MiTek®

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

Re: Avalon - Contemporary
Avalon - Contemporary

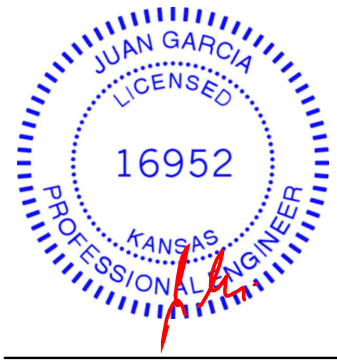
1916 SW hightown rd, Lees Summit MO
64082

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

Pages or sheets covered by this seal: I66389186 thru I66389244

My license renewal date for the state of Kansas is April 30, 2026.

Kansas COA: E-943



June 21,2024

Garcia, Juan

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

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

Re: Avalon - Contemporary
Avalon - Contemporary

1916 SW hightown rd, Lees Summit MO
64082

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

Pages or sheets covered by this seal: I66389186 thru I66389244

My license renewal date for the state of Missouri is December 31, 2024.

Missouri COA: Engineering 001193

June 21,2024

Garcia, Juan ,Engineer

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

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A1	Hip Girder	1	4	I66389186
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 E Dec 14 2023 Print: 8.730 E Dec 14 2023 MiTek Industries, Inc. Fri Jun 21 13:18:20 Page: 1
ID:xxQ6yM2cQGDKA8yJM4PdpizNXbG-UkhxMICz_XUhd5EHmANGdznHqrBT6gk3pnpZjCz42UI

1916 SW hightown rd, Lees Summit MO 64082

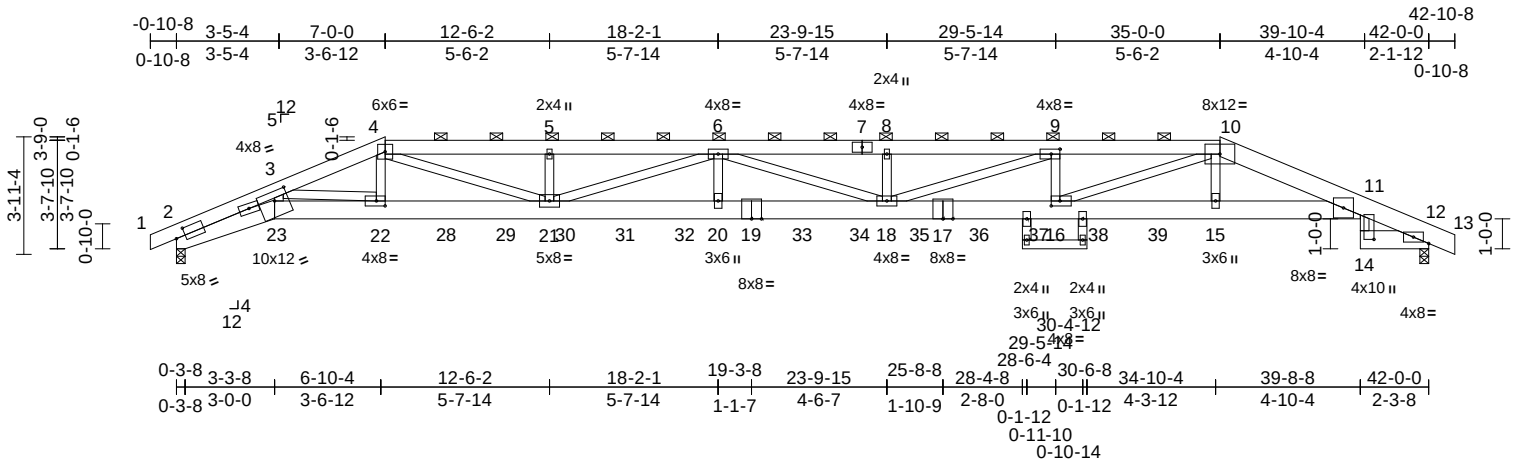


Plate Offsets (X, Y): [2:0-3-13,0-3-0], [9:0-3-8,0-2-0], [11:0-2-12,0-1-3], [12:0-2-2,0-0-9], [14:0-1-10,1-10-0], [16:0-3-8,0-2-0], [22:0-3-8,0-2-0], [23:0-5-8,0-3-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.52	18-20	>962	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.39	Vert(CT)	-0.90	18-20	>555	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.47	Horz(CT)	0.32	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.33	18-20	>999	240	Weight: 1165 lb	FT = 10%

