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

03/09/2021

RE: 210285
Lot 86 W0

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

Site Information:

Customer: Project Name: 210285
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: 45.0 psf Floor Load: N/A psf

This package includes 93 individual, dated Truss Design Drawings and 0 Additional Drawings.

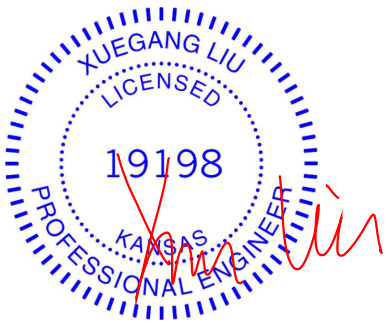
No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I44063917	A1	2/12/2021	21	I44063937	E7	2/12/2021
2	I44063918	A2	2/12/2021	22	I44063938	E8	2/12/2021
3	I44063919	A3	2/12/2021	23	I44063939	E9	2/12/2021
4	I44063920	B1	2/12/2021	24	I44063940	G1	2/12/2021
5	I44063921	B2	2/12/2021	25	I44063941	G2	2/12/2021
6	I44063922	B3	2/12/2021	26	I44063942	G3	2/12/2021
7	I44063923	C1	2/12/2021	27	I44063943	G5	2/12/2021
8	I44063924	C2	2/12/2021	28	I44063944	G6	2/12/2021
9	I44063925	C3	2/12/2021	29	I44063945	G7	2/12/2021
10	I44063926	C4	2/12/2021	30	I44063946	G8	2/12/2021
11	I44063927	C5	2/12/2021	31	I44063947	G9	2/12/2021
12	I44063928	C6	2/12/2021	32	I44063948	G10	2/12/2021
13	I44063929	D1	2/12/2021	33	I44063949	H1	2/12/2021
14	I44063930	D2	2/12/2021	34	I44063950	J1	2/12/2021
15	I44063931	E1	2/12/2021	35	I44063951	J2	2/12/2021
16	I44063932	E2	2/12/2021	36	I44063952	J3	2/12/2021
17	I44063933	E3	2/12/2021	37	I44063953	J4	2/12/2021
18	I44063934	E4	2/12/2021	38	I44063954	J5	2/12/2021
19	I44063935	E5	2/12/2021	39	I44063955	J6	2/12/2021
20	I44063936	E6	2/12/2021	40	I44063956	J7	2/12/2021

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

Truss Design Engineer's Name: Liu, Xuegang

My license renewal date for the state of Kansas is April 30, 2022.

Kansas COA: E-943



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.

February 12, 2021

Liu, Xuegang

MiTek USA, Inc.
16023 Swingley Ridge Rd
Chesterfield, MO 63017
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Site Information:

Project Customer: Project Name: 210285
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City, County: State:

No.	Seal#	Truss Name	Date
41	I44063957	J8	2/12/2021
42	I44063958	J9	2/12/2021
43	I44063959	J10	2/12/2021
44	I44063960	J11	2/12/2021
45	I44063961	J12	2/12/2021
46	I44063962	J13	2/12/2021
47	I44063963	J14	2/12/2021
48	I44063964	J15	2/12/2021
49	I44063965	J16	2/12/2021
50	I44063966	J17	2/12/2021
51	I44063967	J18	2/12/2021
52	I44063968	J19	2/12/2021
53	I44063969	J20	2/12/2021
54	I44063970	J21	2/12/2021
55	I44063971	J22	2/12/2021
56	I44063972	J23	2/12/2021
57	I44063973	J24	2/12/2021
58	I44063974	J24A	2/12/2021
59	I44063975	J25	2/12/2021
60	I44063976	J25A	2/12/2021
61	I44063977	J26	2/12/2021
62	I44063978	J27	2/12/2021
63	I44063979	J28	2/12/2021
64	I44063980	J29	2/12/2021
65	I44063981	J30	2/12/2021
66	I44063982	J31	2/12/2021
67	I44063983	J32	2/12/2021
68	I44063984	J33	2/12/2021
69	I44063985	J34	2/12/2021
70	I44063986	J35	2/12/2021
71	I44063987	J36	2/12/2021
72	I44063988	J37	2/12/2021
73	I44063989	J38	2/12/2021
74	I44063990	J39	2/12/2021
75	I44063991	J40	2/12/2021
76	I44063992	J41	2/12/2021
77	I44063993	J42	2/12/2021
78	I44063994	J43	2/12/2021
79	I44063995	K1	2/12/2021
80	I44063996	K2	2/12/2021
81	I44063997	K3	2/12/2021
82	I44063998	K4	2/12/2021
83	I44063999	LAY1	2/12/2021
84	I44064000	LAY2	2/12/2021

No.	Seal#	Truss Name	Date
85	I44064001	LAY3	2/12/2021
86	I44064002	LAY4	2/12/2021
87	I44064003	LAY6	2/12/2021
88	I44064004	LAY7	2/12/2021
89	I44064005	LAY8	2/12/2021
90	I44064006	V1	2/12/2021
91	I44064007	V2	2/12/2021
92	I44064008	V3	2/12/2021
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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
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Roof Load: 45.0 psf Floor Load: N/A psf

This package includes 93 individual, dated Truss Design Drawings and 0 Additional Drawings.

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13	I44063929	D1	2/12/2021	33	I44063949	H1	2/12/2021
14	I44063930	D2	2/12/2021	34	I44063950	J1	2/12/2021
15	I44063931	E1	2/12/2021	35	I44063951	J2	2/12/2021
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17	I44063933	E3	2/12/2021	37	I44063953	J4	2/12/2021
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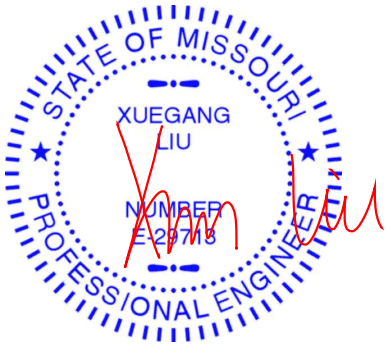
20	I44063936	E6	2/12/2021	40	I44063956	J7	2/12/2021

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

Truss Design Engineer's Name: Liu, Xuegang

My license renewal date for the state of Missouri is December 31, 2022.

Missouri COA: 001193



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February 12, 2021

Liu, Xuegang

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91	I44064007	V2	2/12/2021
92	I44064008	V3	2/12/2021
93	I44064009	V4	2/12/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	A1	Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 12:27:05 2020 Page 1
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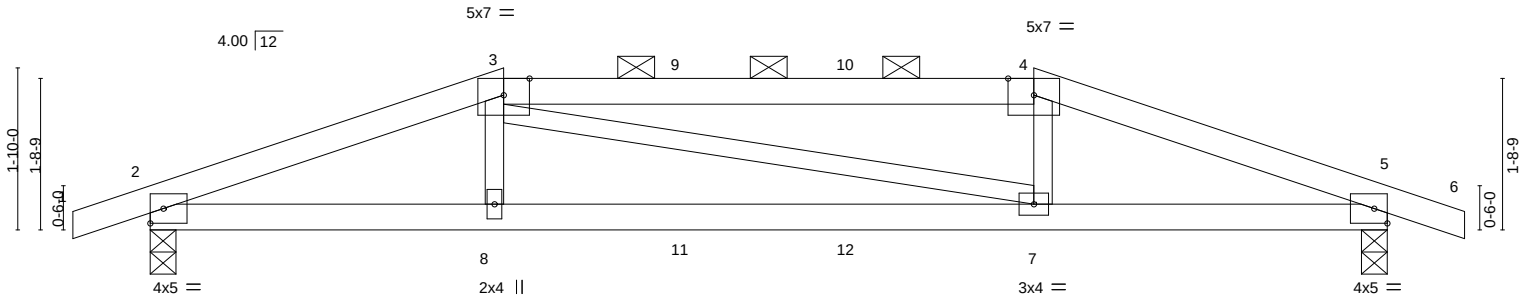
-0-10-8 / 0-10-8 | 4-0-0 / 4-0-0 | 10-0-0 / 6-0-0 | 14-0-0 / 4-0-0 | 14-10-8 / 0-10-8

Scale = 1:26.1



4-0-0 / 4-0-0 | 10-0-0 / 6-0-0 | 14-0-0 / 4-0-0

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	0.69	Vert(LL)	-0.09	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.21	7-8	>784	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.16	Horz(CT)	0.05	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	7-8	>999	240	Weight: 42 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except* 3-4: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-8-3 oc purlins, except 2-0-0 oc purlins (4-2-15 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 8-5-5 oc bracing.

REACTIONS. (size) 2=0-3-8, 5=0-3-8
Max Horz 2=-28(LC 9)
Max Uplift 2=-263(LC 4), 5=-263(LC 5)
Max Grav 2=1024(LC 1), 5=1024(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2374/529, 3-4=-2098/508, 4-5=-2314/516
BOT CHORD 2-8=-480/2189, 7-8=-483/2164, 5-7=-442/2121
WEBS 3-8=0/399, 4-7=0/415

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 263 lb uplift at joint 2 and 263 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 83 lb down and 72 lb up at 4-0-0, 83 lb down and 72 lb up at 6-0-12, and 83 lb down and 72 lb up at 7-11-4, and 83 lb down and 72 lb up at 10-0-0 on top chord, and 212 lb down and 69 lb up at 4-0-0, 36 lb down at 6-0-12, and 36 lb down at 7-11-4, and 212 lb down and 69 lb up at 9-11-4 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=-70, 3-4=-70, 4-6=-70, 2-5=-20

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

LOAD CASE(S) Standard

Concentrated Loads (lb)

Vert: 3=-53(F) 4=-53(F) 8=-212(F) 7=-212(F) 9=-53(F) 10=-53(F) 11=-18(F) 12=-18(F)

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DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	A2	Hip	1	1	I44063918 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:22 2020 Page 1
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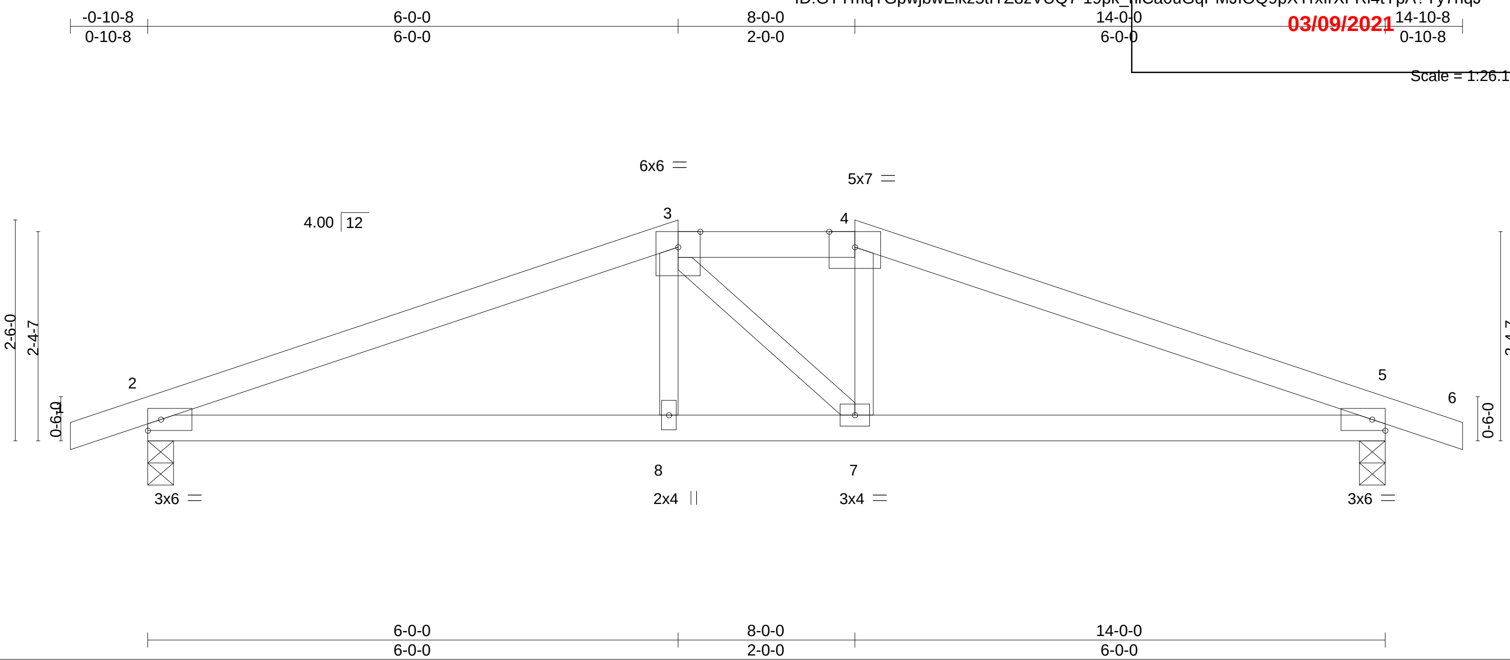


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	-0.04	2-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	-0.10	2-8	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.03	2-8	>999	240	Weight: 40 lb	FT = 10%

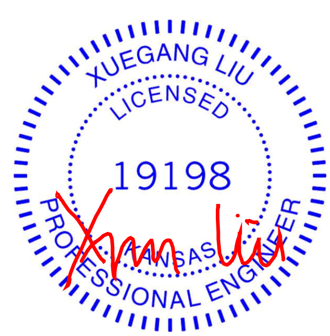
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-3-1 oc purlins, except
2-0-0 oc purlins (5-7-1 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=39(LC 8)
Max Uplift 2=-141(LC 4), 5=-141(LC 5)
Max Grav 2=688(LC 1), 5=688(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1163/158, 3-4=-1022/182, 4-5=-1164/157
BOT CHORD 2-8=-117/1026, 7-8=-119/1021, 5-7=-88/1027

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 141 lb uplift at joint 2 and 141 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	A3	Common	3	1	

Job Reference (optional)

I44063919

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:23:10 2020 Page 1
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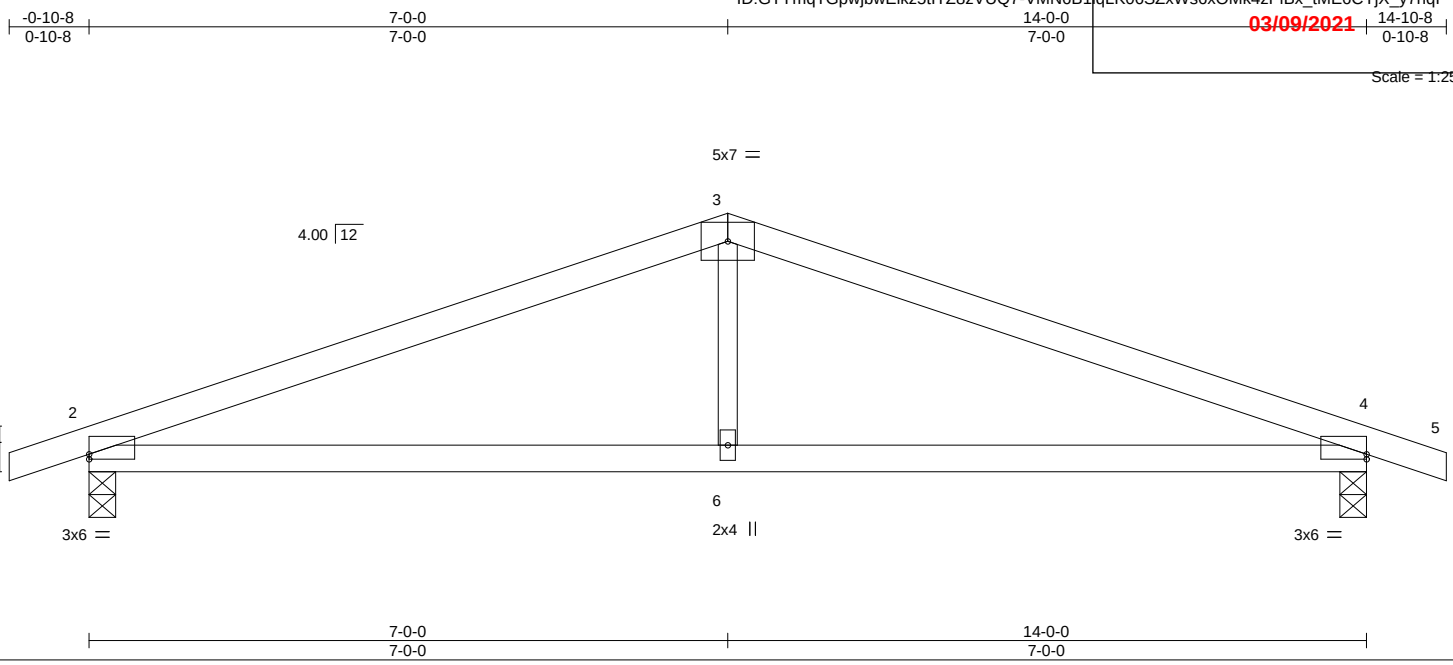


Plate Offsets (X,Y)-- [2:0-0-0,0-0-10], [4:0-0-0,0-0-10]

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)	-0.06	2-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.50	Vert(CT)	-0.14	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.02	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	2-6	>999	240	Weight: 37 lb	FT = 10%

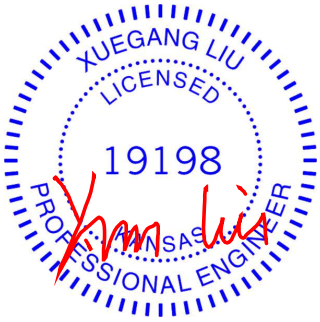
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-2-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 4=0-3-8
Max Horz 2=-46(LC 9)
Max Uplift 2=-134(LC 4), 4=-134(LC 5)
Max Grav 2=688(LC 1), 4=688(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1095/130, 3-4=-1095/130
BOT CHORD 2-6=-72/952, 4-6=-72/952
WEBS 3-6=0/331

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 2 and 134 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	B1	Hip Girder	1	1	I44063920 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:24 2020 Page 1

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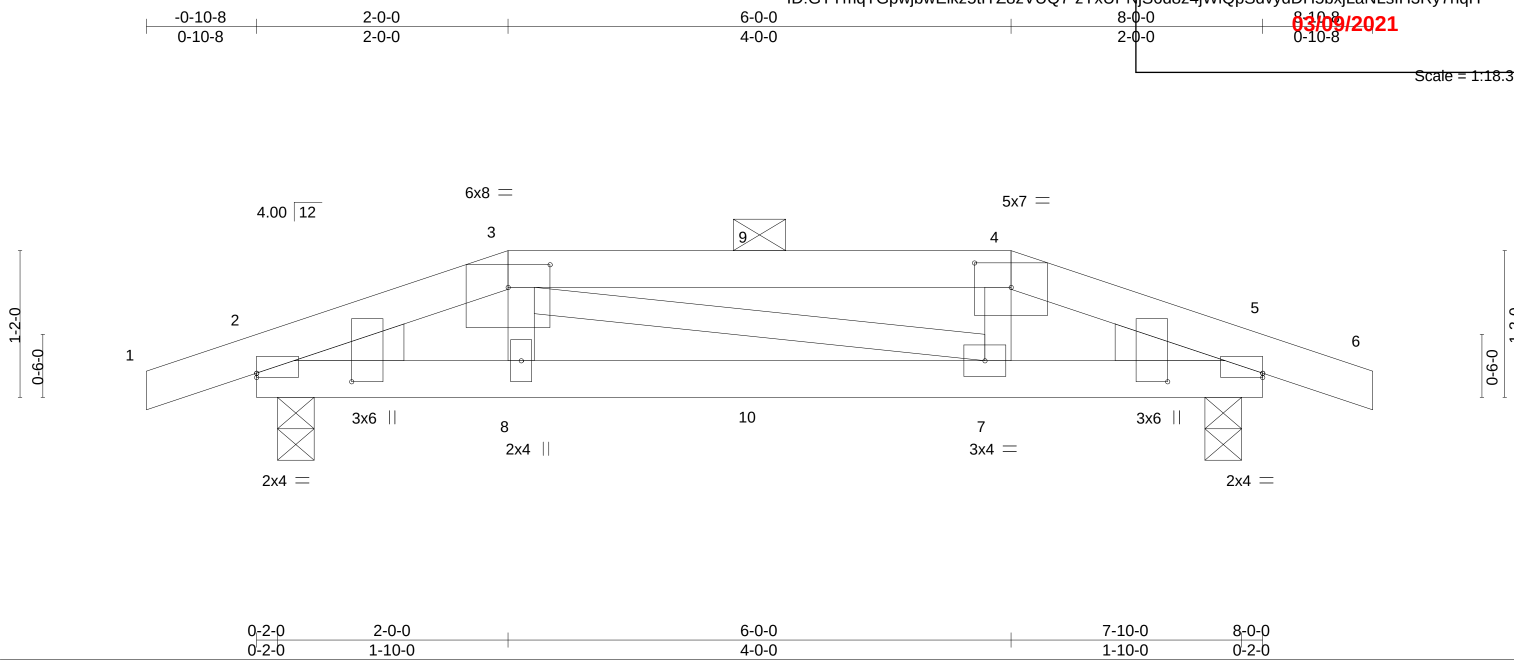


Plate Offsets (X,Y)-- [2:0-0-13,0-9-1], [2:0-0-0,0-0-6], [3:0-4-0,0-2-3], [4:0-3-8,0-2-5], [5:Edge,0-0-6], [5:0-0-13,0-9-1]

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	0.36	Vert(LL)	-0.01	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.03	7-8	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.01	7-8	>999	240	Weight: 27 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

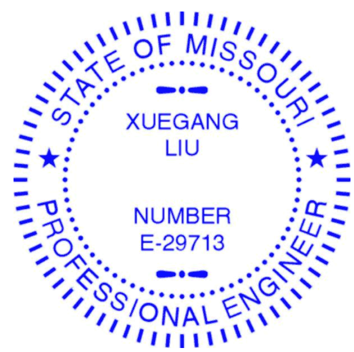
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

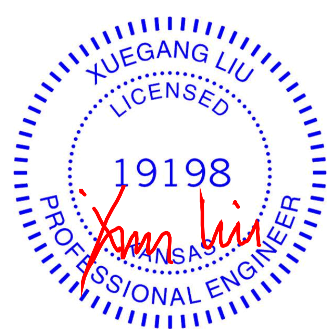
REACTIONS. (size) 2=0-3-8, 5=0-3-8
Max Horz 2=17(LC 29)
Max Uplift 2=-114(LC 4), 5=-114(LC 5)
Max Grav 2=418(LC 1), 5=418(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-613/108, 3-4=-531/99, 4-5=-615/107
BOT CHORD 2-8=-71/521, 7-8=-66/529, 5-7=-78/524

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 114 lb uplift at joint 2 and 114 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 107 lb down and 89 lb up at 2-0-0, and 54 lb down and 33 lb up at 4-0-0, and 107 lb down and 89 lb up at 6-0-0 on top chord, and 8 lb down at 2-0-0, and 8 lb down at 4-0-0, and 8 lb down at 5-11-4 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=-70, 3-4=-70, 4-6=-70, 2-5=-20





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	B2	Common	1	1	I44063921 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,
8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:25 2020 Page 1
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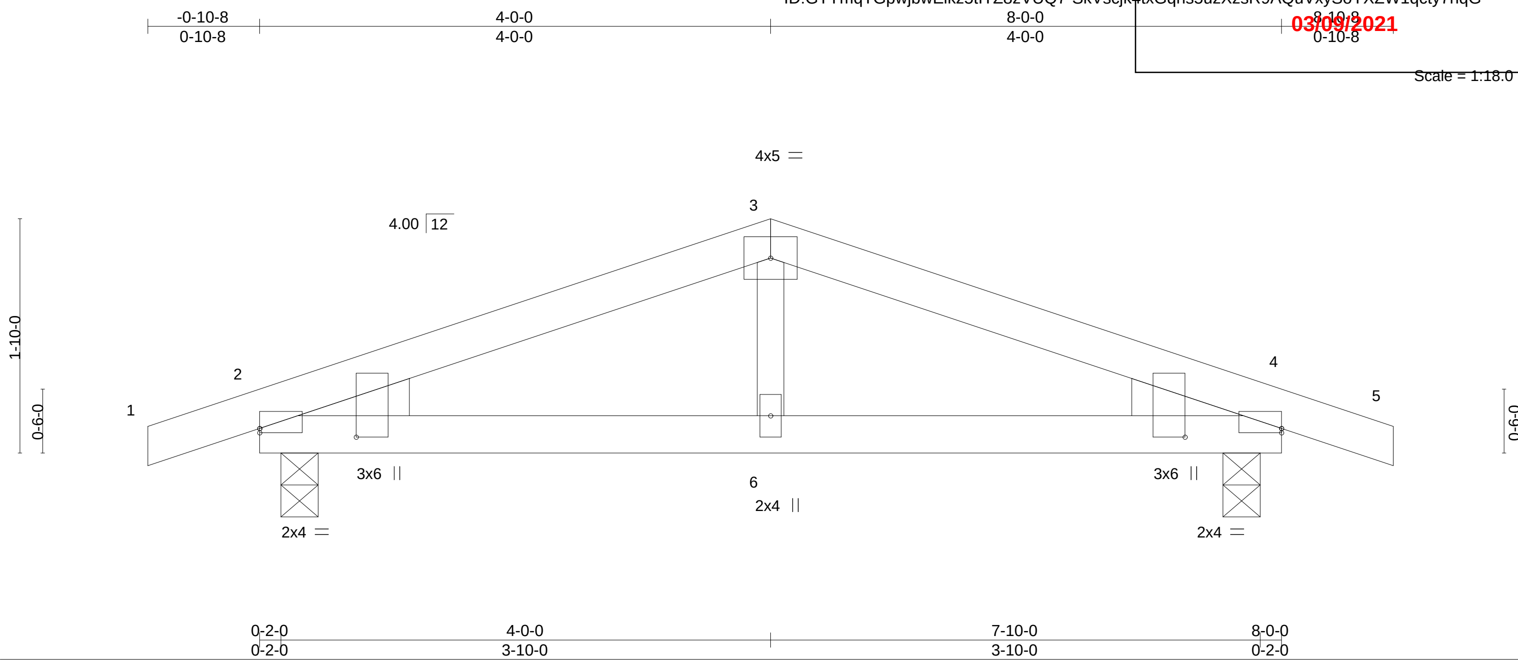


Plate Offsets (X,Y)-- [2:0-0-0,0-0-6], [2:0-0-13,0-9-1], [4:Edge,0-0-6], [4:0-0-13,0-9-1]

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	0.24	Vert(LL)	-0.01	2-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.02	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.01	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.01	6	>999	240	Weight: 24 lb	FT = 10%

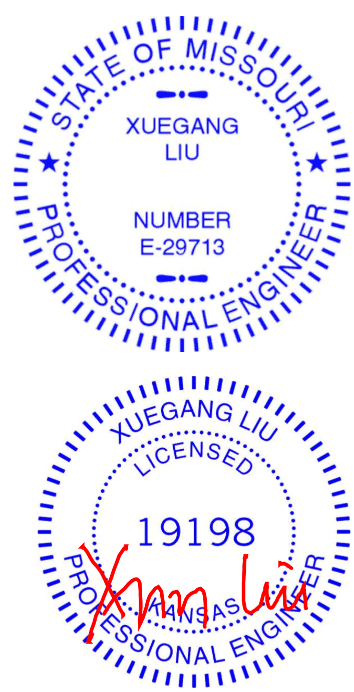
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2
WEDGE
Left: 2x4 SPF No.2 , Right: 2x4 SPF No.2

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. (size) 2=0-3-8, 4=0-3-8
Max Horz 2=29(LC 8)
Max Uplift 2=-96(LC 4), 4=-96(LC 5)
Max Grav 2=418(LC 1), 4=418(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-513/41, 3-4=-513/41
BOT CHORD 2-6=-8/427, 4-6=-8/427

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 2 and 96 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	B3	Common	1	1	I44063922 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:25 2020 Page 1
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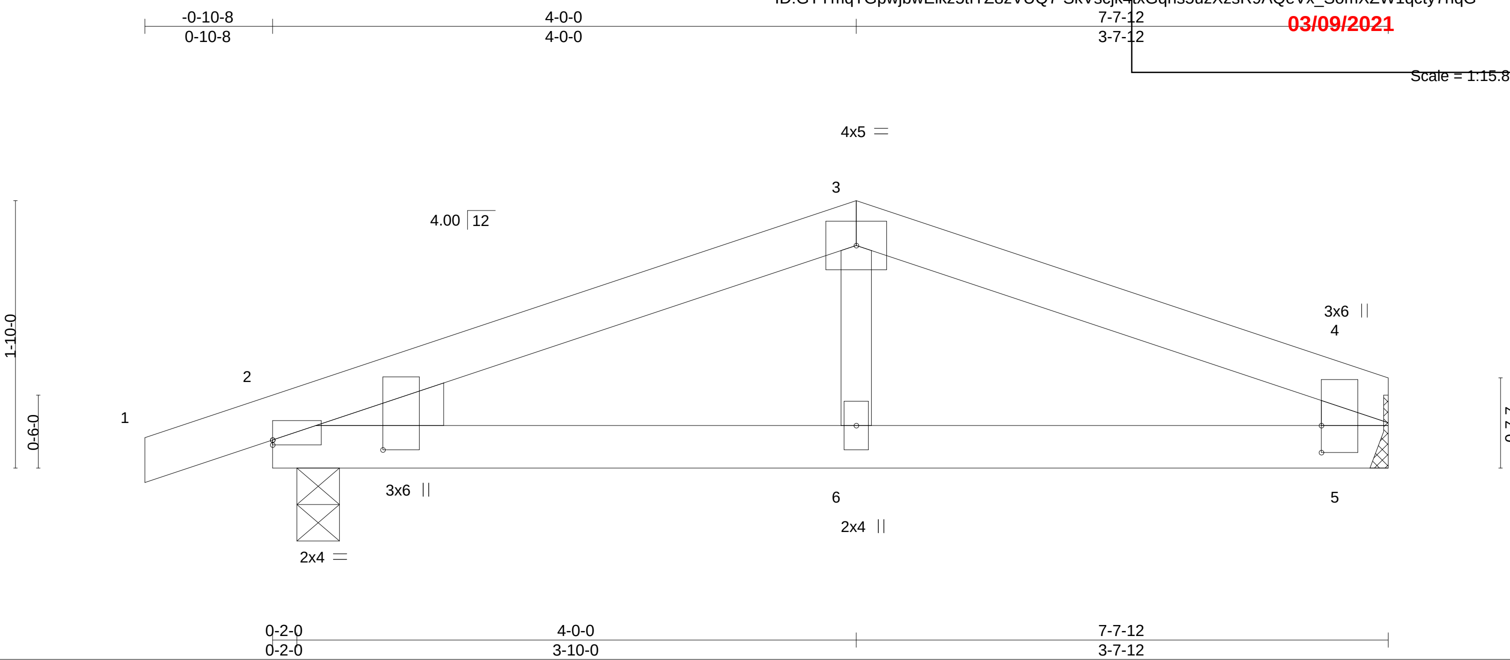


Plate Offsets (X,Y)-- [2:0-0-13,0-9-1], [2:0-0-0,0-0-6], [4:0-2-4,0-0-0]

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	0.20	Vert(LL)	-0.01	2-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	2-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.01	2-6	>999	240	Weight: 21 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
4-5: 2x6 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) 2=0-3-8, 5=Mechanical
Max Horz 2=32(LC 8)
Max Uplift 2=-95(LC 4), 5=-46(LC 5)
Max Grav 2=404(LC 1), 5=322(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-479/60, 3-4=-462/59, 4-5=-269/64
BOT CHORD 2-6=-29/398, 5-6=-29/398

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 2 and 46 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

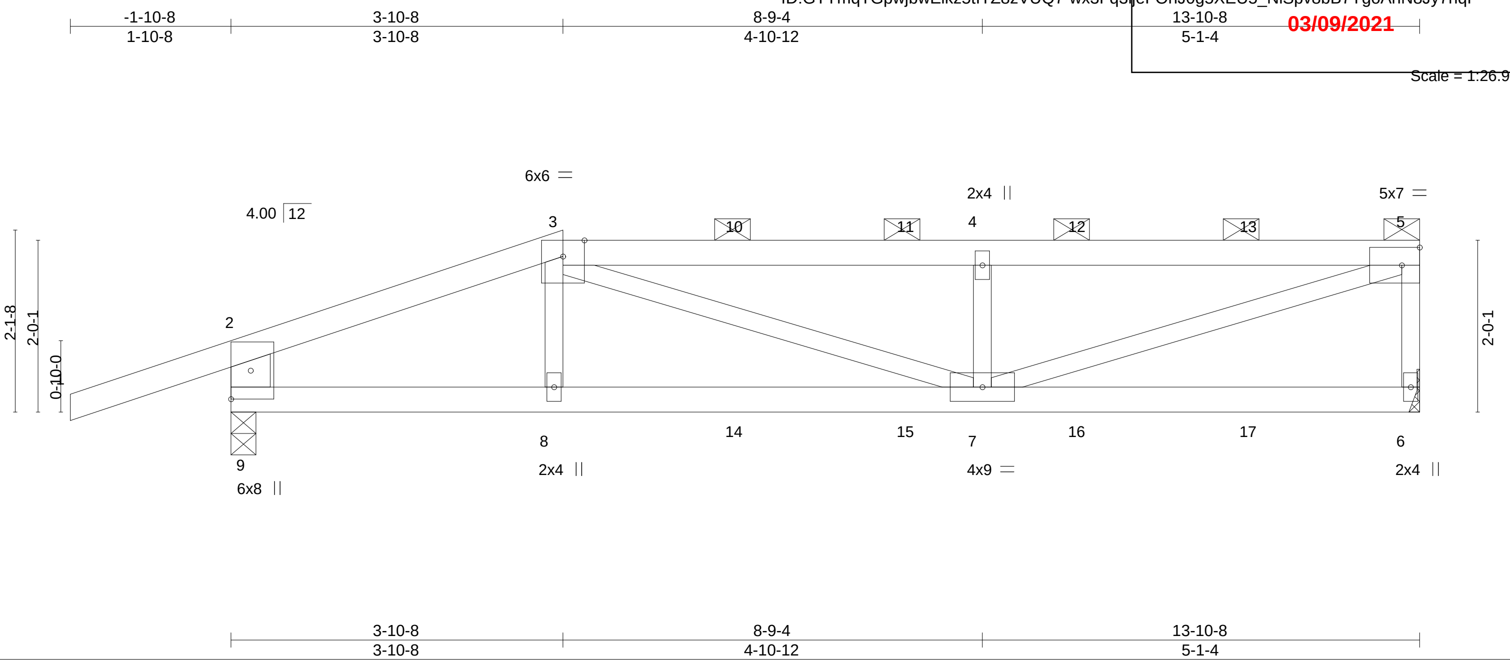
December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C1	Half Hip Girder	1	1	I44063923 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:26 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-wx3Fq3ljeFOhJ0g5XEU5_NiSpv8bB7YgoAnN8Jy7nqF

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.81	Vert(LL)	-0.10	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.21	7-8	>785	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.52	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.10	7-8	>999	240	Weight: 47 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E *Except*
3-5: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-9: 2x6 SP DSS

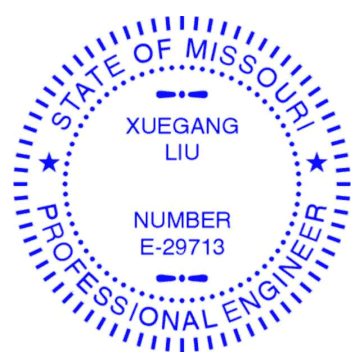
BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-4-12 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-4 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

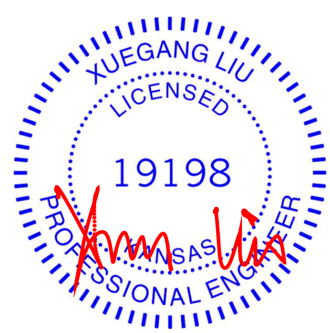
REACTIONS. (size) 6=Mechanical, 9=0-3-8
Max Horz 9=87(LC 5)
Max Uplift 6=-160(LC 5), 9=-253(LC 4)
Max Grav 6=720(LC 1), 9=878(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1160/247, 3-4=-1498/345, 4-5=-1495/344, 5-6=-663/188, 2-9=-753/246
BOT CHORD 8-9=-264/1024, 7-8=-270/1024
WEBS 3-7=-114/502, 4-7=-505/235, 5-7=-350/1523

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 160 lb uplift at joint 6 and 253 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 167 lb down and 129 lb up at 3-10-8, 76 lb down and 57 lb up at 5-11-4, 76 lb down and 57 lb up at 7-11-4, and 76 lb down and 57 lb up at 9-11-4, and 76 lb down and 57 lb up at 11-11-4 on top chord, and 69 lb down at 3-10-8, 28 lb down at 5-11-4, 28 lb down at 7-11-4, and 28 lb down at 9-11-4, and 28 lb down at 11-11-4 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





December 18,2020

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C1	Half Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 2020 Page 2
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-wx3Fq3jeFOhJ0g5XEU5_NiSpv8bB7YgoAnN8Jy7nqF

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-2=-70, 2-3=-70, 3-5=-70, 6-9=-20
   Concentrated Loads (lb)
   Vert: 3=-50(F) 8=-22(F) 10=-27(F) 11=-27(F) 12=-27(F) 13=-27(F) 14=-13(F) 15=-13(F) 16=-13(F) 17=-13(F)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C2	Half Hip	1	1	I44063924 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:27 2020 Page 1

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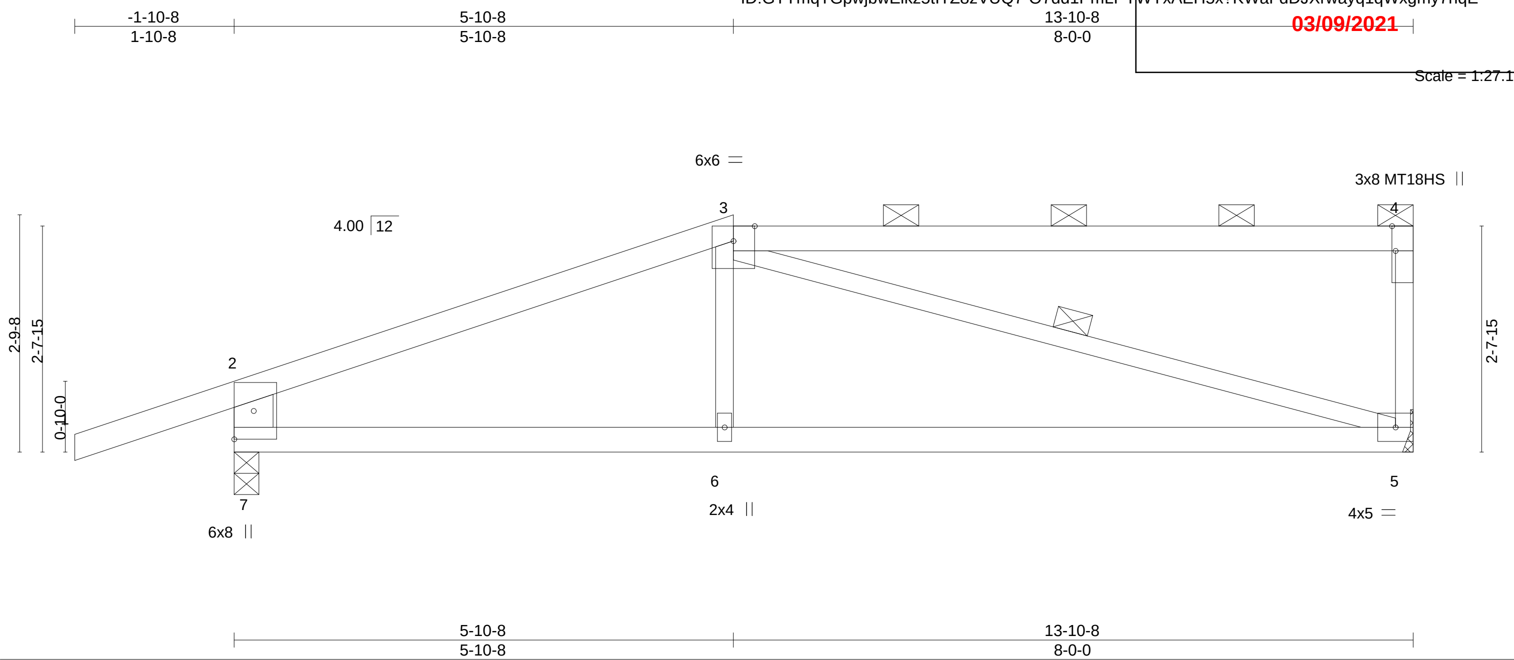


Plate Offsets (X,Y)-- [4:0-3-8,Edge]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.15	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.32	5-6	>502	240	MT18HS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.51	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.07	5-6	>999	240	Weight: 45 lb	FT = 10%

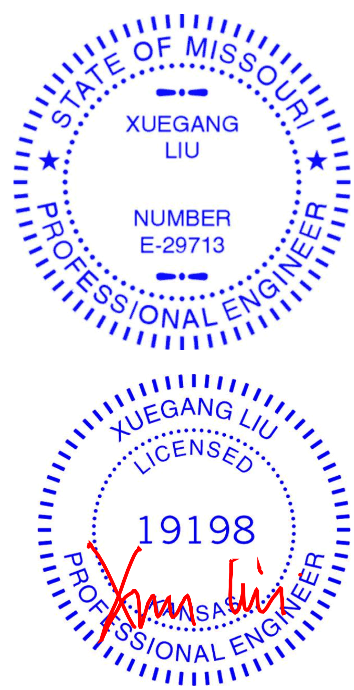
LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
3-4: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-7: 2x6 SPF No.2

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

REACTIONS. (size) 5=Mechanical, 7=0-3-8
Max Horz 7=116(LC 7)
Max Uplift 5=-111(LC 4), 7=-206(LC 4)
Max Grav 5=598(LC 1), 7=768(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-968/149, 4-5=-284/112, 2-7=-680/222
BOT CHORD 6-7=-145/846, 5-6=-149/842
WEBS 3-6=0/281, 3-5=-784/131

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 111 lb uplift at joint 5 and 206 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C3	Half Hip	1	1	I44063925 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:27 2020 Page 1
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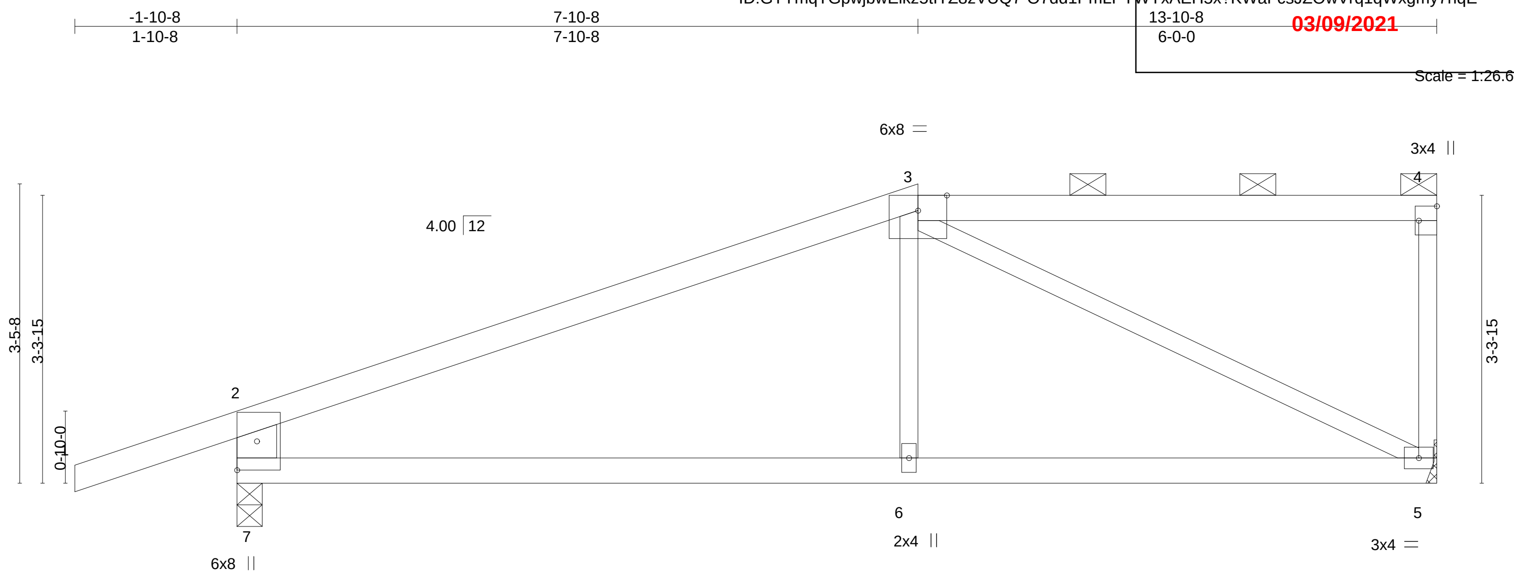


Plate Offsets (X,Y)-- [4:Edge,0-2-8]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.07	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.15	6-7	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.02	6	>999	240	Weight: 45 lb	FT = 10%

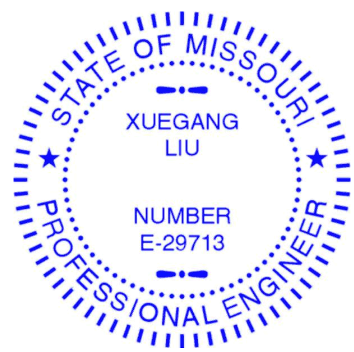
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-7: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-9-12 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=Mechanical, 7=0-3-8
Max Horz 7=146(LC 5)
Max Uplift 5=-113(LC 4), 7=-203(LC 4)
Max Grav 5=598(LC 1), 7=768(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-837/135, 2-7=-689/248
BOT CHORD 6-7=-122/704, 5-6=-125/699
WEBS 3-6=0/298, 3-5=-757/141

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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 113 lb uplift at joint 5 and 203 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C4	Half Hip	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

