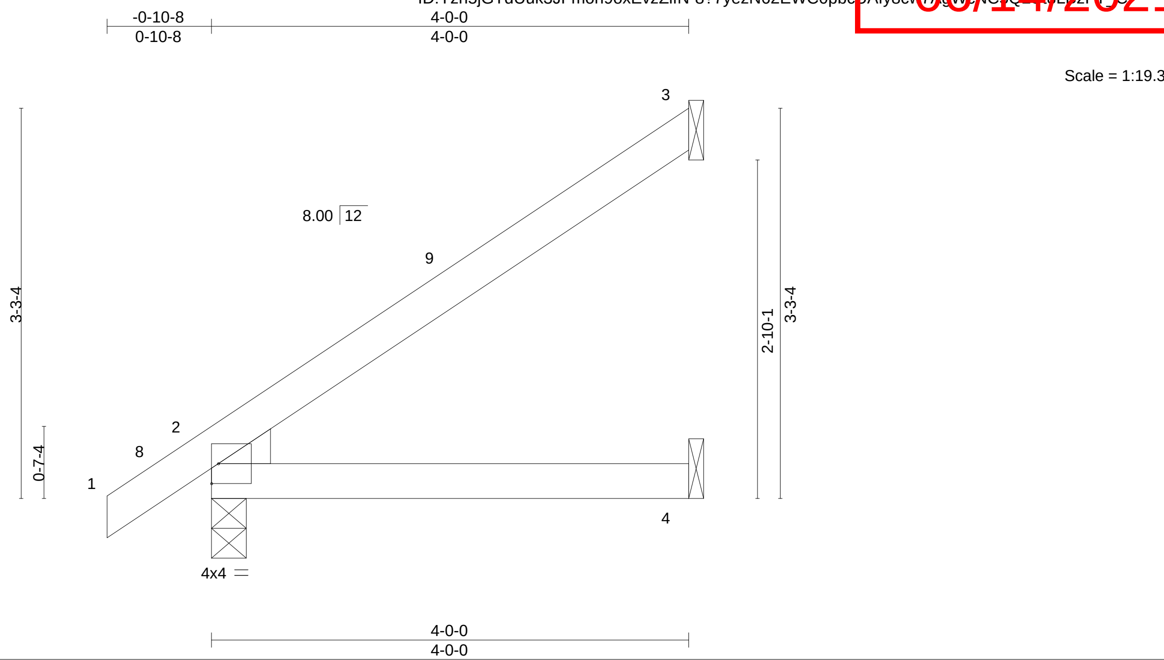

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.02	4-7	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.03	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-AS							Weight: 12 lb	FT = 20%
BCDL	10.0											

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.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=127(LC 14)
Max Uplift 3=-77(LC 14), 2=-19(LC 14), 4=-5(LC 14)
Max Grav 3=124(LC 26), 2=245(LC 2), 4=72(LC 5)

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=25ft; 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 3-11-4 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) 3, 2, 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) 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.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage	I46162176
2794071	J2	Jack-Open	4	1	Job Reference (optional)	

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:18 2021 Page 1
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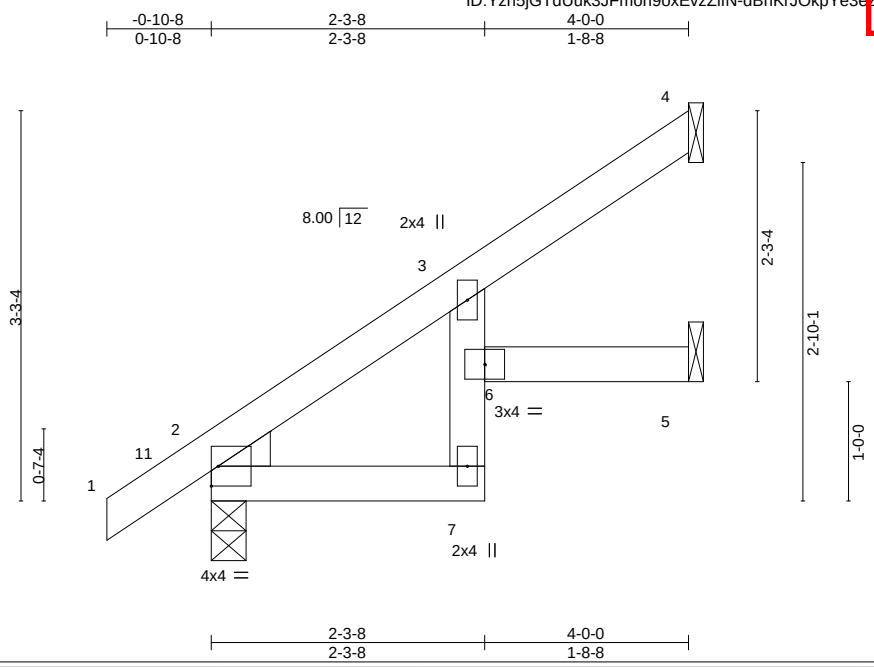