LUMBER

TOP CHORD 2x6 SP 2400F 2.0E *Except* 10-13:2x8 SP 2400F 2.0E

BOT CHORD 2x8 SP 2400F 2.0E *Except* 24-25:2x4 SPF No.2

WEBS 2x4 SPF No.2

BRACING

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

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

REACTIONS (lb/size) 2=4544/0-3-8, 12=4549/0-3-8
Max Horiz 2=-35 (LC 11)
Max Uplift 2=-496 (LC 4), 12=-485 (LC 5)

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

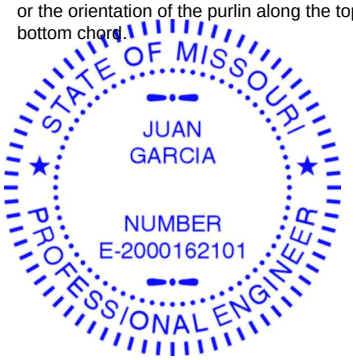
TOP CHORD 2-3=-17235/1899, 3-4=-14808/1710, 4-5=-19725/2216, 5-6=-19724/2215, 6-7=-23320/2586, 7-8=-23320/2586, 8-9=-23320/2586, 9-10=-19893/2236, 10-11=-14833/1674, 11-12=-2549/286

BOT CHORD 2-23=-1687/15522, 22-23=-1557/14293, 22-28=-1524/13720, 28-29=-1524/13720, 21-29=-1524/13720, 21-30=-2544/23547, 30-31=-2544/23547, 31-32=-2544/23547, 20-32=-2544/23547, 19-20=-2544/23547, 19-33=-2544/23547, 33-34=-2544/23547, 18-34=-2544/23547, 18-35=-2168/19893, 17-35=-2168/19893, 17-36=-2168/19893, 36-37=-2168/19893, 16-37=-2168/19893, 16-38=-1549/14208, 38-39=-1549/14208, 15-39=-1549/14208, 11-15=-1533/14061

WEBS 11-14=-78/858, 3-23=-324/3342, 3-22=-420/83, 4-22=-289/2426, 10-15=-215/1967, 10-16=-667/6207, 5-21=-403/96, 4-21=-670/6546, 6-21=-4146/427, 6-20=-58/1042, 6-18=-318/38, 8-18=-364/88, 9-18=-376/3728, 9-16=-1587/214

NOTES

1) 4-ply truss to be connected together with Simpson SDS 1/4 x 6 screws as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x8 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x8 - 2 rows staggered at 0-9-0 oc.
Web 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) Provide adequate drainage to prevent water ponding.
6) All plates are 4x8 MT20 unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) 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.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 496 lb uplift at joint 2 and 485 lb uplift at joint 12.
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.



June 21,2024

Continued on page 2

13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 785 lb down and 185 lb up at 7-0-0, 278 lb down and 38 lb up at 9-0-12, 278 lb down and 38 lb up at 11-0-12, 278 lb down and 38 lb up at 13-0-12, 278 lb down and 38 lb up at 15-0-12, 278 lb down and 38 lb up at 17-0-12, 278 lb down and 38 lb up at 19-0-12, 278 lb down and 38 lb up at 21-0-0, 278 lb down and 38 lb up at 22-11-4, 278 lb down and 38 lb up at 24-11-4, 278 lb down and 38 lb up at 26-11-4, 253 lb down and 46 lb up at 28-11-4, 278 lb down and 38 lb up at 30-11-4, and 278 lb down and 38 lb up at 32-11-4, and 818 lb down and 166 lb up at 34-11-4 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.