I44063926

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:28 2020 Page 1
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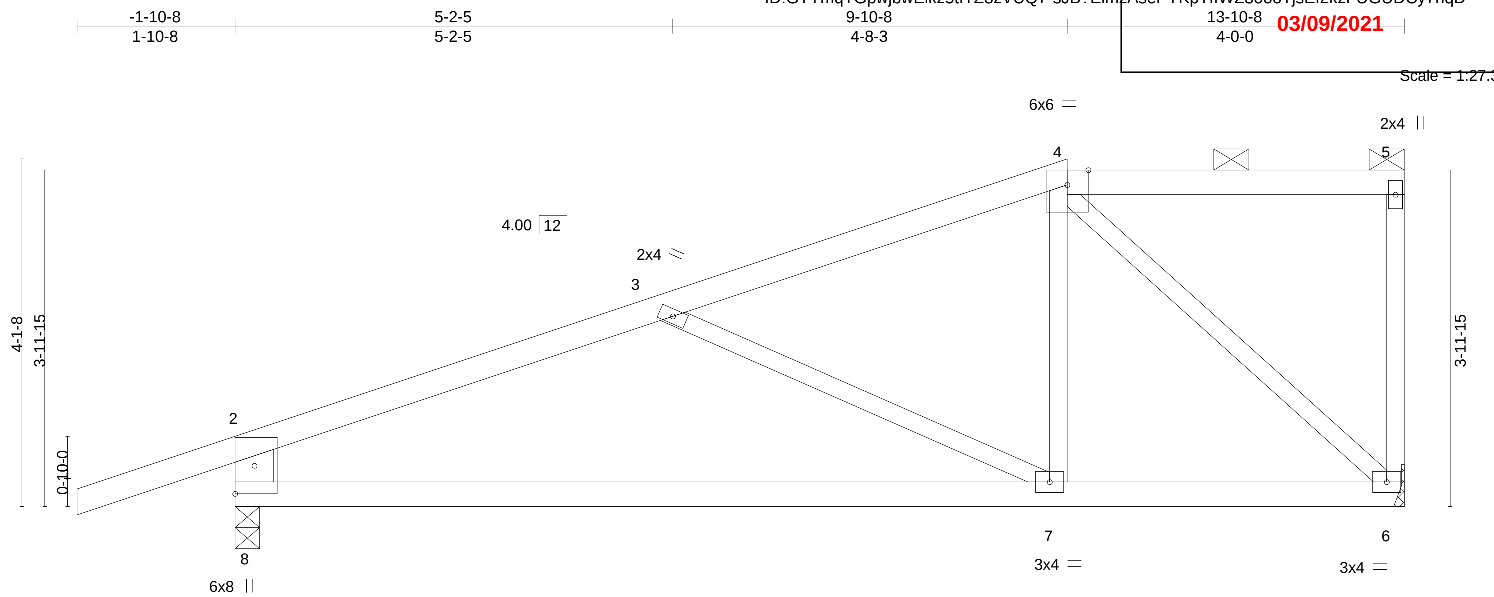

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.20	7-8	>797	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.40	7-8	>402	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.04	7	>999	240	Weight: 49 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-8: 2x6 SPF No.2

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

REACTIONS. (size) 6=Mechanical, 8=0-3-8
Max Horz 8=175(LC 5)
Max Uplift 6=-117(LC 4), 8=-200(LC 4)
Max Grav 6=598(LC 1), 8=768(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-896/196, 3-4=-553/92, 2-8=-664/249
BOT CHORD 7-8=-182/772, 6-7=-75/484
WEBS 3-7=-309/188, 4-7=0/381, 4-6=-665/94

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 117 lb uplift at joint 6 and 200 lb uplift at joint 8.
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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C5	Roof Special Girder	1	1	I44063927 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:29 2020 Page 1
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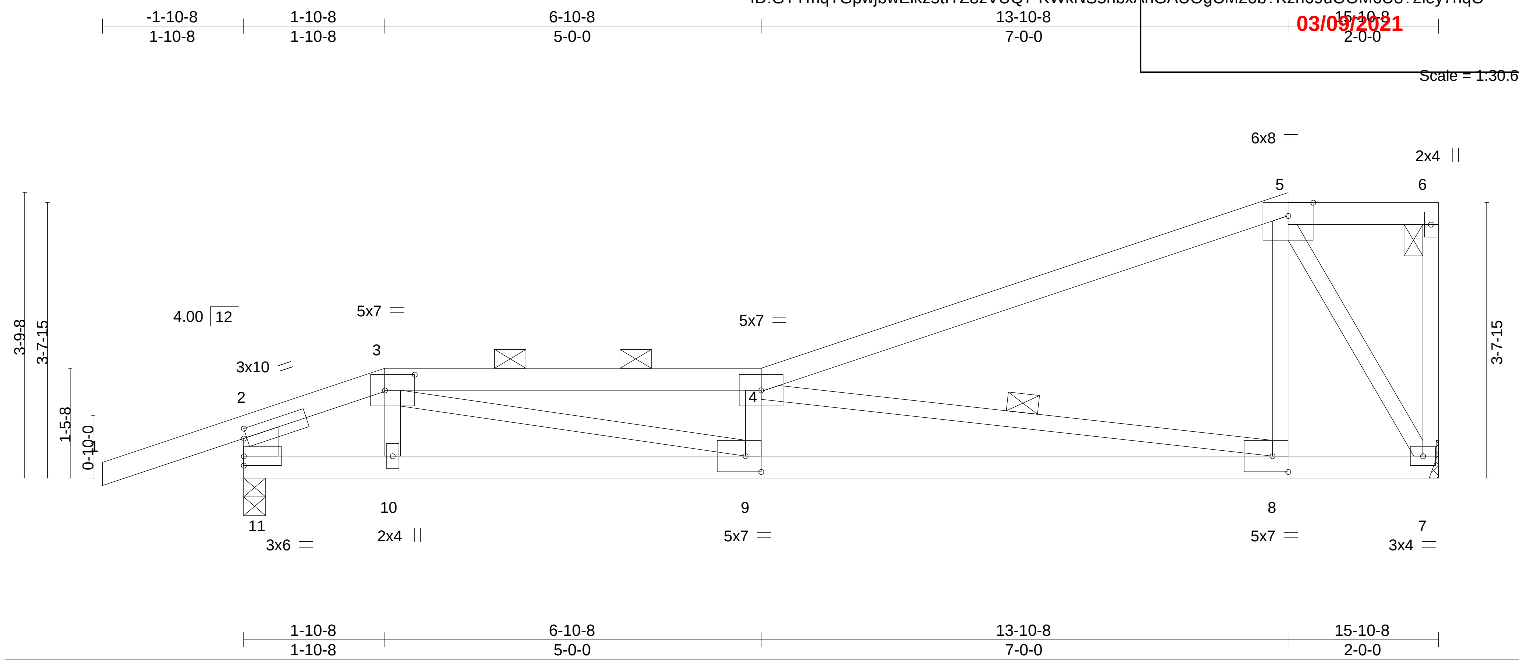


Plate Offsets (X,Y)-- [2:0-0-8,0-1-8], [3:0-4-12,0-2-8], [8:0-2-8,0-2-8], [9:0-2-8,0-2-8]

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	0.83	Vert(LL)	-0.18	9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.33	8-9	>569	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.90	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.14	9	>999	240	Weight: 59 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-11: 2x6 SPF No.2

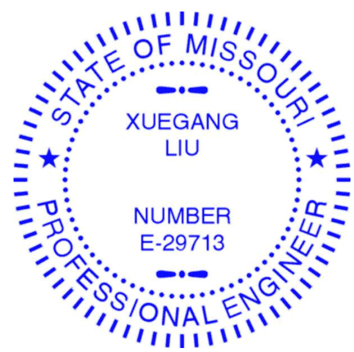
BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-7-7 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-5 max.): 3-4, 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-10-12 oc bracing: 8-9.
WEBS 1 Row at midpt 4-8

REACTIONS. (size) 7=Mechanical, 11=0-3-8
Max Horz 11=161(LC 5)
Max Uplift 7=-136(LC 4), 11=-255(LC 4)
Max Grav 7=685(LC 1), 11=816(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-851/195, 3-4=-2231/399, 4-5=-519/88, 2-11=-668/220
BOT CHORD 10-11=-203/722, 9-10=-198/715, 8-9=-435/2254, 7-8=-58/410
WEBS 3-9=-311/1610, 4-9=-280/159, 4-8=-1855/401, 5-8=-5/485, 5-7=-850/164

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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 136 lb uplift at joint 7 and 255 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 125 lb down and 185 lb up at 1-10-8 on top chord, and 25 lb down and 47 lb up at 1-10-8 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
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 7-11=-20



December 18,2020

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C5	Roof Special Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 11 08:19:27 2020 Page 1
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LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 3=38(F) 10=8(F)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	C6	Roof Special	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 13:30:03 2020 Page 1
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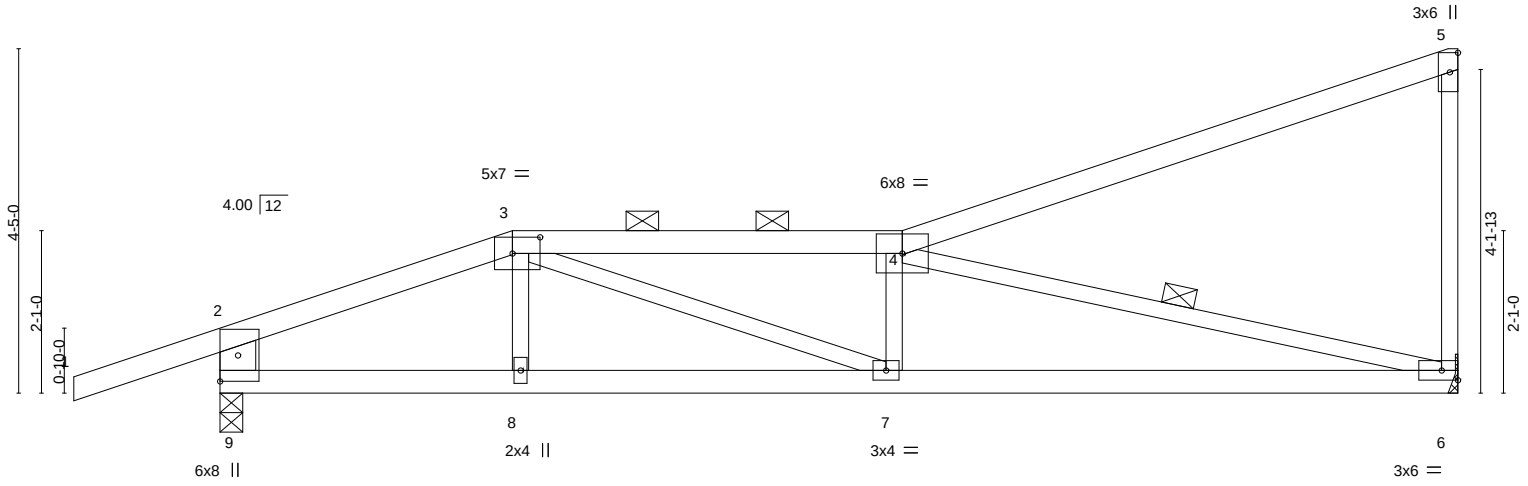
-1-10-8 | 3-9-0 | 8-9-0 | 15-9-0 | 15-10-8
1-10-8 | 3-9-0 | 5-0-0 | 7-0-0 | 0-1-8

Scale = 1:29.5



3-9-0 | 8-9-0 | 15-10-8
3-9-0 | 5-0-0 | 7-1-8

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

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	1.00	Vert(LL)	-0.13	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.23	7-8	>797	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.83	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.11	7-8	>999	240	Weight: 56 lb	FT = 10%

LUMBER-

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x4 SPF No.2
WEBS	2x3 SPF No.2 *Except* 2-9: 2x6 SP DSS

BRACING-

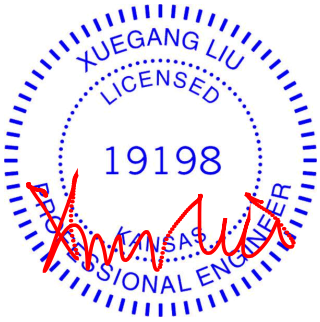
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-0-1 max.): 3-4.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 4-6

REACTIONS. (size) 6=Mechanical, 9=0-3-8
Max Horz 9=195(LC 5)
Max Uplift 6=-138(LC 8), 9=-215(LC 4)
Max Grav 6=689(LC 1), 9=857(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1075/181, 3-4=-1585/257, 2-9=-726/217
BOT CHORD 8-9=-195/940, 7-8=-191/937, 6-7=-277/1589
WEBS 3-7=-100/689, 4-6=-1608/320

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) Provide adequate drainage to prevent water ponding.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 6 and 215 lb uplift at joint 9.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	D1	HIP GIRDER	1	1	I44063929 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:31 2020 Page 1
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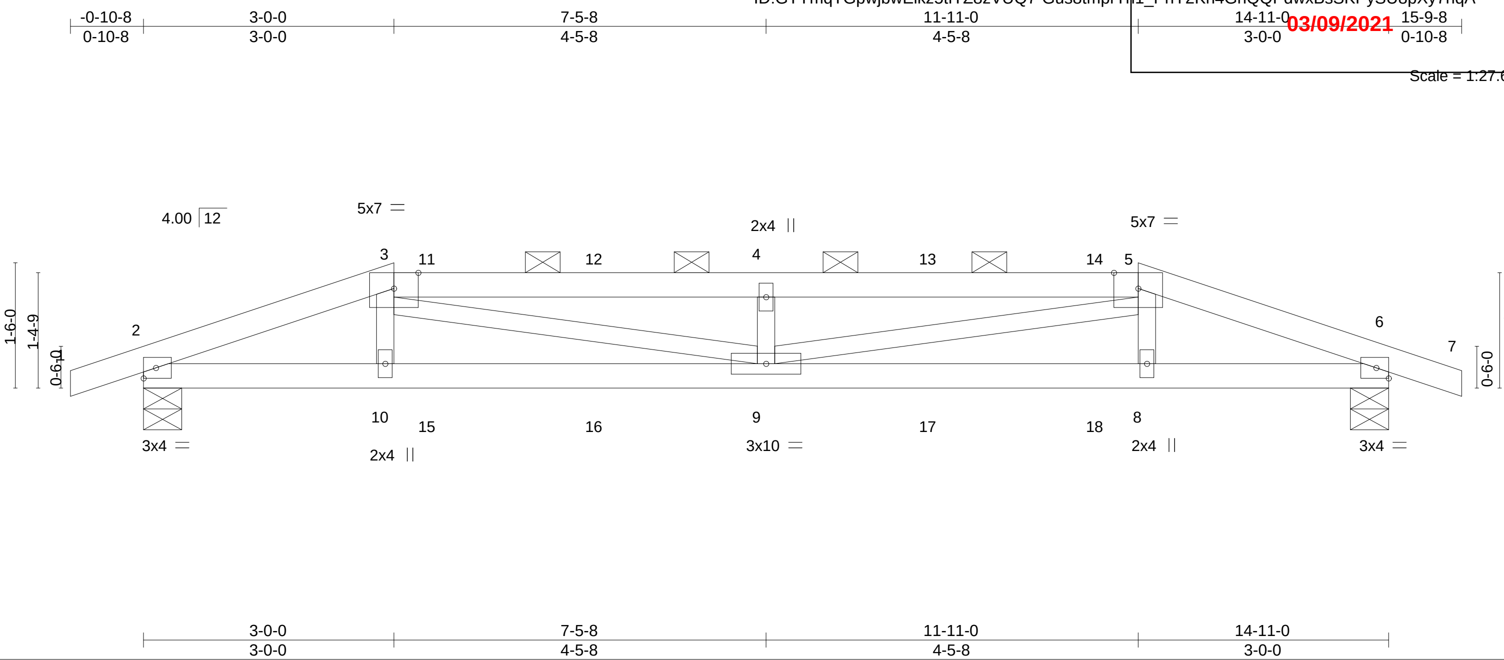


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.10	9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.18	9	>939	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.30	Horz(CT)	0.03	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.09	9	>999	240	Weight: 46 lb	FT = 10%

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

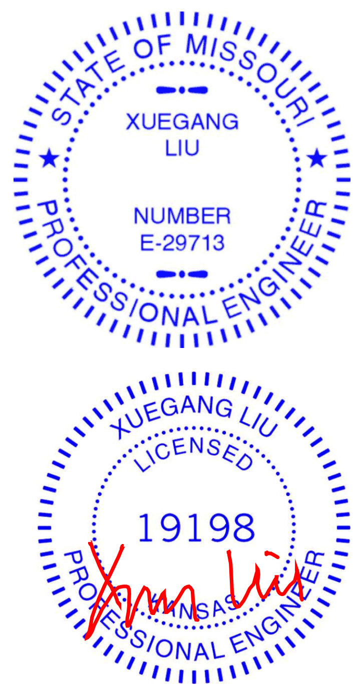
BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-0-12 oc purlins, except
2-0-0 oc purlins (3-9-10 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-5-8, 6=0-5-8
Max Horz 2=21(LC 40)
Max Uplift 2=-210(LC 4), 6=-210(LC 5)
Max Grav 2=666(LC 1), 6=666(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1374/361, 3-4=-1985/508, 4-5=-1985/508, 5-6=-1373/361
BOT CHORD 2-10=-319/1269, 9-10=-321/1259, 8-9=-304/1258, 6-8=-302/1267
WEBS 3-9=-180/864, 4-9=-334/144, 5-9=-181/864

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 210 lb uplift at joint 2 and 210 lb uplift at joint 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 117 lb down and 133 lb up at 3-0-0, 53 lb down and 12 lb up at 3-5-8, 53 lb down and 12 lb up at 5-5-8, 53 lb down and 12 lb up at 7-5-8, 53 lb down and 12 lb up at 9-5-8, and 53 lb down and 12 lb up at 11-5-8, and 117 lb down and 133 lb up at 11-11-0 on top chord, and 26 lb down and 49 lb up at 3-0-0, 8 lb down and 7 lb up at 3-5-8, 8 lb down and 7 lb up at 5-5-8, 8 lb down and 7 lb up at 7-5-8, 8 lb down and 7 lb up at 9-5-8, and 8 lb down and 7 lb up at 11-5-8, and 26 lb down and 49 lb up at 11-10-4 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=-70, 3-5=-70, 5-7=-70, 2-6=-20



December 18,2020

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	D1	HIP GIRDER	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 11 08:13:31 2020 Page 2
ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-Gus8tmprTn1_PnY2Kn4GhQQPdwxBsSKPySU8pXy7nqA

LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 3=37(F) 5=37(F) 10=7(F) 9=7(F) 8=7(F) 15=7(F) 16=7(F) 17=7(F) 18=7(F)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	D2	HIP GIRDER	1	1	I44063930 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:32 2020 Page 1

ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-k4QW46pTD59r1x7EuVbVDeyaWKDibvSZA6EiMzy7nq9

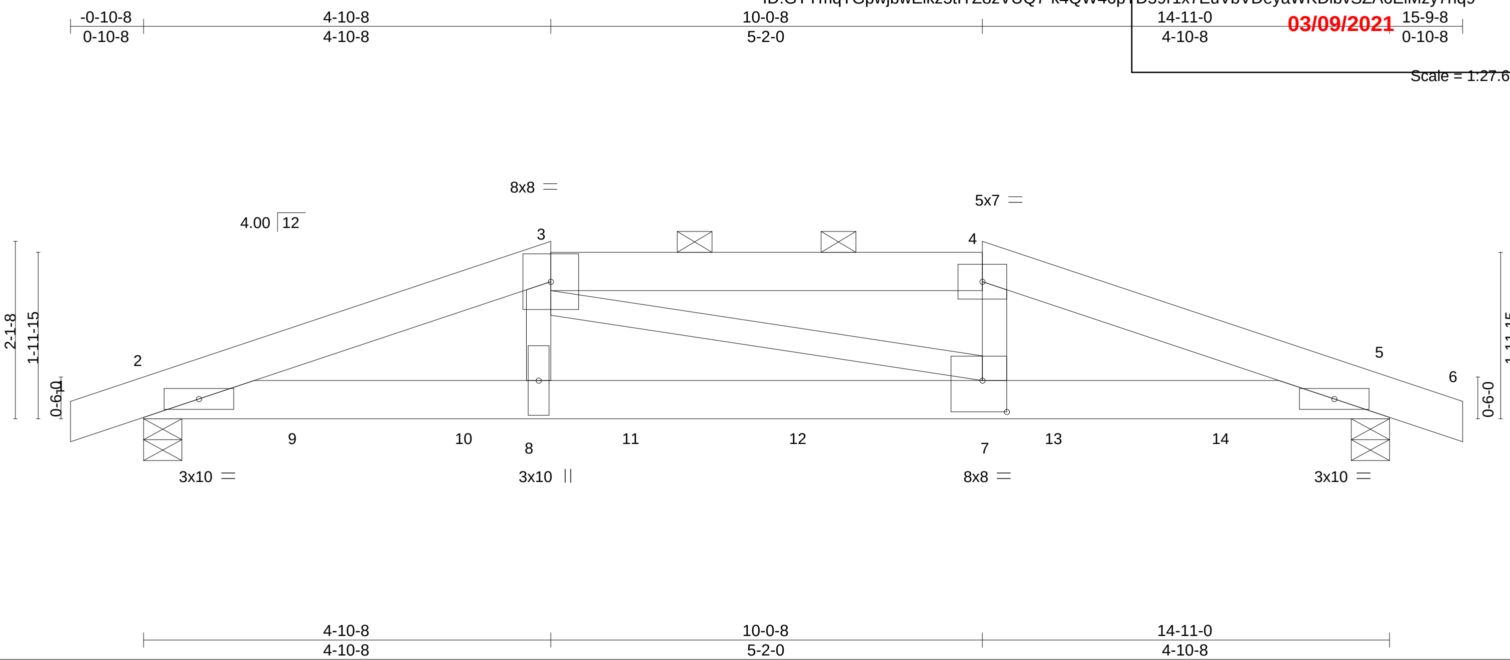


Plate Offsets (X,Y)-- [7:0-3-8,0-4-8]

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	0.41	Vert(LL)	-0.13	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.23	7-8	>766	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.24	Horz(CT)	0.05	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.08	7-8	>999	240	Weight: 67 lb	FT = 10%

LUMBER-
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SPF 1650F 1.4E
WEBS 2x4 SPF No.2

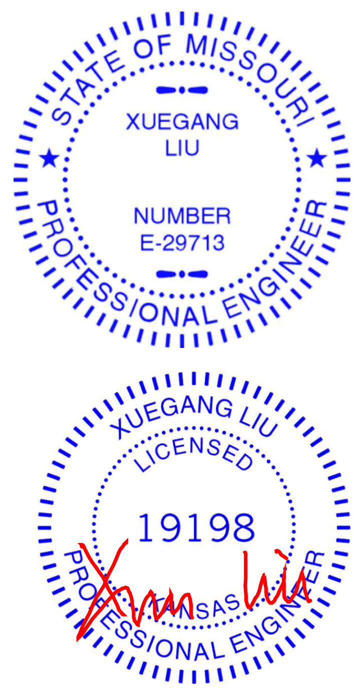
BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-5-11 oc purlins, except
2-0-0 oc purlins (3-7-1 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-5-8, 5=0-5-8
Max Horz 2=-33(LC 9)
Max Uplift 2=-234(LC 4), 5=-247(LC 5)
Max Grav 2=1678(LC 1), 5=1666(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3896/413, 3-4=-3563/422, 4-5=-3897/422
BOT CHORD 2-8=-367/3663, 7-8=-368/3584, 5-7=-343/3647
WEBS 3-8=0/831, 4-7=-22/980

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 234 lb uplift at joint 2 and 247 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 283 lb down and 30 lb up at 1-10-12, 283 lb down and 30 lb up at 3-10-12, 283 lb down and 30 lb up at 5-10-12, 283 lb down and 30 lb up at 7-10-12, 283 lb down and 30 lb up at 9-10-12, and 283 lb down and 30 lb up at 10-11-8, and 191 lb down and 42 lb up at 12-11-8 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=-70, 3-4=-70, 4-6=-70, 2-5=-20



December 18,2020

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	D2	HIP GIRDER	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:13:32 2020 Page 2
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-k4QW46pTD59r1x7EuVbVDeyaWKDibvSZA6EiMzy7nq9

LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 7=-283(B) 9=-283(B) 10=-283(B) 11=-283(B) 12=-283(B) 13=-283(B) 14=-191(B)

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E1	Hip Girder	1	4	I44063931 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:34 2020 Page 1

ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-hTYGVorkliPZGFHd?wdzI32nO7vf3hpreQjoQsy7nq7

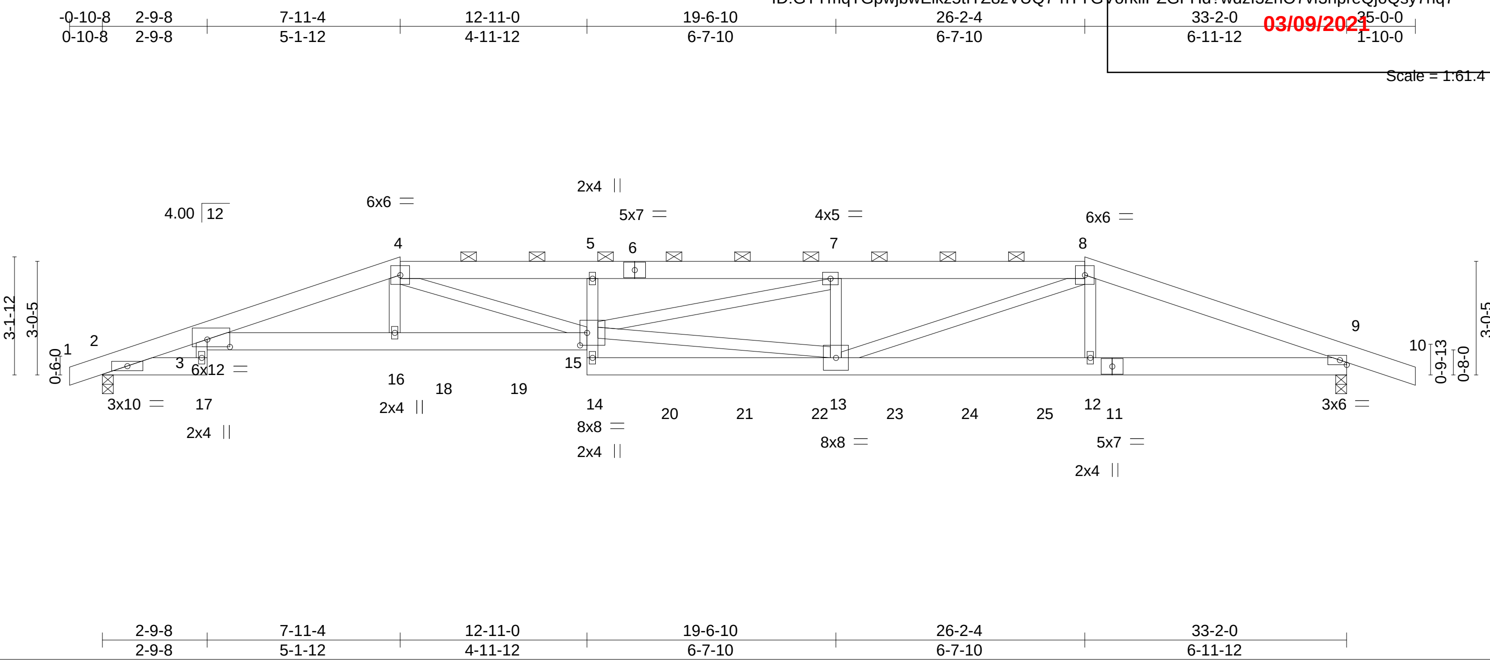


Plate Offsets (X,Y)-- [3:0-7-4,0-2-6], [15:0-2-4,0-4-0]

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)	-0.43	15	>928	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.74	15	>534	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.76	Horz(CT)	0.26	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.27	15	>999	240	Weight: 768 lb	FT = 10%

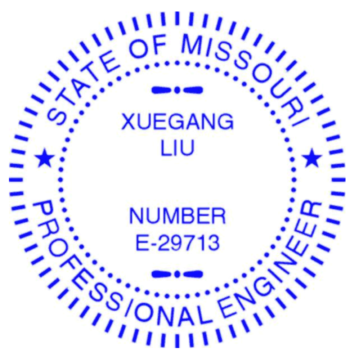
LUMBER-
TOP CHORD 2x6 SP DSS *Except*
4-6,6-8: 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

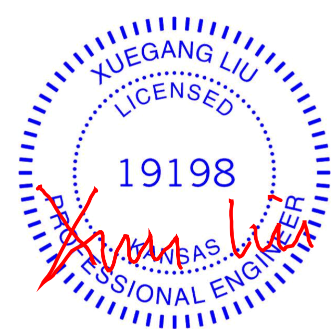
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except
2-0-0 oc purlins (6-0-0 max.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 9=0-3-8
Max Horz 2=30(LC 29)
Max Uplift 2=-426(LC 4), 9=-447(LC 5)
Max Grav 2=3534(LC 1), 9=3678(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-1399/187, 3-4=-13451/1611, 4-5=-16061/1831, 5-7=-15456/1768, 7-8=-12453/1374, 8-9=-9224/1033
BOT CHORD 3-16=-1523/13040, 15-16=-1510/12946, 13-14=-197/1857, 12-13=-893/8452, 9-12=-900/8527
WEBS 3-17=-61/673, 14-15=-44/727, 5-15=-260/162, 4-16=-192/1514, 4-15=-325/3542, 13-15=-1124/10647, 7-15=-410/3157, 7-13=-1536/249, 8-13=-454/4414, 8-12=-124/1342

NOTES-
1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.
Webs connected as follows: 2x4 - 1 row at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 426 lb uplift at joint 2 and 447 lb uplift at joint 9.
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.





December 18,2020

Continued on page 2

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Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E1	Hip Girder	1	4	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:34:10 2020 Page 2
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-hTYGVorkliPZGFHd?wdzI32nO7vf3hpreQjoQsy7nq7

NOTES-

11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 841 lb down and 220 lb up at 7-11-4, 262 lb down and 40 lb up at 9-0-12, 262 lb down and 40 lb up at 11-0-12, 262 lb down and 39 lb up at 13-0-12, 283 lb down and 42 lb up at 15-0-12, 283 lb down and 42 lb up at 17-0-12, 283 lb down and 42 lb up at 19-0-12, 283 lb down and 42 lb up at 21-0-12, 283 lb down and 42 lb up at 23-0-12, and 283 lb down and 42 lb up at 25-0-12, and 722 lb down and 171 lb up at 26-1-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-4=-70, 4-8=-70, 8-10=-70, 2-17=-20, 3-15=-20, 9-14=-20
   Concentrated Loads (lb)
   Vert: 15=-262(F) 16=-841(F) 12=-722(F) 18=-262(F) 19=-262(F) 20=-283(F) 21=-283(F) 22=-283(F) 23=-283(F) 24=-283(F) 25=-283(F)

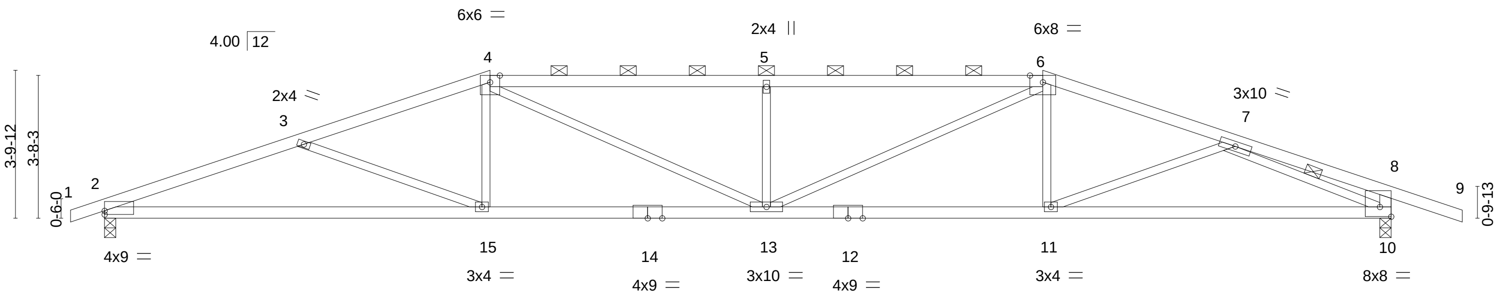
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E2	Hip	1	1	Job Reference (optional) I44063932

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:35 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-9f6ej8sMW0XQuPspZd8CrGa1sXDvoAF?s4SMyIy7nq6

-0-10-8	5-1-10	9-11-4	17-0-12	24-2-4	28-11-13	33-2-0	35-0-0
0-10-8	5-1-10	4-9-10	7-1-8	7-1-8	4-9-9	4-2-3	1-10-0

Scale = 1:59.4



9-11-4	17-0-12	24-2-4	33-2-0
9-11-4	7-1-8	7-1-8	8-11-12

Plate Offsets (X,Y)-- [2:0-0-0,0-1-2], [10:Edge,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	0.66	Vert(LL)	-0.28	13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.52	2-15	>756	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.13	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.22	13	>999	240	Weight: 113 lb	FT = 10%

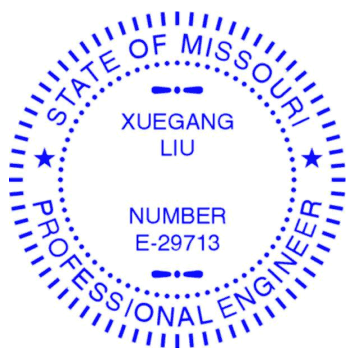
LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
4-6: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E *Except*
12-14: 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
8-10: 2x4 SPF No.2

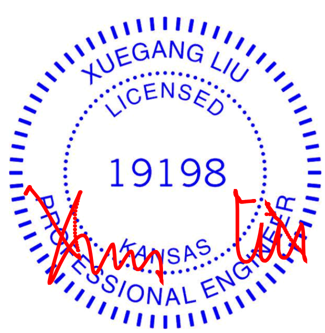
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-6-4 oc purlins, except end verticals, and 2-0-0 oc purlins (3-4-7 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 8-10-3 oc bracing.
WEBS 1 Row at midpt 7-10

REACTIONS. (size) 2=0-3-8, 10=0-3-8
Max Horz 2=54(LC 8)
Max Uplift 2=-302(LC 4), 10=-341(LC 5)
Max Grav 2=1548(LC 1), 10=1621(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3511/679, 3-4=-3215/555, 4-5=-3675/679, 5-6=-3675/679, 6-7=-2994/505, 7-8=-424/24, 8-10=-431/138
BOT CHORD 2-15=-619/3240, 13-15=-446/3001, 11-13=-363/2801, 10-11=-436/2626
WEBS 3-15=-263/234, 4-15=0/386, 4-13=-226/916, 5-13=-628/246, 6-13=-256/1101, 6-11=0/261, 7-11=0/398, 7-10=-2539/574

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 302 lb uplift at joint 2 and 341 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E3	Roof Special Girder	1	2	Job Reference (optional)

I44063933

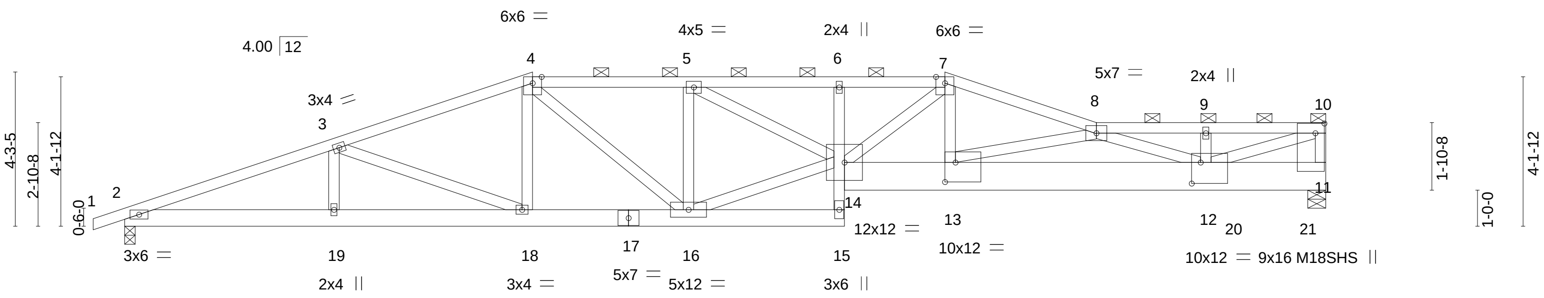
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:36 2020 Page 1

ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-dsg1wUt_HJfGWZR07KgROU7D5xZgXe885kCvVky7nq5

-0-10-8	5-9-13	11-4-0	15-8-0	20-0-0	22-9-8	27-0-0	30-0-8	33-4-8
0-10-8	5-9-13	5-6-3	4-4-0	4-4-0	2-9-8	4-2-8	3-0-8	3-4-0

Scale: 3/16"=1'



5-9-13	11-4-0	15-8-0	20-0-0	22-9-8	27-0-0	30-0-8	33-4-8
5-9-13	5-6-3	4-4-0	4-4-0	2-9-8	4-2-8	3-0-8	3-4-0

Plate Offsets (X,Y)-- [11:0-3-4,0-3-0], [12:0-3-0,0-7-0], [13:0-3-8,0-6-8]

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	0.63	Vert(LL)	-0.31	15	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.55	15	>721	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.52	Horz(CT)	0.09	11	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.22	15	>999	240	Weight: 368 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2 *Except*
6-15: 2x4 SPF No.2, 11-14: 2x10 SP DSS
WEBS 2x4 SPF No.2 *Except*
8-12,10-12: 2x4 SPF 2100F 1.8E

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-0-14 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-5 max.): 4-7, 8-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 11=0-6-0, 2=0-3-8
Max Horz 2=105(LC 29)
Max Uplift 11=-1015(LC 5), 2=-342(LC 4)
Max Grav 11=6587(LC 1), 2=1948(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-4811/750, 3-4=-4315/685, 4-5=-4849/768, 5-6=-7178/1096, 6-7=-7182/1096, 7-8=-7747/1127, 8-9=-9181/1224, 9-10=-9181/1224, 10-11=-3905/549
BOT CHORD 2-19=-744/4462, 18-19=-744/4462, 16-18=-609/4034, 15-16=-113/788, 6-14=-357/119, 13-14=-1050/7231, 12-13=-1751/11827, 11-12=-74/411
WEBS 3-18=-467/244, 4-18=-22/346, 4-16=-204/1239, 5-16=-1857/371, 14-16=-615/4211, 5-14=-424/2748, 7-14=-542/516, 7-13=-240/2251, 8-13=-4710/724, 8-12=-2891/551, 10-12=-1272/9517

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 0-7-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc, 2x10 - 2 rows staggered at 0-2-0 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=6.0psf; 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
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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1015 lb uplift at joint 11 and 342 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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E3	Roof Special Girder	1	2	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 04 08:13:33 2020 Page 2
ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-dsg1wUt_HJfGWZR07KgROU7D5xZgXe885kCvVky7nq5

NOTES-

11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 5086 lb down and 617 lb up at 30-8-15, and 401 lb down and 201 lb up at 32-9-12 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=-70, 4-7=-70, 7-8=-70, 8-10=-70, 2-15=-20, 11-14=-20
   Concentrated Loads (lb)
   Vert: 20=-5086(F) 21=-401(F)

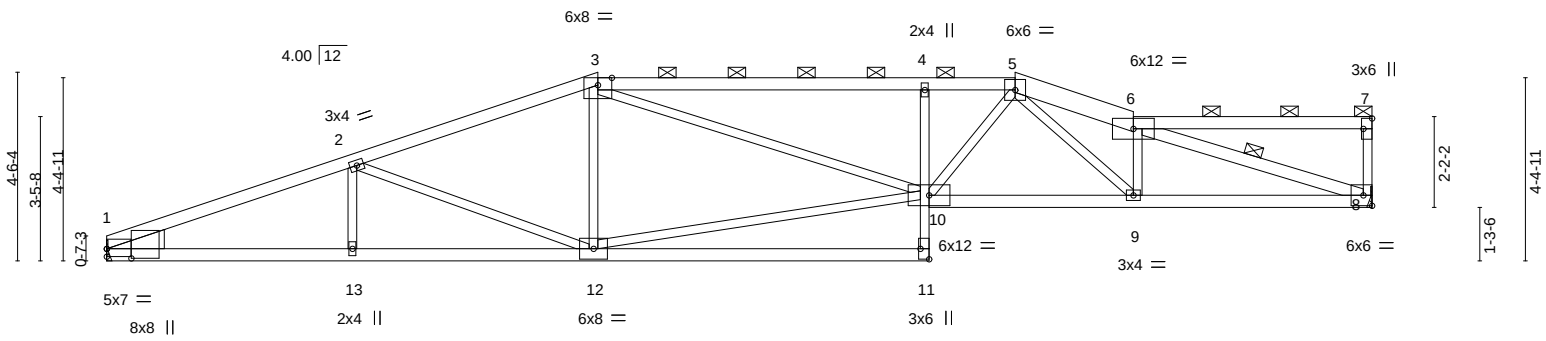
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E4	Roof Special	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Wed Dec 16 13:37:10 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-52DP7qtc2dn78i?Cg2BgwhfJ7LskG12IKOxT1By7nq4

5-10-11	11-9-4	19-8-8	21-9-4	24-7-4	30-3-14
5-10-11	5-10-9	7-11-4	2-0-12	2-10-0	5-8-10

Scale = 1:55.2



5-10-11	11-9-4	19-8-8	21-9-4	24-7-4	30-3-14
5-10-11	5-10-9	7-11-4	2-0-12	2-10-0	5-8-10

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

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	0.93	Vert(LL)	-0.27	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.55	11-12	>657	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.16	8	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.15	10	>999	240	Weight: 115 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except*
3-5: 2x4 SPF 2100F 1.8E, 5-6: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
4-11: 2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except*
6-8: 2x4 SPF No.2
WEDGE
Left: 2x6 SPF No.2

BRACING-

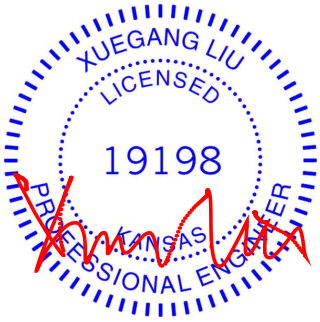
TOP CHORD Structural wood sheathing directly applied or 2-5-1 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 3-5, 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-8

REACTIONS. (size) 8=Mechanical, 1=Mechanical
Max Horz 1=83(LC 5)
Max Uplift 8=-54(LC 5), 1=-53(LC 4)
Max Grav 8=1357(LC 1), 1=1357(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-3183/139, 2-3=-2592/120, 3-4=-3402/162, 4-5=-3412/155, 5-6=-3551/137
BOT CHORD 1-13=-151/2923, 12-13=-151/2923, 4-10=-588/131, 9-10=-120/2874, 8-9=-127/3313
WEBS 2-12=-574/101, 10-12=-94/2309, 3-10=-102/1165, 5-10=-82/954, 5-9=-20/645, 6-9=-340/90, 6-8=-3420/116

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 8 and 53 lb uplift at joint 1.
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.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

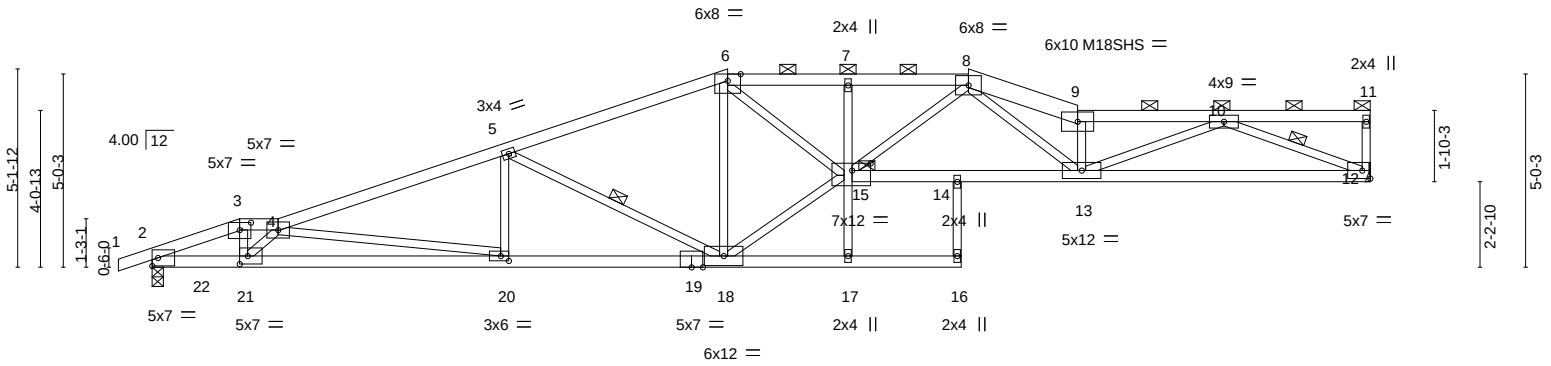
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E5	ROOF SPECIAL	1	1	Job Reference (optional)

J44063935

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 13:38:03 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-ZEnnLAuEpxv_lsaOElivTvCT2lDQ?RNRZ2h0Zdy7nq3

-0-10-8	2-3-4	3-3-4	9-1-13	14-11-4	18-0-12	21-2-4	24-0-4	27-9-13	31-7-6
0-10-8	2-3-4	1-0-0	5-10-9	5-9-7	3-1-8	3-1-8	2-10-0	3-9-9	3-9-9

Scale = 1:59.8



2-3-4	3-3-4	9-1-13	14-11-4	18-0-12	21-0-0	24-0-4	31-7-6
2-3-4	1-0-0	5-10-9	5-9-7	3-1-8	2-11-4	3-0-4	7-7-2

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

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	0.98	Vert(LL)	-0.42	15	>901	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.76	14-15	>496	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.98	Horz(CT)	0.20	12	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.22	14-15	>999	240	Weight: 122 lb	FT = 10%

LUMBER-

TOP CHORD	2x4 SPF No.2 *Except*
	8-9: 2x6 SPF No.2, 9-11: 2x4 SPF 2100F 1.8E
BOT CHORD	2x4 SPF 2100F 1.8E *Except*
	16-19: 2x4 SPF No.2
WEBS	2x3 SPF No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-6-0 max.): 3-4, 6-8, 9-11.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 5-18, 10-12
JOINTS	1 Brace at Jt(s): 11, 15

REACTIONS. (size) 12=Mechanical, 2=0-3-8
Max Horz 2=96(LC 8)
Max Uplift 12=-50(LC 5), 2=-118(LC 4)
Max Grav 12=1420(LC 1), 2=1755(LC 1)

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

TOP CHORD	2-3=-3410/98, 3-4=-3227/103, 4-5=-3495/134, 5-6=-2564/115, 6-7=-4343/157, 7-8=-4346/155, 8-9=-5459/147, 9-10=-5050/114
BOT CHORD	2-21=-158/3084, 20-21=-245/4310, 18-20=-151/3279, 14-15=-131/3901, 13-14=-131/3901, 12-13=-151/2957
WEBS	3-21=-32/1334, 4-21=-1589/142, 4-20=-1045/100, 5-20=0/383, 5-18=-1021/90, 6-18=-1010/86, 15-18=-91/2853, 7-15=-282/56, 9-13=-1843/95, 6-15=-88/2487, 8-15=-45/712, 8-13=-11/1674, 10-13=0/2271, 10-12=-3139/163

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 12 and 118 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 281 lb down and 48 lb up at 1-2-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
12) 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

Continued on page 2

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E5	ROOF SPECIAL	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:13:37 2020 Page 2
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-ZEnnLAuEpxv_lsaOElivTvCT2lDQ?RNRZ2h0Zdy7nq3

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-3=-70, 3-4=-70, 4-6=-70, 6-8=-70, 8-9=-70, 9-11=-70, 2-16=-20, 12-14=-20
   Concentrated Loads (lb)
   Vert: 22=-281(F)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E6	Roof Special Girder	1	1	Job Reference (optional)

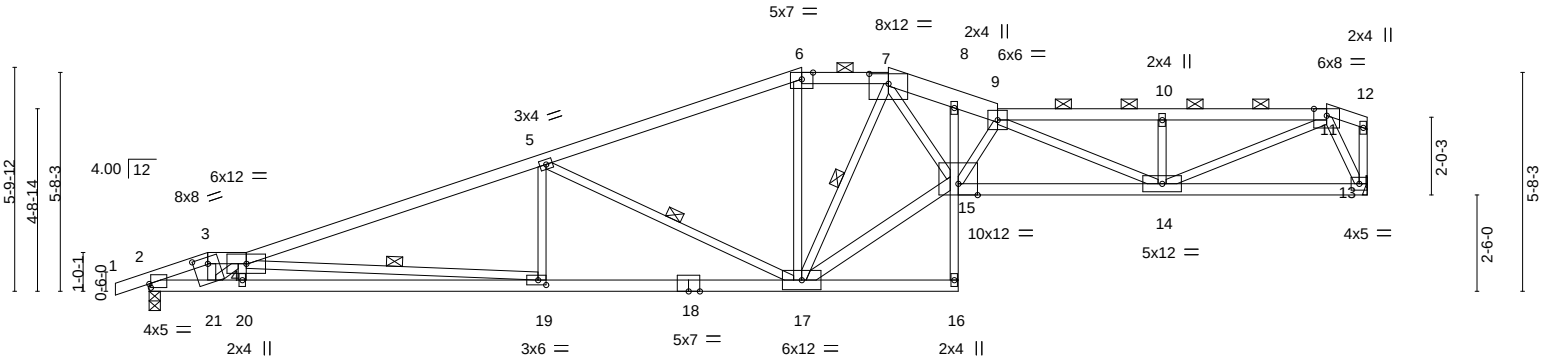
I44063936

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 14:41:05 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-_pTwzBw76sHZcKJzvuFc5Xq_HyEhCoEtF?vgAyy7nq0

-0-10-8 1-6-4 2-6-4 10-2-6 16-11-4 19-2-4 21-0-0 22-0-4 26-3-8 30-6-12 31-7-6
0-10-8 1-6-4 1-0-0 7-8-2 6-8-14 2-3-0 1-9-12 1-0-4 4-3-4 4-3-4 1-0-10

Scale = 1:59.8



1-6-4 2-6-4 10-2-6 16-11-4 21-0-0 26-3-8 31-7-6
1-6-4 1-0-0 7-8-2 6-8-14 4-0-12 5-3-8 5-3-14

Plate Offsets (X,Y)-- [2:0-0-8,0-1-2], [3:0-4-8,0-2-0], [7:0-6-0,0-3-1], [19:0-2-8,0-1-8]

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	0.92	Vert(LL)	-0.34	16	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.61	16	>614	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.17	13	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.18	16	>999	240	Weight: 126 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except*
4-6: 2x4 SPF 2100F 1.8E, 7-9: 2x6 SPF No.2
BOT CHORD 2x4 SPF 2100F 1.8E *Except*
8-16: 2x3 SPF No.2, 16-18: 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
15-17: 2x4 SPF No.2

BRACING-

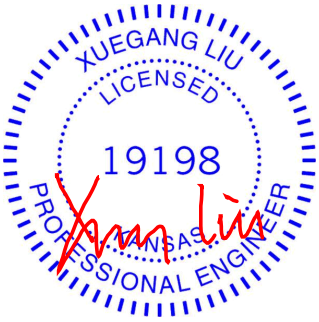
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-10-5 max.): 3-4, 6-7, 9-11.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-19, 5-17, 7-17

REACTIONS. (size) 2=0-3-8, 13=Mechanical
Max Horz 2=108(LC 8)
Max Uplift 2=-72(LC 4), 13=-43(LC 5)
Max Grav 2=1484(LC 1), 13=1410(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-2766/61, 3-4=-2613/65, 4-5=-3327/97, 5-6=-2239/75, 6-7=-2046/86, 7-8=-4253/108, 8-9=-4416/96, 9-10=-3208/77, 10-11=-3210/78
BOT CHORD 2-21=-133/2426, 20-21=-142/4207, 19-20=-162/4207, 17-19=-122/3106, 8-15=0/358, 14-15=-132/4722, 13-14=-43/670
WEBS 3-21=-72/1293, 4-21=-2035/7, 4-20=-3/267, 4-19=-1106/48, 5-19=0/405, 5-17=-1179/105, 6-17=0/381, 7-17=-1510/70, 15-17=-67/3068, 7-15=-77/2834, 9-15=-1260/73, 9-14=-1667/74, 10-14=-387/81, 11-14=-55/2804, 11-13=-1502/85

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 2 and 43 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
10) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 46 lb down and 19 lb up at 1-6-4 on top chord, and at 1-6-4 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).