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	-0.01	6	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.02	6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0	Code	IRC2018/TPI2014	Matrix-AS							Weight: 14 lb	FT = 20%
BCDL	10.0											

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.
BOT CHORD Rigid ceiling directly applied.

REACTIONS. (size) 4=Mechanical, 2=0-3-8, 5=Mechanical
Max Horz 2=127(LC 14)
Max Uplift 4=-56(LC 14), 2=-19(LC 14), 5=-26(LC 14)
Max Grav 4=99(LC 26), 2=245(LC 2), 5=80(LC 26)

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) -0-10-8 to 2-0-12, Interior(1) 2-0-12 to 3-11-4 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) 4, 2, 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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.

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	J3	Jack-Open	4	1	I46162177

Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:19 2021 Page 1
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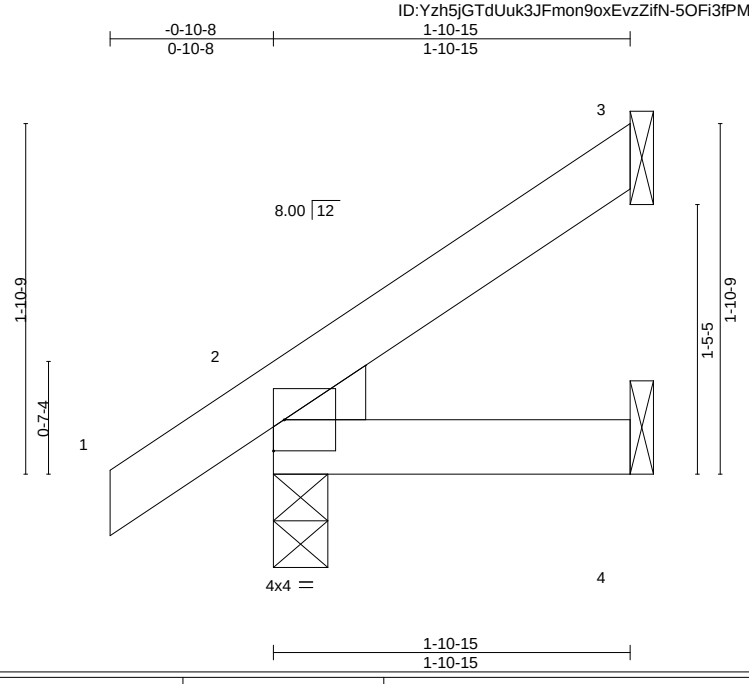

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	7	>999	240	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	-0.00	7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-MP							Weight: 7 lb	FT = 20%
BCDL	10.0											

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=72(LC 14)
Max Uplift 3=-34(LC 14), 2=-19(LC 14), 4=-5(LC 14)
Max Grav 3=52(LC 26), 2=161(LC 2), 4=33(LC 5)