14) Filler applied to ply: 1(Front)

LOAD CASE(S) Standard

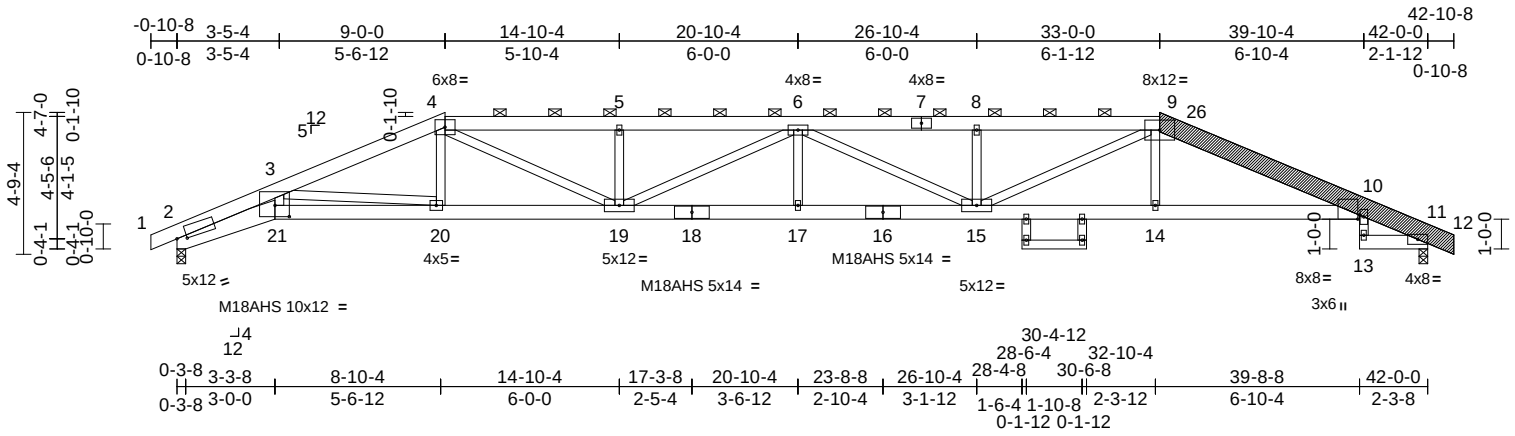
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-4=-70, 4-10=-70, 10-13=-70, 2-23=-20, 11-23=-20, 12-14=-20
   Concentrated Loads (lb)
   Vert: 19=-278 (B), 22=-785 (B), 15=-818 (B), 28=-278 (B), 29=-278 (B), 30=-278 (B), 31=-278 (B), 32=-278 (B), 33=-278 (B), 34=-278 (B), 35=-278 (B), 36=-278 (B), 37=-253 (B), 38=-278 (B), 39=-278 (B)

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A2	Hip	1	1	I66389187
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:50 Page: 1
ID:z5TmPe?5Zi29cVg_rNJ0ddzNX_b-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:77.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.51	17	>980	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.92	17	>544	240	M18AHS	186/179
BCLL	0.0*	Rep Stress Incr	YES	WB	0.77	Horz(CT)	0.46	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.38	17	>999	240	Weight: 305 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E *Except* 9-12:2x8 SP 2400F 2.0E
BOT CHORD 2x6 SP 2400F 2.0E *Except* 2-21:2x8 SP 2400F 2.0E, 22-23:2x4 SPF No.2
WEBS 2x4 SPF No.2
LBR SCAB 9-12 SP 2400F 2.0E one side