December 18,2020

LOAD CASE(S) Standard

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E6	Roof Special Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 11 08:19:41 2020 Page 2
ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-_pTwzBw76sHZcKJzvuFc5Xq_HyEhCoEtF?vgAyy7nq0

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-3=-70, 3-4=-70, 4-6=-70, 6-7=-70, 7-9=-70, 9-11=-70, 11-12=-70, 2-16=-20, 13-15=-20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E7	Roof Special	1	1	I44063937 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:42 2020 Page 1
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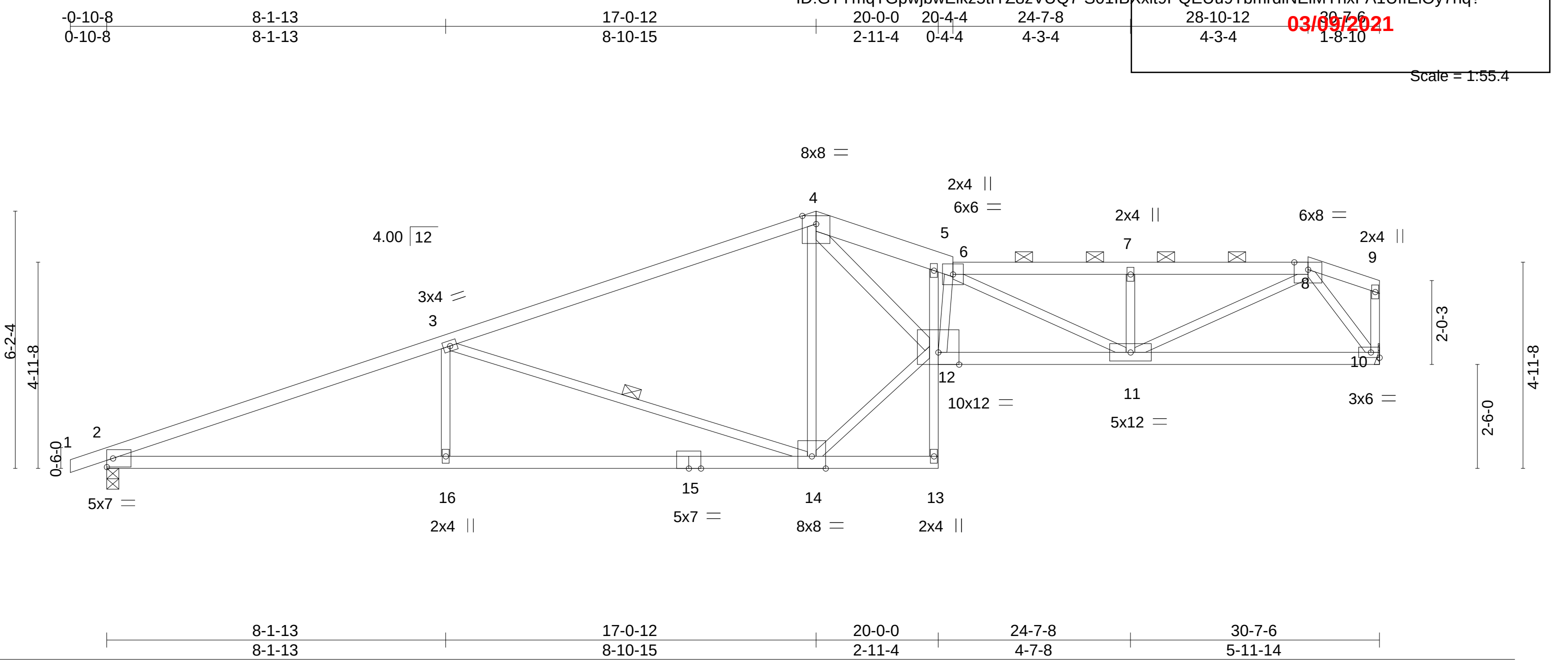


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.29	13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.57	14-16	>642	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.17	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.15	13	>999	240	Weight: 114 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
1-4: 2x4 SPF 2100F 1.8E, 4-6: 2x6 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
5-13: 2x3 SPF No.2, 10-12: 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except*
4-12: 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-4-10 oc purlins, except end verticals, and 2-0-0 oc purlins (2-11-6 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 3-14

REACTIONS. (size) 10=Mechanical, 2=0-3-8
Max Horz 2=113(LC 8)
Max Uplift 10=-39(LC 5), 2=-64(LC 4)
Max Grav 10=1365(LC 1), 2=1439(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3235/77, 3-4=-2019/50, 4-5=-4161/99, 5-6=-4328/88, 6-7=-3049/69, 7-8=-3051/71
BOT CHORD 2-16=-119/2966, 14-16=-119/2966, 5-12=-34/365, 11-12=-97/4230, 10-11=-53/941
WEBS 3-16=0/370, 3-14=-1240/124, 4-14=-1006/105, 12-14=-25/2369, 4-12=-93/3249, 6-12=-1301/72, 6-11=-1325/56, 7-11=-384/81, 8-11=-29/2378, 8-10=-1556/82

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 39 lb uplift at joint 10 and 64 lb uplift at joint 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

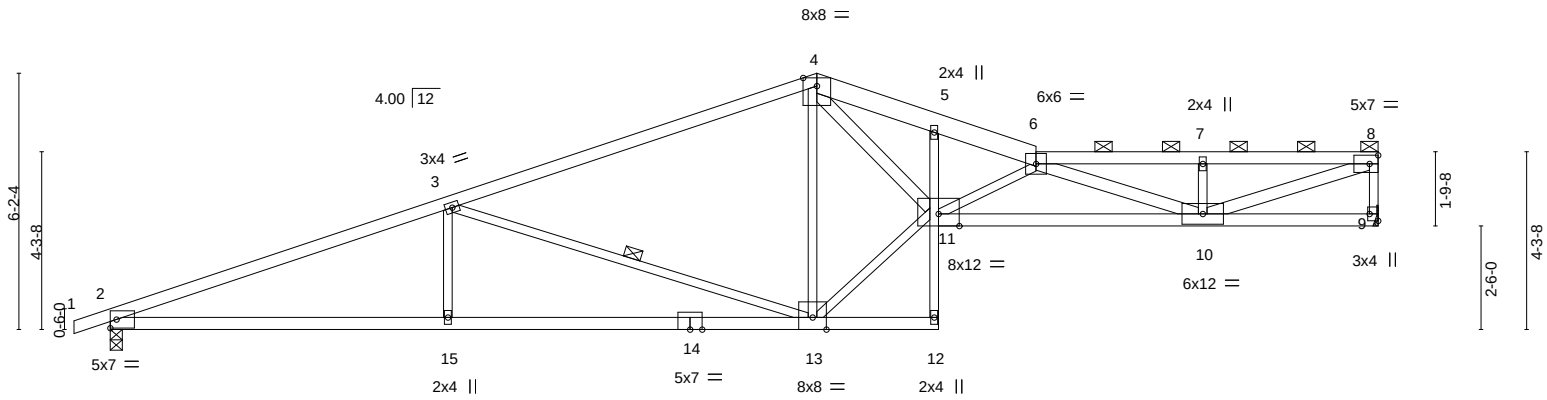
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E8	Roof Special	1	1	Job Reference (optional)

I44063938

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 13:43:10 2020 Page 1
ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-wCbgOtyNeTXHsdTM1JI4AyvPTlu0giPAiJOnEqy7nq_

-0-10-8	8-1-13	17-0-12	20-0-0	22-4-4	26-4-9	30-7-6
0-10-8	8-1-13	8-10-15	2-11-4	2-4-4	4-0-5	4-2-13

Scale = 1:55.6



8-1-13	17-0-12	20-0-0	26-4-9	30-7-6
8-1-13	8-10-15	2-11-4	6-4-9	4-2-13

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

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	0.62	Vert(LL)	-0.35	12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.64	13-15	>568	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.19	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.18	12	>999	240	Weight: 115 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF 2100F 1.8E *Except*
4-6: 2x6 SPF No.2, 6-8: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
5-12: 2x3 SPF No.2, 9-11: 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except*
4-11,6-10,8-10: 2x4 SPF No.2

BRACING-

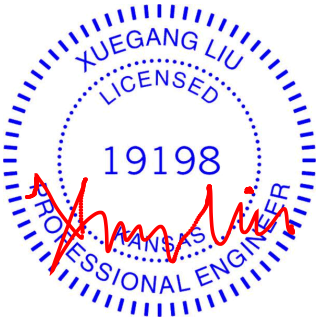
TOP CHORD Structural wood sheathing directly applied or 3-4-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-9-13 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 3-13

REACTIONS. (size) 9=Mechanical, 2=0-3-8
Max Horz 2=112(LC 8)
Max Uplift 9=-38(LC 5), 2=-66(LC 4)
Max Grav 9=1365(LC 1), 2=1439(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3235/82, 3-4=-2019/55, 4-5=-4109/97, 5-6=-4191/69, 6-7=-3291/61, 7-8=-3290/60, 8-9=-1311/52
BOT CHORD 2-15=-124/2966, 13-15=-124/2966, 10-11=-143/5284
WEBS 3-15=0/370, 3-13=-1239/124, 4-13=-1012/98, 11-13=-13/2379, 4-11=-84/3189, 6-11=-1594/89, 6-10=-2131/79, 7-10=-329/78, 8-10=-69/3435

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 9 and 66 lb uplift at joint 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

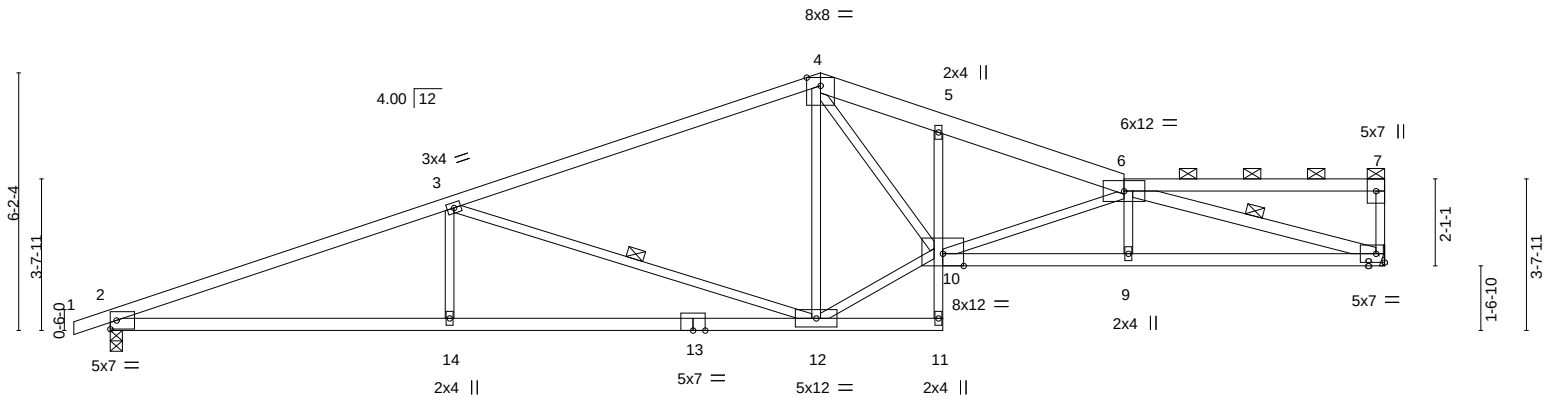
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	E9	Roof Special	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 14:44:05 2020 Page 1
ID:GTYmqTGpwjbwEikz5tlTZ8zVUQ7-OO82bDz?Pnf8Tn2Yb0pJiASaC9EEP9fKxz8KmHy7npz

-0-10-8	8-1-13	17-0-12	20-0-0	24-4-4	30-7-6
0-10-8	8-1-13	8-10-15	2-11-4	4-4-4	6-3-2

Scale = 1:55.3



8-1-13	17-0-12	20-0-0	24-4-4	30-7-6
8-1-13	8-10-15	2-11-4	4-4-4	6-3-2

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	0.62	Vert(LL)	-0.26	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.53	12-14	>694	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.16	8	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.18	9-10	>999	240	Weight: 115 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF 2100F 1.8E *Except*
4-6: 2x6 SPF No.2, 6-7: 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
5-11: 2x3 SPF No.2, 8-10: 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except*
6-8: 2x4 SPF No.2

BRACING-

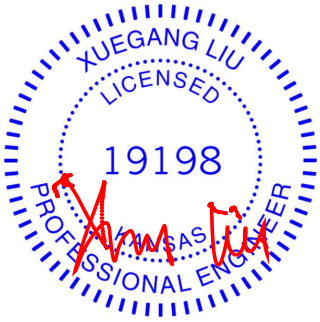
TOP CHORD Structural wood sheathing directly applied or 3-4-9 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-7.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
WEBS 1 Row at midpt 3-12, 6-8

REACTIONS. (size) 8=Mechanical, 2=0-3-8
Max Horz 2=148(LC 8)
Max Uplift 8=-197(LC 5), 2=-248(LC 4)
Max Grav 8=1365(LC 1), 2=1439(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3234/463, 3-4=-2019/282, 4-5=-2986/429, 5-6=-3054/388
BOT CHORD 2-14=-497/2966, 12-14=-497/2966, 9-10=-511/3736, 8-9=-506/3741
WEBS 3-14=0/370, 3-12=-1239/320, 4-12=-418/153, 10-12=-215/2030, 4-10=-295/1809, 6-10=-967/166, 6-8=-3795/490

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 197 lb uplift at joint 8 and 248 lb uplift at joint 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G1	Roof Special	1	1	I44063940 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:10:45 2020 Page 1

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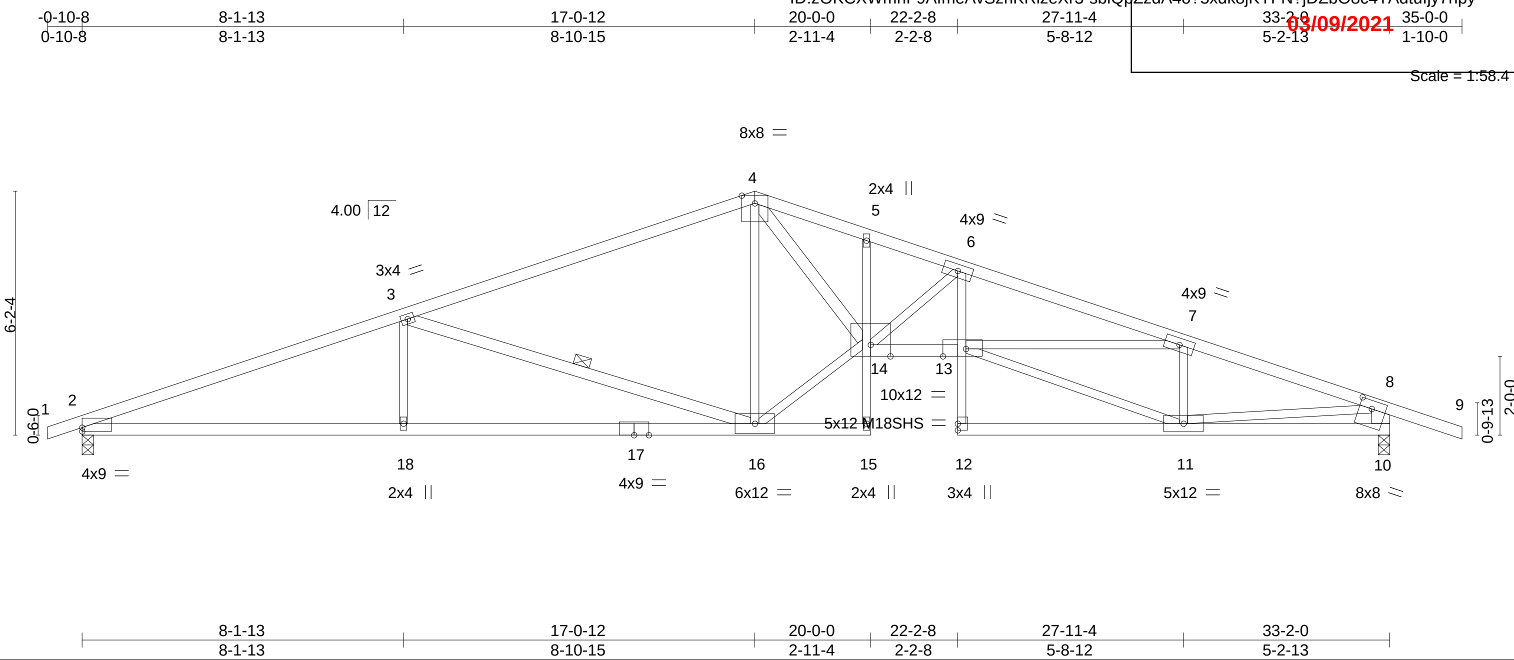


Plate Offsets (X,Y)-- [2:0-0-0,0-1-2], [10:0-3-12,0-2-8], [13:0-7-0,Edge]

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	0.73	Vert(LL)	-0.41	13-14	>958	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.74	13-14	>532	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.33	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.27	13-14	>999	240	Weight: 130 lb	FT = 10%

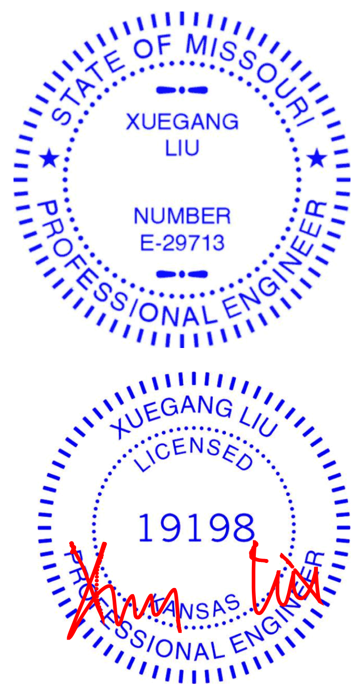
LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E *Except*
15-17,10-12: 2x4 SPF No.2, 5-15,6-12: 2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except*
3-16,4-14: 2x4 SPF No.2, 8-10: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 16-18
6-0-0 oc bracing: 14-15.
WEBS 1 Row at midpt 3-16

REACTIONS. (size) 10=0-3-8, 2=0-3-8
Max Horz 2=97(LC 12)
Max Uplift 10=-302(LC 5), 2=-262(LC 4)
Max Grav 10=1623(LC 1), 2=1544(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3544/505, 3-4=-2312/321, 4-5=-4069/505, 5-6=-4133/482, 6-7=-5581/647, 7-8=-2975/396, 8-10=-1555/322
BOT CHORD 2-18=-471/3256, 16-18=-471/3256, 13-14=-464/5243, 6-13=-94/1331, 10-11=-37/384
WEBS 3-18=0/375, 3-16=-1261/325, 4-16=-922/111, 14-16=-197/2518, 4-14=-299/3007, 6-14=-1806/273, 11-13=-322/2861, 7-13=-219/2474, 7-11=-1224/234, 8-11=-322/2393

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) All plates are MT20 plates unless otherwise indicated.
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 302 lb uplift at joint 10 and 262 lb uplift at joint 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.



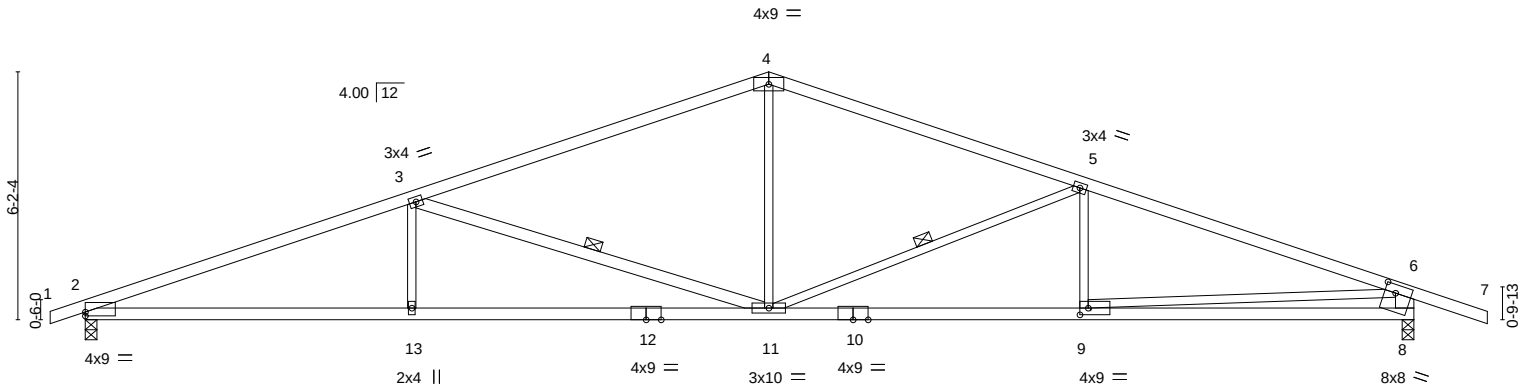
December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0	J44063941
210285	G2	Common	1	1	Job Reference (optional)	

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 14:47:03 2020 Page 1
ID:zOKCXWmhF9AfmeAvSznKRizeXr3-ozqBEF?uh2jKFm7G8M0Ko43UNFRcbymdxM_Nby7npw

-0-10-8 | 8-1-13 | 17-0-12 | 24-11-3 | 33-2-0 | 35-0-0
0-10-8 | 8-1-13 | 8-10-15 | 7-10-7 | 8-2-13 | 1-10-0

Scale = 1:57.5



8-1-13 | 17-0-12 | 24-11-3 | 33-2-0
8-1-13 | 8-10-15 | 7-10-7 | 8-2-13

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

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	0.75	Vert(LL)	-0.21	9-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.44	11-13	>889	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.11	8	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.15	13	>999	240	Weight: 114 lb	FT = 10%

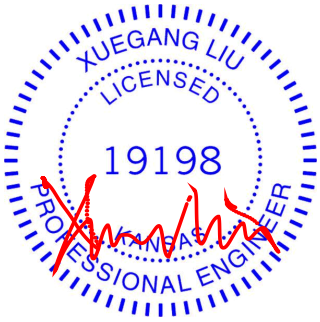
LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E *Except*
10-12: 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
3-11: 2x4 SPF No.2, 6-8: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 11-13.
WEBS 1 Row at midpt 3-11, 5-11

REACTIONS. (size) 2=0-3-8, 8=0-3-8
Max Horz 2=97(LC 8)
Max Uplift 2=-262(LC 4), 8=-302(LC 5)
Max Grav 2=1544(LC 1), 8=1623(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3539/506, 3-4=-2319/320, 4-5=-2302/337, 5-6=-3064/417, 6-8=-1533/344
BOT CHORD 2-13=-472/3251, 11-13=-472/3251, 9-11=-300/2817, 8-9=-137/777
WEBS 3-13=0/371, 3-11=-1265/330, 4-11=-24/853, 5-11=-872/251, 6-9=-213/2046

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 262 lb uplift at joint 2 and 302 lb uplift at joint 8.
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.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G3	Common	2	1	I44063942 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:18:48 2020 Page 1
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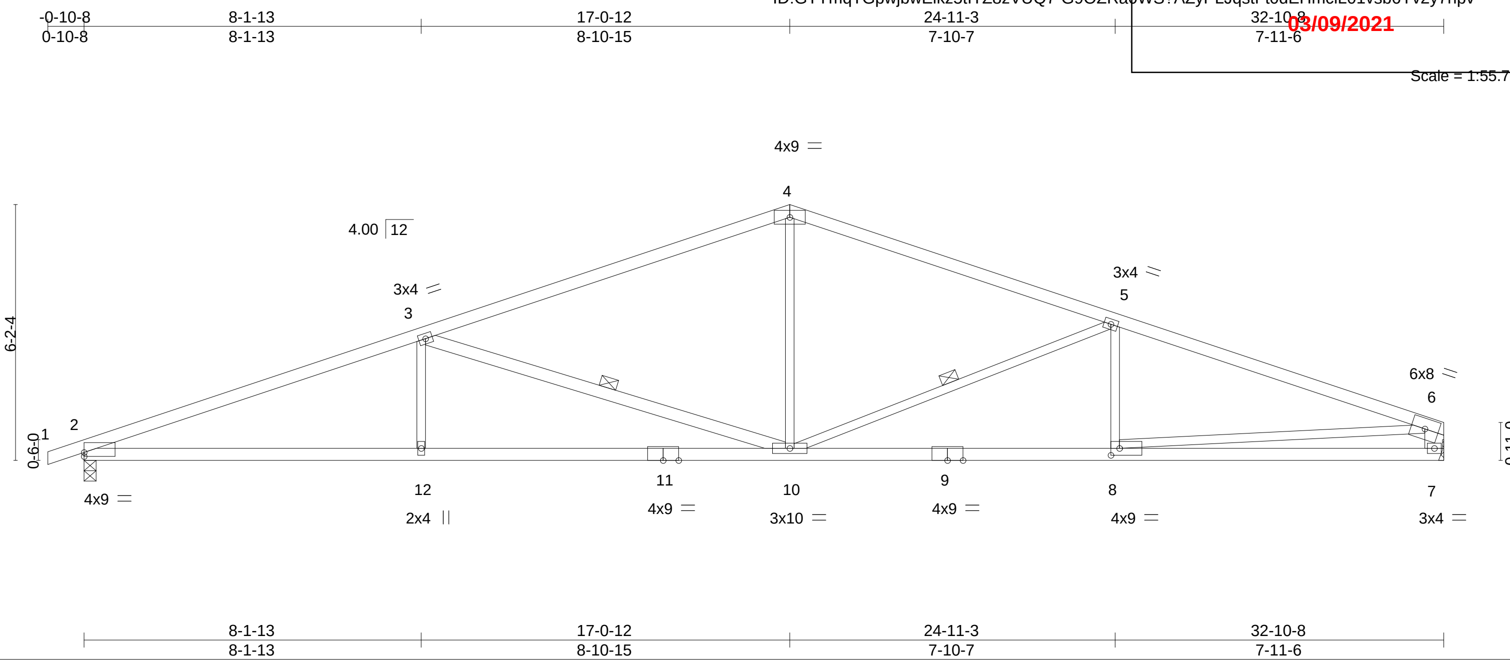


Plate Offsets (X,Y)-- [2:0-0-0,0-1-2], [8:0-2-8,0-2-0]

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	0.74	Vert(LL)	-0.21	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.44	10-12	>887	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.11	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.11	12	>999	240	Weight: 111 lb	FT = 10%

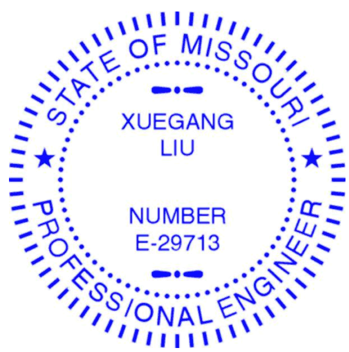
LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except*
2-11: 2x4 SPF 2100F 1.8E
WEBS 2x3 SPF No.2 *Except*
3-10: 2x4 SPF No.2, 6-7: 2x6 SPF No.2

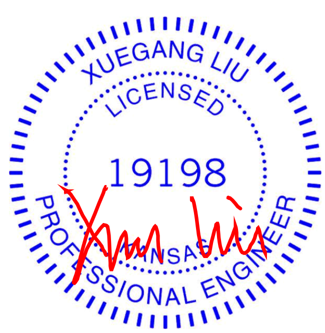
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 10-12.
WEBS 1 Row at midpt 3-10, 5-10

REACTIONS. (size) 2=0-3-8, 7=Mechanical
Max Horz 2=65(LC 8)
Max Uplift 2=-72(LC 4), 7=-36(LC 5)
Max Grav 2=1535(LC 1), 7=1461(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3515/100, 3-4=-2292/73, 4-5=-2277/80, 5-6=-2995/85, 6-7=-1377/78
BOT CHORD 2-12=-86/3228, 10-12=-86/3228, 8-10=-41/2766, 7-8=-26/512
WEBS 3-12=0/369, 3-10=-1265/131, 4-10=0/843, 5-10=-851/113, 6-8=-15/2263

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 2 and 36 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

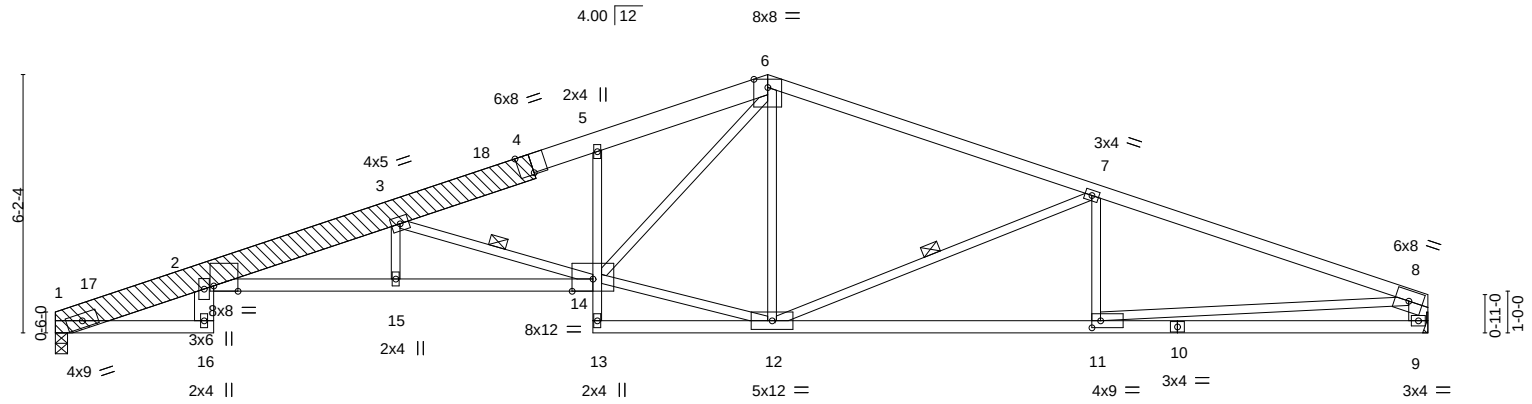
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G5	Roof Special	3	1	Job Reference (optional)

I44063943

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 13:49:37 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-lMyxfw18DJIQaYwWNZPUPD9R2A_O4TB35Fr5RUy7npu

-0-10-8	3-9-8	8-1-13	12-10-8	17-0-12	24-11-3	32-10-8
0-10-8	3-9-8	4-4-5	4-8-11	4-2-4	7-10-7	7-11-6

Scale = 1:55.2



3-9-8	8-1-13	12-10-8	17-0-12	24-11-3	32-10-8
3-9-8	4-4-5	4-8-11	4-2-4	7-10-7	7-11-6

Plate Offsets (X,Y)-- [2:0-6-15,Edge], [4:0-4-0,Edge], [11:0-2-8,0-2-0]

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	0.62	Vert(LL)	-0.44	14-15	>895	360	MT20	197/144
TCDL	10.0	Lumber DOL 1.15	BC	0.80	Vert(CT)	-0.79	14-15	>495	240		
BCLL	0.0 *	Rep Stress Incr YES	WB	0.78	Horz(CT)	0.34	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014	Matrix-S		Wind(LL)	0.23	14-15	>999	240	Weight: 180 lb	FT = 10%

LUMBER-

TOP CHORD	2x6 SPF No.2 *Except*
	6-8: 2x4 SPF 2100F 1.8E, 1-4: 2x8 SP DSS
BOT CHORD	2x4 SPF No.2 *Except*
	2-14: 2x4 SPF 2100F 1.8E, 5-13: 2x3 SPF No.2
WEBS	2x3 SPF No.2 *Except*
	2-16,8-9: 2x6 SPF No.2
OTHERS	2x8 SP DSS
LBR SCAB	1-4 2x8 SP DSS one side

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.
WEBS	1 Row at midpt 3-14, 7-12

REACTIONS. (size) 1=0-3-8, 9=Mechanical
Max Horz 1=63(LC 8)
Max Uplift 1=-41(LC 4), 9=-36(LC 5)
Max Grav 1=1463(LC 1), 9=1463(LC 1)

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

TOP CHORD	1-2=-478/37, 2-3=-4872/134, 3-5=-3522/100, 5-6=-3496/143, 6-7=-2286/82, 7-8=-3004/83, 8-9=-1380/77
BOT CHORD	2-15=-120/4843, 14-15=-118/4836, 5-14=-356/86, 11-12=-40/2775, 9-11=-28/505
WEBS	3-14=-1628/97, 12-14=0/2048, 6-14=-90/1862, 7-12=-831/105, 8-11=-12/2279

NOTES-

1) Attached 12-1-2 scab 1 to 4, front face(s) 2x8 SP DSS with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 9-10-14 from end at joint 4, nail 2 row(s) at 2" o.c. for 2-0-0; starting at 7-3-6 from end at joint 4, nail 2 row(s) at 4" o.c. for 2-0-0; starting at 2-5-5 from end at joint 4, nail 2 row(s) at 7" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
5) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Refer to girder(s) for truss to truss connections.
7) Bearing at joint(s) 1 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 41 lb uplift at joint 1 and 36 lb uplift at joint 9.
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
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G6	Hip	1	1	I44063944 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:10:50 2020 Page 1
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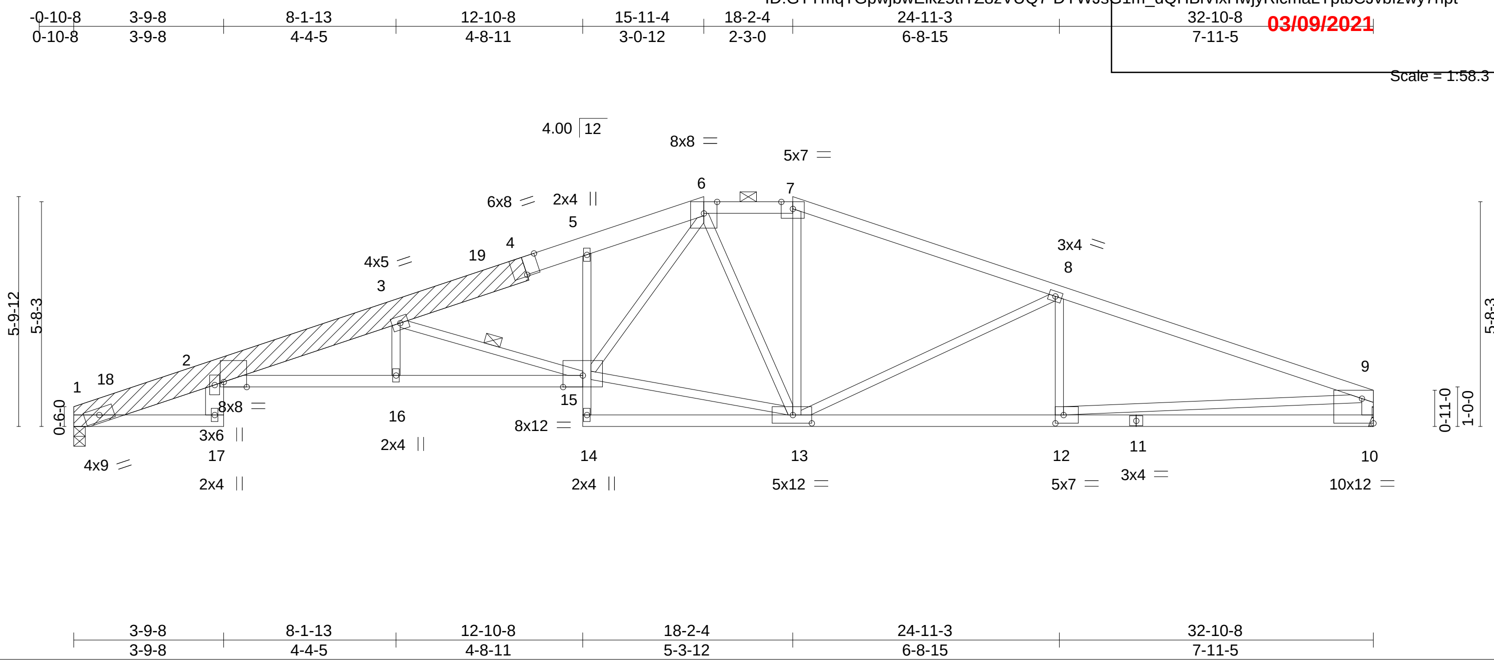

Plate Offsets (X,Y)-- [2:0-6-15,Edge], [4:0-4-0,Edge], [10:Edge,0-7-8], [12:0-2-8,0-2-8], [13:0-5-12,0-2-8]

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	0.62	Vert(LL)	-0.44	15-16	>896	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.79	15-16	>494	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.34	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.23	15-16	>999	240	Weight: 182 lb	FT = 10%

LUMBER-
TOP CHORD 2x6 SPF No.2 *Except*
6-7: 2x4 SPF No.2, 7-9: 2x4 SPF 2100F 1.8E, 1-4: 2x8 SP DSS
BOT CHORD 2x4 SPF No.2 *Except*
2-15: 2x4 SPF 2100F 1.8E, 5-14: 2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-17: 2x6 SPF No.2, 9-10: 2x4 SPF No.2
OTHERS 2x8 SP DSS
LBR SCAB 1-4 2x8 SP DSS one side

BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-10 max.): 6-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-15

REACTIONS. (size) 1=0-3-8, 10=Mechanical
Max Horz 1=58(LC 10)
Max Uplift 1=-45(LC 4), 10=-41(LC 5)
Max Grav 1=1466(LC 1), 10=1466(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-480/32, 2-3=-4883/151, 3-5=-3539/116, 5-6=-3509/151, 6-7=-2195/98, 7-8=-2401/87, 8-9=-3018/95, 9-10=-1380/83
BOT CHORD 2-16=-134/4853, 15-16=-132/4847, 5-15=-287/77, 12-13=-50/2785, 10-12=-30/537
WEBS 3-15=-1618/100, 13-15=-1/2302, 6-15=-72/1635, 6-13=-588/55, 7-13=0/433, 8-13=-714/98, 9-12=-20/2256

NOTES-
1) Attached 12-1-2 scab 1 to 4, back face(s) 2x8 SP DSS with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-1-8 from end at joint 1, nail 2 row(s) at 2" o.c. for 2-0-0; starting at 2-9-1 from end at joint 1, nail 2 row(s) at 4" o.c. for 2-0-0; starting at 7-7-2 from end at joint 1, nail 2 row(s) at 7" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
4) Provide adequate drainage to prevent water ponding.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Refer to girder(s) for truss to truss connections.
8) Bearing at joint(s) 1 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 45 lb uplift at joint 1 and 41 lb uplift at joint 10.
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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G7	Hip	1	1	Job Reference (optional)

I44063945

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:51 2020 Page 1

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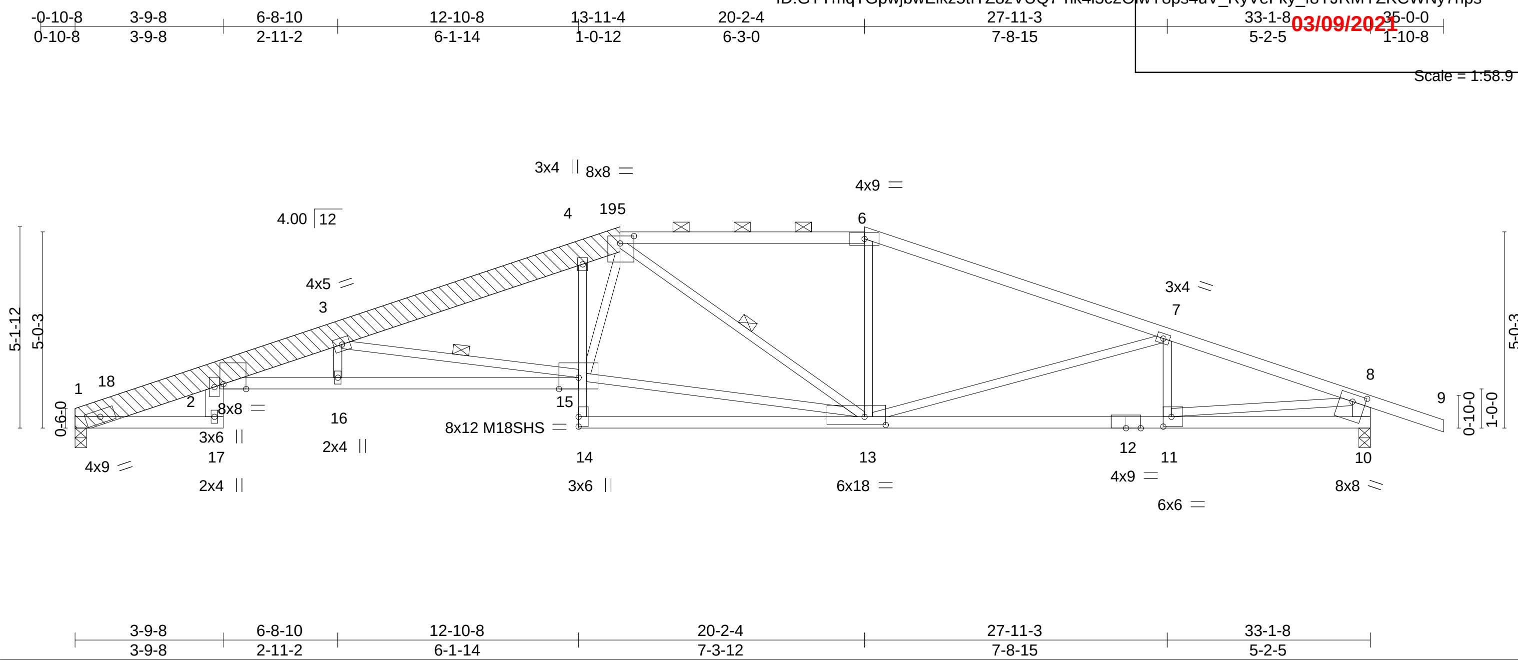

Plate Offsets (X,Y)-- [2:0-6-15,Edge], [5:0-4-4,0-2-4], [10:0-4-0,0-2-4], [11:0-2-8,0-3-0], [13:0-6-8,0-2-8]

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	0.78	Vert(LL)	-0.47	15-16	>843	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.87	15-16	>453	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.37	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.36	15-16	>999	240	Weight: 195 lb	FT = 10%

LUMBER-
TOP CHORD 2x8 SP DSS *Except*
5-6: 2x4 SPF No.2, 6-9: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2 *Except*
2-15: 2x4 SPF 2100F 1.8E, 4-14: 2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-17,8-10: 2x6 SPF No.2
OTHERS 2x8 SP DSS
LBR SCAB 1-5 2x8 SP DSS one side

BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (2-9-7 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 8-10-6 oc bracing.
WEBS 1 Row at midpt 3-15, 5-13

REACTIONS. (size) 1=0-3-8, 10=0-3-8
Max Horz 1=-75(LC 9)
Max Uplift 1=-238(LC 4), 10=-325(LC 5)
Max Grav 1=1469(LC 1), 10=1626(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-480/128, 2-3=-4979/792, 3-4=-3615/574, 4-5=-3609/629, 5-6=-2439/424, 6-7=-2652/409, 7-8=-3007/463, 8-10=-1561/342
BOT CHORD 2-16=-784/4990, 15-16=-780/4977, 4-15=-542/183, 11-13=-374/2802, 10-11=-6/272
WEBS 3-15=-1576/328, 13-15=-386/2882, 5-15=-228/1428, 5-13=-873/194, 6-13=0/408, 7-13=-454/210, 8-11=-434/2549

NOTES-
1) Attached 14-10-3 scab 1 to 5, front face(s) 2x8 SP DSS with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-1-8 from end at joint 1, nail 2 row(s) at 2" o.c. for 2-0-0; starting at 2-9-1 from end at joint 1, nail 2 row(s) at 4" o.c. for 2-0-0; starting at 6-1-0 from end at joint 1, nail 2 row(s) at 7" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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
4) Provide adequate drainage to prevent water ponding.
5) All plates are MT20 plates unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Bearing at joint(s) 1 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 238 lb uplift at joint 1 and 325 lb uplift at joint 10.
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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G8	HIP	1	1	I44063946 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,
8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:16:52 2020 Page 1
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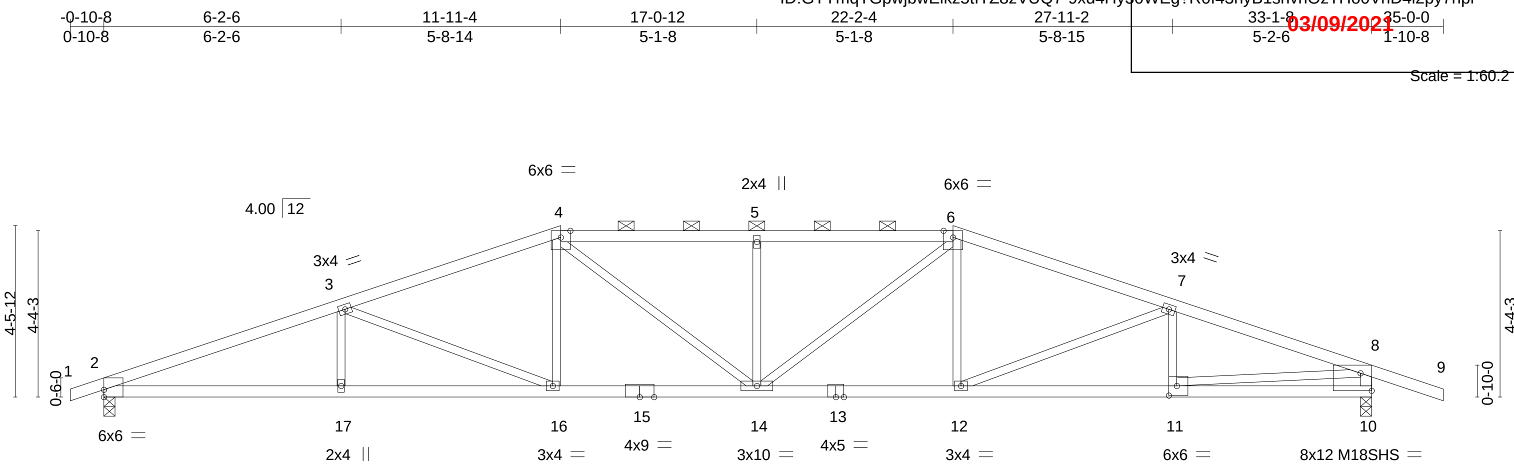


Plate Offsets (X,Y)-- [2:0-0-0,0-2-5], [10:Edge,0-5-8], [11:0-2-8,0-3-0]

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	0.78	Vert(LL)	-0.27	14-16	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.97	Vert(CT)	-0.49	14-16	>806	240	M18SHS	197/144
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.84	Horz(CT)	0.14	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.20	14-16	>999	240	Weight: 117 lb	FT = 10%

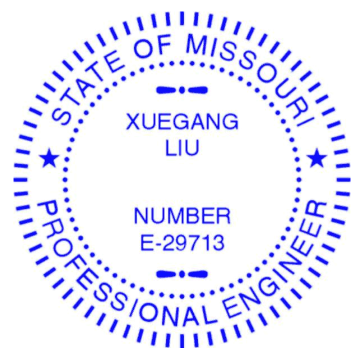
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
8-10: 2x4 SPF No.2

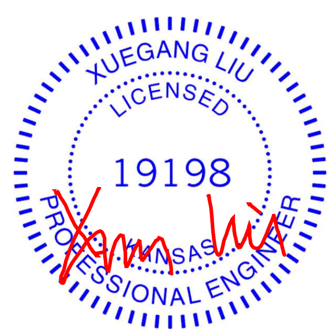
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-0-2 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 10=0-3-8
Max Horz 2=66(LC 12)
Max Uplift 2=-293(LC 4), 10=-333(LC 5)
Max Grav 2=1546(LC 1), 10=1622(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3590/599, 3-4=-2942/515, 4-5=-3012/538, 5-6=-3012/538, 6-7=-2812/475, 7-8=-2996/482, 8-10=-1550/354
BOT CHORD 2-17=-547/3300, 16-17=-547/3300, 14-16=-388/2726, 12-14=-308/2612, 11-12=-387/2782, 10-11=-25/349
WEBS 3-16=-630/202, 4-16=-12/368, 4-14=-121/538, 5-14=-460/175, 6-14=-145/659, 6-12=0/275, 8-11=-401/2449

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 293 lb uplift at joint 2 and 333 lb uplift at joint 10.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.