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=25ft; 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) 3, 2, 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	L1	GABLE	1	1	I46162178 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:21 2021 Page 1
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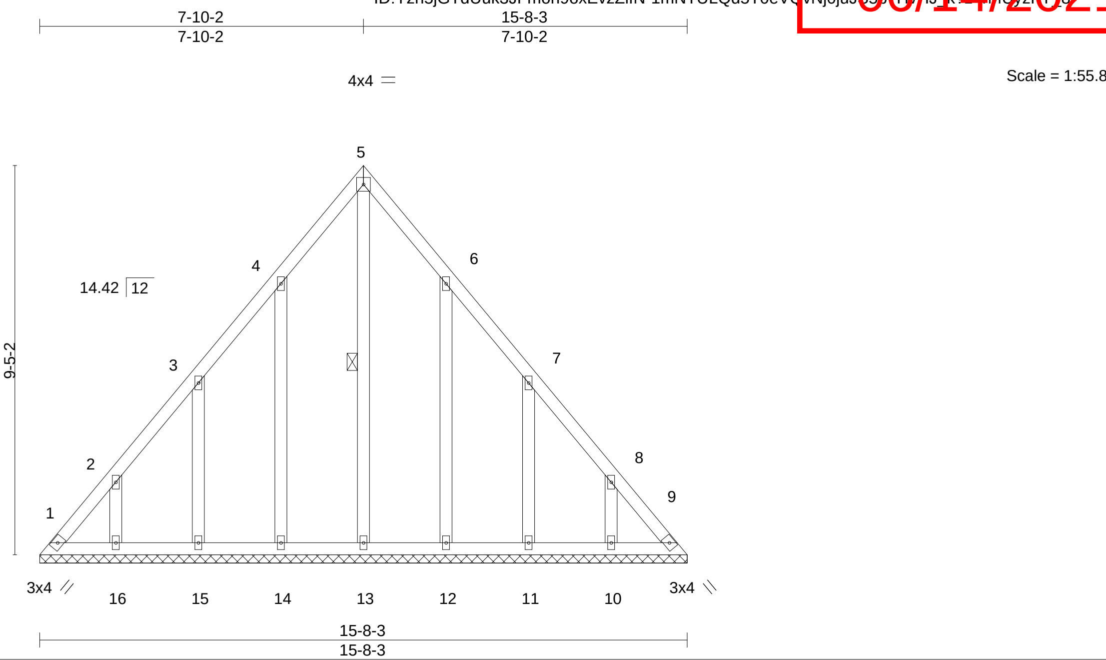

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	9	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 83 lb	FT = 20%
BCDL	10.0											

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 15-8-3.
(lb) - Max Horz 1=-249(LC 12)
Max Uplift All uplift 100 lb or less at joint(s) 9 except 1=-131(LC 12), 14=-161(LC 14), 15=-162(LC 14), 16=-155(LC 14), 12=-159(LC 15), 11=-163(LC 15), 10=-155(LC 15)
Max Grav All reactions 250 lb or less at joint(s) 9, 13, 14, 15, 16, 12, 11, 10 except 1=260(LC 14)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-354/226, 8-9=-324/226

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-12 to 3-3-12, Interior(1) 3-3-12 to 7-10-2, Exterior(2R) 7-10-2 to 10-10-2, Interior(1) 10-10-2 to 15-4-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
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) 9 except (jt=lb) 1=131, 14=161, 15=162, 16=155, 12=159, 11=163, 10=155.
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.