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-5-2 oc purlins, except 2-0-0 oc purlins (4-0-13 max.): 4-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 11=0-3-8
Max Horiz 2=-74 (LC 9)
Max Uplift 2=-279 (LC 4), 11=-278 (LC 5)
Max Grav 2=1948 (LC 1), 11=1948 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/3, 2-3=-7265/968, 3-4=-4810/726, 4-5=-5964/994, 5-6=-5962/992, 6-8=-6020/1001, 8-9=-6020/1001, 9-10=-4754/708, 10-11=-991/154, 11-12=0/6
BOT CHORD 2-21=-855/6544, 20-21=-786/5922, 19-20=-590/4433, 17-19=-991/6572, 15-17=-991/6572, 14-15=-578/4490, 10-14=-583/4484, 11-13=0/0
WEBS 10-13=-3/125, 3-21=-173/1840, 3-20=-1481/293, 4-20=0/490, 9-14=0/278, 4-19=-342/1864, 5-19=-452/183, 6-19=-773/131, 6-17=0/255, 6-15=-711/117, 8-15=-418/179, 9-15=-348/1842

NOTES

1) Attached 10-11-6 scab 9 to 12, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 0-3-14 from end at joint 9, nail 2 row(s) at 7" o.c. for 2-0-0; starting at 6-3-11 from end at joint 9, nail 2 row(s) at 4" o.c. for 2-0-0; starting at 8-7-3 from end at joint 9, nail 2 row(s) at 4" o.c. for 2-0-0.
2) Unbalanced roof live loads have been considered for this design.
3) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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) All plates are 2x4 MT20 unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 279 lb uplift at joint 2 and 278 lb uplift at joint 11.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

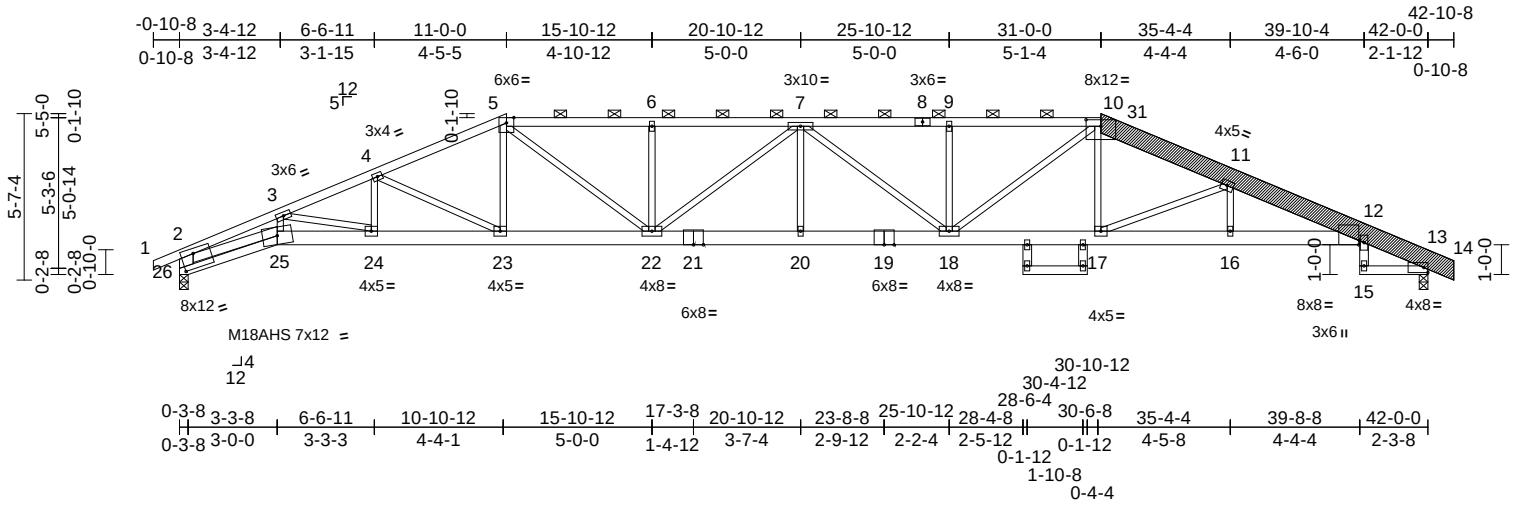
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A3	Hip	1	1	I66389188
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:50 Page: 1