December 18,2020

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G9	HIP	1	1	I44063947 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:10:52 2020 Page 1
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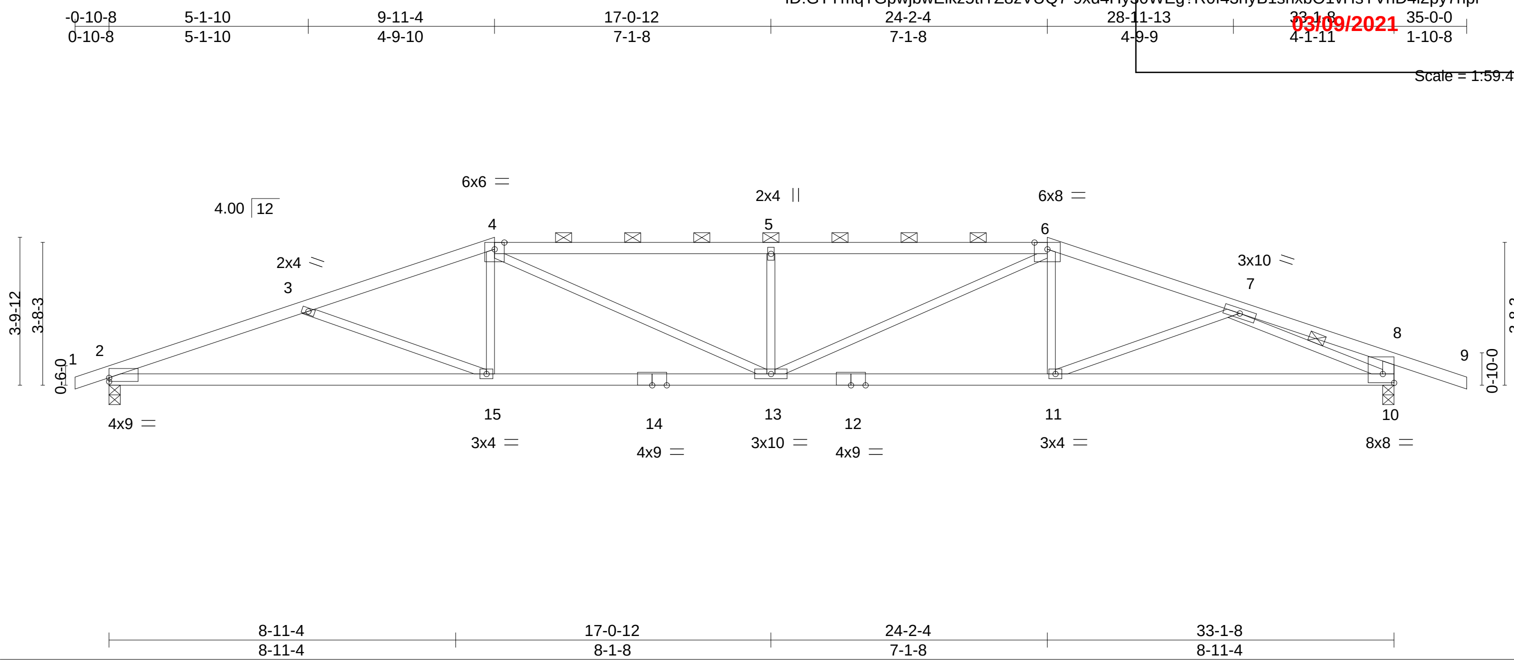


Plate Offsets (X,Y)-- [2:0-0-0,0-1-2], [10:Edge,0-2-12]

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	0.66	Vert(LL)	-0.28	13	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.52	2-15	>756	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.13	10	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.22	13	>999	240	Weight: 112 lb	FT = 10%

LUMBER-

TOP CHORD 2x4 SPF No.2 *Except*
4-6: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF 2100F 1.8E *Except*
12-14: 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
8-10: 2x4 SPF No.2

BRACING-

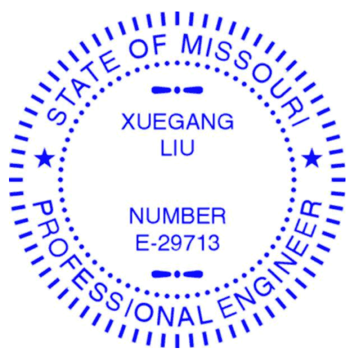
TOP CHORD Structural wood sheathing directly applied or 2-6-5 oc purlins, except end verticals, and 2-0-0 oc purlins (3-4-8 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 8-10-5 oc bracing.
WEBS 1 Row at midpt 7-10

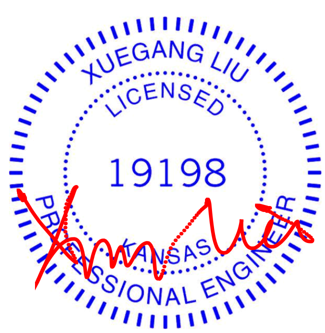
REACTIONS. (size) 2=0-3-8, 10=0-3-8
Max Horz 2=54(LC 12)
Max Uplift 2=-302(LC 4), 10=-343(LC 5)
Max Grav 2=1546(LC 1), 10=1622(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-3506/678, 3-4=-3209/554, 4-5=-3664/678, 5-6=-3664/678, 6-7=-2979/502, 7-8=-405/22, 8-10=-424/138
BOT CHORD 2-15=-618/3235, 13-15=-445/2995, 11-13=-361/2787, 10-11=-429/2595
WEBS 3-15=-263/234, 4-15=0/386, 4-13=-225/911, 5-13=-628/246, 6-13=-257/1105, 6-11=0/256, 7-11=0/411, 7-10=-2539/573

NOTES-

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 302 lb uplift at joint 2 and 343 lb uplift at joint 10.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.





December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G10	Hip Girder	1	3	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

I44063948

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 14:40:26 2020 Page 1
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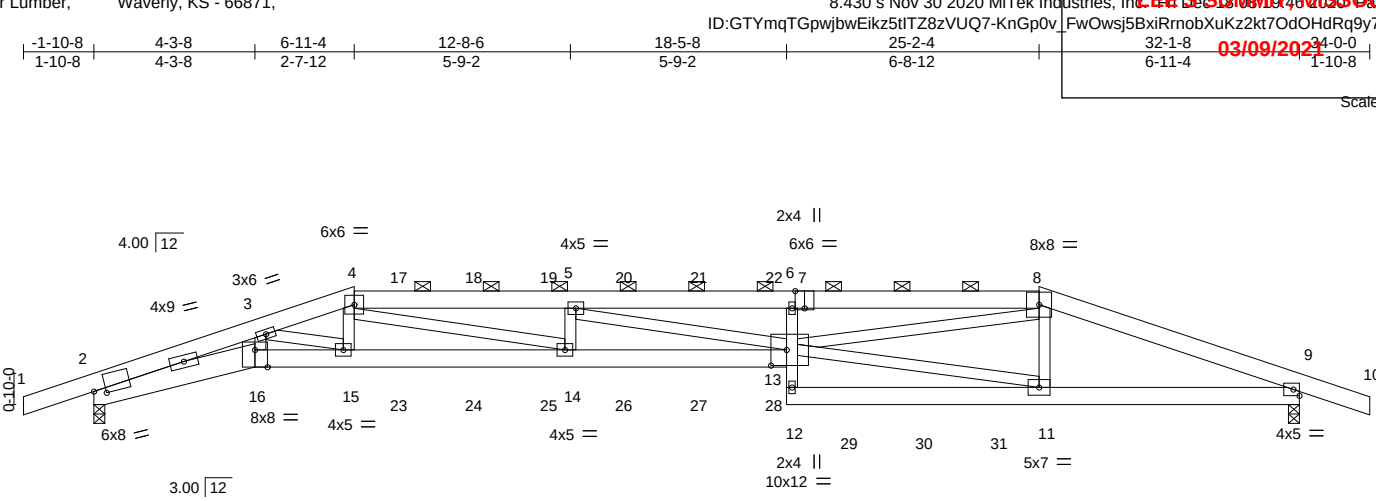

4-3-8	6-11-4	12-8-6	18-5-8	25-2-4	32-1-8
4-3-8	2-7-12	5-9-2	5-9-2	6-8-12	6-11-4

Plate Offsets (X,Y)-- [2:0-3-14,0-1-6], [7:0-3-0,Edge], [13:0-5-0,0-5-0], [16:0-4-0,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	0.71	Vert(LL)	-0.51	13-14	>744	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.92	13-14	>414	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.72	Horz(CT)	0.26	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.38	13-14	>999	240	Weight: 552 lb	FT = 10%

LUMBER-
TOP CHORD 2x6 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except*
2-16: 2x8 SP DSS
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.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 2=0-3-8, 9=0-3-8
Max Horz 2=50(LC 33)
Max Uplift 2=-554(LC 4), 9=-586(LC 5)
Max Grav 2=3163(LC 1), 9=3276(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-13338/1963, 3-4=-12465/1846, 4-5=-15843/2259, 5-6=-16501/2406, 6-8=-15892/2328, 8-9=-8251/1246
BOT CHORD 2-16=-1815/12411, 15-16=-1724/11751, 14-15=-1707/11960, 13-14=-2182/15843, 11-12=-147/1076, 9-11=-1082/7638
WEBS 12-13=-32/552, 6-13=-391/152, 3-16=-262/2093, 3-15=-168/595, 4-15=-204/1385, 4-14=-554/4146, 5-14=-935/221, 5-13=-197/781, 11-13=-947/6608, 8-13=-1218/8499, 8-11=-176/446

NOTES-
1) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 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=6.0psf; 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
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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
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 554 lb uplift at joint 2 and 586 lb uplift at joint 9.
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.

Continued on page 2

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	G10	Hip Girder	1	3	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 04 08:19:47 2020 Page 2
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NOTES-

12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 119 lb down and 35 lb up at 6-11-4, 116 lb down and 35 lb up at 8-0-12, 116 lb down and 35 lb up at 10-0-12, 116 lb down and 35 lb up at 12-0-12, 116 lb down and 35 lb up at 14-0-12, and 116 lb down and 35 lb up at 16-0-12, and 116 lb down and 35 lb up at 18-0-12 on top chord, and 445 lb down and 133 lb up at 6-11-4, 99 lb down and 22 lb up at 7-0-0, 99 lb down and 22 lb up at 8-0-12, 99 lb down and 22 lb up at 10-0-12, 99 lb down and 22 lb up at 12-0-12, 99 lb down and 22 lb up at 14-0-12, 99 lb down and 22 lb up at 16-0-12, 99 lb down and 22 lb up at 18-0-12, 262 lb down and 39 lb up at 20-0-12, 262 lb down and 39 lb up at 22-0-12, and 262 lb down and 39 lb up at 24-0-12, and 701 lb down and 168 lb up at 25-1-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-4=-70, 4-8=-70, 8-10=-70, 2-16=-20, 13-16=-20, 9-12=-20
   Concentrated Loads (lb)
   Vert: 15=-544(B=-445) 4=-95(B) 11=-701(B) 17=-95(B) 18=-95(B) 19=-95(B) 20=-95(B) 21=-95(B) 22=-95(B) 23=-99 24=-99 25=-99 26=-99 27=-99 28=-99 29=-262(B) 30=-262(B) 31=-262(B)

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	H1	Hip Girder	1	2	I44063949 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:54 2020 Page 1
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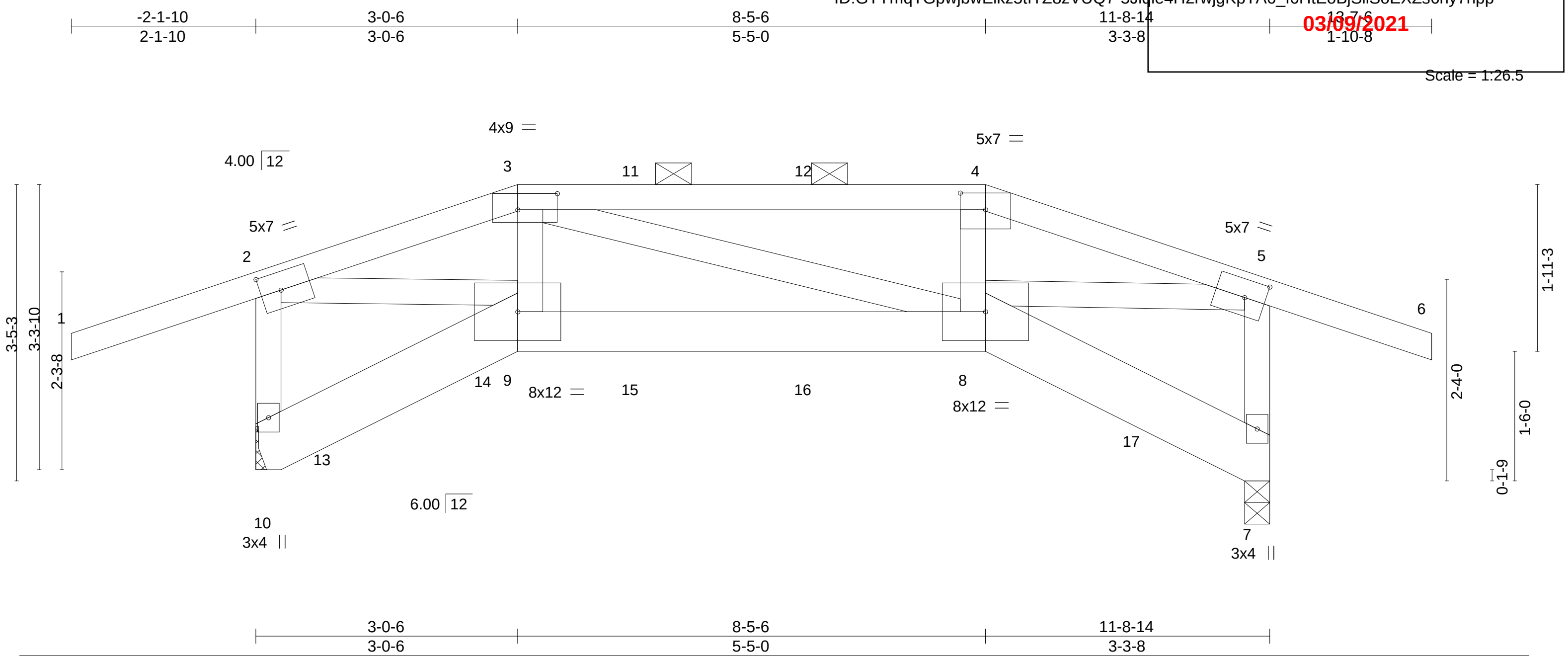

Plate Offsets (X,Y)-- [2:0-2-14,0-2-8], [3:0-5-8,0-2-4], [4:0-3-8,0-2-5], [5:0-2-14,0-2-8]

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	0.87	Vert(LL)	-0.13	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.23	8-9	>589	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.85	Horz(CT)	0.13	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.08	8-9	>999	240	Weight: 146 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x8 SP DSS *Except*
8-9: 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

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

REACTIONS. (size) 10=Mechanical, 7=0-3-8
Max Horz 10=53(LC 7)
Max Uplift 10=-597(LC 4), 7=-650(LC 5)
Max Grav 10=5106(LC 21), 7=4392(LC 22)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-10=-3826/523, 2-3=-7224/845, 3-4=-7032/836, 4-5=-7260/862, 5-7=-3611/528
BOT CHORD 9-10=-523/716, 8-9=-771/6856, 7-8=-254/331
WEBS 2-9=-766/6895, 3-9=-48/1992, 4-8=-77/2074, 5-8=-788/6849

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 0-7-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-5-0 oc, 2x6 - 2 rows staggered at 0-8-0 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=6.0psf; 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
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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Refer to girder(s) for truss to truss connections.
9) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 597 lb uplift at joint 10 and 650 lb uplift at joint 7.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
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KANSAS

December 18,2020

Continued on page 2

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	H1	Hip Girder	1	2	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 04 08:19:54 2020 Page 2
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NOTES-

13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 174 lb down and 189 lb up at 3-0-6, 73 lb down and 55 lb up at 4-4-14, and 73 lb down and 55 lb up at 6-4-14, and 174 lb down and 189 lb up at 8-5-6 on top chord, and 1343 lb down and 68 lb up at 0-6-6, 1400 lb down and 70 lb up at 2-4-14, 89 lb down and 76 lb up at 3-0-6, 1390 lb down and 63 lb up at 4-4-14, 31 lb down and 24 lb up at 4-4-14, 1345 lb down and 59 lb up at 6-4-14, 31 lb down and 24 lb up at 6-4-14, 89 lb down and 76 lb up at 8-3-10, and 1345 lb down and 58 lb up at 8-3-10, and 1345 lb down and 217 lb up at 10-4-14 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 9-10=-20, 8-9=-20, 7-8=-20
   Concentrated Loads (lb)
   Vert: 3=28(F) 4=28(F) 9=-14(F) 8=-1359(F=-14, B=-1345) 11=-0(F) 12=-0(F) 13=-1343(B) 14=-1400(B) 15=-1398(F=-8, B=-1390) 16=-1353(F=-8, B=-1345) 17=-1345(B)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J1	Diagonal Hip Girder	2	1	I44063950 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:10:55 2020 Page 1
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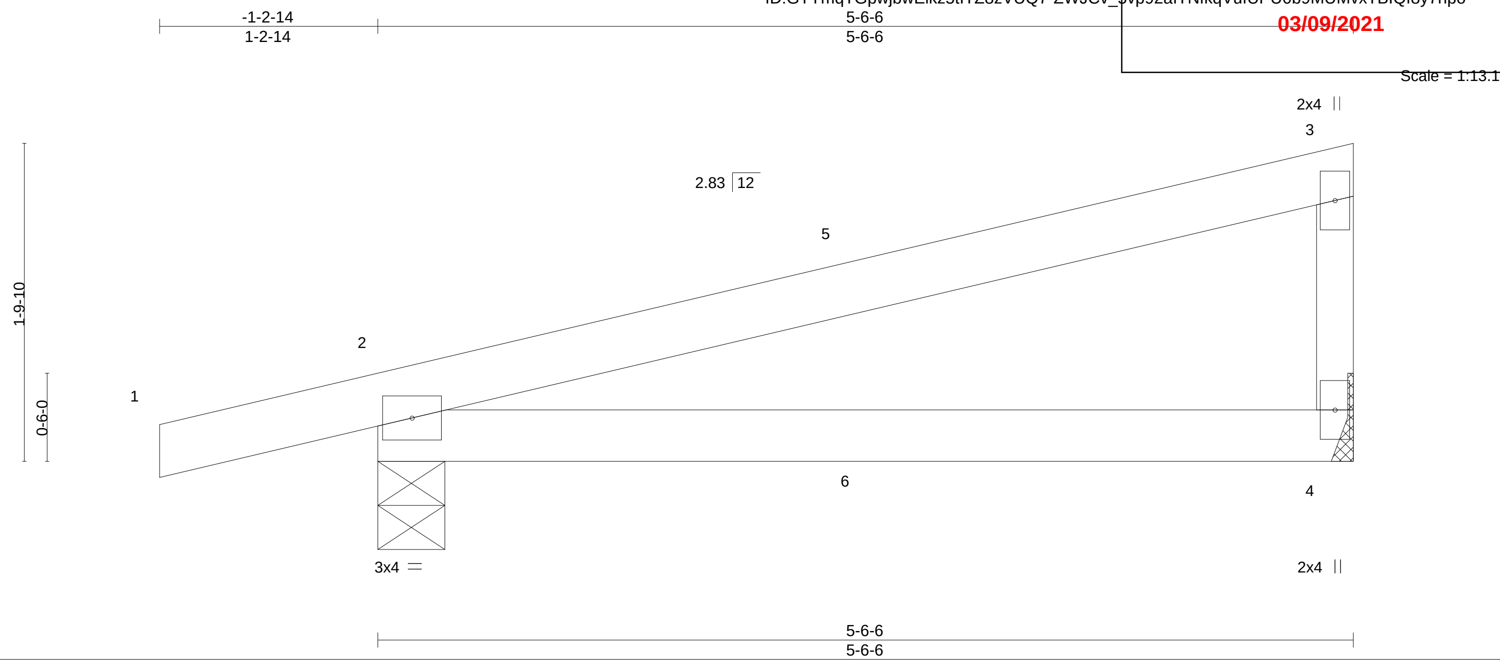

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.05	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.09	2-4	>696	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 15 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 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) 4=Mechanical, 2=0-4-9
Max Horz 2=65(LC 5)
Max Uplift 4=-44(LC 8), 2=-109(LC 4)
Max Grav 4=222(LC 1), 2=349(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 4 and 109 lb uplift at joint 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 67 lb down and 34 lb up at 2-9-8, and 67 lb down and 34 lb up at 2-9-8 on top chord, and 2 lb down at 2-9-8, and 2 lb down at 2-9-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
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: 1-3=-70, 2-4=-20

STATE OF MISSOURI
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December 18,2020

MiTek®
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J2	Jack-Open	4	1	I44063951 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:01 2020 Page 1

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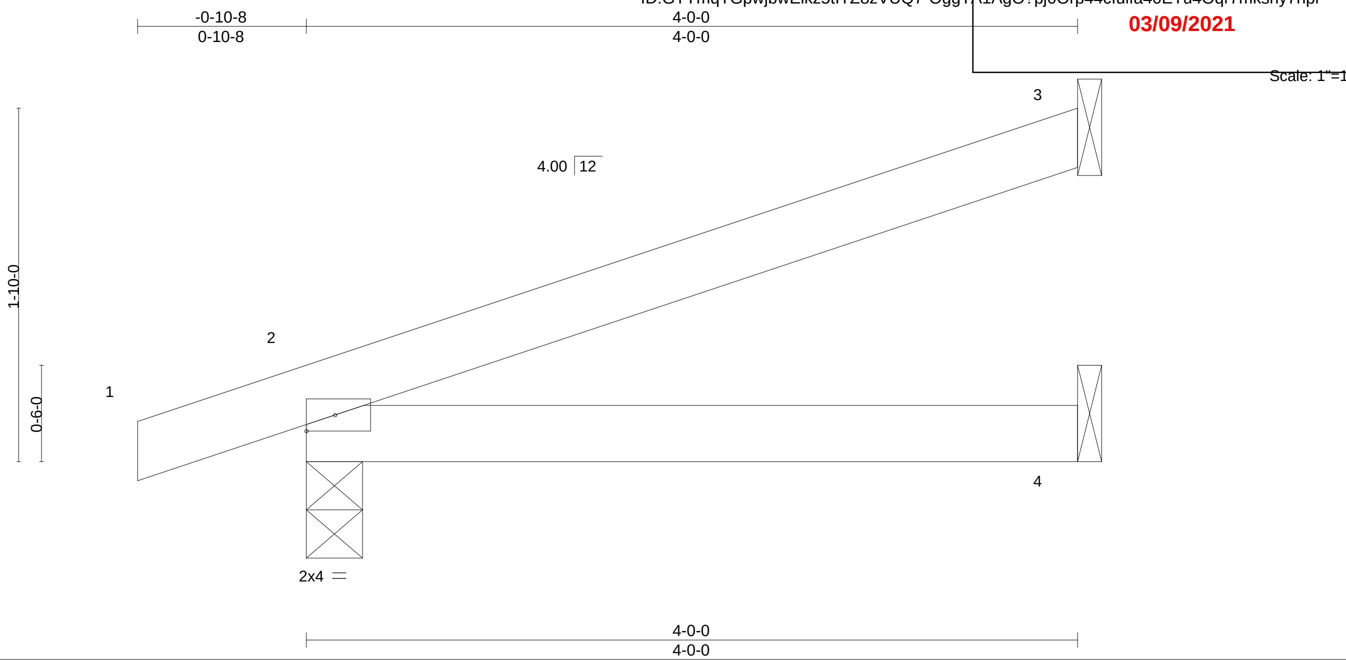

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	-0.01	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	-0.02	2-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 11 lb	FT = 10%

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) 3=Mechanical, 2=0-3-8, 4=Mechanical
Max Horz 2=67(LC 4)
Max Uplift 3=-64(LC 8), 2=-69(LC 4)
Max Grav 3=123(LC 1), 2=252(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 64 lb uplift at joint 3 and 69 lb uplift at joint 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.

STATE OF MISSOURI
XUEGANG LIU
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December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J3	Jack-Open	4	1	

Job Reference (optional) J44063952

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 09:20:03 2020 Page 1

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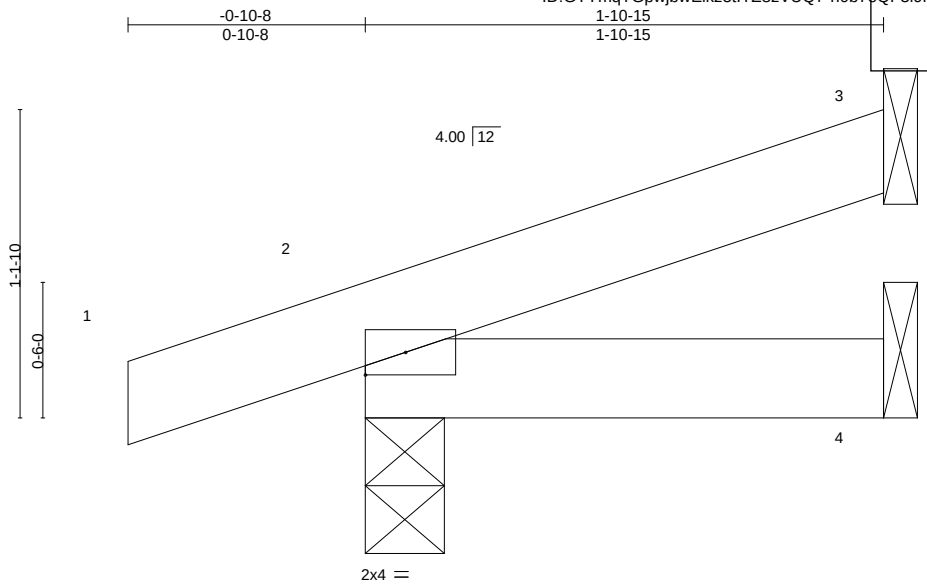
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.05	Vert(LL)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	2-4	>999	240		
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		Wind(LL)	0.00	2	****	240	Weight: 6 lb	FT = 10%

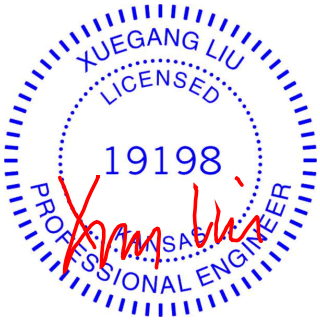
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2

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=39(LC 4)
Max Uplift 3=-29(LC 8), 2=-56(LC 4)
Max Grav 3=50(LC 1), 2=163(LC 1), 4=37(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 3 and 56 lb uplift at joint 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.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J4	Jack-Closed Supported Gable	2	1	I44063953 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,
8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:15 2020 Page 1
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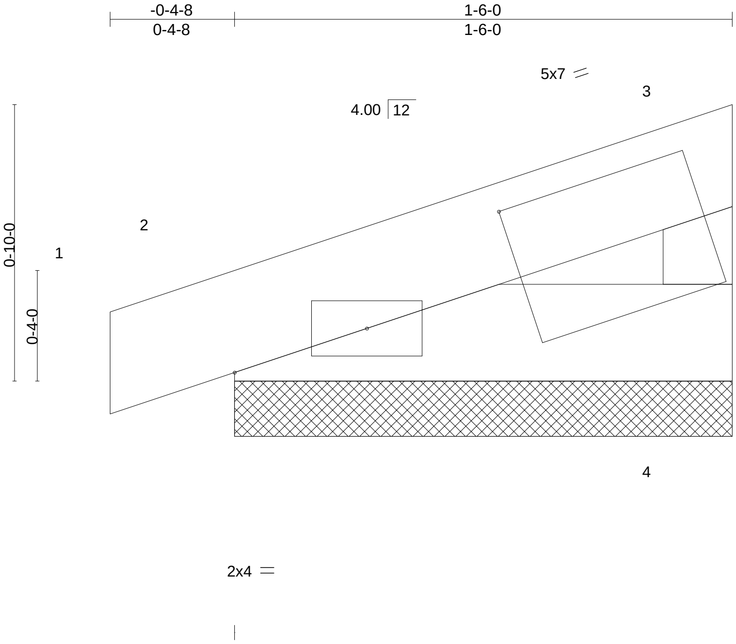

Plate Offsets (X,Y)-- [3:0-10-14,0-2-8]

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	0.03	Vert(LL)	-0.00	1	n/r	120	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	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: 4 lb	FT = 10%

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

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

REACTIONS. (size) 4=1-6-0, 2=1-6-0
Max Horz 2=24(LC 5)
Max Uplift 4=-12(LC 8), 2=-28(LC 4)
Max Grav 4=59(LC 1), 2=93(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=6.0psf; 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 2-0-0 oc.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 4 and 28 lb uplift at joint 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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J5	Jack-Closed	2	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:20:12 2020 Page 1
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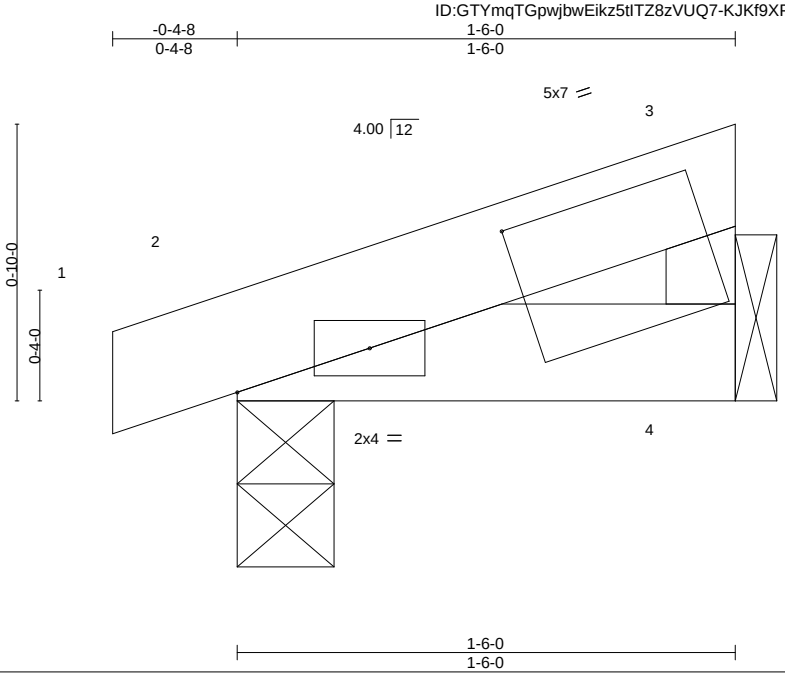

Scale = 1:6.9

Plate Offsets (X,Y)-- [3:0-10-14,0-2-8]

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	0.02	Vert(LL)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	2	>999	240		
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		Wind(LL)	0.00	2	****	240	Weight: 4 lb	FT = 10%

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

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

REACTIONS. (size) 4=Mechanical, 2=0-3-8
Max Horz 2=24(LC 5)
Max Uplift 4=-12(LC 8), 2=-30(LC 4)
Max Grav 4=57(LC 1), 2=94(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 4 and 30 lb uplift at joint 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.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J6	Diagonal Hip Girder	2	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 2020 Page 1
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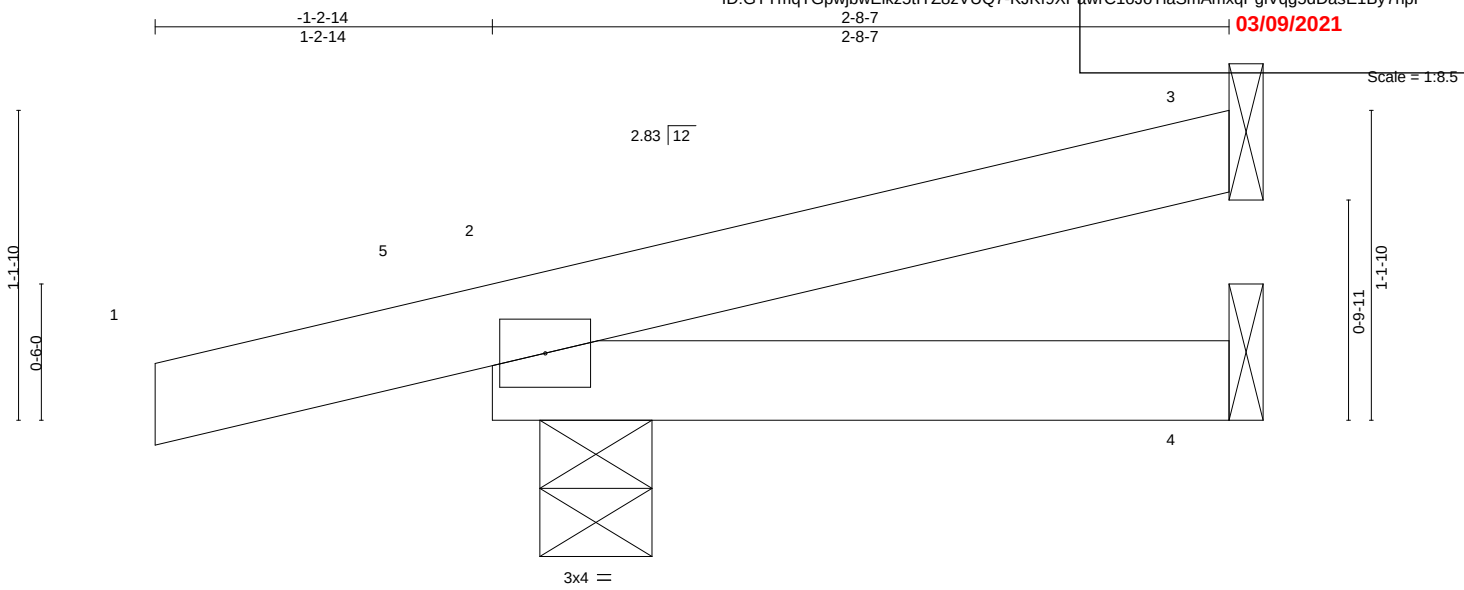


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	-0.00	2-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	-0.00	2-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 8 lb	FT = 10%

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

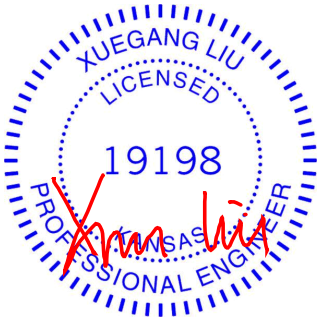
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-8-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-4-15, 4=Mechanical
Max Horz 2=45(LC 6)
Max Uplift 3=-38(LC 6), 2=-112(LC 6)
Max Grav 3=23(LC 1), 2=92(LC 1), 4=37(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 3 and 112 lb uplift at joint 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 18 lb down and 6 lb up at -1-2-14, and 18 lb down and 6 lb up at -1-2-14 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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
Concentrated Loads (lb)
Vert: 1=-29(F=-14, B=-14)
Trapezoidal Loads (plf)
Vert: 1=0(F=35, B=35)-to-5=-19(F=25, B=25), 5=0(F=35, B=35)-to-3=-49(F=10, B=10), 2=-2(F=9, B=9)-to-4=-14(F=3, B=3)



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J7	Jack-Open	3	1	I44063956 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:21 2020 Page 1
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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

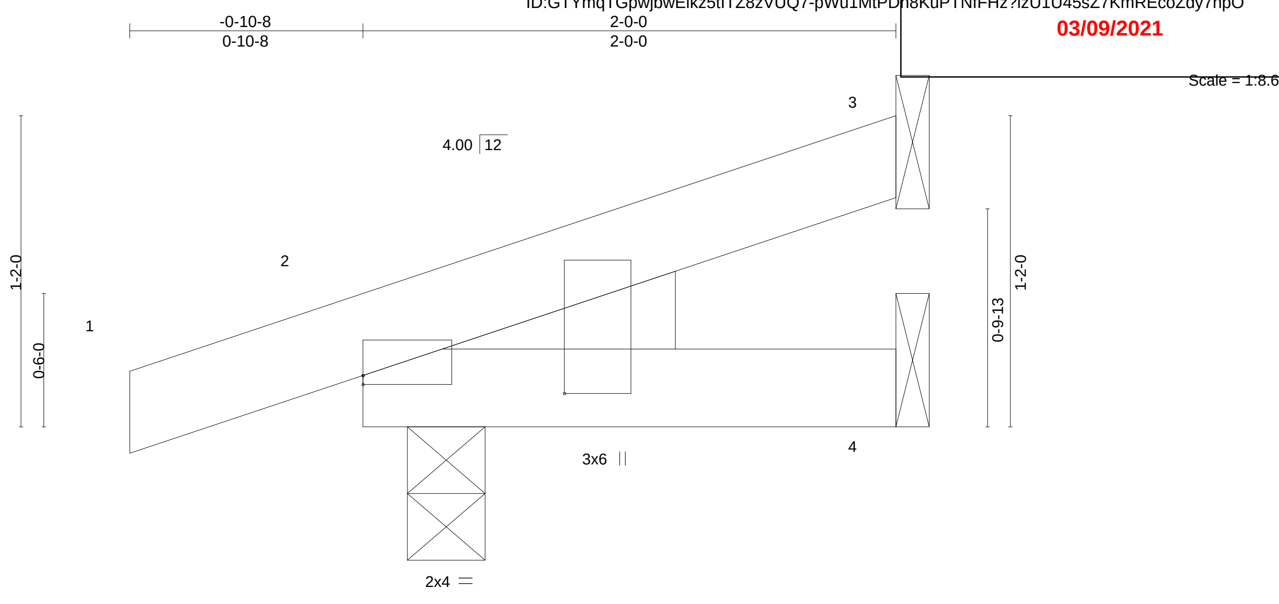


Plate Offsets (X,Y)-- [2:0-0-0,0-0-6], [2:0-0-13,0-9-1]

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)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	2-4	>999	240		
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		Wind(LL)	0.00	2	****	240	Weight: 7 lb	FT = 10%

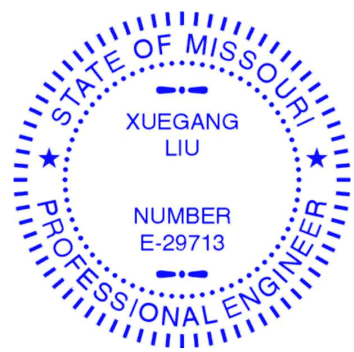
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEDGE
Left: 2x4 SPF No.2

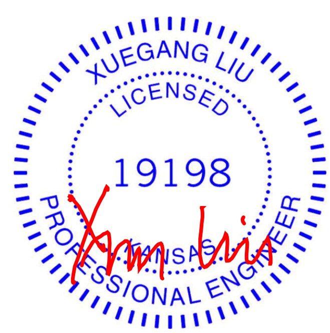
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 4=Mechanical, 2=0-3-8
Max Horz 2=40(LC 4)
Max Uplift 3=-31(LC 8), 2=-56(LC 4)
Max Grav 3=54(LC 1), 4=39(LC 3), 2=166(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 31 lb uplift at joint 3 and 56 lb uplift at joint 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.