May 18,2021

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	L2	GABLE	1	1	I46162179 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:22 2021 Page 1
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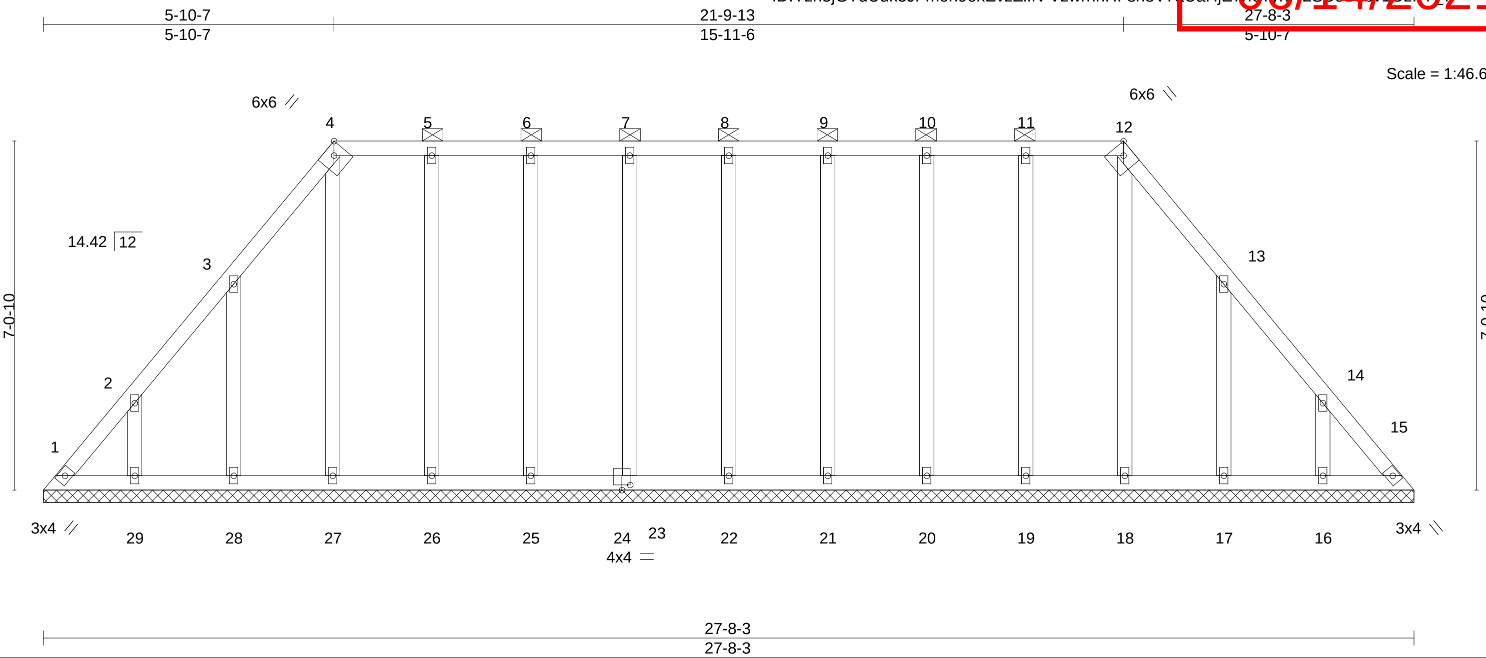

Plate Offsets (X,Y)-- [4:0-2-11,Edge], [12:0-2-11,Edge], [24:0-2-0,0-1-4]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.01	15	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 149 lb	FT = 20%
BCDL	10.0											

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.): 4-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. All bearings 27-8-3.
(lb) - Max Horz 1=-185(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 15, 22, 23, 25, 26, 27, 21, 20, 19 except 1=-102(LC 12), 28=-173(LC 14), 29=-153(LC 14), 17=-172(LC 15), 16=-154(LC 15)
Max Grav All reactions 250 lb or less at joint(s) 1, 15, 22, 23, 25, 26, 27, 28, 29, 21, 20, 19, 18, 17, 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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-12 to 3-3-12, Interior(1) 3-3-12 to 5-10-7, Exterior(2R) 5-10-7 to 9-10-2 , Interior(1) 9-10-2 to 21-9-13, Exterior(2R) 21-9-13 to 25-10-2, Interior(1) 25-10-2 to 27-4-8 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) Provide adequate drainage to prevent water ponding.
5) All plates are 2x4 MT20 unless otherwise indicated.
6) Gable requires continuous bottom chord bearing.
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) 15, 22, 23, 25, 26, 27, 21, 20, 19 except (jt=lb) 1=102, 28=173, 29=153, 17=172, 16=154.
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.