ID:kNVnBm0TZ6NgxIz7LGABBEzNWnf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:77.5

Plate Offsets (X, Y): [10:0-6-0,0-2-10], [12:0-0-7,Edge], [26:0-5-0,0-6-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.49	20-22	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.89	20-22	>560	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.63	Horz(CT)	0.43	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.36	20-22	>999	240	Weight: 266 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 10-14:2x8 SP 2400F 2.0E

BOT CHORD 2x4 SPF No.2 *Except* 25-21,19-12,21-19:2x6 SP 2400F 2.0E

WEBS 2x3 SPF No.2 *Except* 12-15,27-29,28-30:2x4 SPF No.2, 26-2:2x6 SPF No.2, 25-2:2x4 SPF 2100F 1.8E

LBR SCAB 10-14 SP 2400F 2.0E one side

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-5-9 oc purlins, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 5-10.

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

REACTIONS (size) 13=0-3-8, 26=0-3-8
Max Horiz 26=-82 (LC 13)
Max Uplift 13=-254 (LC 5), 26=-257 (LC 4)
Max Grav 13=1944 (LC 1), 26=1951 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-6109/732, 3-4=-4953/648, 4-5=-4170/610, 5-6=-4680/743, 6-7=-4677/741, 7-9=-4711/745, 9-10=-4712/745, 10-11=-4262/624, 11-12=-5106/654, 12-13=-987/140, 13-14=0/0, 2-26=-1986/279

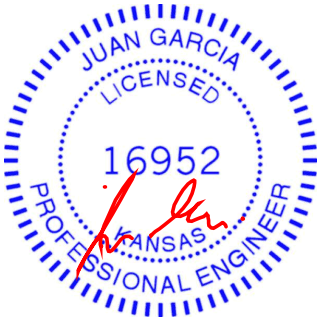
BOT CHORD 25-26=-124/498, 24-25=-635/5501, 23-24=-530/4571, 22-23=-445/3796, 20-22=-666/5021, 18-20=-666/5021, 17-18=-449/3918, 16-17=-559/4897, 12-16=-560/4900, 13-15=0/0

WEBS 12-15=0/49, 3-25=-31/654, 5-23=-38/573, 10-17=-31/650, 11-17=-1096/195, 2-25=-596/5104, 11-16=-89/79, 4-23=-851/197, 4-24=-4/391, 3-24=-961/173, 5-22=-220/1250, 6-22=-418/160, 7-22=-541/87, 7-20=0/233, 7-18=-503/80, 9-18=-343/149, 10-18=-200/1124

NOTES

1) Attached 13-1-6 scab 10 to 14, front face(s) 2x8 SP 2400F 2.0E with 2 row(s) of 10d (0.131"x3") nails spaced 9" o.c.except : starting at 8-5-11 from end at joint 10, nail 2 row(s) at 4" o.c. for 2-0-0; starting at 10-9-9 from end at joint 10, 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) exterior 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) All plates are 2x4 MT20 unless otherwise indicated.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Bearing at joint(s) 26 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 257 lb uplift at joint 26 and 254 lb uplift at joint 13.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