December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J8	Diagonal Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 14:08:22 2020 Page 1
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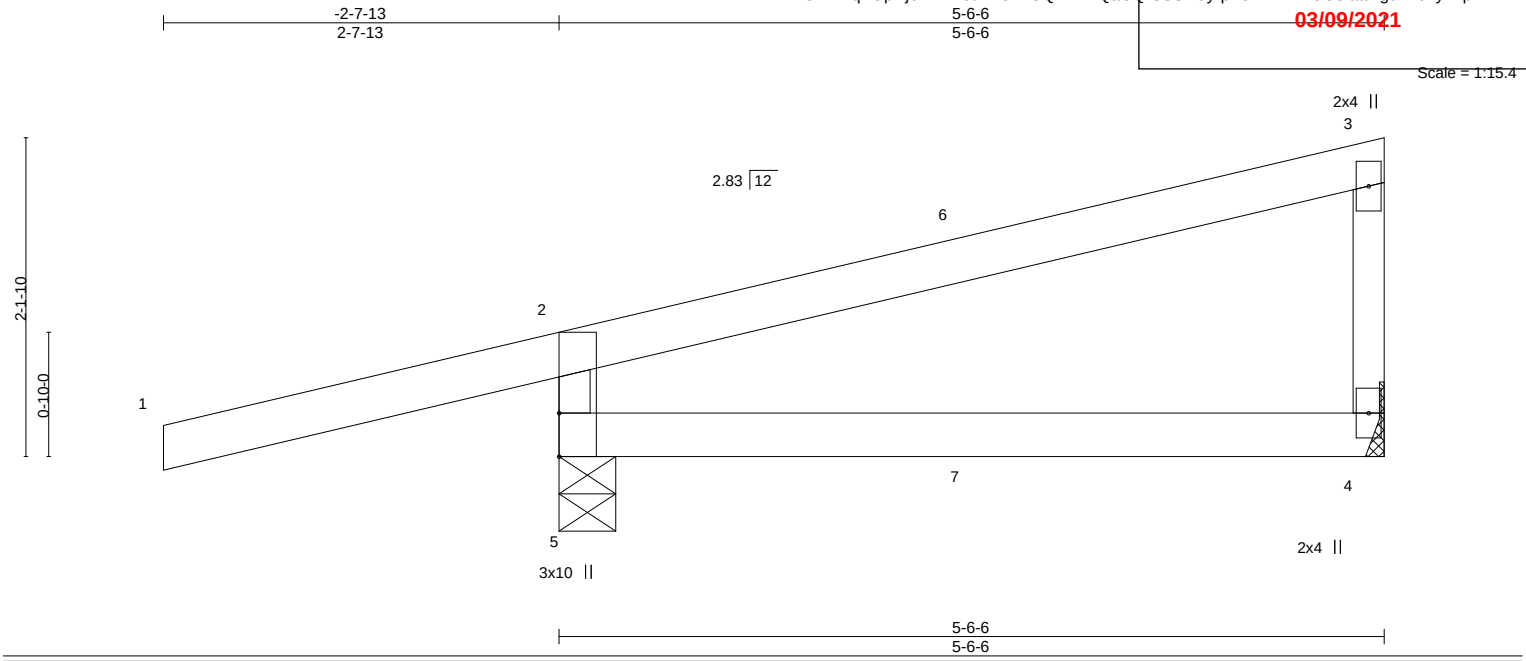


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.06	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	-0.01	4-5	>999	240	Weight: 17 lb	FT = 10%

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

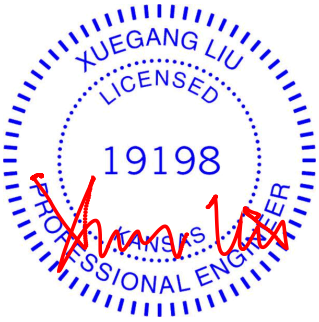
BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-6-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=0-4-9, 4=Mechanical
Max Horz 5=88(LC 7)
Max Uplift 5=-186(LC 4), 4=-34(LC 8)
Max Grav 5=475(LC 1), 4=182(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-427/216

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 186 lb uplift at joint 5 and 34 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 74 lb down and 15 lb up at 2-9-8, and 74 lb down and 15 lb up at 2-9-8 on top chord, and 6 lb down and 7 lb up at 2-9-8, and 6 lb down and 7 lb up at 2-9-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
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: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 7=15(F=7, B=7)



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J9	Jack-Open	2	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:23:10 2020 Page 1
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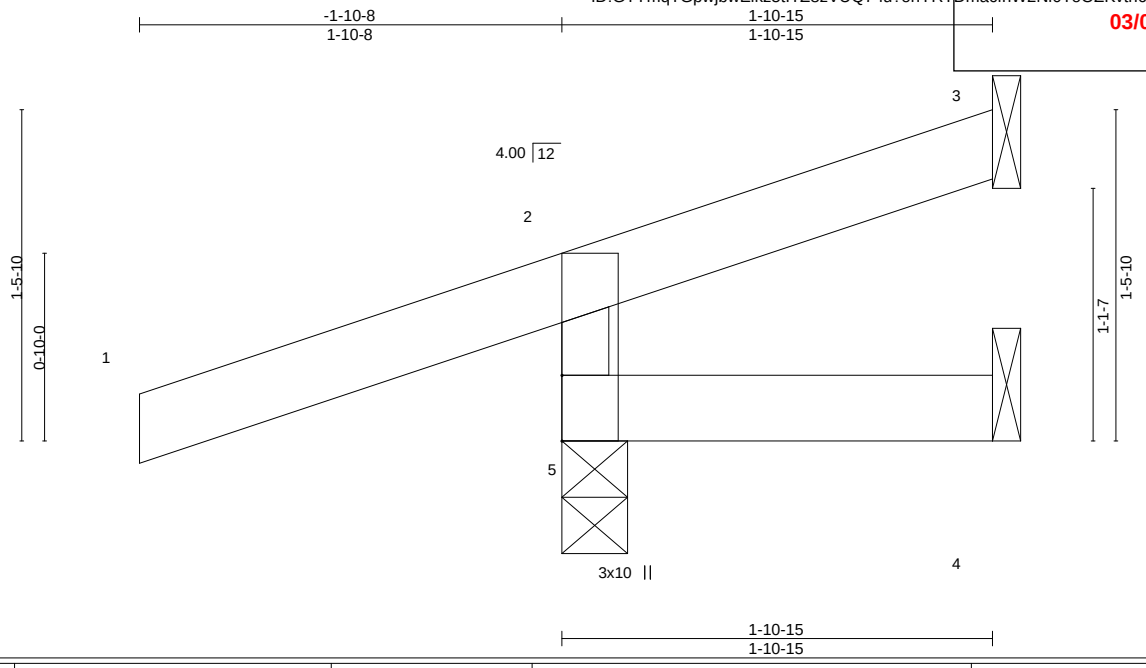


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	0.00	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	-0.00	5	>999	240	Weight: 7 lb	FT = 10%

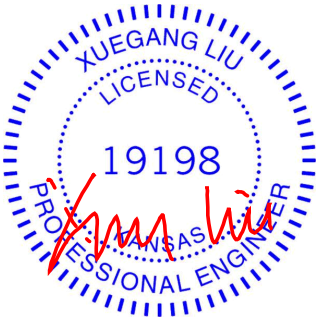
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=51(LC 4)
Max Uplift 5=-130(LC 4), 3=-12(LC 8)
Max Grav 5=296(LC 1), 3=4(LC 4), 4=30(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-263/140

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 5 and 12 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J10	Jack-Closed	6	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:55:31 2020 Page 1
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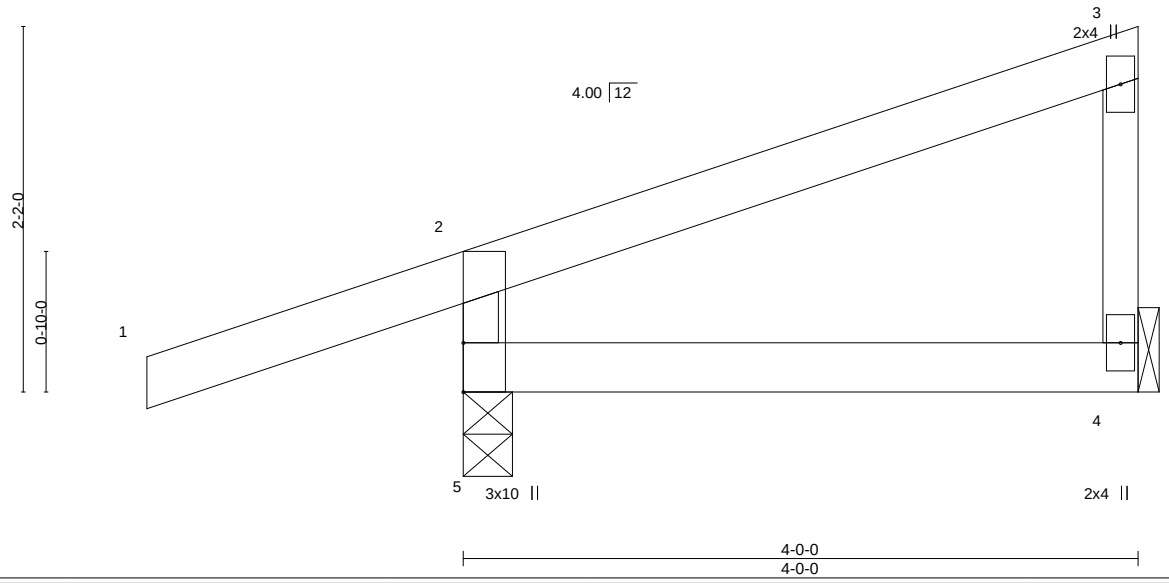
-1-10-8 / 1-10-8 — 4-0-0 / 4-0-0

Scale = 1:13.7



4-0-0 / 4-0-0

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	0.27	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.02	4-5	>999	240		
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-R		Wind(LL)	0.00	4-5	>999	240	Weight: 13 lb	FT = 10%

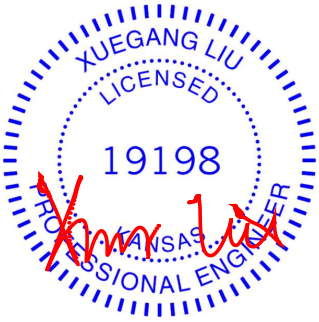
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 5=0-3-8, 4=Mechanical
Max Horz 5=92(LC 5)
Max Uplift 5=-129(LC 4), 4=-28(LC 8)
Max Grav 5=345(LC 1), 4=134(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-306/153

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 5 and 28 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

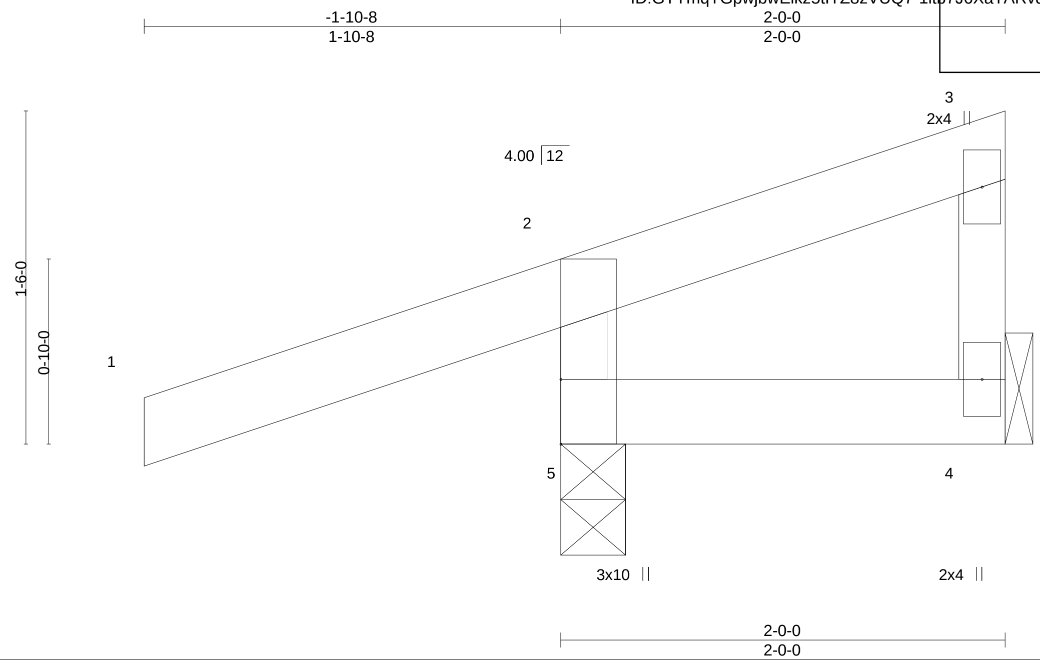
Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J11	Jack-Closed	5	1	I44063960 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:19:56 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-1itb7J6XaTARvdysIX17Ciyij?Z9Dp85ir2zBay7npn

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Scale = 1:10.4



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	0.27	Vert(LL)	-0.00	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	5	>999	240		
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-R		Wind(LL)	0.00	5	>999	240	Weight: 8 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 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 6-0-0 oc bracing.

REACTIONS. (size) 5=0-3-8, 4=Mechanical
Max Horz 5=73(LC 7)
Max Uplift 5=-139(LC 4), 4=-10(LC 5)
Max Grav 5=296(LC 1), 4=32(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-266/147

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 139 lb uplift at joint 5 and 10 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J12	Diagonal Hip Girder	1	1	J44063961

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:57:10 2020 Page 1

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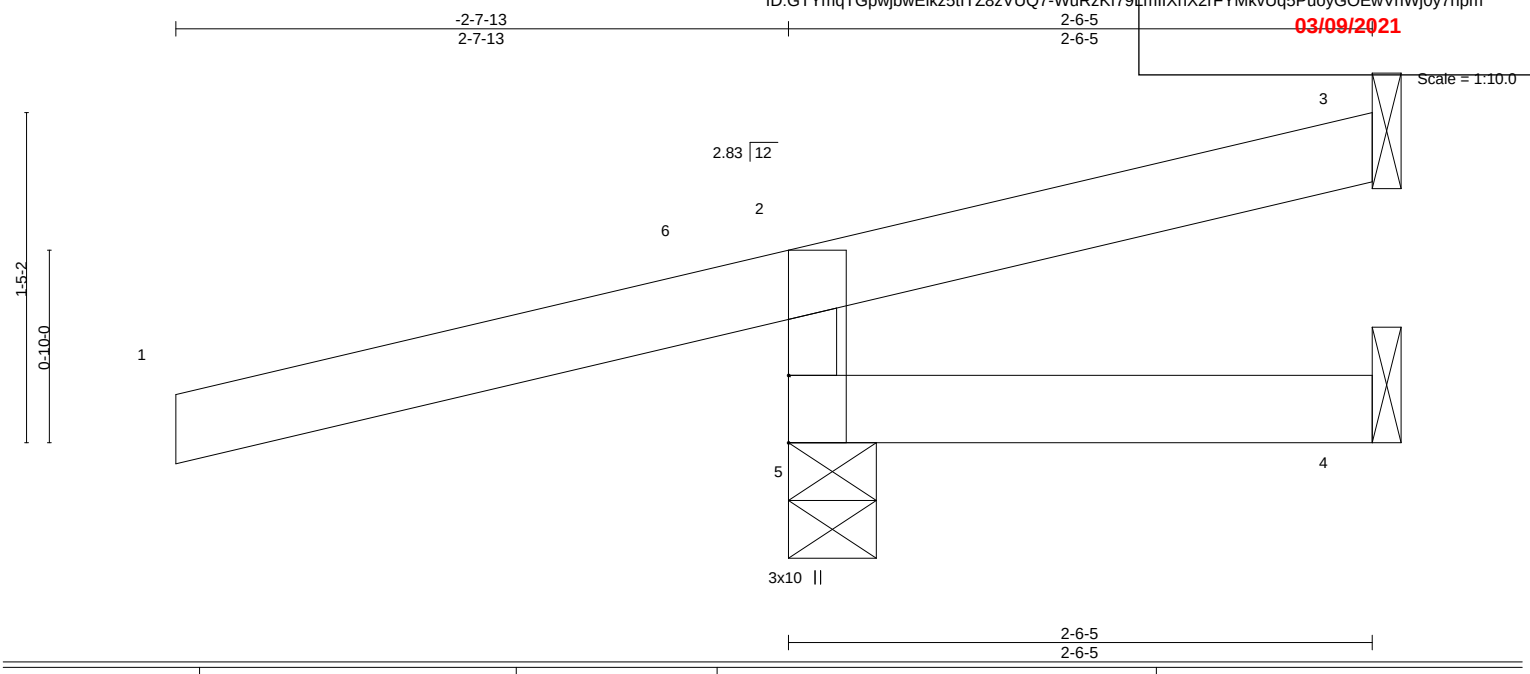


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	0.00	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	-0.00	4-5	>999	240	Weight: 9 lb	FT = 10%

LUMBER-

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

BRACING-

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

REACTIONS. (size) 5=0-4-9, 3=Mechanical, 4=Mechanical
Max Horz 5=51(LC 7)
Max Uplift 5=-146(LC 4), 3=-42(LC 16), 4=-13(LC 1)
Max Grav 5=249(LC 1), 3=30(LC 4), 4=27(LC 3)

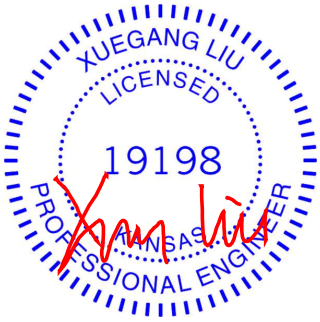
FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 5, 42 lb uplift at joint 3 and 13 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 42 lb down and 15 lb up at -2-7-13, and 42 lb down and 15 lb up at -2-7-13 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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
   Concentrated Loads (lb)
   Vert: 1=-65(F=-33, B=-33)
   Trapezoidal Loads (plf)
   Vert: 1=-0(F=35, B=35)-to-6=-41(F=14, B=14), 6=0(F=35, B=35)-to-2=-7(F=31, B=31), 2=-7(F=31, B=31)-to-3=-50(F=10, B=10), 5=-2(F=9, B=9)-to-4=-14(F=3, B=3)



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J13	Jack-Open	1	1	

Job Reference (optional) J44063962

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 09:57:06 2020 Page 1

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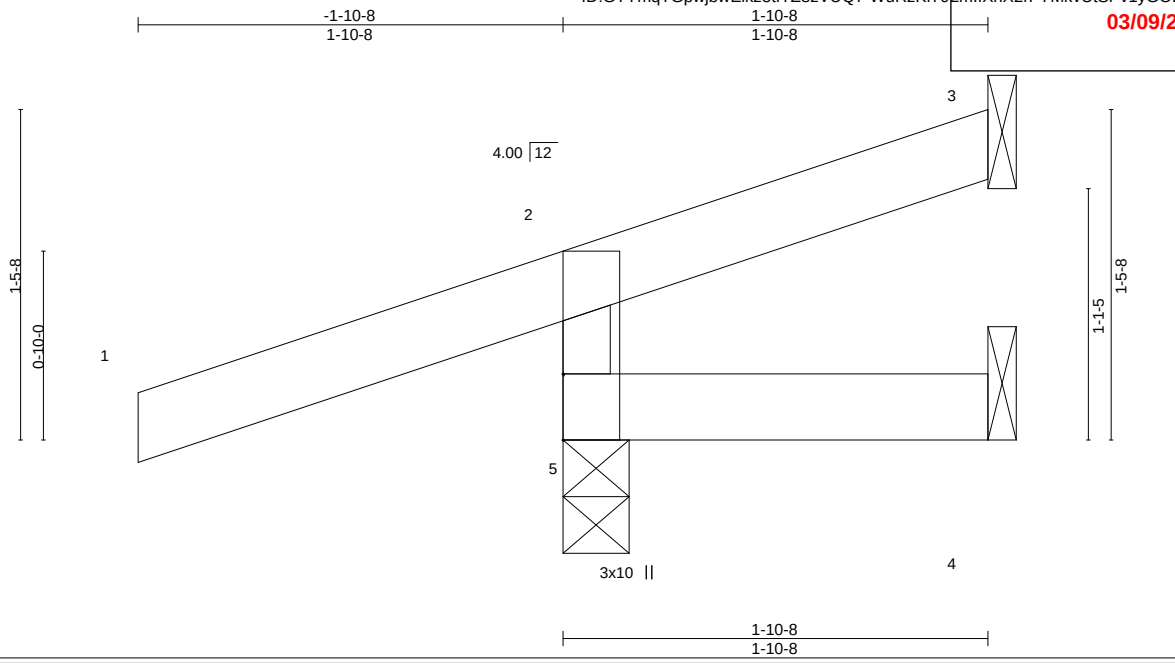
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.27	Vert(LL)	0.00	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	5	>999	240		
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		Wind(LL)	-0.00	5	>999	240	Weight: 7 lb	FT = 10%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-10-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=50(LC 4)
Max Uplift 5=-131(LC 4), 3=-11(LC 8)
Max Grav 5=296(LC 1), 3=6(LC 4), 4=29(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-263/140

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 131 lb uplift at joint 5 and 11 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J14	Diagonal Hip Girder	1	1	Job Reference (optional)

I44063963

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:10:58 2020 Page 1

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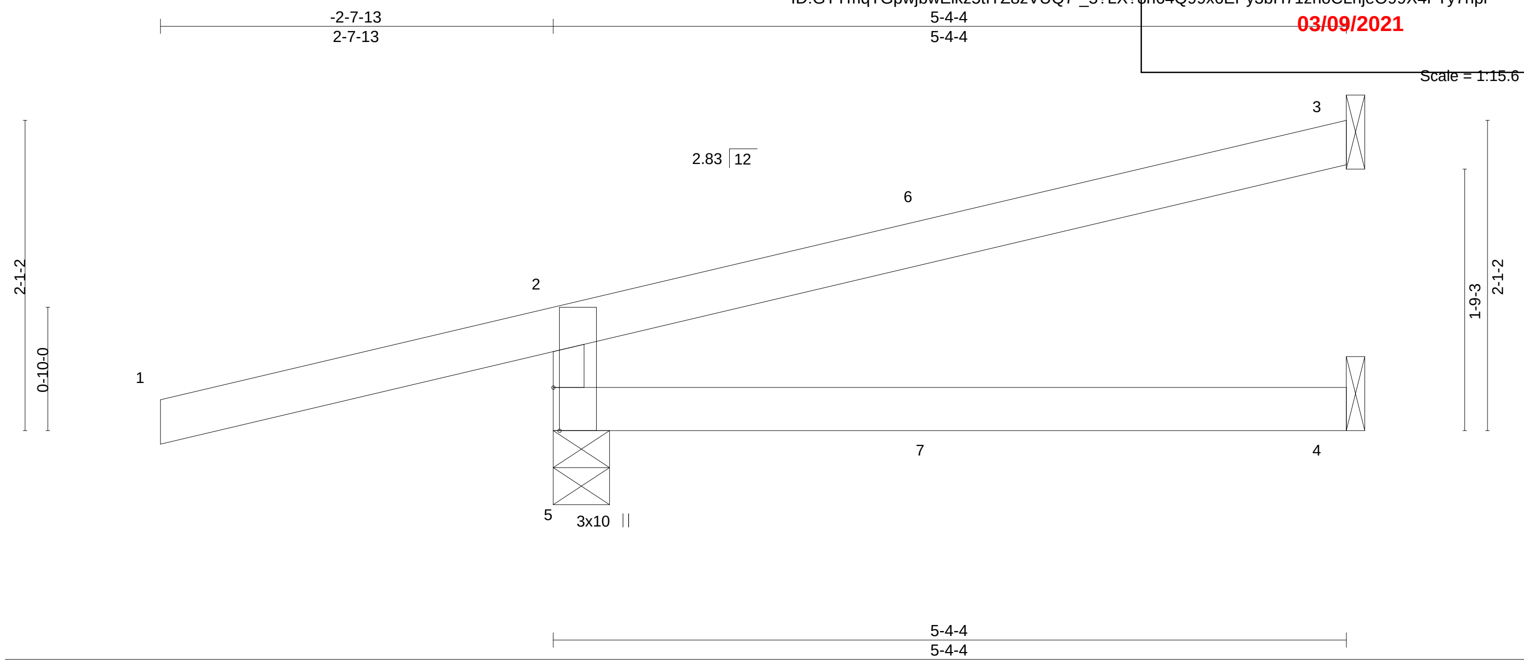


Plate Offsets (X,Y)-- [5:0-3-8,Edge]

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	0.61	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.06	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.02	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	-0.03	4-5	>999	240	Weight: 16 lb	FT = 10%

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

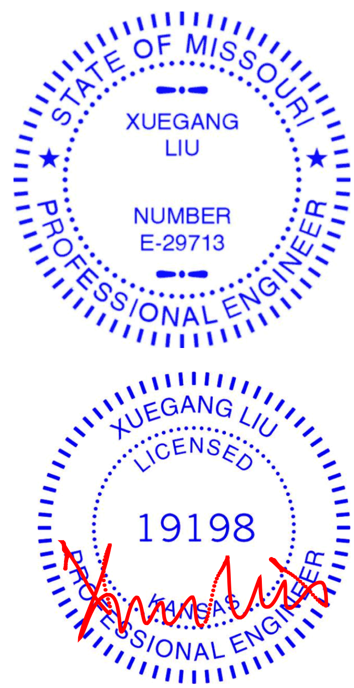
BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-4-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=0-4-9, 3=Mechanical, 4=Mechanical
Max Horz 5=76(LC 4)
Max Uplift 5=-198(LC 4), 3=-78(LC 8)
Max Grav 5=439(LC 1), 3=111(LC 1), 4=90(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-386/234

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 198 lb uplift at joint 5 and 78 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 62 lb down and 107 lb up at 2-7-6, and 62 lb down and 107 lb up at 2-7-6 on top chord, and 7 lb down and 8 lb up at 2-7-6, and 7 lb down and 8 lb up at 2-7-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
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: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 6=59(F=29, B=29) 7=16(F=8, B=8)

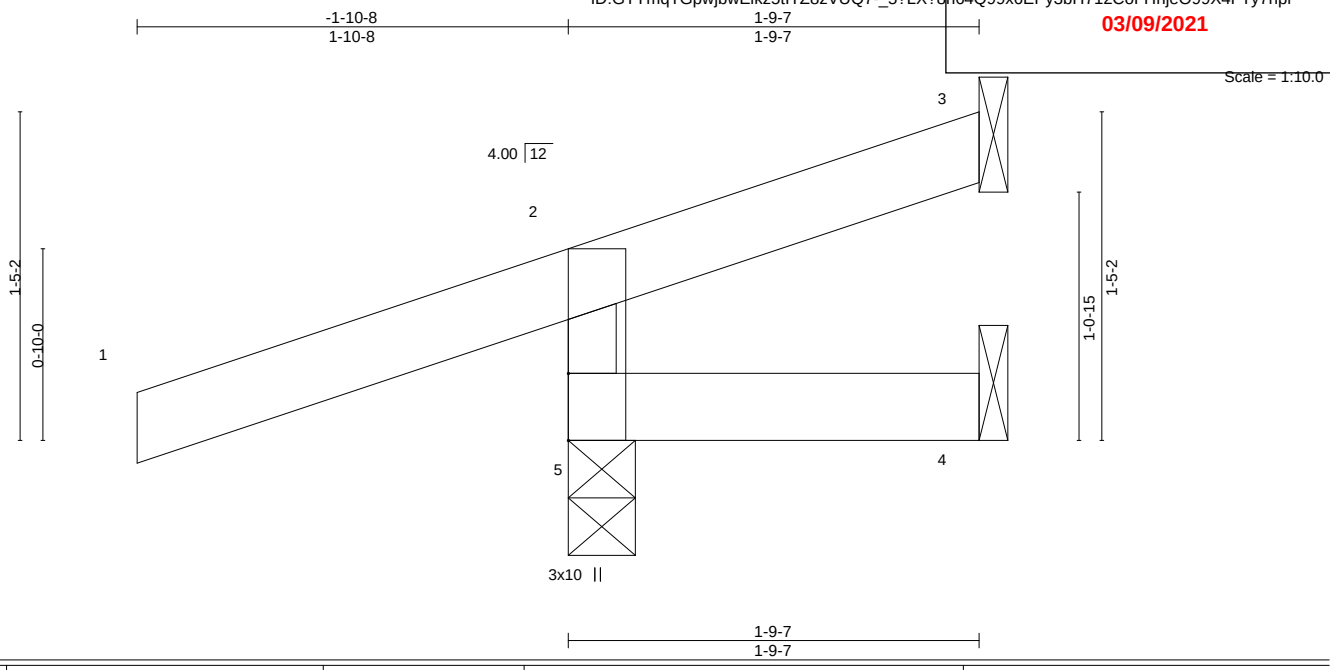


December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J15	Jack-Open	2	1	Job Reference (optional)

J44063964



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	0.27	Vert(LL)	0.00	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	5	>999	240		
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		Wind(LL)	-0.00	5	>999	240	Weight: 7 lb	FT = 10%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-9-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=49(LC 4)
Max Uplift 5=-132(LC 4), 3=-9(LC 5)
Max Grav 5=296(LC 1), 3=9(LC 4), 4=27(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-263/141

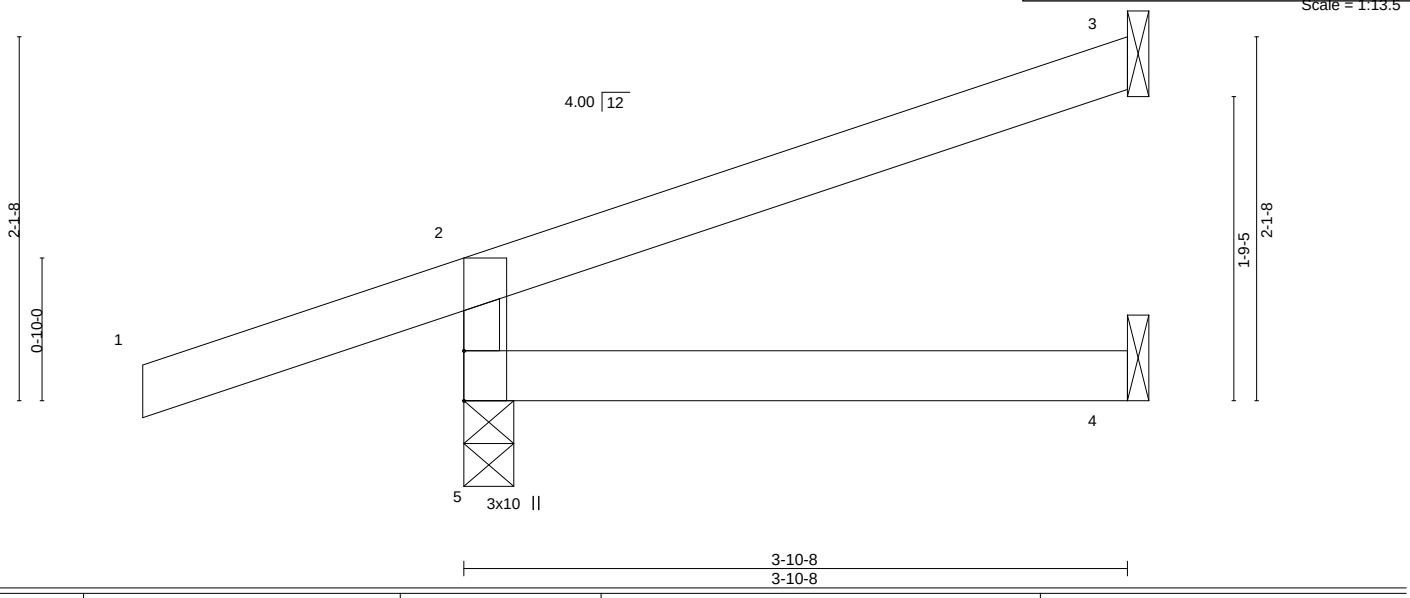
NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 132 lb uplift at joint 5 and 9 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J16	Jack-Open	5	1	Job Reference (optional)

J44063965



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	0.27	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.02	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.00	4-5	>999	240	Weight: 12 lb	FT = 10%

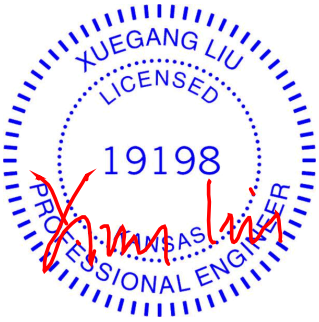
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=77(LC 4)
Max Uplift 5=-120(LC 4), 3=-51(LC 8)
Max Grav 5=342(LC 1), 3=97(LC 1), 4=68(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-301/147

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 lb uplift at joint 5 and 51 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

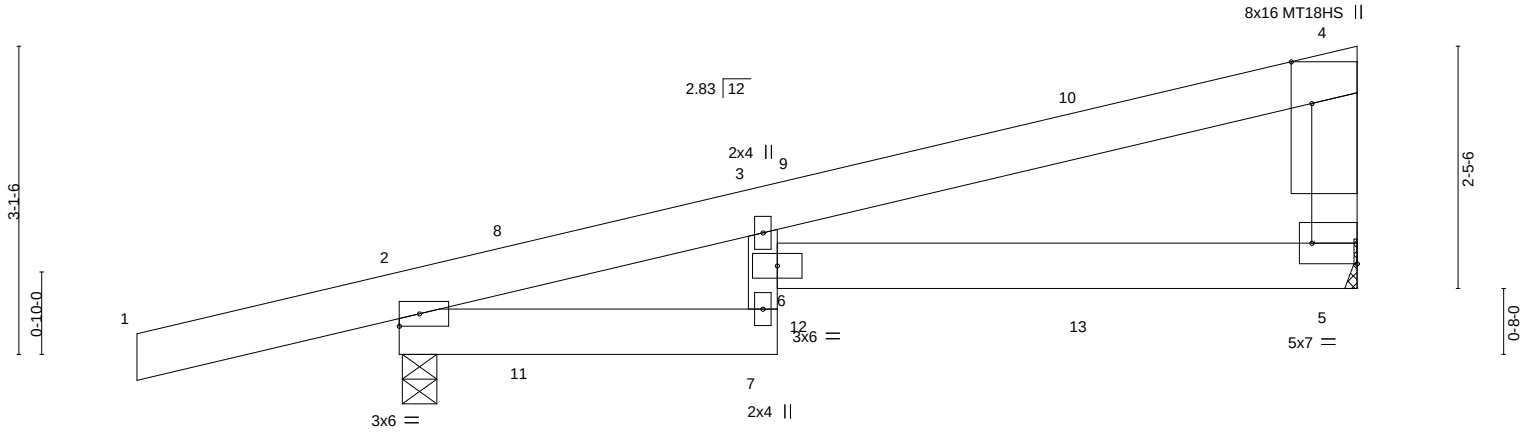
MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J17	Diagonal Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:00:55 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-wT65yh91dhhsOFGdXN53MY6E5coE9ZCgcT0BKLy7npj

-2-7-13	3-9-14	6-8-0	9-8-4
2-7-13	3-9-14	2-10-2	3-0-3

Scale = 1:23.3



0-0-6	3-9-14	6-8-0	9-8-4
0-0-6	3-9-8	2-10-2	3-0-3

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

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	0.95	Vert(LL)	-0.19	7	>595	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.36	7	>311	240	MT18HS	197/144
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.32	Horz(CT)	0.07	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.19	7	>572	240	Weight: 44 lb	FT = 10%

LUMBER-

TOP CHORD	2x6 SPF No.2
BOT CHORD	2x6 SPF No.2
WEBS	2x6 SPF No.2 *Except* 3-7: 2x4 SPF No.2

BRACING-

TOP CHORD	Structural wood sheathing directly applied or 3-11-15 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

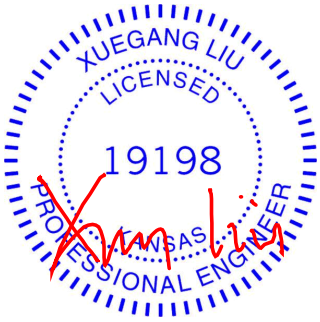
REACTIONS. (size) 5=Mechanical, 2=0-4-3
Max Horz 2=120(LC 21)
Max Uplift 5=-152(LC 8), 2=-226(LC 4)
Max Grav 5=607(LC 1), 2=748(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-374/27, 3-4=-457/82, 4-5=-345/123
BOT CHORD 5-6=-113/445
WEBS 3-6=0/265

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) gable end zone; cantilever left and right exposed ; end vertical left exposed; Lumber DOL=1.60 plate grip DOL=1.60
2) All plates are MT20 plates unless otherwise indicated.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 152 lb uplift at joint 5 and 226 lb uplift at joint 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.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 69 lb down and 32 lb up at 1-3-7, 105 lb down and 65 lb up at 4-1-7, and 72 lb down and 36 lb up at 4-1-7, and 103 lb down and 56 lb up at 6-11-6 on top chord, and 3 lb down at 1-3-7, 20 lb down at 4-1-7, 35 lb down at 4-1-7, and 217 lb down and 82 lb up at 6-11-6, and 32 lb down and 28 lb up at 6-11-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-4=-70, 2-7=-20, 5-6=-20



December 18,2020

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J17	Diagonal Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:10 2020 Page 2
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LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 9=-31(B) 10=-22(F) 12=-19(F=-10, B=-9) 13=-249(F=-32, B=-217)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J18	Jack-Open	1	1	I44063967 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:00 2020 Page 1

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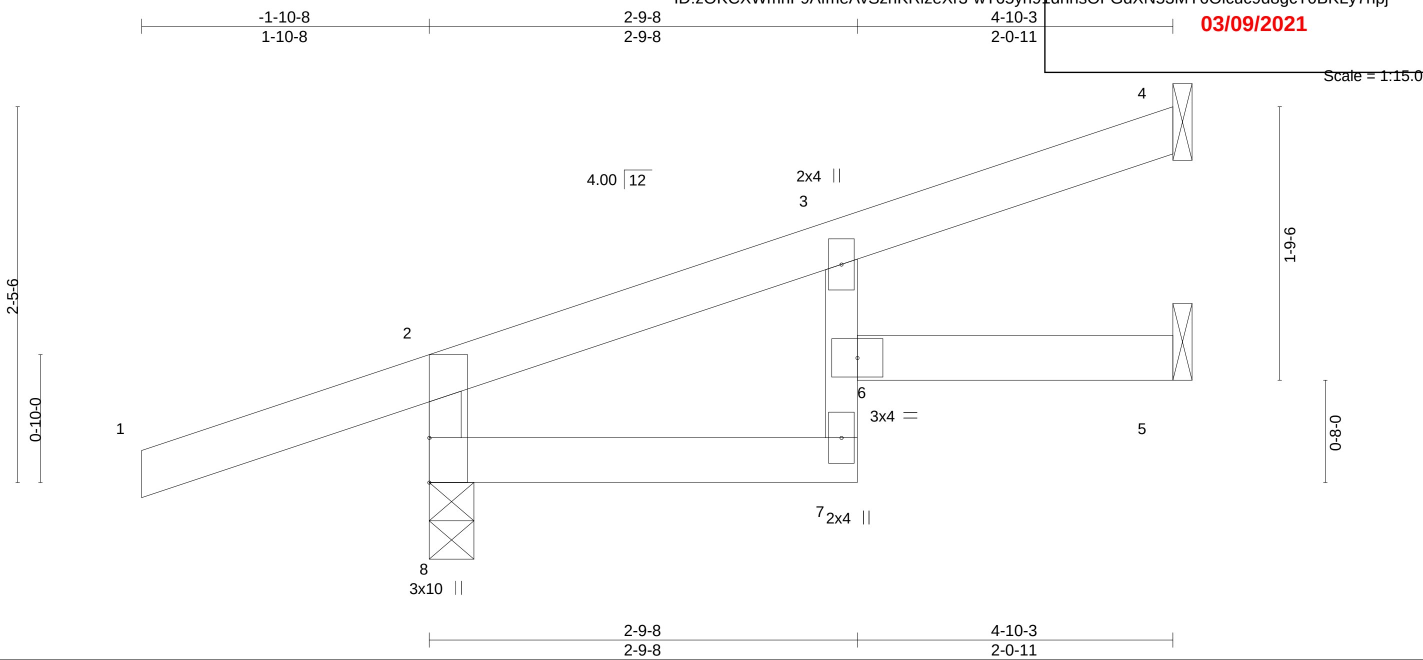


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.02	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	-0.04	7	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.02	6	>999	240	Weight: 15 lb	FT = 10%

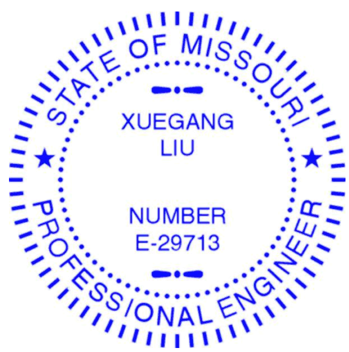
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
3-7: 2x3 SPF No.2
WEBS 2x3 SPF No.2

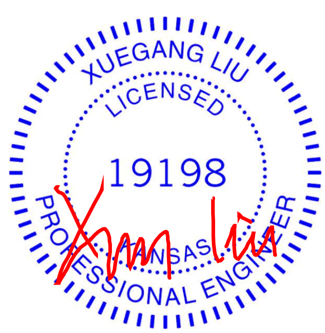
BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 8=0-3-8, 4=Mechanical, 5=Mechanical
Max Horz 8=90(LC 4)
Max Uplift 8=-121(LC 4), 4=-45(LC 8), 5=-4(LC 8)
Max Grav 8=379(LC 1), 4=121(LC 1), 5=71(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-8=-341/140

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 8, 45 lb uplift at joint 4 and 4 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J19	Jack-Closed	3	1	

Job Reference (optional) I44063968

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:01:35 2020 Page 1
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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

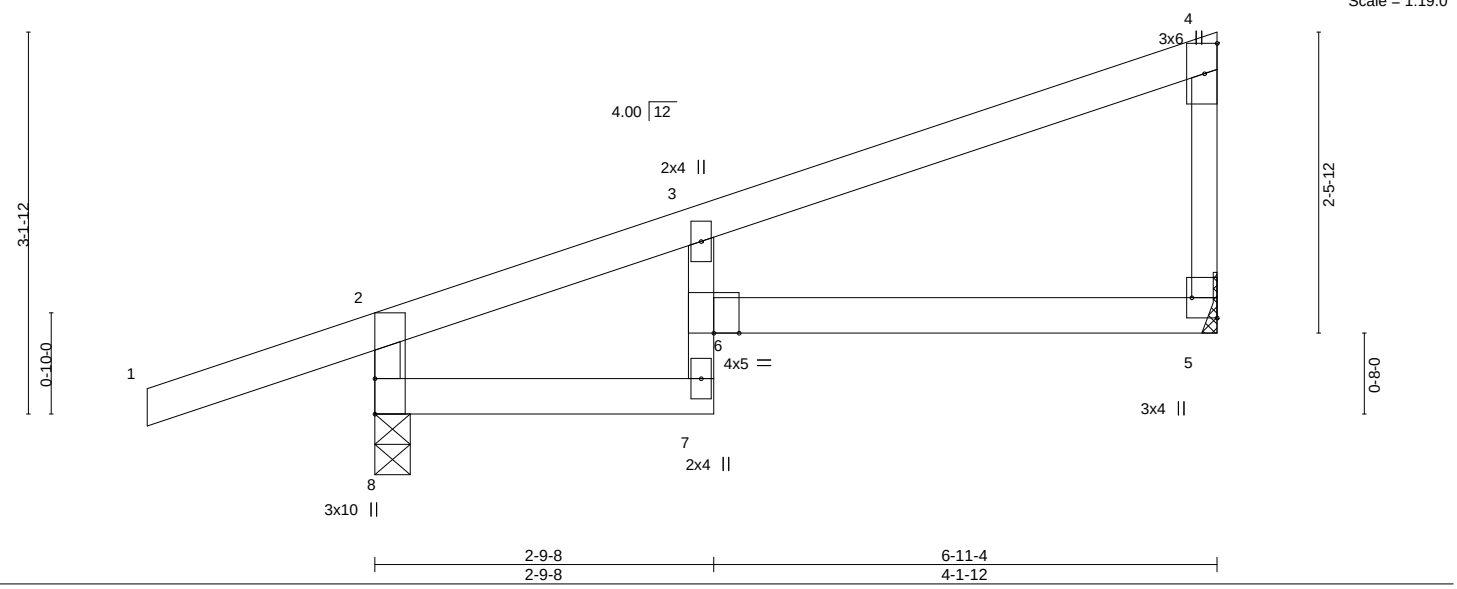

Plate Offsets (X,Y)-- [5:Edge,0-2-8]

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	0.47	Vert(LL)	-0.10	6	>812	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.18	5-6	>439	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.05	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.07	6	>999	240	Weight: 21 lb	FT = 10%

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

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

REACTIONS. (size) 8=0-3-8, 5=Mechanical
Max Horz 8=94(LC 5)
Max Uplift 8=-76(LC 4), 5=-20(LC 8)
Max Grav 8=462(LC 1), 5=282(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-8=-418/91, 2-3=-263/10

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 8 and 20 lb uplift at joint 5.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J20	Jack-Open	1	1	Job Reference (optional)

J44063969

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 14:27:07 2020 Page 1
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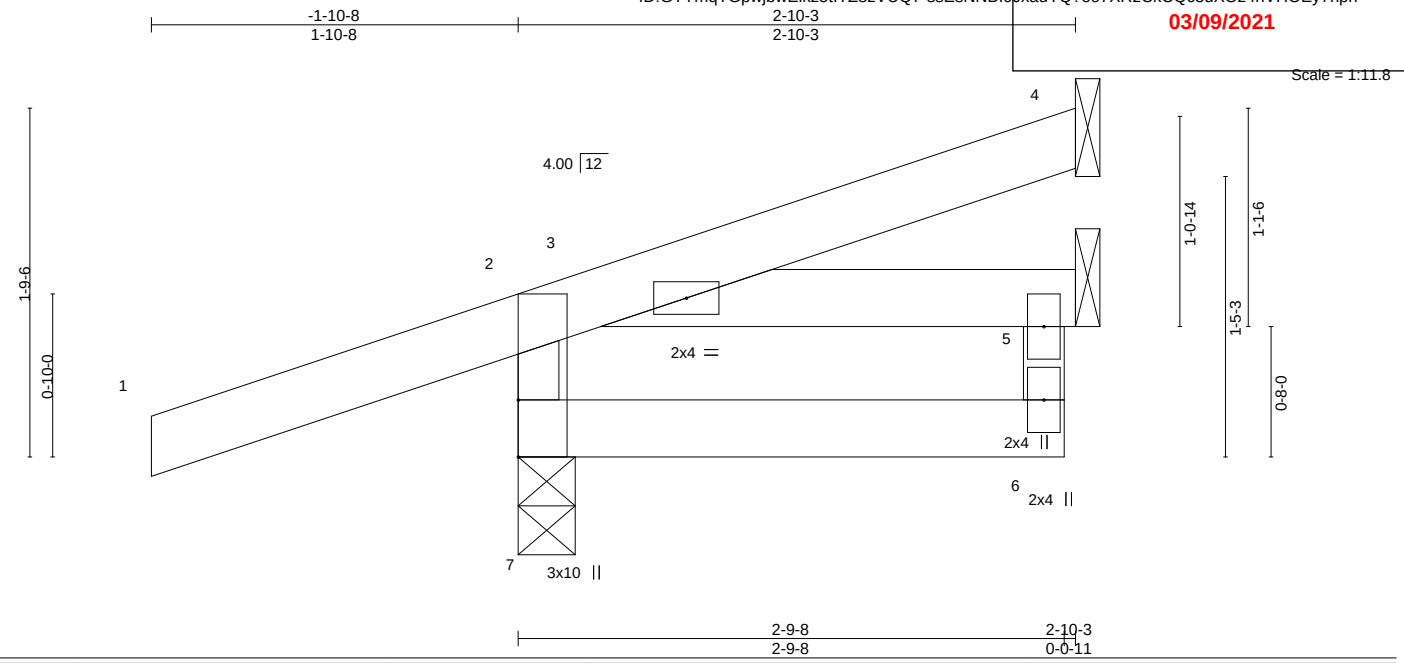


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.00	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	-0.00	6-7	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	-0.00	3	>999	240	Weight: 12 lb	FT = 10%