May 18,2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	PB1	GABLE	1	1	I46162180 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:24 2021 Page 1
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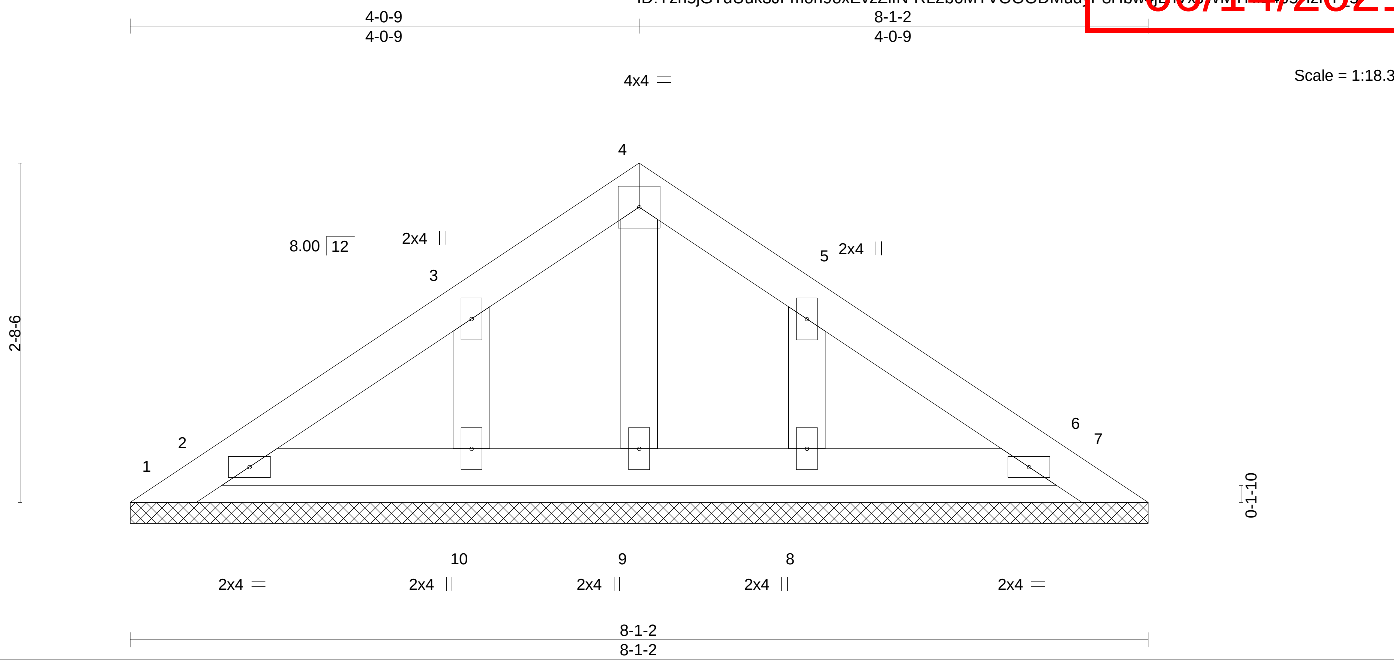

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-P							Weight: 23 lb	FT = 20%
BCDL	10.0											

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 8-1-2.
(lb) - Max Horz 1=-66(LC 10)
Max Uplift All uplift 100 lb or less at joint(s) 1, 7, 10, 8, 6, 2
Max Grav All reactions 250 lb or less at joint(s) 1, 7, 9, 10, 8, 6, 2

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior(1) 3-3-2 to 4-0-9, Exterior(2R) 4-0-9 to 7-0-9, Interior(1) 7-0-9 to 7-10-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
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) 1, 7, 10, 8, 6, 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