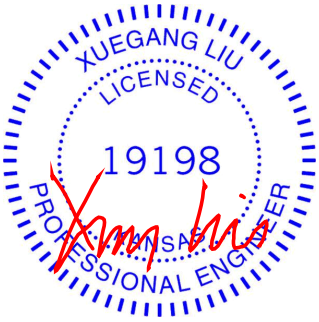
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 7=0-3-8, 4=Mechanical, 5=Mechanical
Max Horz 7=63(LC 4)
Max Uplift 7=-110(LC 4), 4=-30(LC 8)
Max Grav 7=330(LC 1), 4=57(LC 1), 5=91(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-7=-298/128

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 110 lb uplift at joint 7 and 30 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J21	Diagonal Hip Girder	2	1	I44063970 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:03 2020 Page 1
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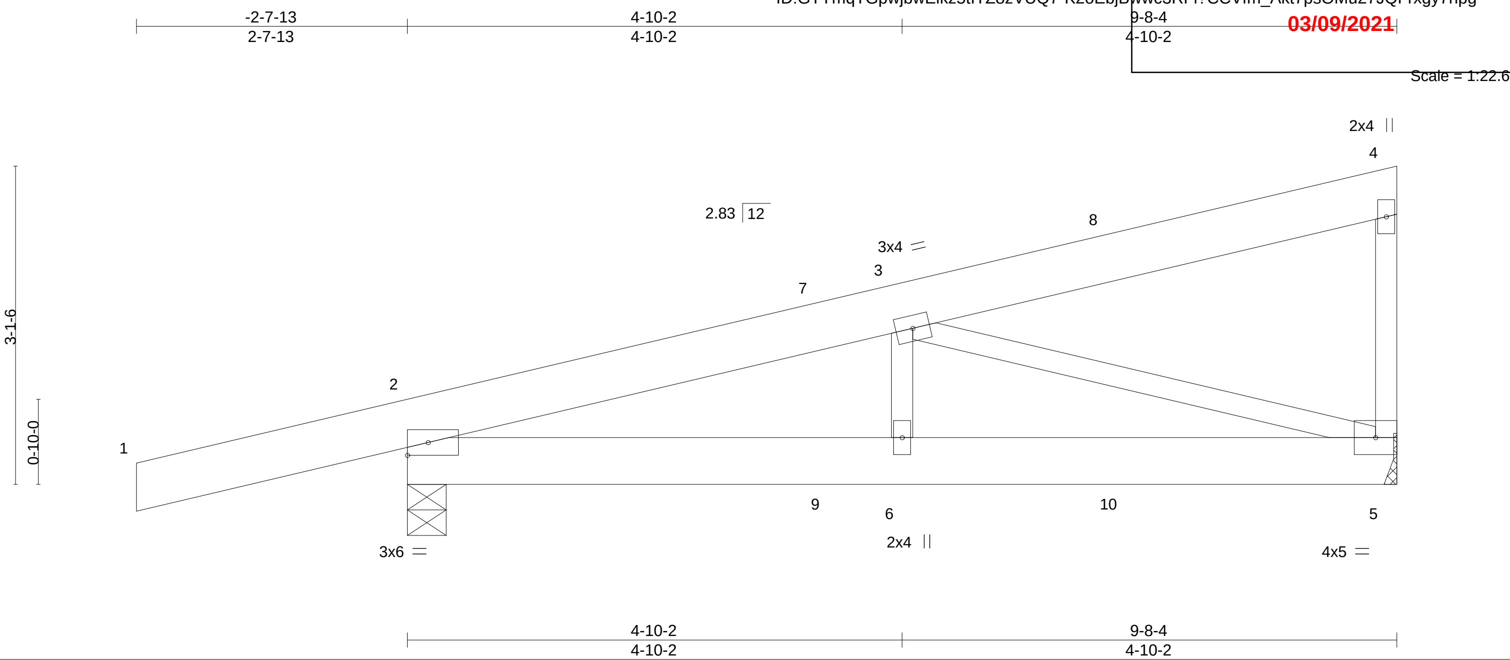


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	-0.02	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.03	5-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.44	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.01	6	>999	240	Weight: 47 lb	FT = 10%

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

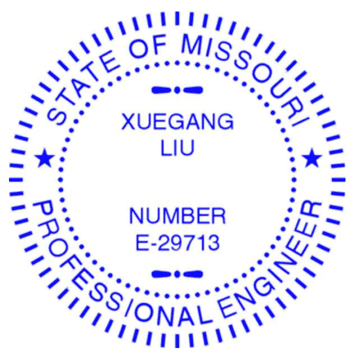
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=Mechanical, 2=0-4-9
Max Horz 2=117(LC 22)
Max Uplift 5=-101(LC 8), 2=-220(LC 4)
Max Grav 5=467(LC 1), 2=677(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-792/124
BOT CHORD 2-6=-138/699, 5-6=-138/699
WEBS 3-5=-717/164

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 101 lb uplift at joint 5 and 220 lb uplift at joint 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 71 lb down and 36 lb up at 4-1-7, 71 lb down and 36 lb up at 4-1-7, and 103 lb down and 75 lb up at 6-11-6, and 103 lb down and 75 lb up at 6-11-6 on top chord, and 10 lb down and 4 lb up at 4-1-7, 10 lb down and 4 lb up at 4-1-7, and 31 lb down at 6-11-6, and 31 lb down at 6-11-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
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: 1-4=-70, 2-5=-20
Concentrated Loads (lb)
Vert: 8=-71(F=-35, B=-35) 9=8(F=4, B=4) 10=-37(F=-19, B=-19)



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J22	Jack-Open	1	1	

Job Reference (optional)

J44063971

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:31:05 2020 Page 1
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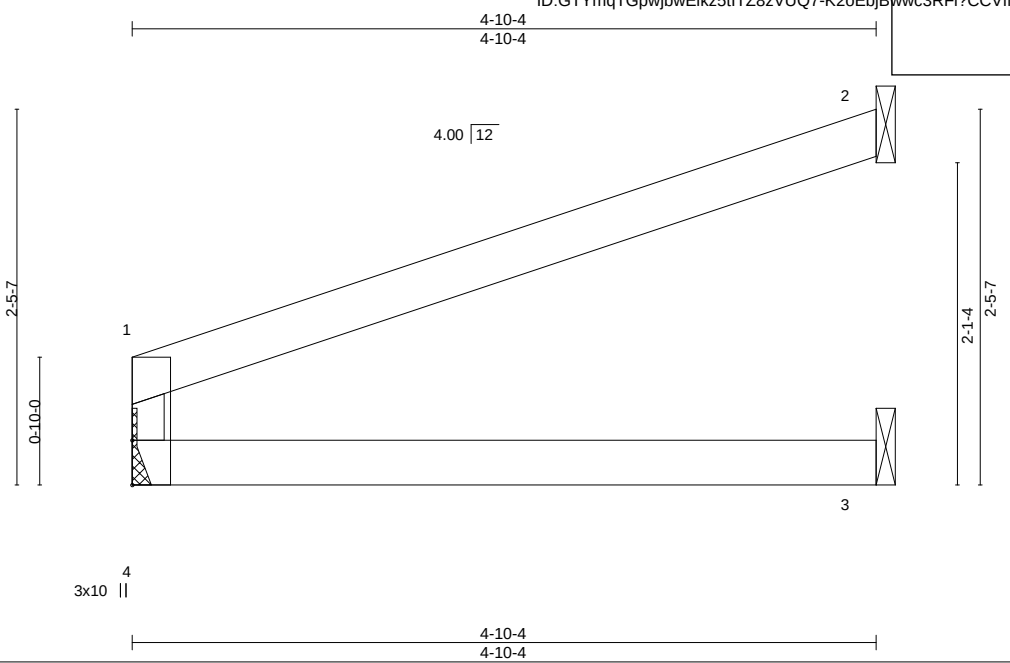


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	-0.02	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.05	3-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.03	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.02	3-4	>999	240	Weight: 12 lb	FT = 10%

LUMBER-

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

BRACING-

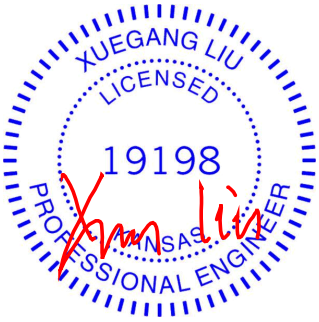
TOP CHORD	Structural wood sheathing directly applied or 4-10-4 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 4=Mechanical, 2=Mechanical, 3=Mechanical
Max Horz 4=56(LC 8)
Max Uplift 4=-22(LC 4), 2=-73(LC 8)
Max Grav 4=211(LC 1), 2=154(LC 1), 3=90(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 4 and 73 lb uplift at joint 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.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J23	Jack-Open	1	1	I44063972 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:04 2020 Page 1

ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-oEMco3CYhwBItsaOmDA?WOH76DIQ5R7GX4_OT6y7npf

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

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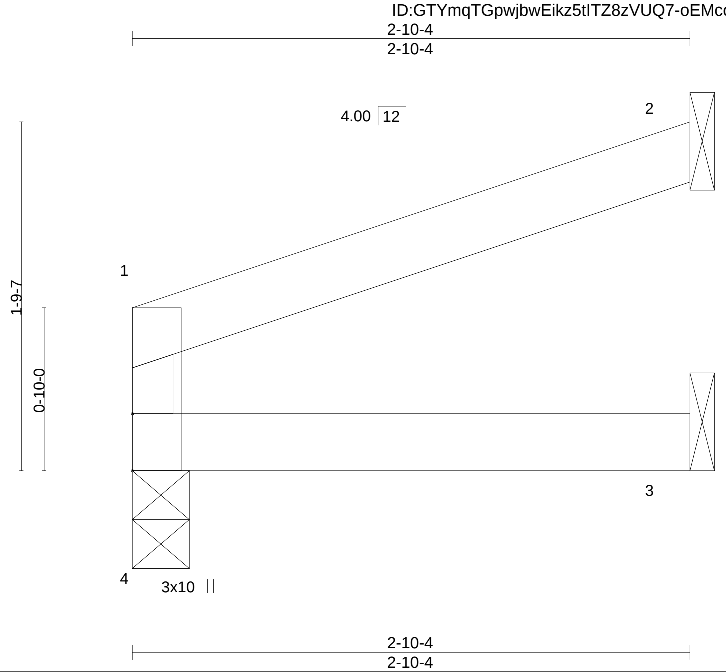

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	-0.00	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	-0.01	3-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.00	3-4	>999	240	Weight: 7 lb	FT = 10%

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

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

REACTIONS. (size) 4=0-3-8, 2=Mechanical, 3=Mechanical
Max Horz 4=37(LC 5)
Max Uplift 4=-10(LC 4), 2=-44(LC 8)
Max Grav 4=121(LC 1), 2=89(LC 1), 3=52(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 4 and 44 lb uplift at joint 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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J24	Jack-Open	2	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Sat Dec 19 07:41:55 2020 Page 1
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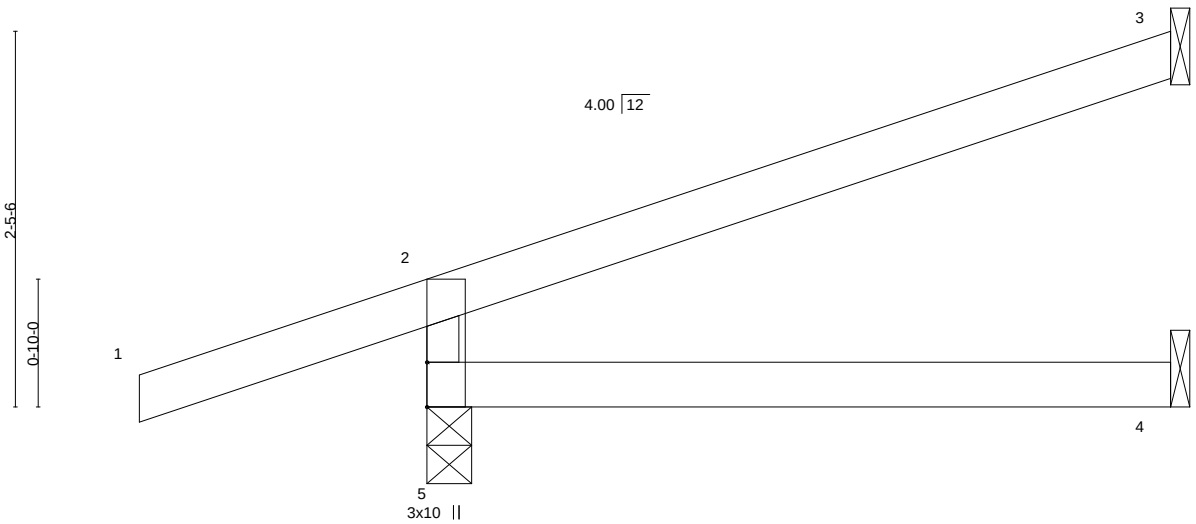


4-10-3 / 4-10-3

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	0.28	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.20	Vert(CT)	-0.05	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 14 lb	FT = 10%

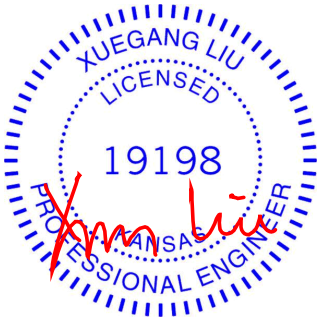
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=90(LC 4)
Max Uplift 5=-121(LC 4), 3=-67(LC 8)
Max Grav 5=379(LC 1), 3=134(LC 1), 4=87(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-332/157

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 5 and 67 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J24A	Jack-Open	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:51:26 2020 Page 1
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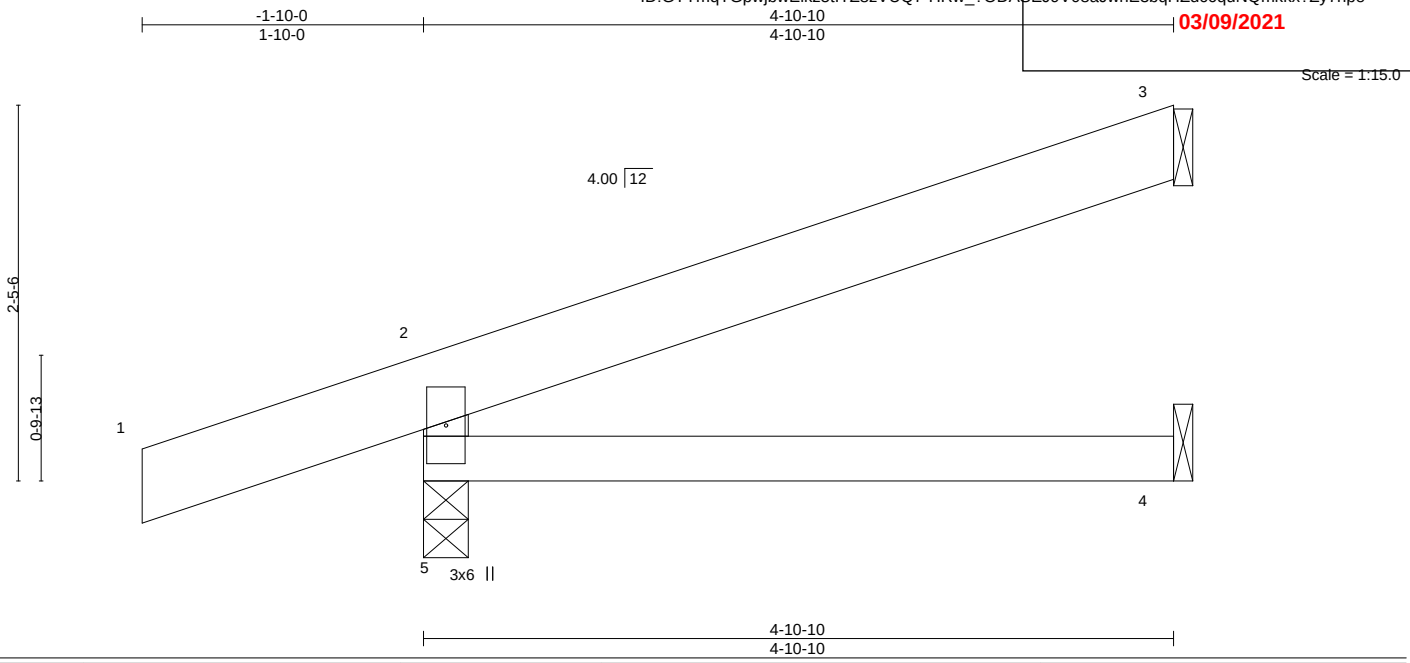

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.13	Vert(LL)	-0.02	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.04	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 19 lb	FT = 10%

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

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=91(LC 4)
Max Uplift 5=-123(LC 4), 3=-67(LC 8)
Max Grav 5=378(LC 1), 3=140(LC 1), 4=79(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-326/158

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 123 lb uplift at joint 5 and 67 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J25	Jack-Open	2	1	

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:51:06 2020 Page 1
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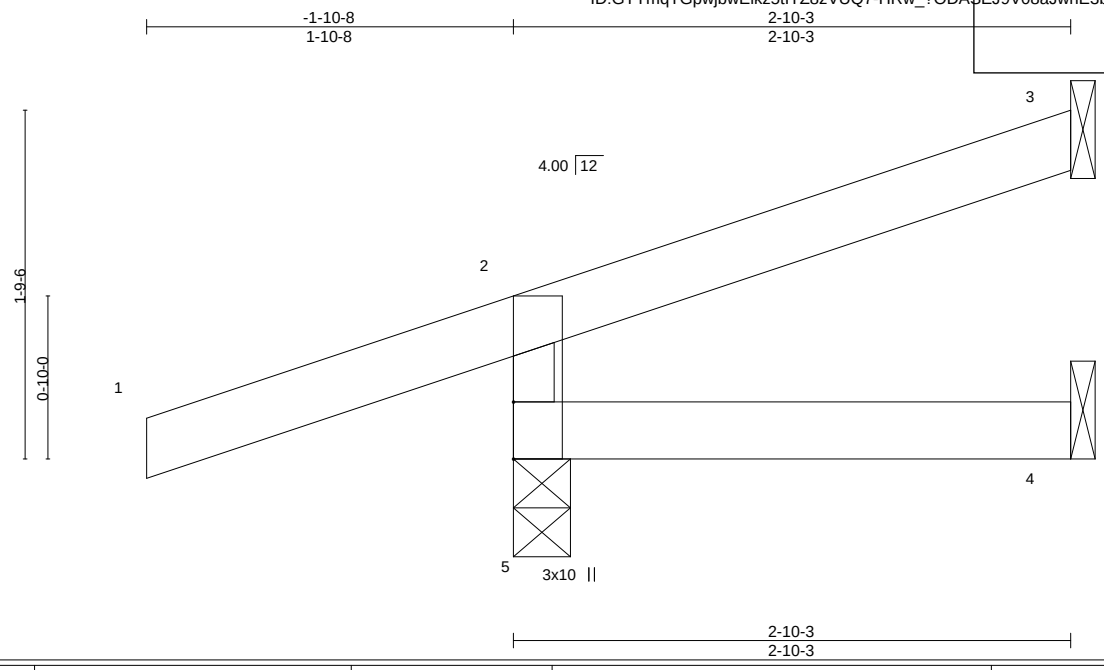
J44063975



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	0.27	Vert(LL)	-0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	4-5	>999	240		
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		Wind(LL)	0.00	5	>999	240	Weight: 9 lb	FT = 10%

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

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=63(LC 4)
Max Uplift 5=-121(LC 4), 3=-32(LC 8)
Max Grav 5=310(LC 1), 3=52(LC 1), 4=48(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-274/139

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 5 and 32 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J25A	Jack-Open	1	1	Job Reference (optional) I44063976

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:06 2020 Page 1
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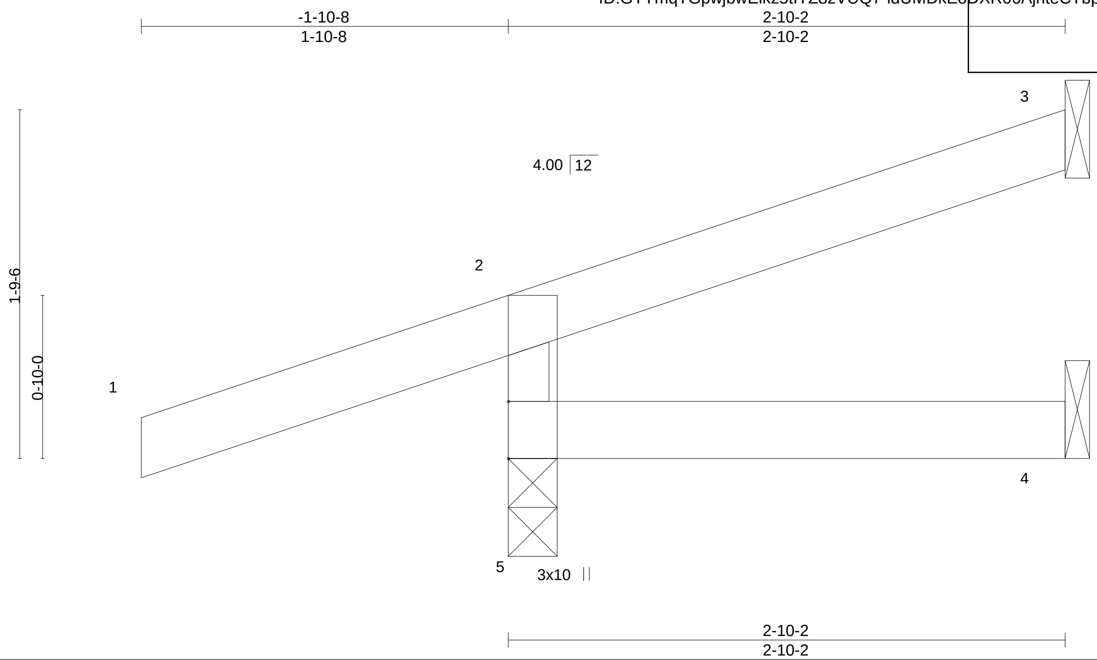

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	-0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.00	5	>999	240	Weight: 9 lb	FT = 10%

SPACING- 2-0-0

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

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

REACTIONS. (size) 5=0-3-0, 3=Mechanical, 4=Mechanical
Max Horz 5=63(LC 4)
Max Uplift 5=-121(LC 4), 3=-32(LC 8)
Max Grav 5=310(LC 1), 3=52(LC 1), 4=48(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-274/139

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 5 and 32 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J26	Jack-Closed	7	1	I44063977 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:06 2020 Page 1

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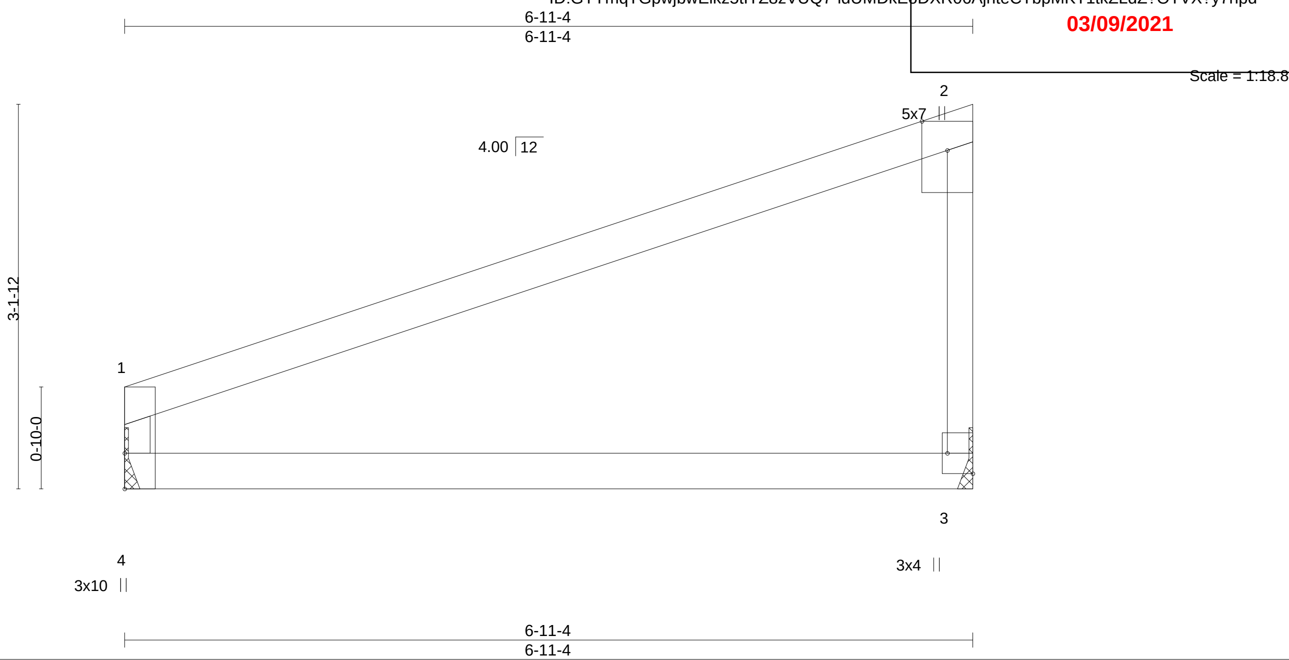

Plate Offsets (X,Y)-- [3:Edge,0-2-8]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.09	3-4	>936	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.18	3-4	>451	240		
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		Wind(LL)	0.02	3-4	>999	240	Weight: 19 lb	FT = 10%

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

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

REACTIONS. (size) 4=Mechanical, 3=Mechanical
Max Horz 4=93(LC 5)
Max Uplift 4=-10(LC 4), 3=-22(LC 8)
Max Grav 4=303(LC 1), 3=303(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-4=-251/55

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 4 and 22 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J27	Diagonal Hip Girder	4	1	I44063978 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:07 2020 Page 1
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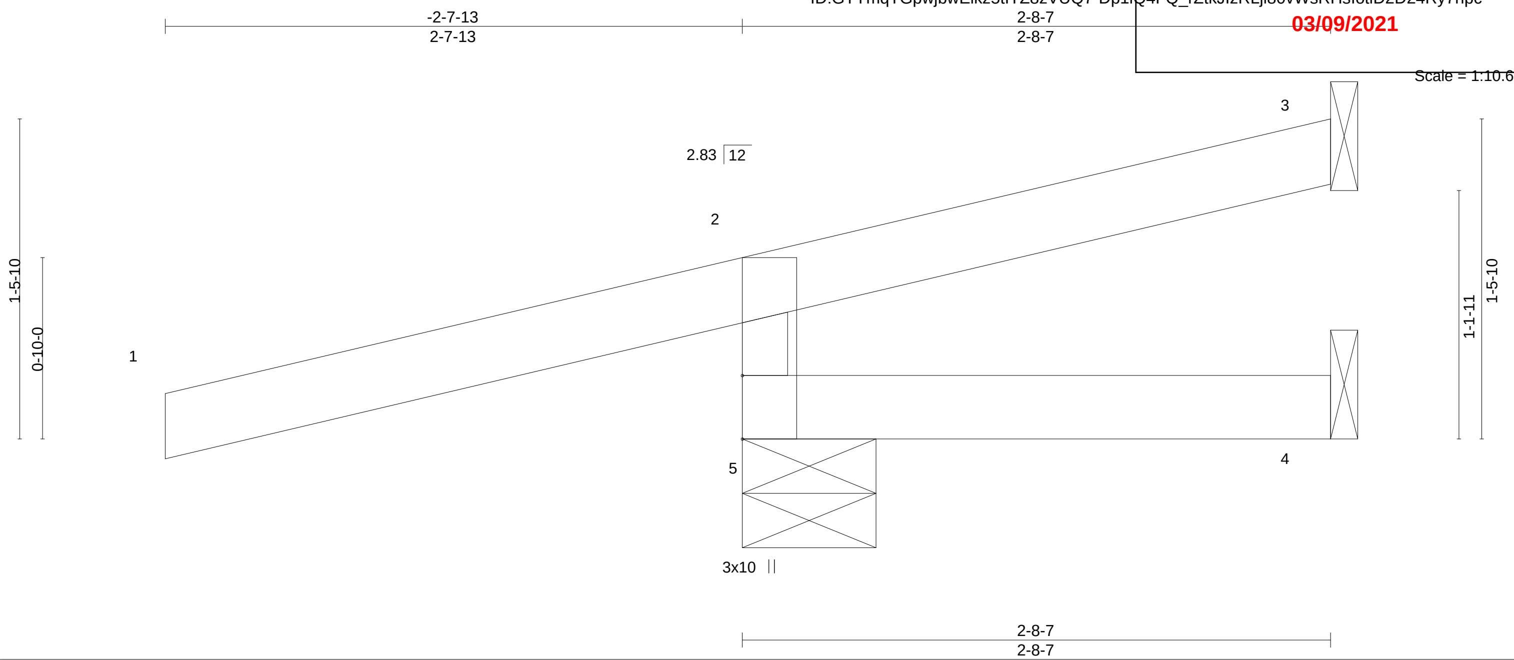


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	0.01	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	-0.00	4-5	>999	240	Weight: 10 lb	FT = 10%

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

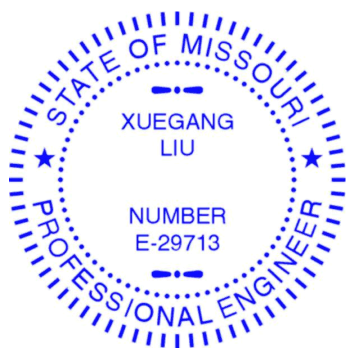
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-8-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 5=0-7-6, 3=Mechanical, 4=Mechanical
Max Horz 5=52(LC 7)
Max Uplift 5=-154(LC 4), 3=-48(LC 17), 4=-14(LC 1)
Max Grav 5=270(LC 1), 3=28(LC 4), 4=28(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 154 lb uplift at joint 5, 48 lb uplift at joint 3 and 14 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
7) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 46 lb down and 16 lb up at -2-7-13, and 46 lb down and 16 lb up at -2-7-13 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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
Concentrated Loads (lb)
Vert: 1=-71(F=-36, B=-36)
Trapezoidal Loads (plf)
Vert: 1=-0(F=35, B=35)-to-2=-48(F=11, B=11), 2=-4(F=33, B=33)-to-3=-49(F=10, B=10), 5=-0(F=10, B=10)-to-4=-14(F=3, B=3)



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J28	Jack-Open	12	1	

Job Reference (optional) J44063979

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 14:44:20 2020 Page 1

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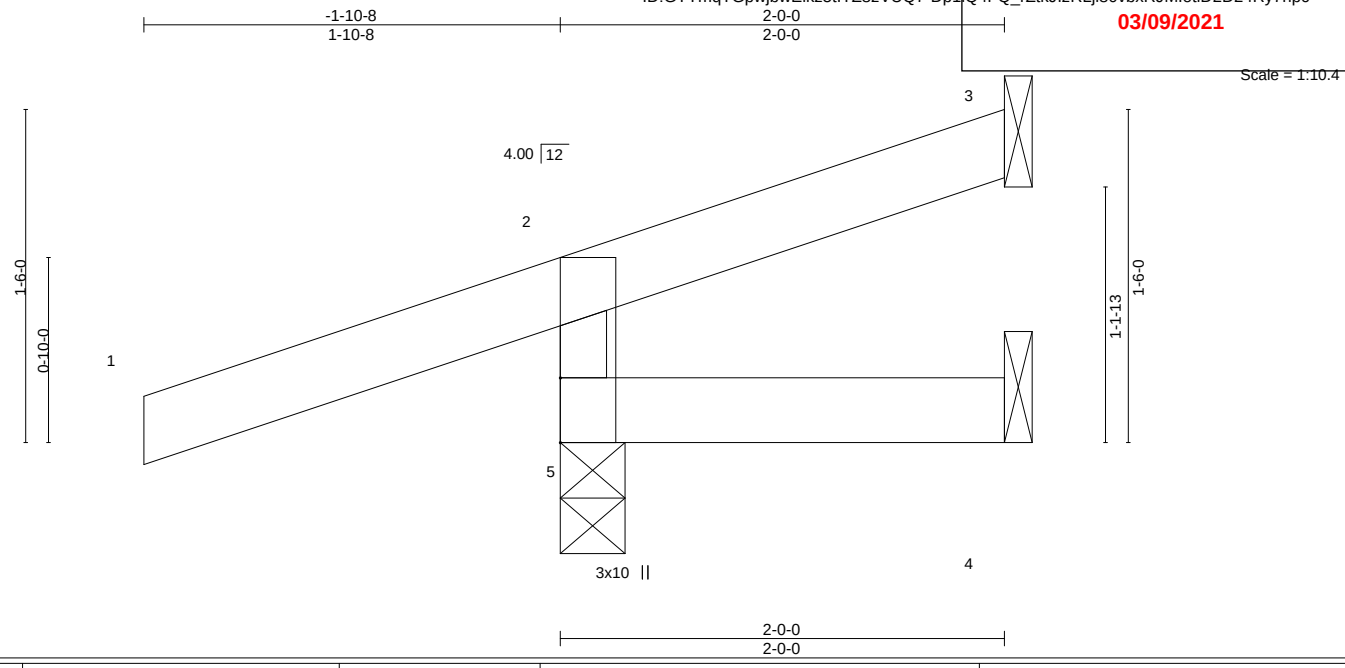
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.27	Vert(LL)	0.00	5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	5	>999	240		
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		Wind(LL)	-0.00	5	>999	240	Weight: 7 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 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) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=52(LC 4)
Max Uplift 5=-129(LC 4), 3=-14(LC 8)
Max Grav 5=296(LC 1), 3=7(LC 1), 4=32(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-263/139

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 5 and 14 lb uplift at joint 3.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J29	Diagonal Hip Girder	2	1	I44063980 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:08 2020 Page 1
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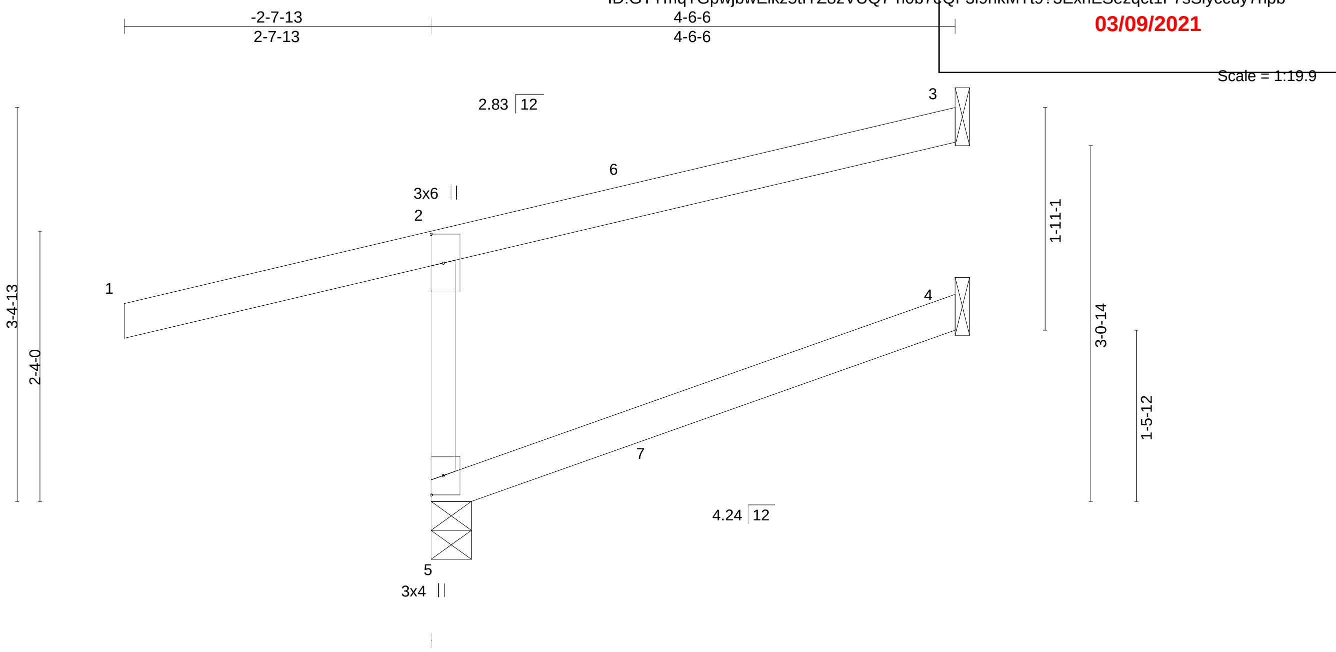

Plate Offsets (X,Y)-- [2:0-3-0,0-1-4]

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)	0.06	4-5	>921	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	0.05	4-5	>999	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.13	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R							Weight: 16 lb	FT = 10%

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

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

REACTIONS. (size) 5=0-4-3, 3=Mechanical, 4=Mechanical
Max Horz 5=86(LC 5)
Max Uplift 5=-273(LC 4), 3=-92(LC 8), 4=-30(LC 5)
Max Grav 5=394(LC 1), 3=78(LC 38), 4=79(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-347/246

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 273 lb uplift at joint 5, 92 lb uplift at joint 3 and 30 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 87 lb down and 179 lb up at 1-9-8, and 87 lb down and 179 lb up at 1-9-8 on top chord, and 33 lb down and 51 lb up at 1-9-8, and 33 lb down and 51 lb up at 1-9-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-70, 2-3=-70, 4-5=-20
Concentrated Loads (lb)
Vert: 6=84(F=42, B=42) 7=8(F=4, B=4)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J30	Jack-Open	3	1	

Job Reference (optional) J44063981

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 14:44:20 2020 Page 1

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

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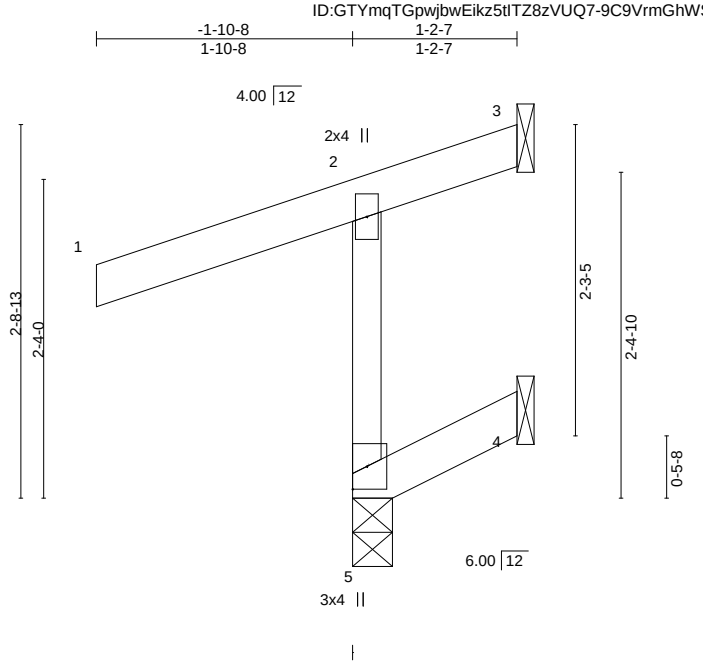

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.27	Vert(LL)	0.00	5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.03	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 7 lb	FT = 10%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-2-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=71(LC 5)
Max Uplift 5=-113(LC 4), 3=-80(LC 1), 4=-46(LC 5)
Max Grav 5=314(LC 1), 3=26(LC 4), 4=28(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-295/142

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 113 lb uplift at joint 5, 80 lb uplift at joint 3 and 46 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J31	Jack-Open	1	1	

Job Reference (optional) J44063982

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:10:35 2020 Page 1

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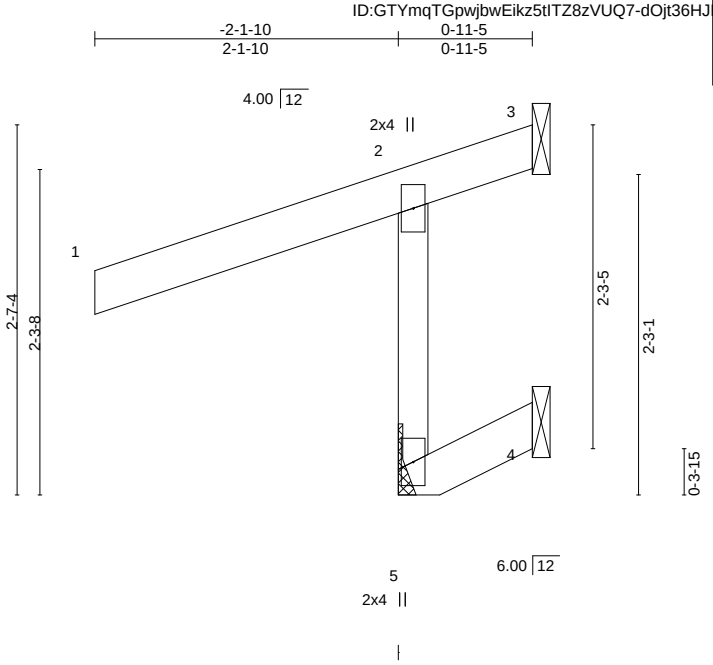
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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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	0.35	Vert(LL)	0.00	5	>999	240	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.03	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R							Weight: 7 lb	FT = 10%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 0-11-5 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 5=Mechanical, 3=Mechanical, 4=Mechanical
Max Horz 5=69(LC 5)
Max Uplift 5=-160(LC 4), 3=-172(LC 1), 4=-61(LC 5)
Max Grav 5=406(LC 1), 3=75(LC 4), 4=32(LC 19)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-387/194

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 160 lb uplift at joint 5, 172 lb uplift at joint 3 and 61 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J32	Jack-Open	4	1	I44063983 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:11 2020 Page 1

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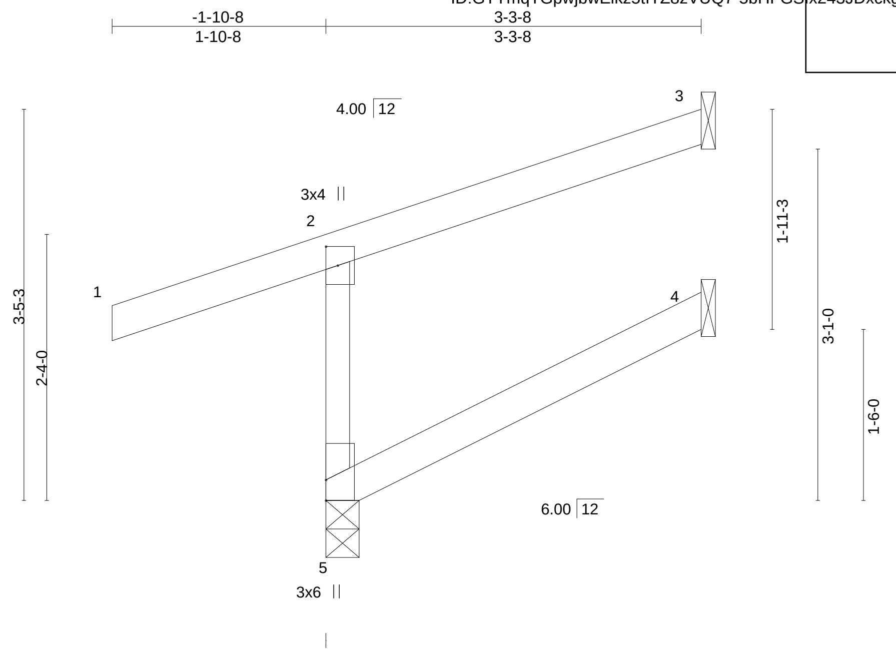


Plate Offsets (X,Y)-- [2:0-2-0,0-1-4], [5:0-2-3,Edge]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	-0.01	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.07	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.01	4-5	>999	240	Weight: 12 lb	FT = 10%

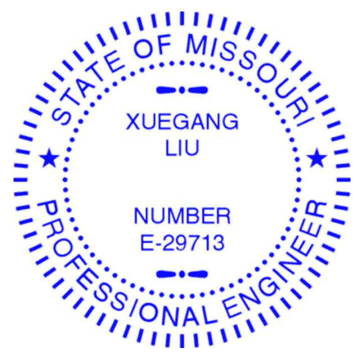
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

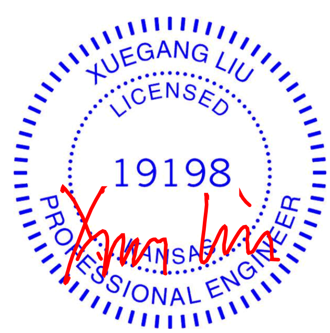
BRACING-
TOP CHORD Structural wood sheathing directly applied or 3-3-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=90(LC 5)
Max Uplift 5=-92(LC 4), 3=-54(LC 8), 4=-6(LC 5)
Max Grav 5=323(LC 1), 3=69(LC 1), 4=60(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-288/128

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 92 lb uplift at joint 5, 54 lb uplift at joint 3 and 6 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J33	Diagonal Hip Girder	1	1	Job Reference (optional)

I44063984

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:12 2020 Page 1
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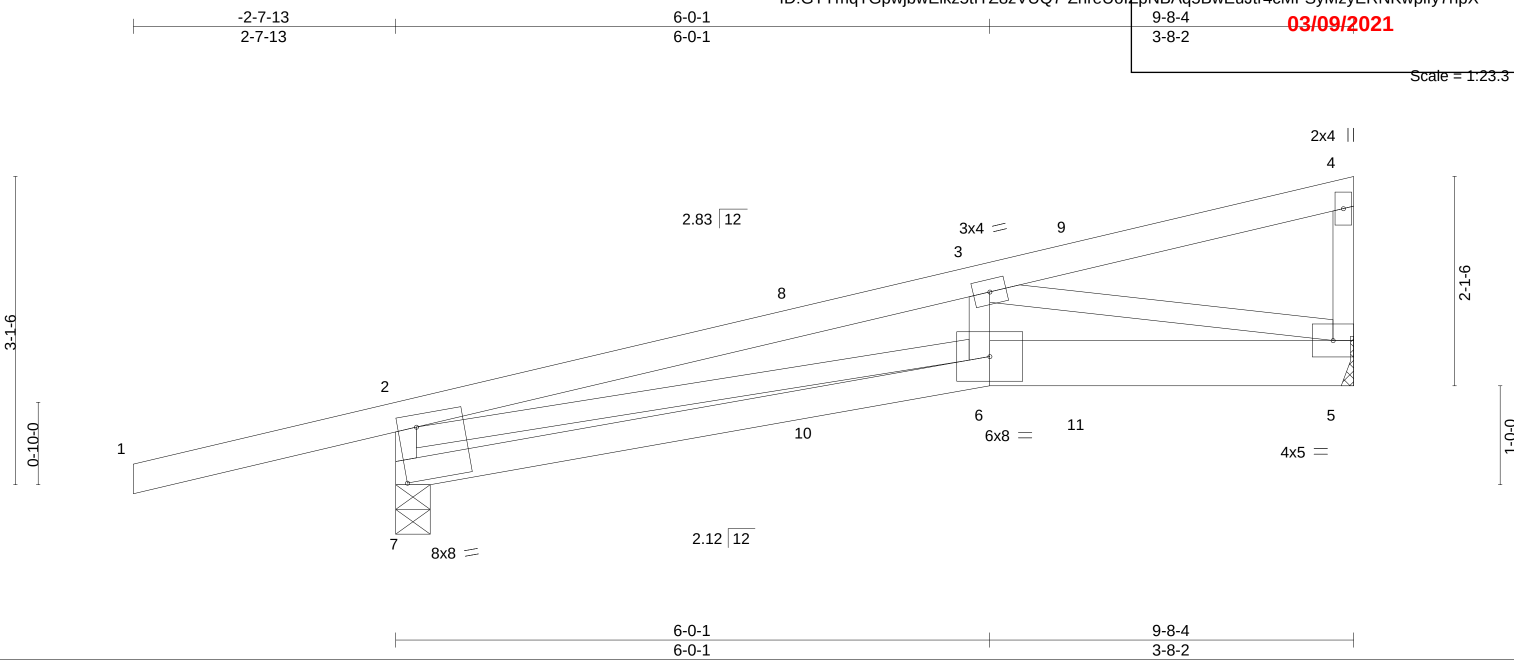