May 18,2021

RELEASE FOR CONSTRUCTION
AS NOTED FOR PLAN REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
06/14/2021

Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	PB2	Piggyback	21	1	I46162181 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:25 2021 Page 1
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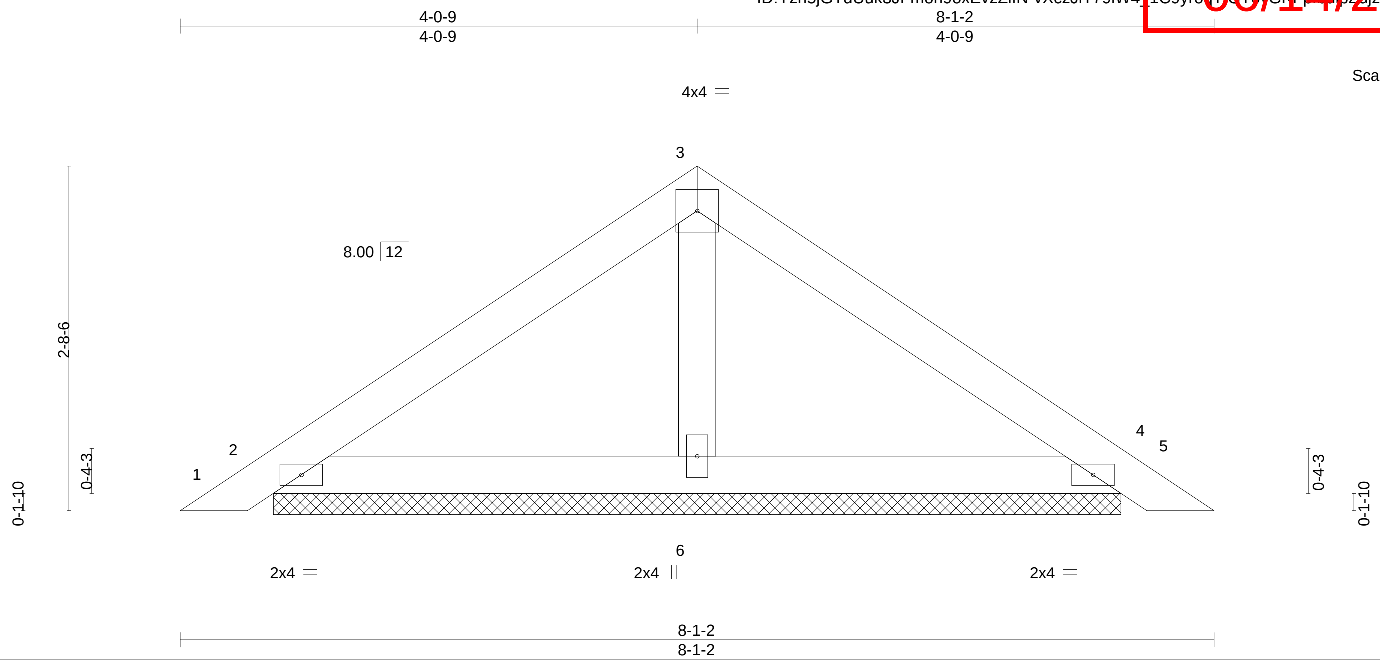

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	5	n/r	120	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	0.01	5	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-P							Weight: 21 lb	FT = 20%
BCDL	10.0											

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) 6=6-7-10, 4=6-7-10, 2=6-7-10
Max Horz 2=66(LC 13)
Max Uplift 6=-10(LC 14), 4=-61(LC 15), 2=-53(LC 14)
Max Grav 6=270(LC 2), 4=196(LC 2), 2=196(LC 2)

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=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone and C-C Exterior(2E) 0-3-2 to 3-3-2, Interior(1) 3-3-2 to 4-0-9, Exterior(2R) 4-0-9 to 7-0-9, Interior(1) 7-0-9 to 7-10-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
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) 6, 4, 2.
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

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Job	Truss	Truss Type	Qty	Ply	C&H - 38 Osage
2794071	PB3	Piggyback	1	1	I46162182 Job Reference (optional)

Builders FirstSource (Valley Center), Valley Center, KS - 67147, 8.430 s Apr 20 2021 MiTek Industries, Inc. Mon May 17 16:28:26 2021 Page 1
ID:Yzh5jGTdUuk3JFmon9oxEvzZifN-OkAMX2Ulw?exbBrLWZJ30Vgglp_GzkNZ7A9zfY_3