Plate Offsets (X,Y)-- [7:0-2-4,0-6-8]

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	0.61	Vert(LL)	-0.06	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.13	6-7	>907	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.44	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.05	6	>999	240	Weight: 38 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except*
5-6: 2x6 SPF No.2
WEBS 2x3 SPF No.2

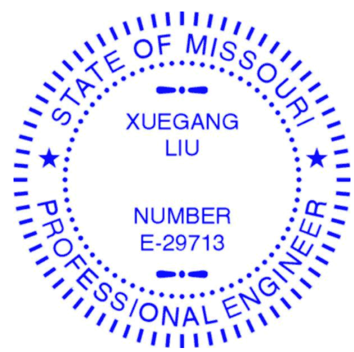
BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-8-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

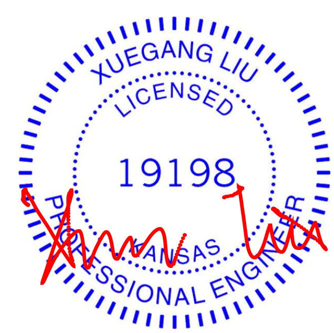
REACTIONS. (size) 7=0-4-3, 5=Mechanical
Max Horz 7=113(LC 5)
Max Uplift 7=-214(LC 4), 5=-105(LC 8)
Max Grav 7=673(LC 1), 5=473(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-7=-628/245, 2-3=-1247/264
BOT CHORD 5-6=-270/1183
WEBS 2-6=-242/1019, 3-6=0/299, 3-5=-1177/284

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 214 lb uplift at joint 7 and 105 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 71 lb down and 36 lb up at 4-1-7, 71 lb down and 36 lb up at 4-1-7, and 103 lb down and 76 lb up at 6-11-6, and 103 lb down and 76 lb up at 6-11-6 on top chord, and 9 lb down and 4 lb up at 4-1-7, 9 lb down and 4 lb up at 4-1-7, and 31 lb down at 6-11-6, and 31 lb down at 6-11-6 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (plf)
Vert: 1-2=-70, 2-4=-70, 6-7=-20, 5-6=-20





December 18,2020

Continued on page 2

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

LOAD CASE(S) Standard
Concentrated Loads (lb)
Vert: 9=-71(F=-36, B=-36) 10=8(F=4, B=4) 11=-37(F=-19, B=-19)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J34	Jack-Open	7	1	I44063985 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:12 2020 Page 1

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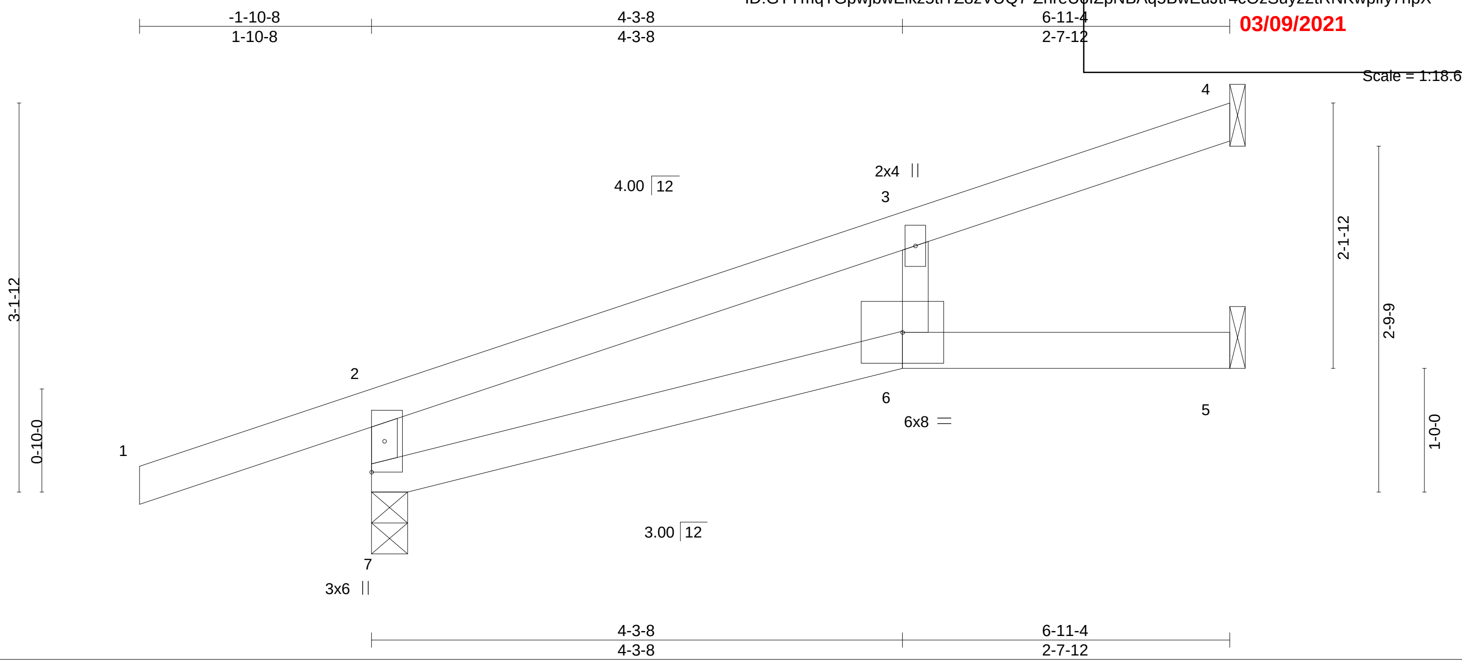


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	-0.13	6-7	>632	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.24	6-7	>334	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.06	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.10	6-7	>811	240	Weight: 20 lb	FT = 10%

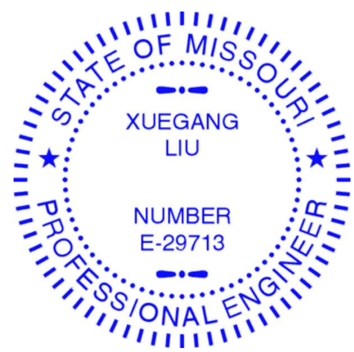
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

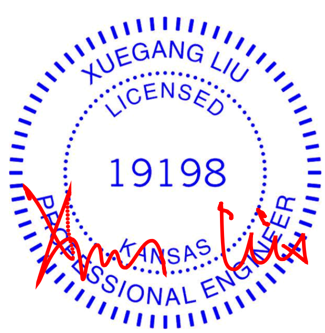
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 7=0-3-8, 4=Mechanical, 5=Mechanical
Max Horz 7=84(LC 4)
Max Uplift 7=-66(LC 4), 4=-27(LC 8), 5=-2(LC 8)
Max Grav 7=463(LC 1), 4=165(LC 1), 5=119(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-7=-360/86

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 7, 27 lb uplift at joint 4 and 2 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J35	Jack-Open	2	1	I44063986 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:13 2020 Page 1

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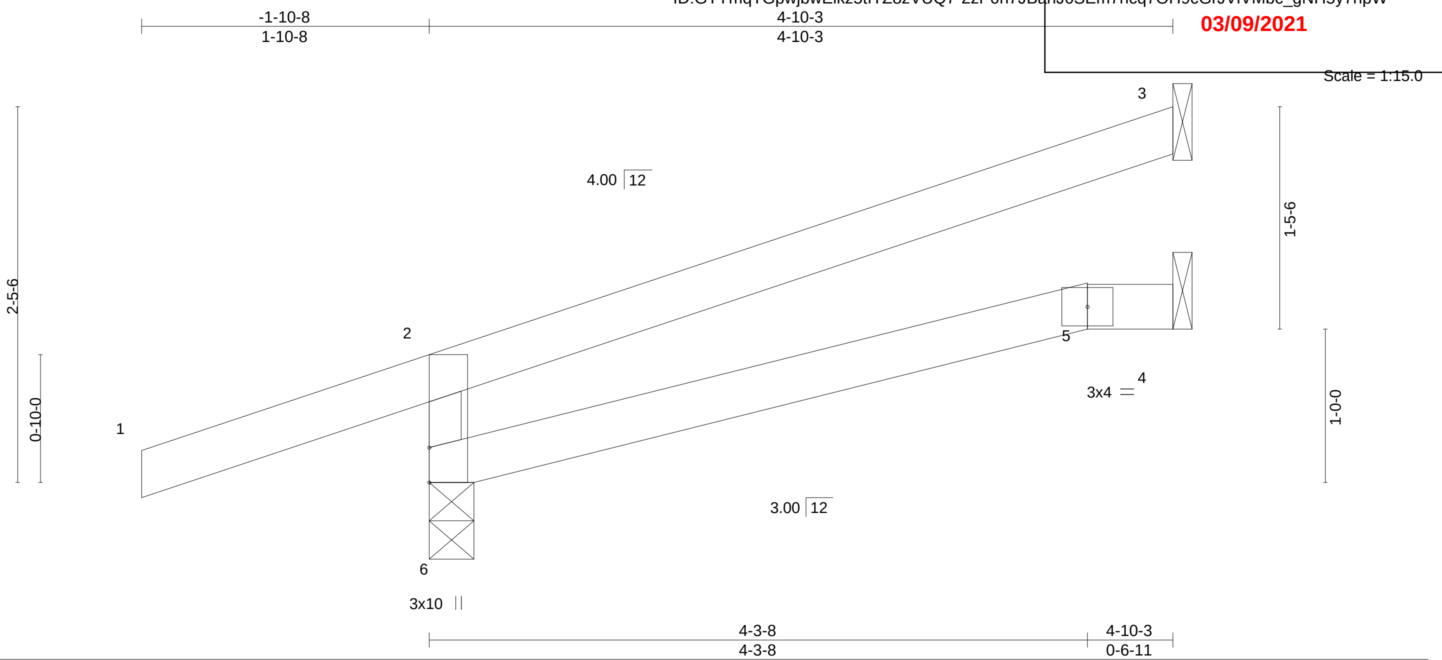


Plate Offsets (X,Y)-- [6:0-2-12,Edge]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	-0.02	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	-0.05	5-6	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.01	5-6	>999	240	Weight: 14 lb	FT = 10%

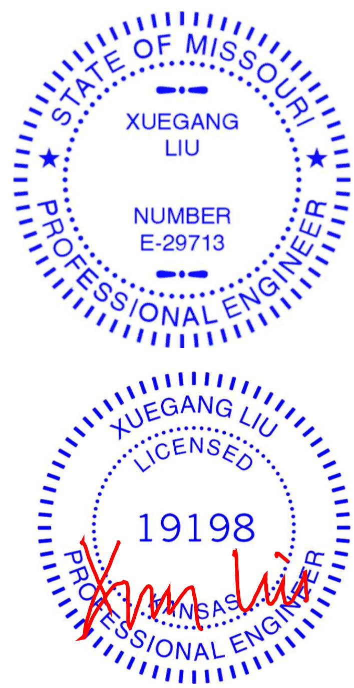
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-10-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS. (size) 6=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 6=89(LC 4)
Max Uplift 6=-120(LC 4), 3=-67(LC 8)
Max Grav 6=379(LC 1), 3=135(LC 1), 4=87(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-6=-332/157

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 6 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 lb uplift at joint 6 and 67 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J36	Jack-Open	2	1	Job Reference (optional)

I44063987

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:13 2020 Page 1
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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

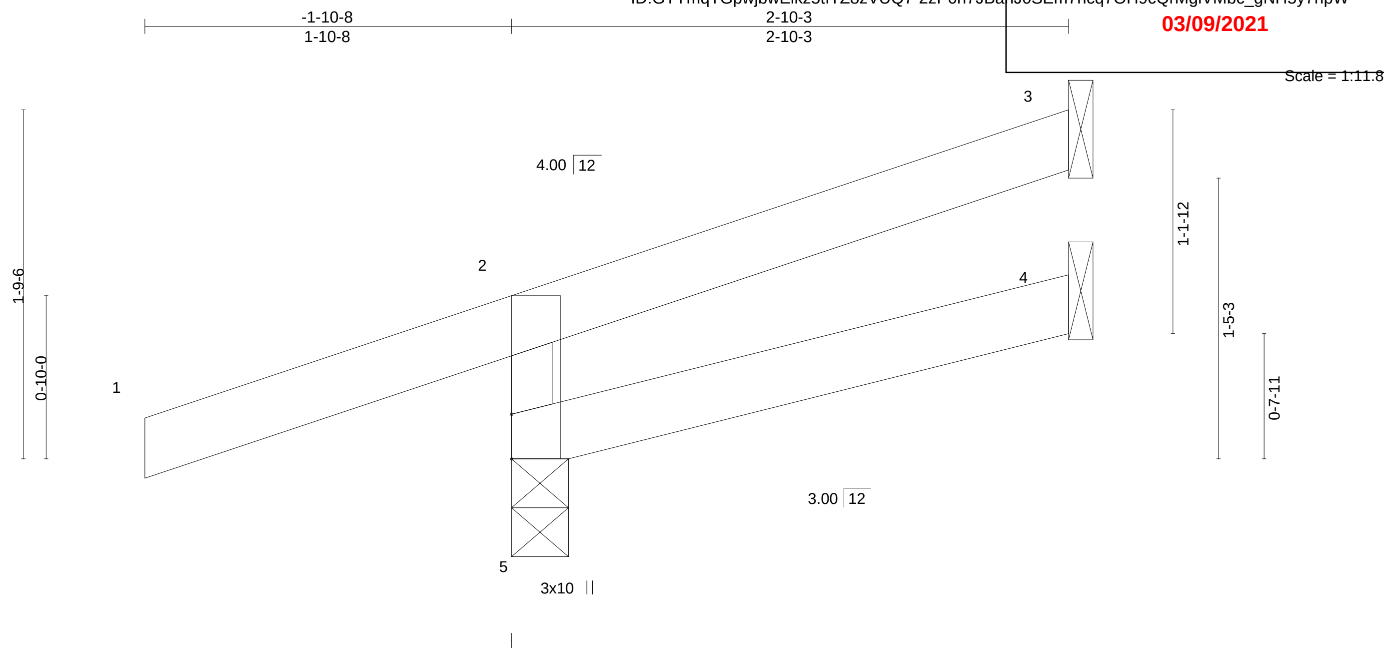


Plate Offsets (X,Y)-- [5:0-2-12,Edge]

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	0.27	Vert(LL)	-0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	-0.00	4-5	>999	240		
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		Wind(LL)	0.00	5	>999	240	Weight: 10 lb	FT = 10%

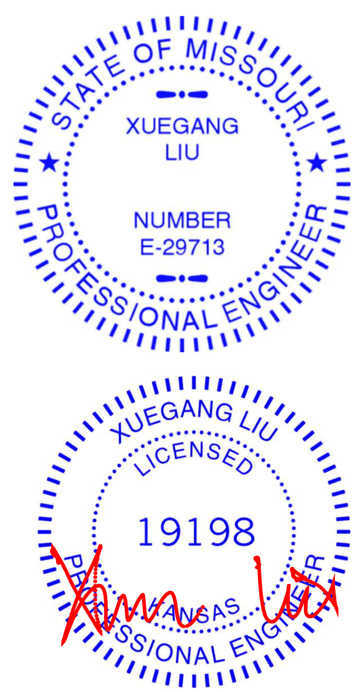
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 5=0-3-8, 3=Mechanical, 4=Mechanical
Max Horz 5=62(LC 4)
Max Uplift 5=-120(LC 4), 3=-33(LC 8)
Max Grav 5=310(LC 1), 3=52(LC 1), 4=48(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-274/139

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 lb uplift at joint 5 and 33 lb uplift at joint 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J37	Jack-Closed	5	1	Job Reference (optional) I44063988

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:14 2020 Page 1

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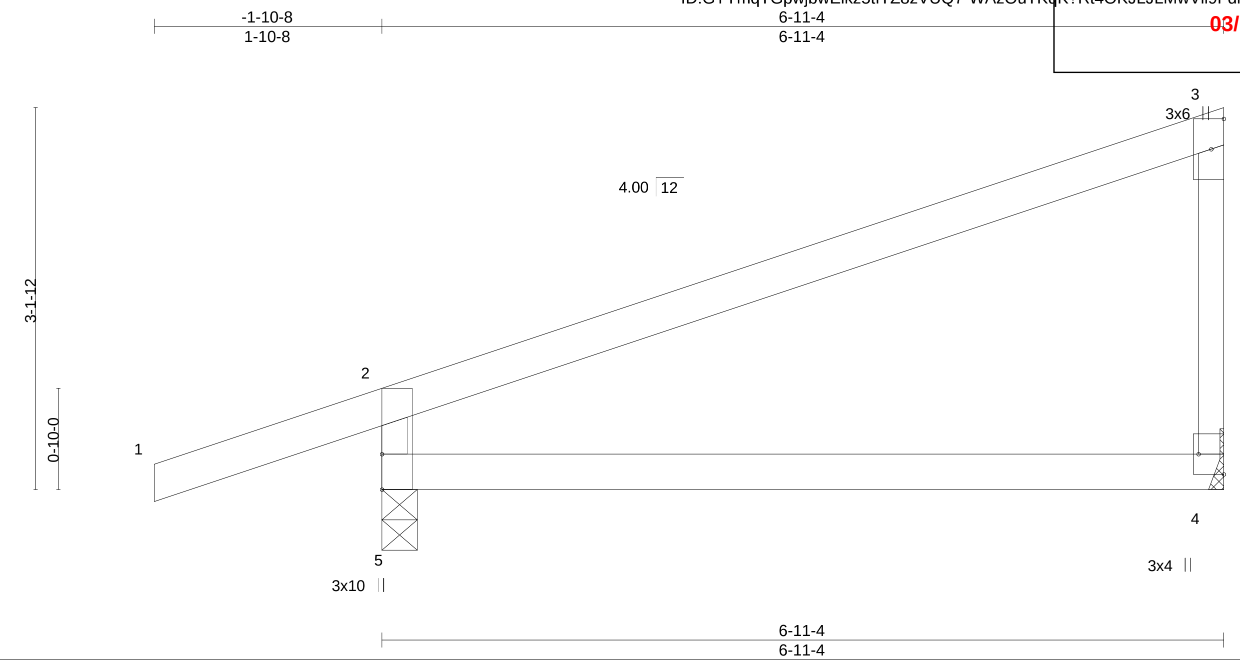

Plate Offsets (X,Y)-- [4:Edge,0-2-8]

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	0.59	Vert(LL)	-0.08	4-5	>957	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.17	4-5	>465	240		
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-R		Wind(LL)	0.02	4-5	>999	240	Weight: 21 lb	FT = 10%

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

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

REACTIONS. (size) 5=0-3-8, 4=Mechanical
Max Horz 5=103(LC 5)
Max Uplift 5=-77(LC 4), 4=-19(LC 8)
Max Grav 5=462(LC 1), 4=282(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-5=-406/121

NOTES-
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 77 lb uplift at joint 5 and 19 lb uplift at joint 4.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J38	Jack-Closed	1	1	

Job Reference (optional) J44063989

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 14:07:11 2020 Page 1

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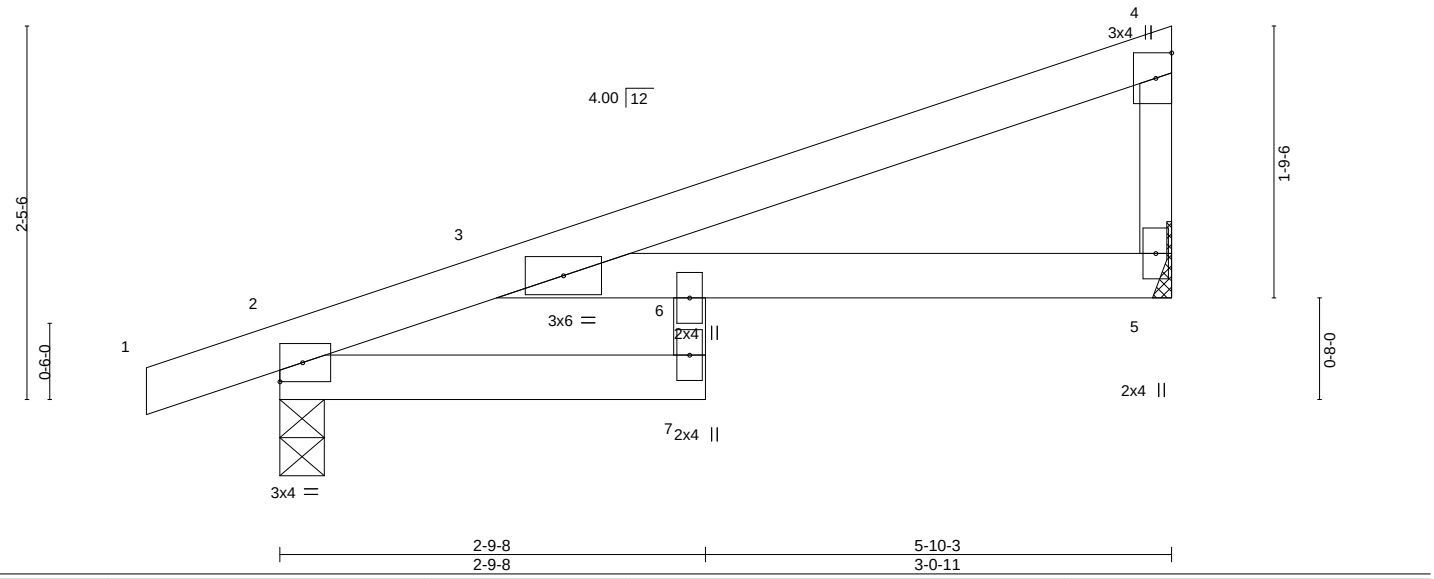
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.35	Vert(LL)	-0.05	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.10	7	>649	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.04	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	6	>999	240	Weight: 18 lb	FT = 10%

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

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

REACTIONS. (size) 5=Mechanical, 2=0-3-8
Max Horz 2=85(LC 5)
Max Uplift 5=-54(LC 8), 2=-86(LC 4)
Max Grav 5=245(LC 1), 2=330(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 5 and 86 lb uplift at joint 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.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J39	Jack-Open	1	1	Job Reference (optional)

I44063990

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:15 2020 Page 1
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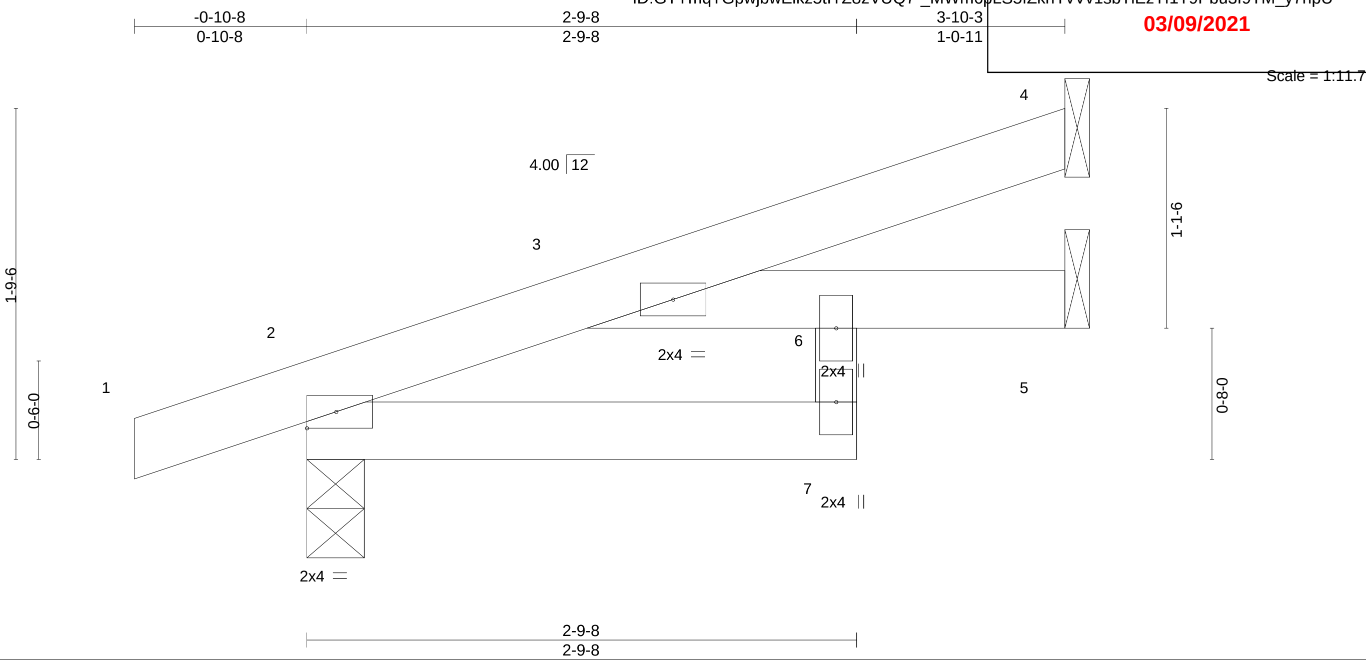


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	-0.02	3	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	-0.04	3	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.02	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.02	3	>999	240	Weight: 12 lb	FT = 10%

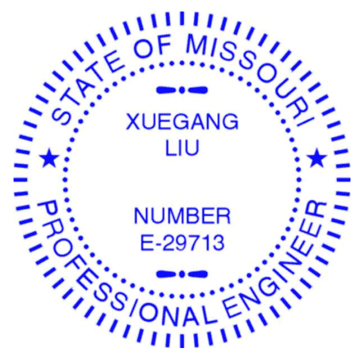
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2

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

REACTIONS. (size) 4=Mechanical, 2=0-3-8, 5=Mechanical
Max Horz 2=65(LC 4)
Max Uplift 4=-54(LC 8), 2=-61(LC 4)
Max Grav 4=130(LC 1), 2=257(LC 1), 5=74(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 4 and 61 lb uplift at joint 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.



December 18,2020

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J40	Jack-Open	1	1	I44063991 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:16 2020 Page 1
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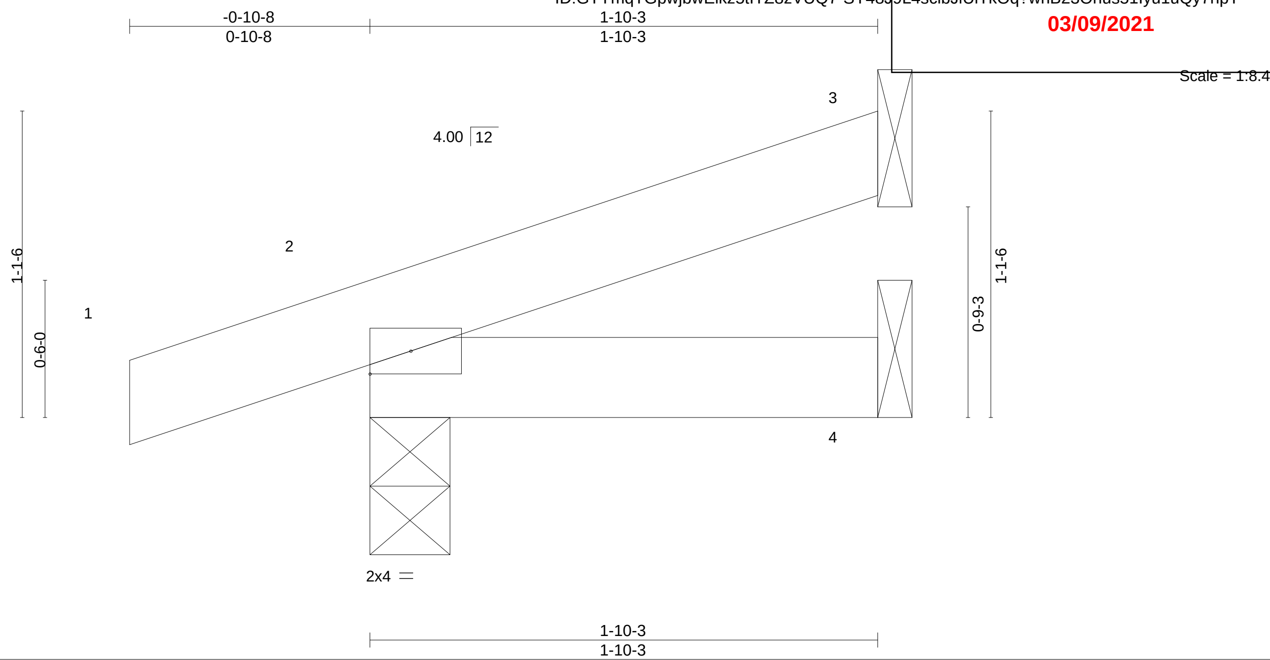


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	-0.00	2-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 5 lb	FT = 10%

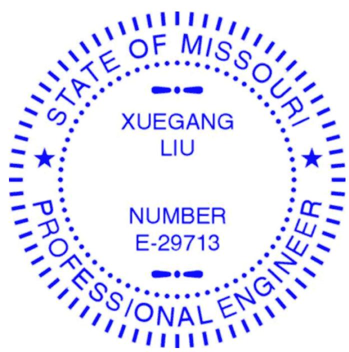
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-10-3 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=38(LC 4)
Max Uplift 3=-28(LC 8), 2=-56(LC 4)
Max Grav 3=47(LC 1), 2=160(LC 1), 4=36(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 3 and 56 lb uplift at joint 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.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J41	Diagonal Hip Girder	1	1	I44063992 Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:17 2020 Page 1

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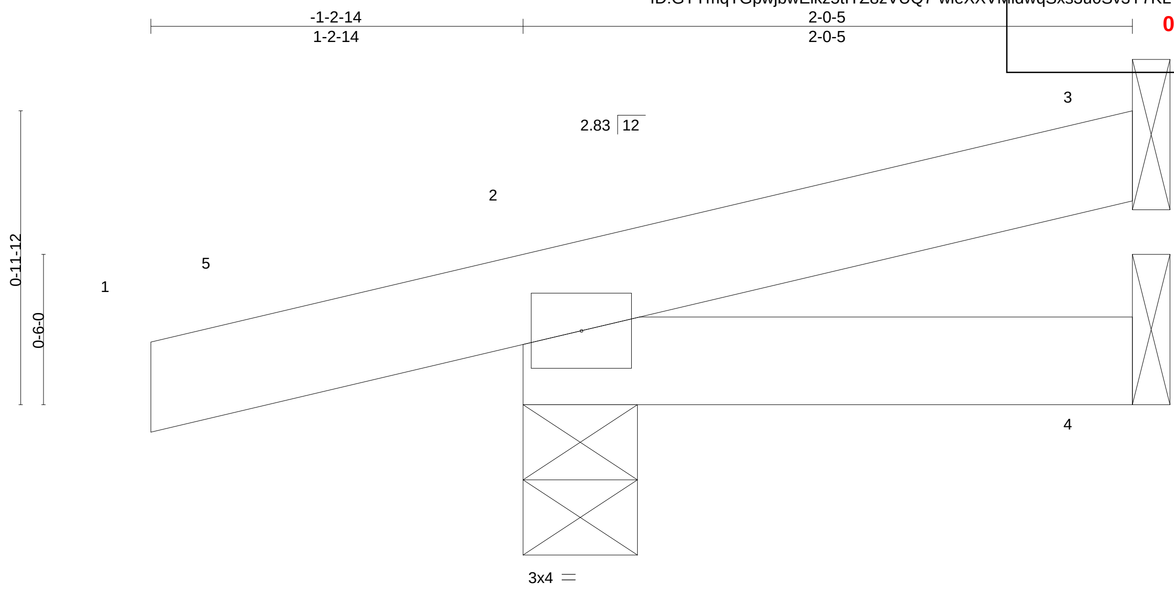


LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	2	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 6 lb	FT = 10%

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

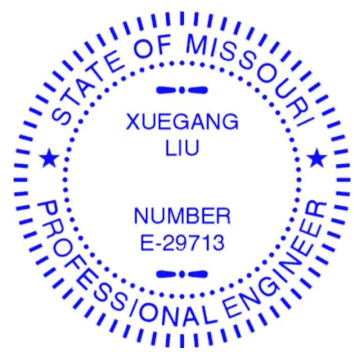
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-0-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

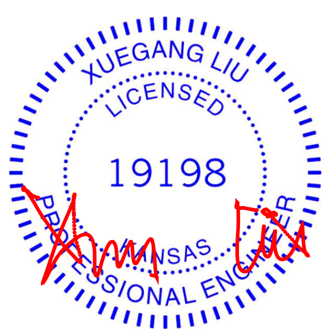
REACTIONS. (size) 3=Mechanical, 2=0-4-9, 4=Mechanical
Max Horz 2=35(LC 6)
Max Uplift 3=-16(LC 8), 2=-127(LC 6)
Max Grav 3=23(LC 1), 2=65(LC 1), 4=28(LC 3)

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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 3 and 127 lb uplift at joint 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 7 lb down and 2 lb up at -1-2-14 , and 7 lb down and 2 lb up at -1-2-14 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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
Concentrated Loads (lb)
Vert: 1=-11(F=-5, B=-5)
Trapezoidal Loads (plf)
Vert: 1=0(F=35, B=35)-to-5=-8(F=31, B=31), 5=0(F=35, B=35)-to-3=-50(F=10, B=10), 2=-5(F=7, B=7)-to-4=-14(F=3, B=3)





December 18,2020

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J42	Diagonal Hip Girder	1	1	I44063993 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:17 2020 Page 1
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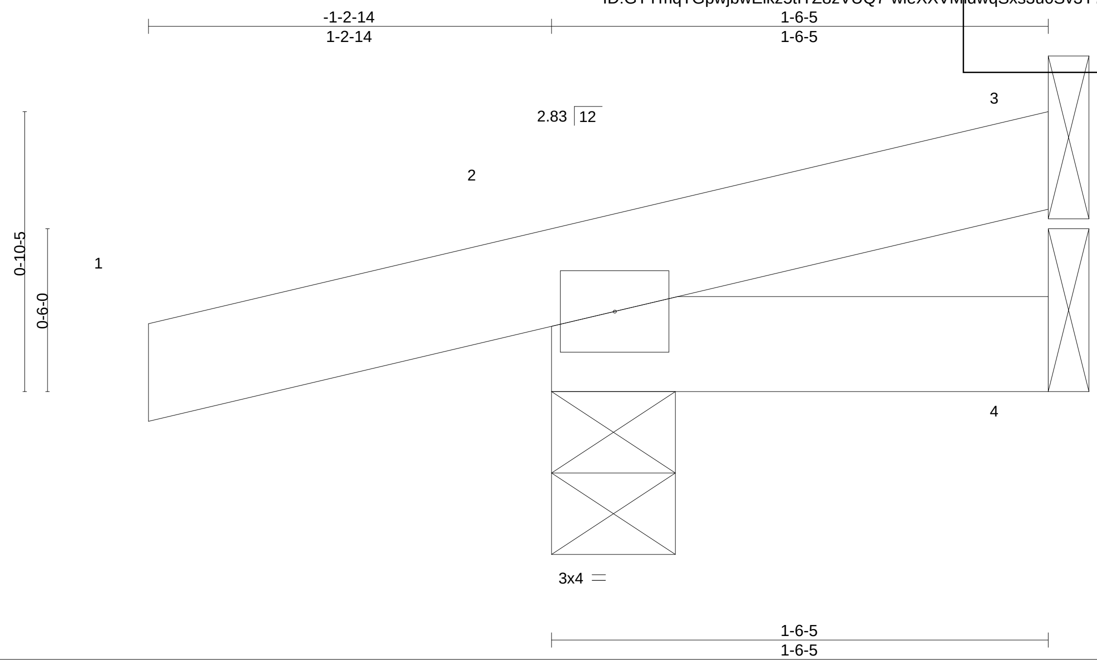


LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	-0.00	2	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	-0.00	2	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	-0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P		Wind(LL)	0.00	2	****	240	Weight: 5 lb	FT = 10%

SPACING- 2-0-0

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

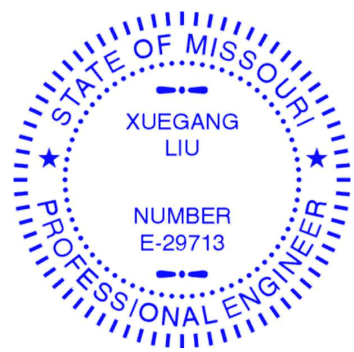
BRACING-
TOP CHORD Structural wood sheathing directly applied or 1-6-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 3=Mechanical, 2=0-4-9, 4=Mechanical
Max Horz 2=30(LC 6)
Max Uplift 3=-17(LC 8), 2=-125(LC 6)
Max Grav 3=27(LC 1), 2=49(LC 9), 4=23(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=6.0psf; 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
4) Refer to girder(s) for truss to truss connections.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 3 and 125 lb uplift at joint 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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 0 lb down and 1 lb up at -1-2-14 , and 0 lb down and 1 lb up at -1-2-14 on top chord. The design/selection of such connection device(s) is the responsibility of others.
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
Concentrated Loads (lb)
Vert: 1=2(F=1, B=1)
Trapezoidal Loads (plf)
Vert: 1=0(F=35, B=35)-to-3=-50(F=10, B=10), 2=-7(F=7, B=7)-to-4=-14(F=3, B=3)



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	J43	Jack-Closed	1	1	Job Reference (optional)

I44063994

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:19 2020 Page 1

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RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Scale = 1:7.2

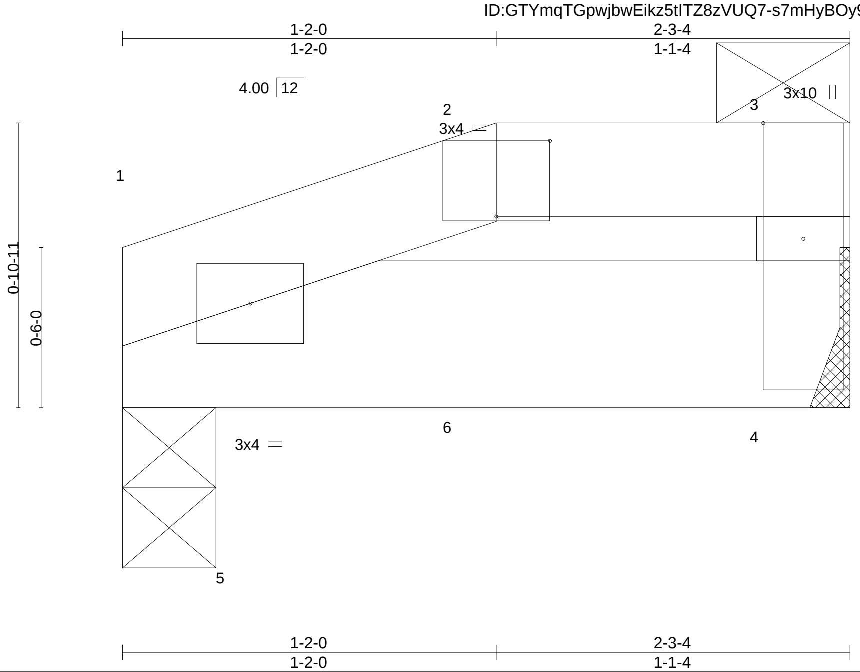


Plate Offsets (X,Y)-- [2:0-2-0,0-2-13]

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	0.11	Vert(LL)	-0.00	1-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.00	1-4	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.00	1-4	>999	240	Weight: 8 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF 2100F 1.8E *Except*
2-3: 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2

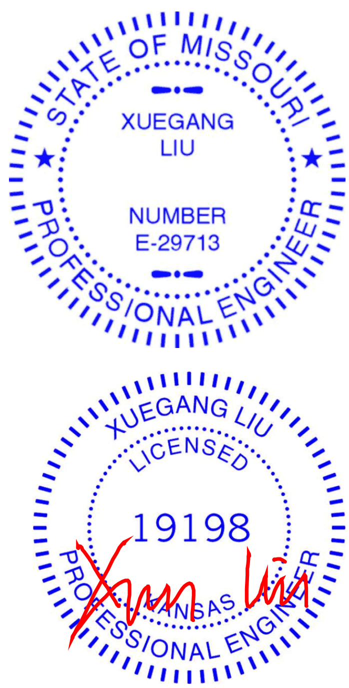
BRACING-
TOP CHORD Structural wood sheathing directly applied or 2-3-4 oc purlins, except end verticals, and 2-0-0 oc purlins: 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=0-3-8, 4=Mechanical
Max Horz 1=23(LC 22)
Max Uplift 1=-67(LC 4), 4=-28(LC 4)
Max Grav 1=1221(LC 1), 4=301(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=6.0psf; 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) Provide adequate drainage to prevent water ponding.
3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 1 and 28 lb uplift at joint 4.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 55 lb down and 18 lb up at 1-2-0 on top chord, and 1344 lb down and 66 lb up at 0-5-8, and at 1-2-0 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: 1-2=-70, 2-3=-70, 1-4=-20
Concentrated Loads (lb)
Vert: 5=-1344(F)



December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K1	Hip Girder	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-D5ZA?uS5_3iTGx5ExQXiKc6O2H_8mT_C8CqSAyy7npL

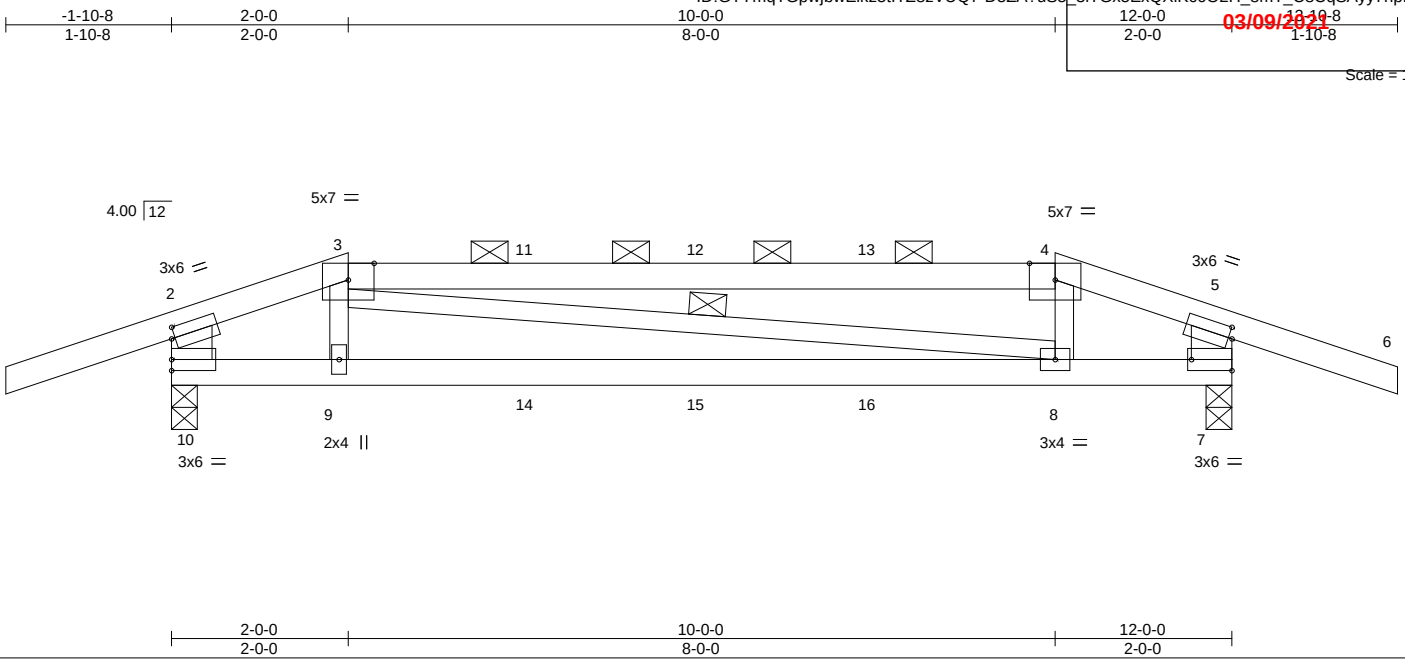


Plate Offsets (X,Y)-- [2:0-0-8,0-1-8], [5:0-0-8,0-1-8], [7:Edge,0-1-8]

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	0.75	Vert(LL)	-0.13	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.28	8-9	>490	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.08	8-9	>999	240	Weight: 42 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2 *Except*
3-4: 2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-10,5-7: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-3-8 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 3-8

REACTIONS. (size) 10=0-3-8, 7=0-3-8
Max Horz 10=11(LC 20)
Max Uplift 10=-234(LC 4), 7=-234(LC 5)
Max Grav 10=615(LC 21), 7=615(LC 22)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-780/169, 3-4=-692/177, 4-5=-769/164, 2-10=-474/154, 5-7=-483/155
BOT CHORD 9-10=-123/727, 8-9=-135/727, 7-8=-123/710

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 234 lb uplift at joint 10 and 234 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 117 lb down and 133 lb up at 2-0-0, 53 lb down and 12 lb up at 4-0-12, 53 lb down and 12 lb up at 6-0-0, and 53 lb down and 12 lb up at 7-11-4, and 117 lb down and 133 lb up at 10-0-0 on top chord, and 26 lb down and 49 lb up at 2-0-0, 8 lb down and 7 lb up at 4-0-12, 8 lb down and 7 lb up at 6-0-0, and 8 lb down and 7 lb up at 7-11-4, and 26 lb down and 49 lb up at 9-11-4 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

December 18,2020

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K1	Hip Girder	1	1	Job Reference (optional)

J44063995

LOAD CASE(S) Standard

Uniform Loads (plf)

Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 7-10=-20

Concentrated Loads (lb)

Vert: 3=37(F) 4=37(F) 9=7(F) 8=7(F) 14=7(F) 15=7(F) 16=7(F)

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K2	Hip	1	1	Job Reference (optional)

I44063996

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:25 2020 Page 1
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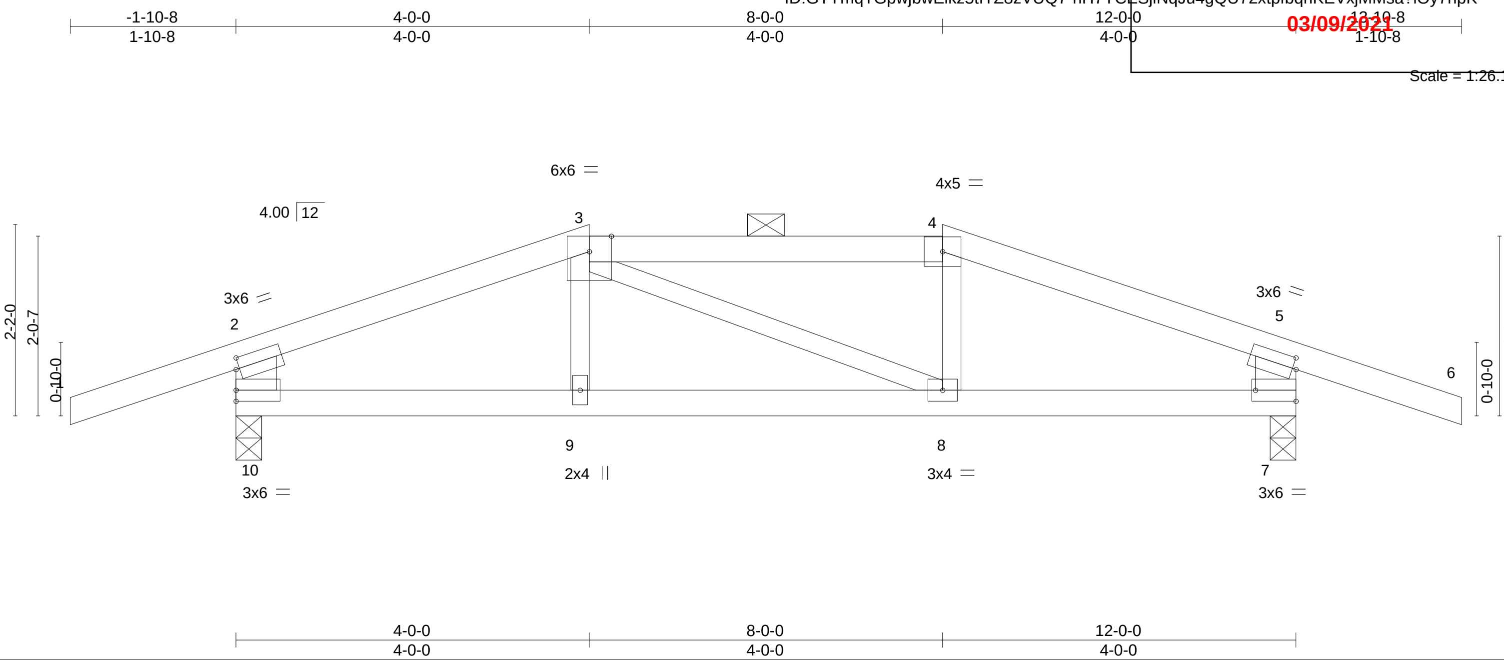

Plate Offsets (X,Y)-- [2:0-0-8,0-1-8], [5:0-0-8,0-1-8], [7:Edge,0-1-8]

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	0.62	Vert(LL)	-0.09	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.16	8-9	>864	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.06	8-9	>999	240	Weight: 40 lb	FT = 10%

LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except*
2-10,5-7: 2x6 SPF No.2

BRACING-
TOP CHORD Structural wood sheathing directly applied or 5-6-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 10=0-3-8, 7=0-3-8
Max Horz 10=15(LC 4)
Max Uplift 10=-183(LC 4), 7=-183(LC 5)
Max Grav 10=667(LC 1), 7=667(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-716/98, 3-4=-616/105, 4-5=-716/97, 2-10=-570/190, 5-7=-570/190
BOT CHORD 9-10=-40/617, 8-9=-43/616, 7-8=-39/617

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 183 lb uplift at joint 10 and 183 lb uplift at joint 7.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
8) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
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December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K3	Common	4	1	

Job Reference (optional) I44063997

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:20:12 2020 Page 1
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-9ThwQaTLWgyAWEFd2qZAP1BlB5jQENWVbVJZFry7npJ

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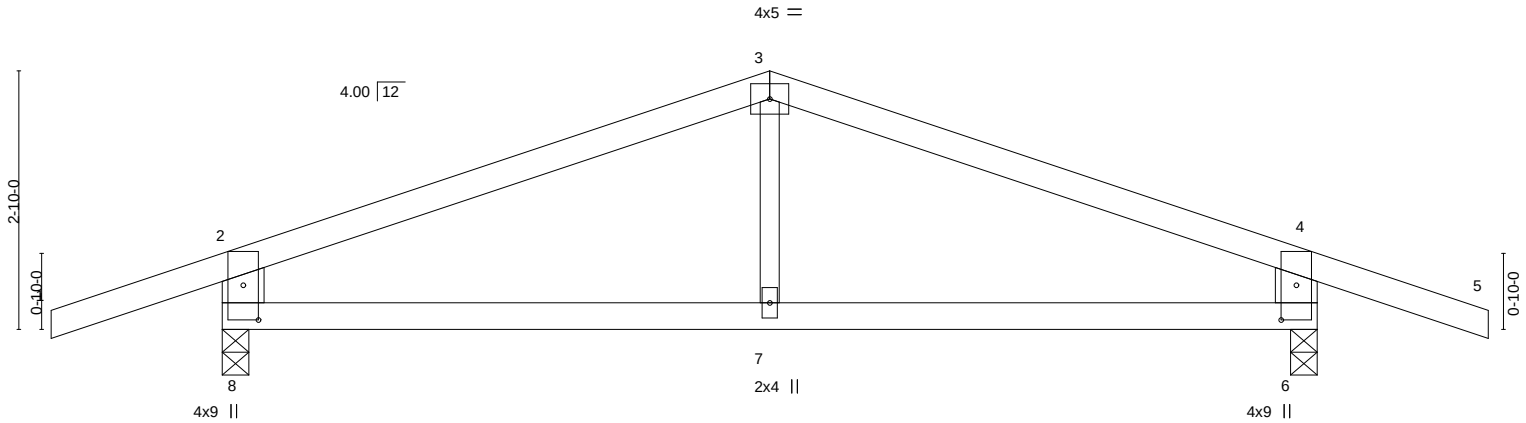

6-0-0 / 6-0-0 | 12-0-0 / 6-0-0

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

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	0.65	Vert(LL)	-0.05	7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.10	7	>999	240		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-R		Wind(LL)	0.03	7	>999	240	Weight: 36 lb	FT = 10%

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

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

REACTIONS. (size) 8=0-3-8, 6=0-3-8
Max Horz 8=-26(LC 9)
Max Uplift 8=-170(LC 4), 6=-170(LC 5)
Max Grav 8=667(LC 1), 6=667(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-3=-653/77, 3-4=-653/77, 2-8=-587/202, 4-6=-587/202
BOT CHORD 7-8=-13/542, 6-7=-13/542

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
4) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 170 lb uplift at joint 8 and 170 lb uplift at joint 6.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
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19198
KANSAS
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December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K4	Common Girder	1	2	Job Reference (optional)

J44063998

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEES SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 07:27:11 2020 Page 1
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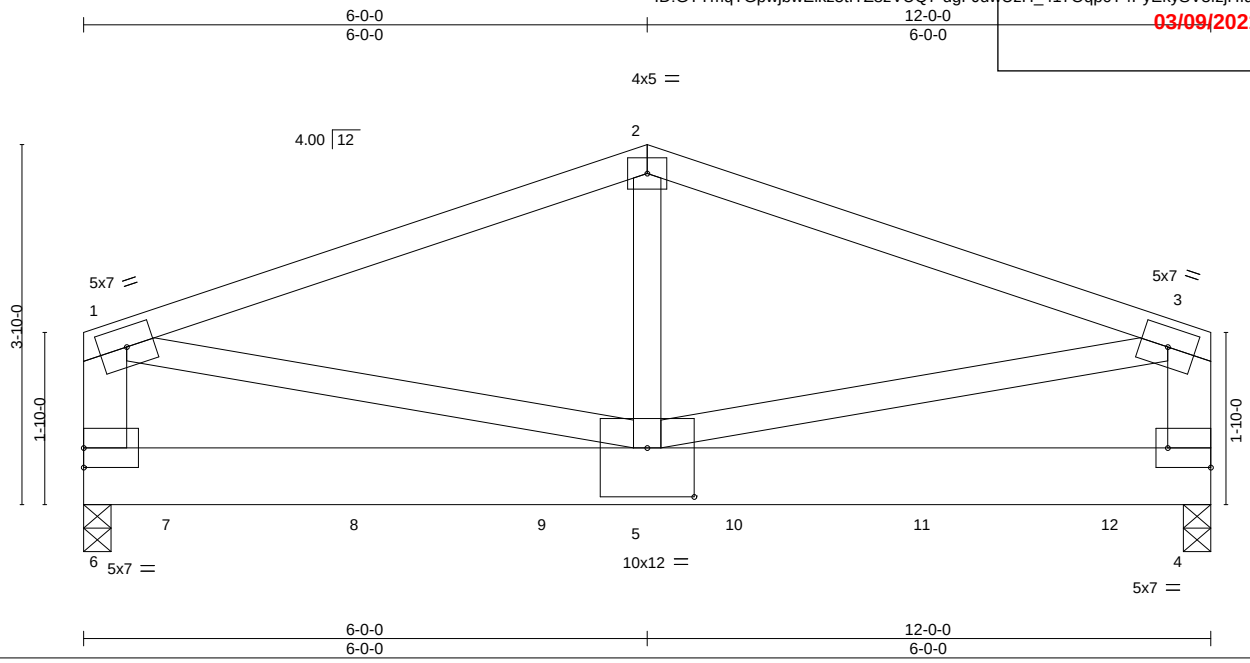

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Plate Offsets (X,Y)-- [4:Edge,0-2-8], [5:0-6-0,0-6-4]

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	0.49	Vert(LL)	-0.05	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.09	4-5	>999	240		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.48	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S		Wind(LL)	0.03	4-5	>999	240	Weight: 143 lb	FT = 10%

LUMBER-

TOP CHORD	2x4 SPF No.2
BOT CHORD	2x8 SP DSS
WEBS	2x4 SPF No.2 *Except* 1-6,3-4: 2x6 SPF No.2

BRACING-

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

REACTIONS. (size) 6=0-3-8 (req. 0-3-13), 4=0-3-8 (req. 0-3-13)
Max Horz 6=-30(LC 6)
Max Uplift 6=-158(LC 4), 4=-162(LC 5)
Max Grav 6=4848(LC 1), 4=4852(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-4925/171, 2-3=-4925/171, 1-6=-2714/119, 3-4=-2714/119
BOT CHORD 5-6=-44/790, 4-5=-52/791
WEBS 2-5=-54/2755, 1-5=-98/3937, 3-5=-97/3936

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 0-7-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
   Bottom chords connected as follows: 2x8 - 2 rows staggered 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=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope); cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) WARNING: Required bearing size at joint(s) 6, 4 greater than input bearing size.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 158 lb uplift at joint 6 and 162 lb uplift at joint 4.
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) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 1444 lb down and 54 lb up at 1-0-0, 1441 lb down and 56 lb up at 3-0-0, 1443 lb down and 56 lb up at 5-0-0, 1443 lb down and 56 lb up at 7-0-0, and 1443 lb down and 56 lb up at 9-0-0, and 1449 lb down and 59 lb up at 11-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
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December 18,2020

Continued on page 2

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	K4	Common Girder	1	2	Job Reference (optional)

J44063998

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 04 08:27:27 2020 Page 2
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LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (plf)
   Vert: 1-2=-70, 2-3=-70, 4-6=-20
   Concentrated Loads (lb)
   Vert: 7=-1444(B) 8=-1441(B) 9=-1443(B) 10=-1443(B) 11=-1443(B) 12=-1449(B)

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY1	GABLE	1	1	Job Reference (optional)

I44063999

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Wheeler Lumber, Waverly, KS - 66871,
8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:27 2020 Page 1
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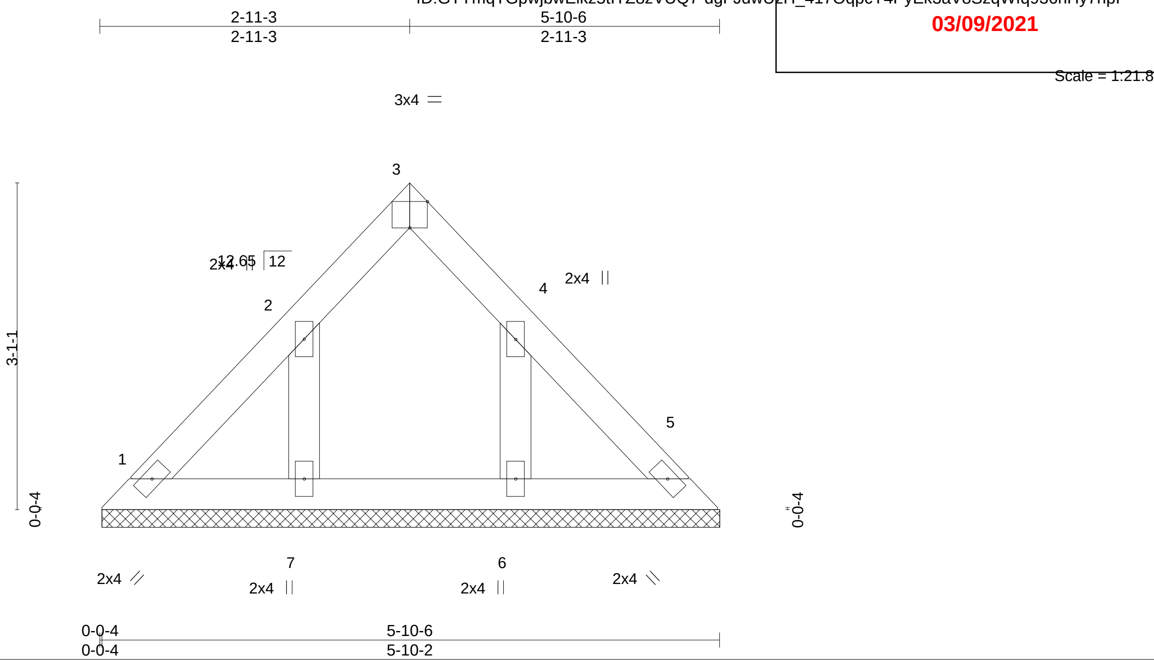

Plate Offsets (X,Y)-- [3:Edge,0-3-0], [4:0-0-1,0-0-0]

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	0.03	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 19 lb	FT = 10%

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

REACTIONS. All bearings 5-10-2.
(lb) - Max Horz 1=-72(LC 4)
Max Uplift All uplift 100 lb or less at joint(s) 7, 6
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7, 6

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 7, 6.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY2	GABLE	1	1	J44064000

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 2020 Page 1
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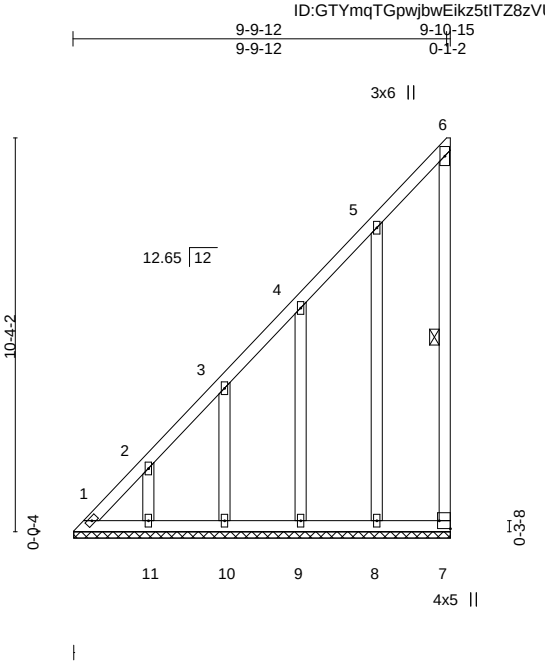

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Plate Offsets (X,Y)-- [7:Edge,0-3-8]

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	0.45	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.19	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.22	Horz(CT)	-0.00	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 60 lb	FT = 10%

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.
WEBS	1 Row at midpt 6-7

REACTIONS. All bearings 9-10-11.
(lb) - Max Horz 1=395(LC 5)
Max Uplift All uplift 100 lb or less at joint(s) except 1=-165(LC 6), 7=-147(LC 7), 11=-125(LC 8), 10=-126(LC 8), 9=-120(LC 8), 8=-136(LC 8)
Max Grav All reactions 250 lb or less at joint(s) 7, 11, 10, 9, 8 except 1=313(LC 5)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-433/287, 2-3=-369/242, 3-4=-299/194, 4-5=-279/187

NOTES-

1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; 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) All plates are 2x4 MT20 unless otherwise indicated.
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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 165 lb uplift at joint 1, 147 lb uplift at joint 7, 125 lb uplift at joint 11, 126 lb uplift at joint 10, 120 lb uplift at joint 9 and 136 lb uplift at joint 8.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY3	GABLE	1	1	

Job Reference (optional) I44064001

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 2020 Page 1
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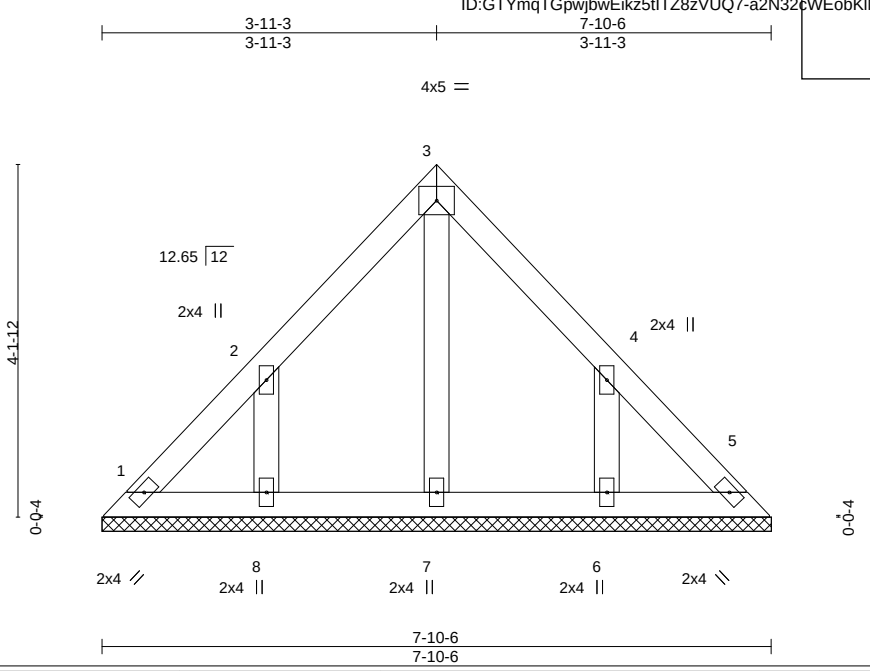
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021



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	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	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: 28 lb	FT = 10%

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 7-10-6.
(lb) - Max Horz 1=-100(LC 4)
Max Uplift All uplift 100 lb or less at joint(s) 1, 5 except 8=-142(LC 8), 6=-142(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7, 8, 6

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

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) 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=142, 6=142.
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.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY4	Lay-In Gable	2	1	I44064002 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:30 2020 Page 1
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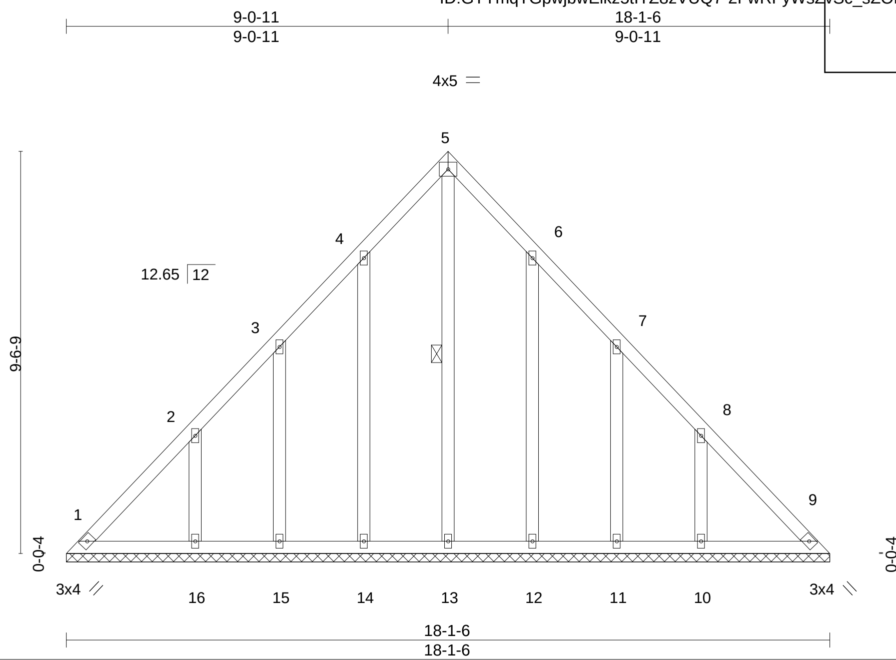

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.15	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 92 lb	FT = 10%

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 18-1-6.
(lb) - Max Horz 1=-244(LC 6)
Max Uplift All uplift 100 lb or less at joint(s) 1, 9 except 14=-128(LC 8), 15=-110(LC 8), 16=-175(LC 8), 12=-126(LC 9), 11=-111(LC 9), 10=-175(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 1, 9, 13, 14, 15, 12, 11 except 16=287(LC 15), 10=287(LC 16)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-300/204, 8-9=-262/147

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) 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=128, 15=110, 16=175, 12=126, 11=111, 10=175.
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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY6	GABLE	1	1	

Job Reference (optional) I44064003

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 04 2020 Page 1

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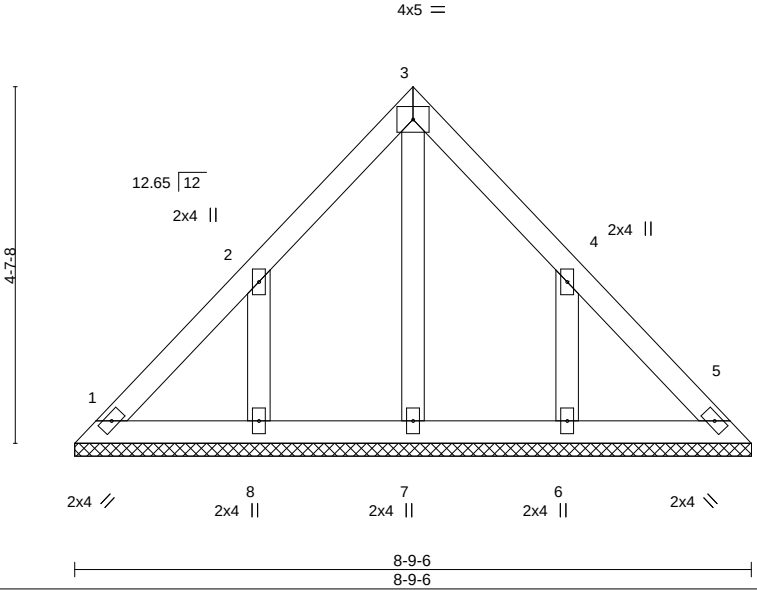

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 33 lb	FT = 10%

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 8-9-6.
(lb) - Max Horz 1=-113(LC 4)
Max Uplift All uplift 100 lb or less at joint(s) 1, 5 except 8=-157(LC 8), 6=-157(LC 9)
Max Grav All reactions 250 lb or less at joint(s) 1, 5, 7 except 8=251(LC 15), 6=251(LC 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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) 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=157, 6=157.
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.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY7	GABLE	1	1	Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 10:03:24 2020 Page 1
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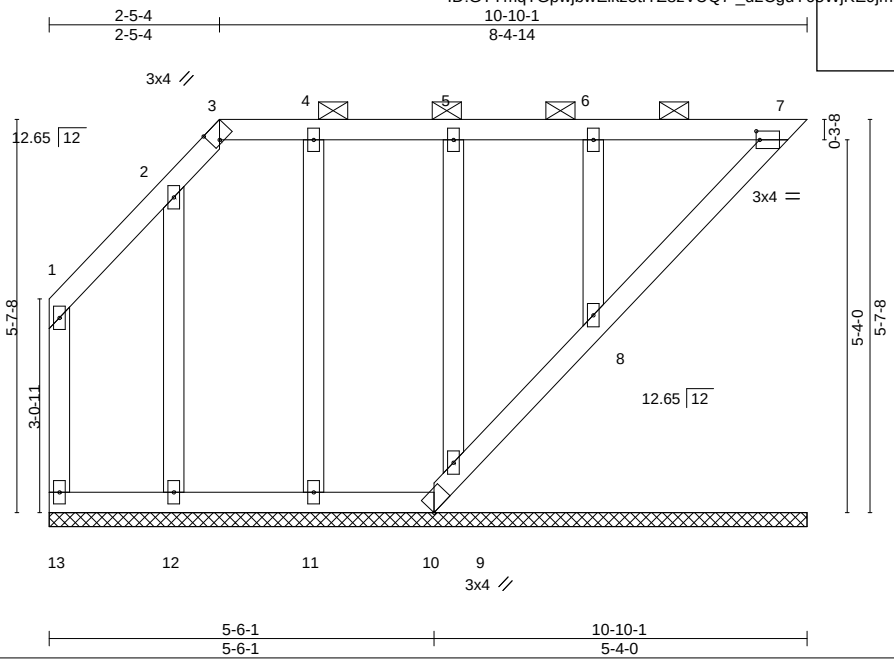

Plate Offsets (X,Y)-- [3:0-1-7,Edge], [7:0-0-10,0-1-8]

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.07	Horz(CT)	-0.00	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 51 lb	FT = 10%

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, and 2-0-0 oc purlins (6-0-0 max.): 3-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 7-8.

REACTIONS. All bearings 10-10-1.
(lb) - Max Horz 13=121(LC 5)
Max Uplift All uplift 100 lb or less at joint(s) 13, 10, 12, 11, 9, 8 except 7=-110(LC 5)
Max Grav All reactions 250 lb or less at joint(s) 13, 7, 10, 12, 11, 9 except 8=262(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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 13, 10, 12, 11, 9, 8 except (jt=lb) 7=110.
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 7, 9, 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	LAY8	GABLE	1	1	Job Reference (optional)

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

I44064005

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Sat Dec 19 07:33:10 2020 Page 1
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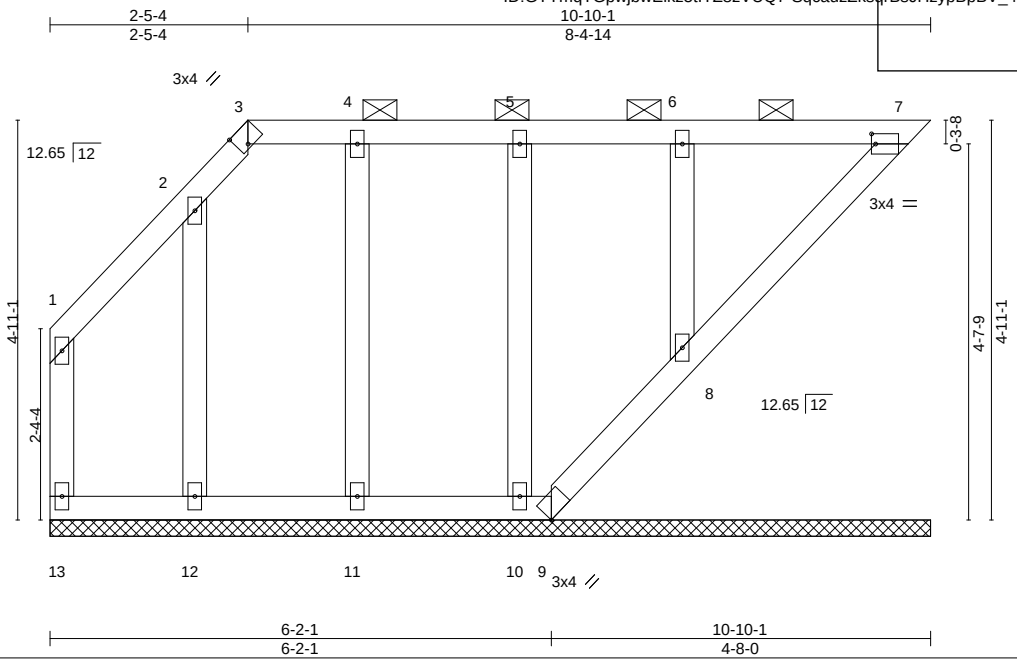

Plate Offsets (X,Y)-- [3:0-1-7,Edge], [7:0-0-10,0-1-8]

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.06	Horz(CT)	-0.00	7	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 48 lb	FT = 10%

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, and 2-0-0 oc purlins (6-0-0 max.): 3-7.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 7-8.

REACTIONS. All bearings 10-10-1.
(lb) - Max Horz 13=106(LC 5)
Max Uplift All uplift 100 lb or less at joint(s) 13, 9, 12, 11, 10, 8 except 7=-100(LC 5)
Max Grav All reactions 250 lb or less at joint(s) 13, 7, 9, 12, 11, 10 except 8=261(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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 13, 9, 12, 11, 10, 8 except (jt=lb) 7=100.
9) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 7, 8.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
ARKANSAS
PROFESSIONAL ENGINEER

December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	V1	Valley	1	1	I44064006 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:33 2020 Page 1

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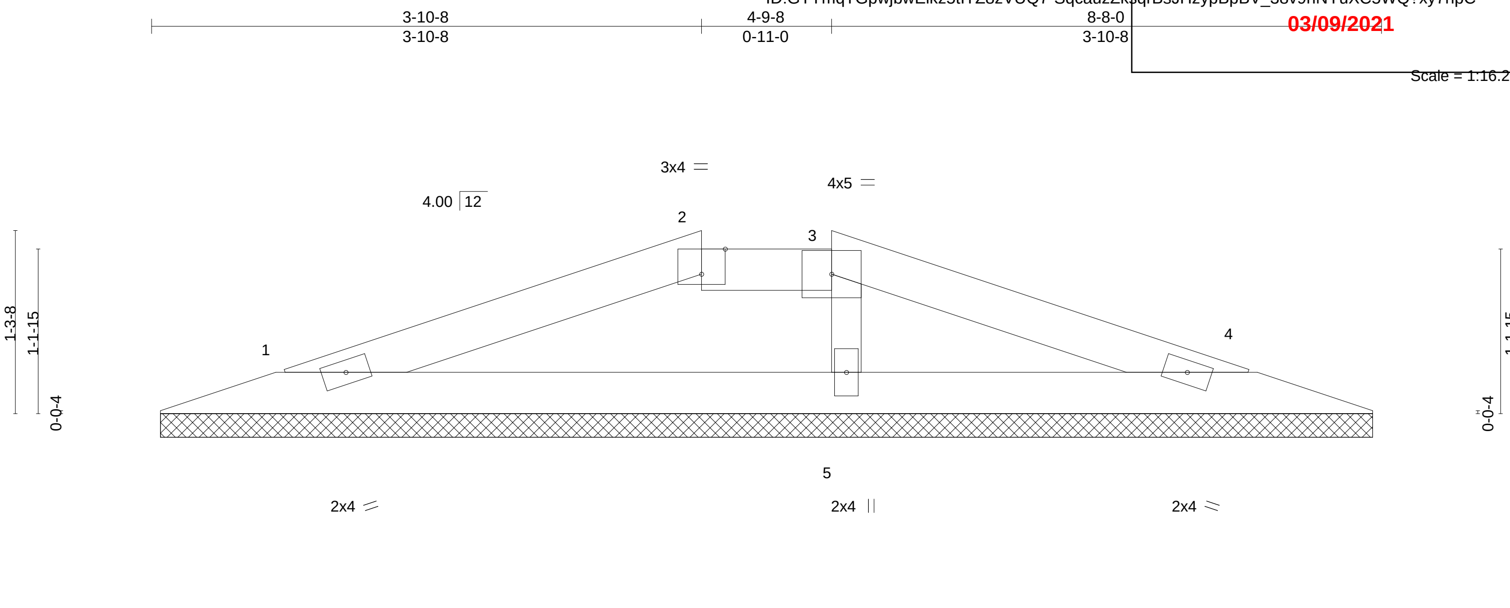


Plate Offsets (X,Y)-- [2:0-2-0,Edge]

LOADING (psf)		SPACING-		CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-P							Weight: 18 lb	FT = 10%

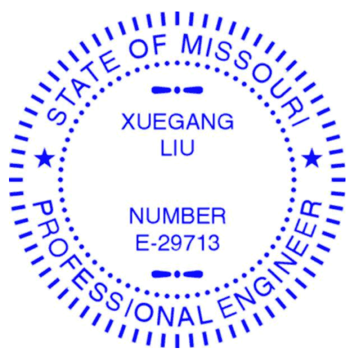
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 SPF No.2

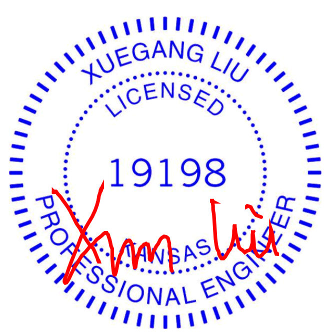
BRACING-
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=8-6-8, 4=8-6-8, 5=8-6-8
Max Horz 1=-16(LC 13)
Max Uplift 1=-80(LC 4), 4=-72(LC 4)
Max Grav 1=271(LC 1), 4=257(LC 1), 5=172(LC 3)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 1-2=-478/191, 2-3=-433/197, 3-4=-479/200
BOT CHORD 1-5=-171/432, 4-5=-174/441

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) Provide adequate drainage to prevent water ponding.
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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 4.
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.





December 18,2020

MiTek
16023 Swingley Ridge Rd
Chesterfield, MO 63017

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	V2	Valley	1	1	I44064007 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:34 2020 Page 1
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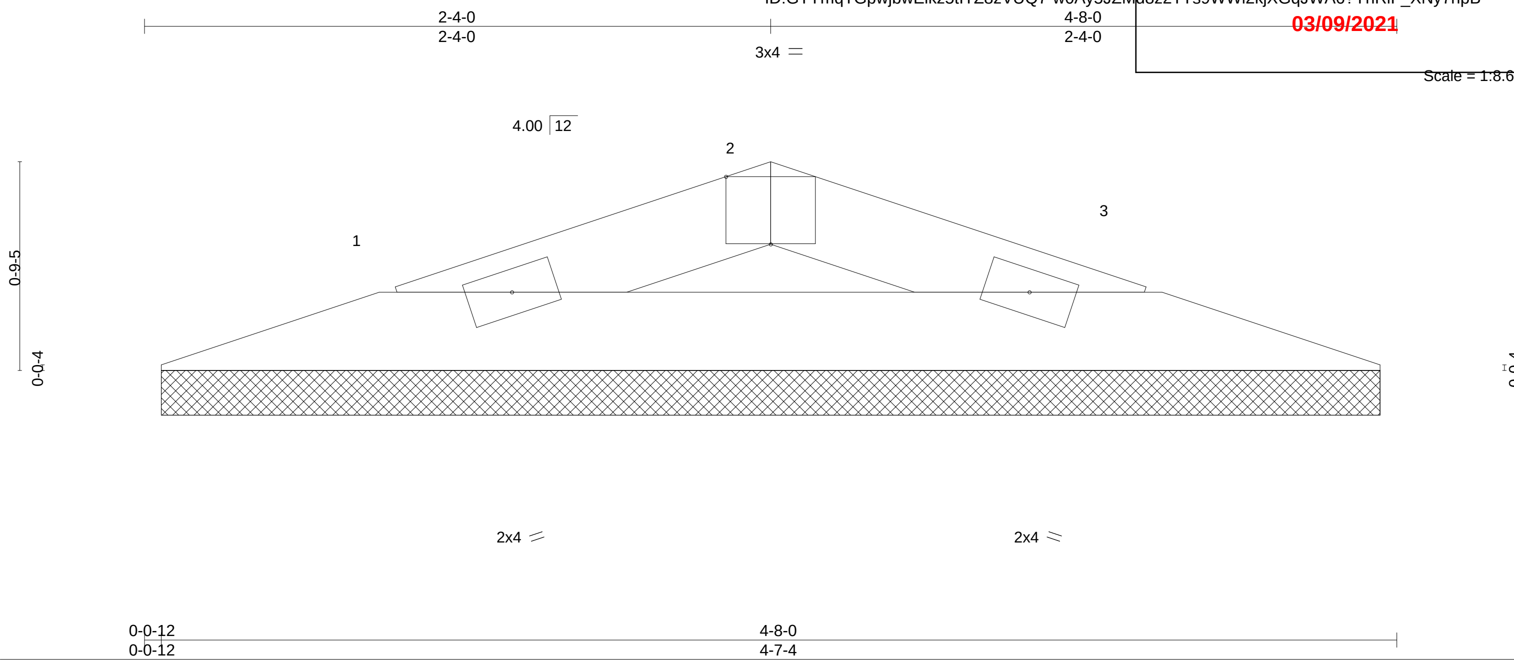

Plate Offsets (X,Y)-- [2:0-2-0,Edge]

LOADING (psf)		SPACING-	2-0-0	CSI.		DEFL.	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	25.0	Plate Grip DOL	1.15	TC	0.03	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	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: 9 lb	FT = 10%

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

BRACING-
TOP CHORD Structural wood sheathing directly applied or 4-8-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS. (size) 1=4-6-8, 3=4-6-8
Max Horz 1=8(LC 8)
Max Uplift 1=-18(LC 4), 3=-18(LC 5)
Max Grav 1=125(LC 1), 3=125(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=6.0psf; 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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	V3	Valley	1	1	I44064008 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Fri Dec 18 08:20:35 2020 Page 1

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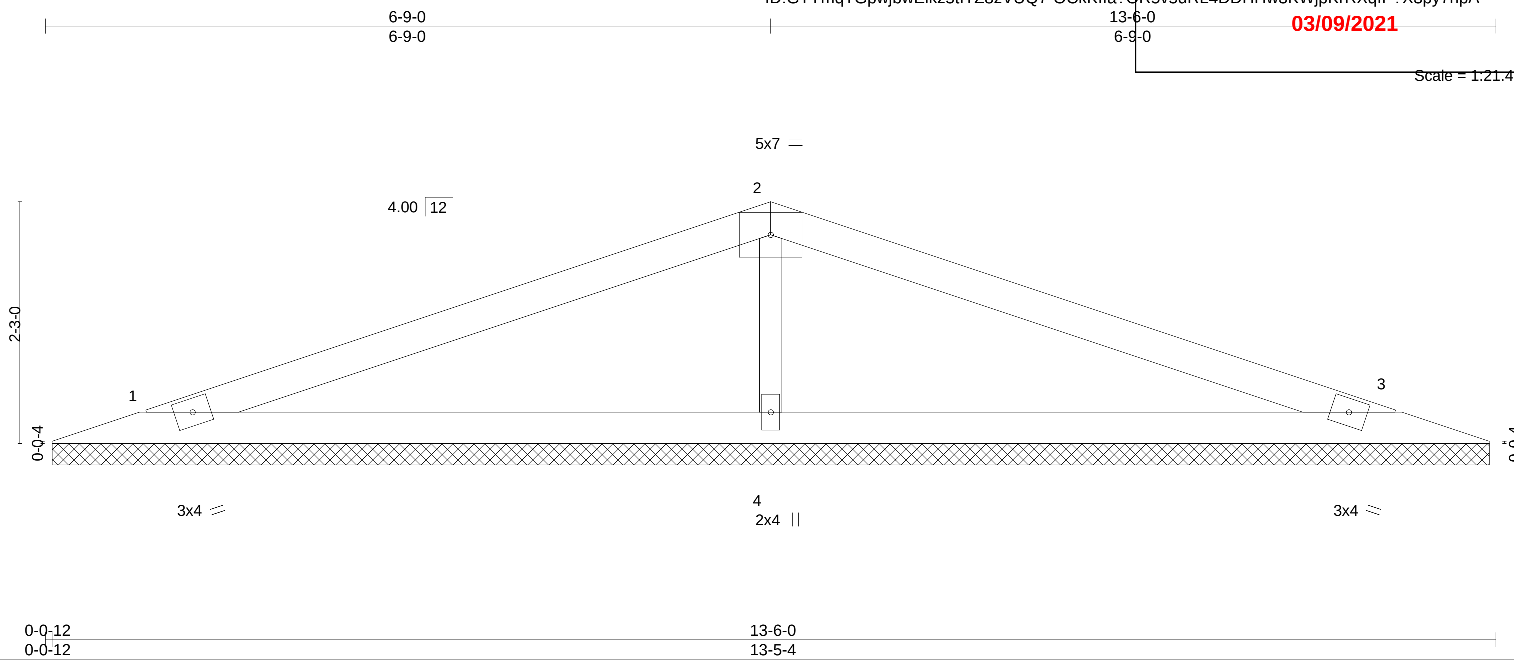


LOADING (psf)		**SPACING-**	2-0-0	**CSI.**		**DEFL.**	in	(loc)	l/defl	L/d	**PLATES**	**GRIP**
TCLL	25.0	Plate Grip DOL	1.15	TC	0.48	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code IRC2018/TPI2014		Matrix-S							Weight: 31 lb	FT = 10%

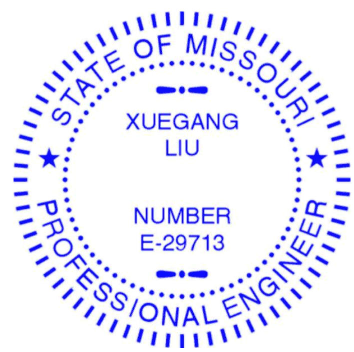
LUMBER-
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
OTHERS 2x3 SPF No.2

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

REACTIONS. (size) 1=13-4-8, 3=13-4-8, 4=13-4-8
Max Horz 1=34(LC 8)
Max Uplift 1=-50(LC 4), 3=-54(LC 9), 4=-54(LC 4)
Max Grav 1=234(LC 21), 3=234(LC 22), 4=592(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-417/124

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 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.



December 18,2020

Job	Truss	Truss Type	Qty	Ply	Lot 86 W0
210285	V4	Valley	1	1	

Job Reference (optional) J44064009

Wheeler Lumber, Waverly, KS - 66871, 8.430 s Nov 30 2020 MiTek Industries, Inc. Tue Dec 15 08:20:13 2020 Page 1

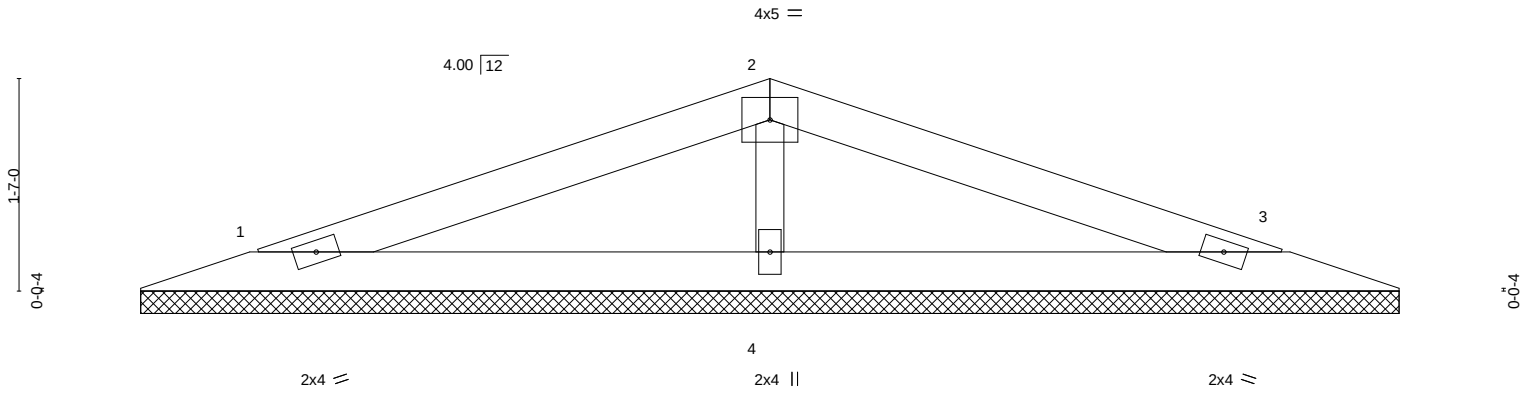
ID:GTYmqTGpwjbwEikz5tITZ8zVUQ7-OCkKIfa?OR5v5dRL4DDHHw3O1jsorS1qfP?X3py7npA

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/09/2021

4-9-0
4-9-0

9-6-0
4-9-0

Scale = 1:17.2



0-0-12
0-0-12

9-6-0
9-5-4

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	0.19	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 21 lb	FT = 10%

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

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

REACTIONS. (size) 1=9-4-8, 3=9-4-8, 4=9-4-8
Max Horz 1=23(LC 8)
Max Uplift 1=-33(LC 4), 3=-35(LC 9), 4=-35(LC 4)
Max Grav 1=154(LC 21), 3=154(LC 22), 4=388(LC 1)

FORCES. (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
WEBS 2-4=-273/81

NOTES-
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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) 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) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-6-0 tall by 2-0-0 wide will fit between the bottom chord and any other members.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint(s) 1, 3, 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.

STATE OF MISSOURI
XUEGANG LIU
NUMBER E-29713
PROFESSIONAL ENGINEER

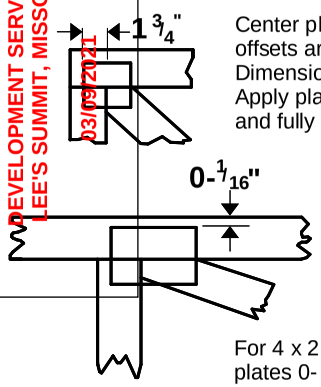
XUEGANG LIU
LICENSED
19198
KANSAS
PROFESSIONAL ENGINEER

December 18,2020

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.

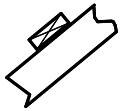
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

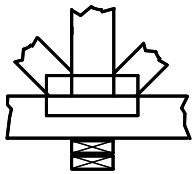
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

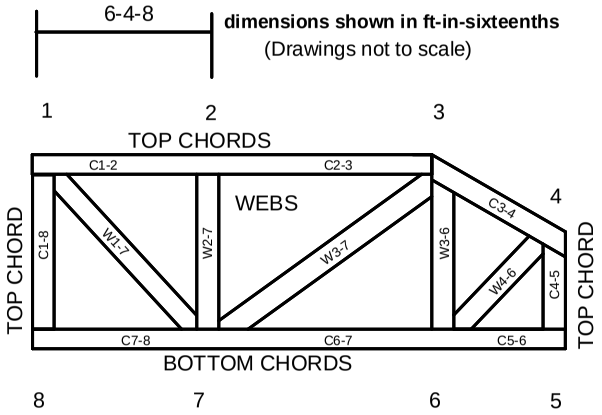


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

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.