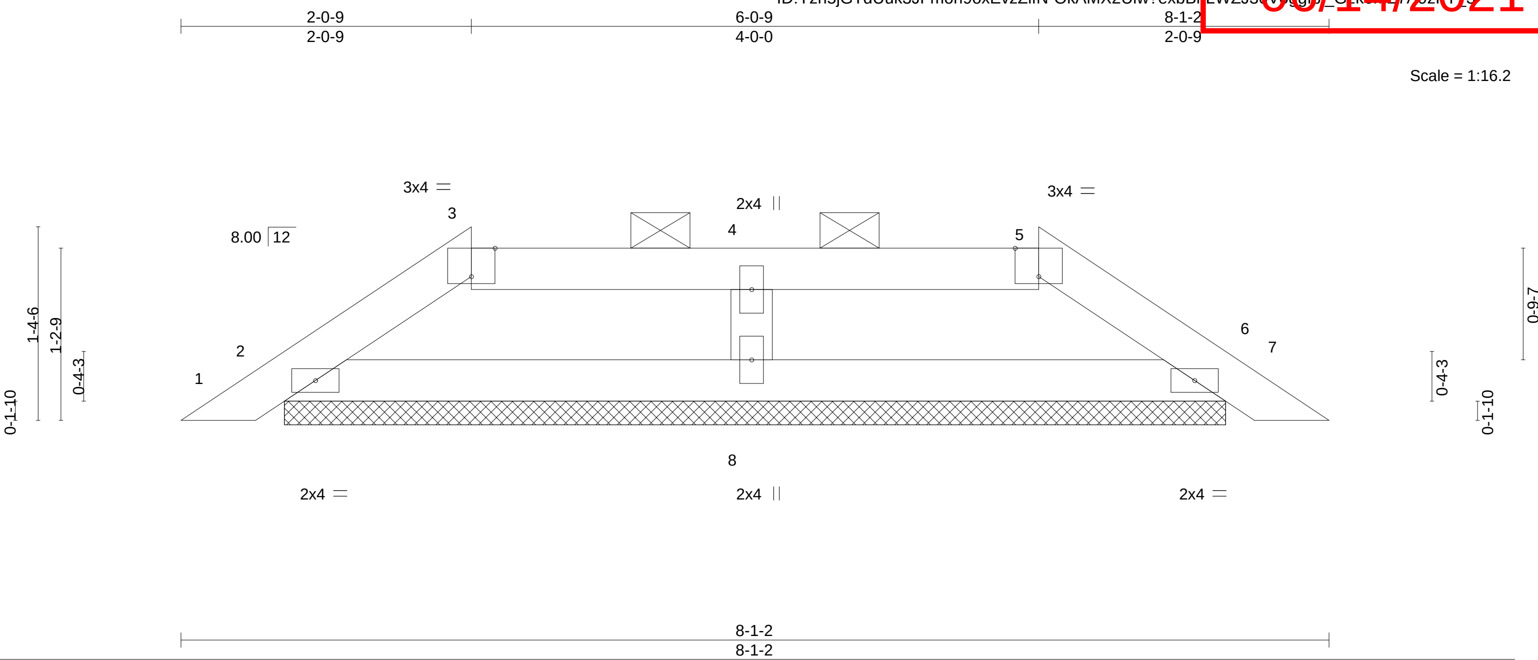

Plate Offsets (X,Y)-- [3:0-2-0,Edge], [5:0-2-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	0.00	7	n/r	120	MT20	197/144
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	7	n/r	120		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0	Code IRC2018/TPI2014		Matrix-S							Weight: 18 lb	FT = 20%
BCDL	10.0											

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 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=6-7-10, 2=6-7-10, 6=6-7-10
Max Horz 2=-29(LC 12)
Max Uplift 8=-43(LC 11), 2=-52(LC 14), 6=-53(LC 15)
Max Grav 8=269(LC 2), 2=196(LC 2), 6=198(LC 2)

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=25ft; 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) TCLL: ASCE 7-16; Pr=25.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat C; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) Provide adequate drainage to prevent water ponding.
6) Gable requires continuous bottom chord bearing.
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) 8, 2, 6.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

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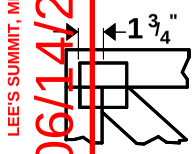
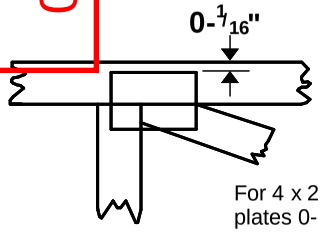
Symbols

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.

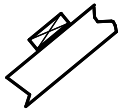
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

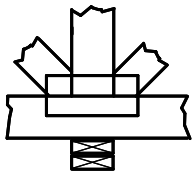
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

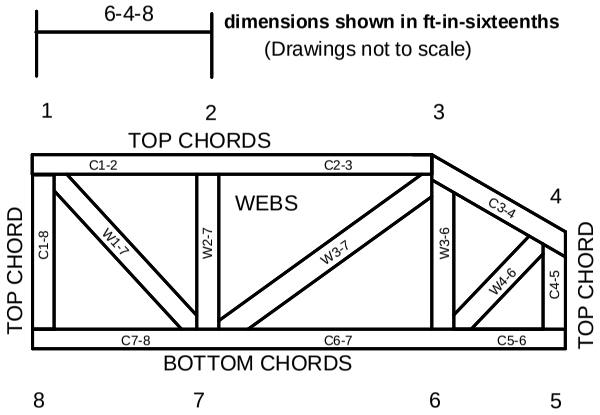


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.