June 21,2024

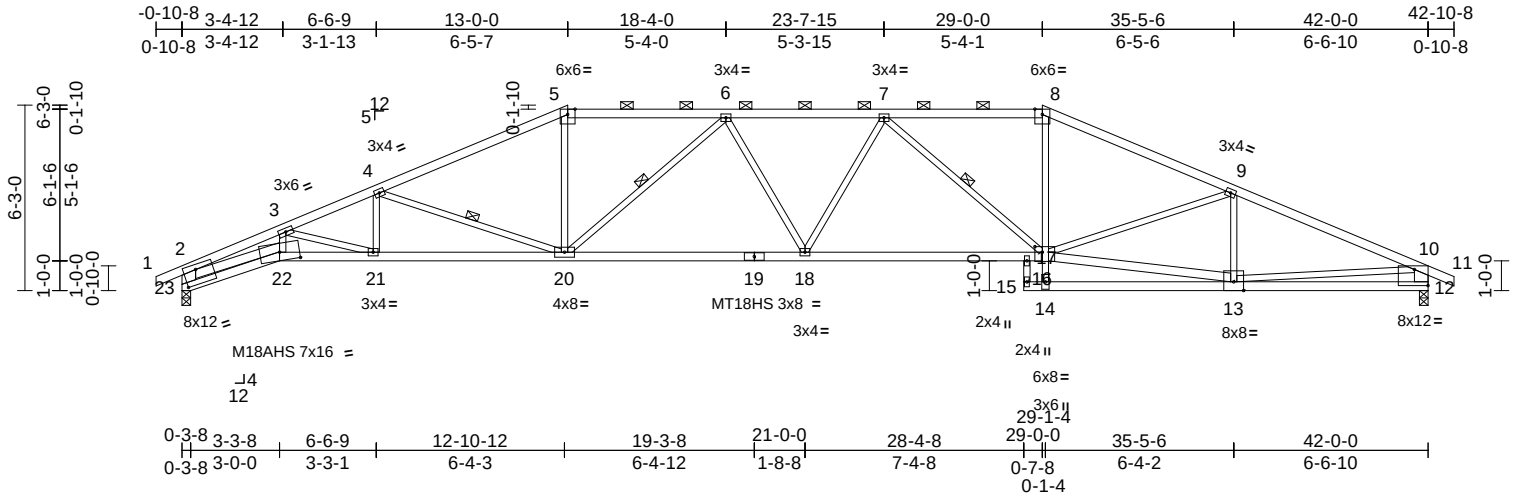
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A4	Hip	1	1	I66389189
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:50 Page: 1

ID:AMpSFYh9FvFj?ARzUQYstxzNWdl-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:77.7

Plate Offsets (X, Y): [12:Edge,0-6-8], [16:0-3-0,0-2-4], [22:0-8-0,0-3-7], [23:0-5-0,0-6-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.64	Vert(LL)	-0.41	17-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.77	17-18	>649	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.35	12	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.28	17-18	>999	240	Weight: 165 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 5-8:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 22-19,19-16:2x4 SPF 2100F 1.8E, 17-15:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 23-2,12-10:2x6 SPF No.2, 22-2:2x4 SPF 2100F 1.8E, 16-13:2x4 SPF No.2

BRACING

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

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 14-15.

WEBS 1 Row at midpt 4-20, 6-20, 7-16

REACTIONS (size) 12=0-3-8, 23=0-3-8
Max Horiz 23=-79 (LC 13)
Max Uplift 12=-232 (LC 5), 23=-232 (LC 4)
Max Grav 12=1947 (LC 1), 23=1947 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-6014/628, 3-4=-4880/566, 4-5=-3794/505, 5-6=-3410/489, 6-7=-4020/580, 7-8=-3410/488, 8-9=-3761/502, 9-10=-3482/408, 10-11=0/30, 2-23=-2023/259, 10-12=-1868/264

BOT CHORD 22-23=-150/553, 21-22=-536/5372, 20-21=-457/4517, 18-20=-447/3974, 17-18=-448/3971, 16-17=-407/3894, 15-17=-272/0, 14-15=-42/77, 13-14=-32/134, 12-13=-111/659

WEBS 3-22=-58/740, 4-20=-1154/288, 5-20=-68/1046, 14-16=0/440, 8-16=-69/1031, 9-13=-614/152, 2-22=-496/4953, 10-13=-242/2480, 4-21=0/390, 3-21=-893/148, 6-18=-14/203, 6-20=-913/181, 7-18=-6/207, 7-16=-909/183, 9-16=-24/510, 13-16=-287/3029

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Bearing at joint(s) 23 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 232 lb uplift at joint 23 and 232 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

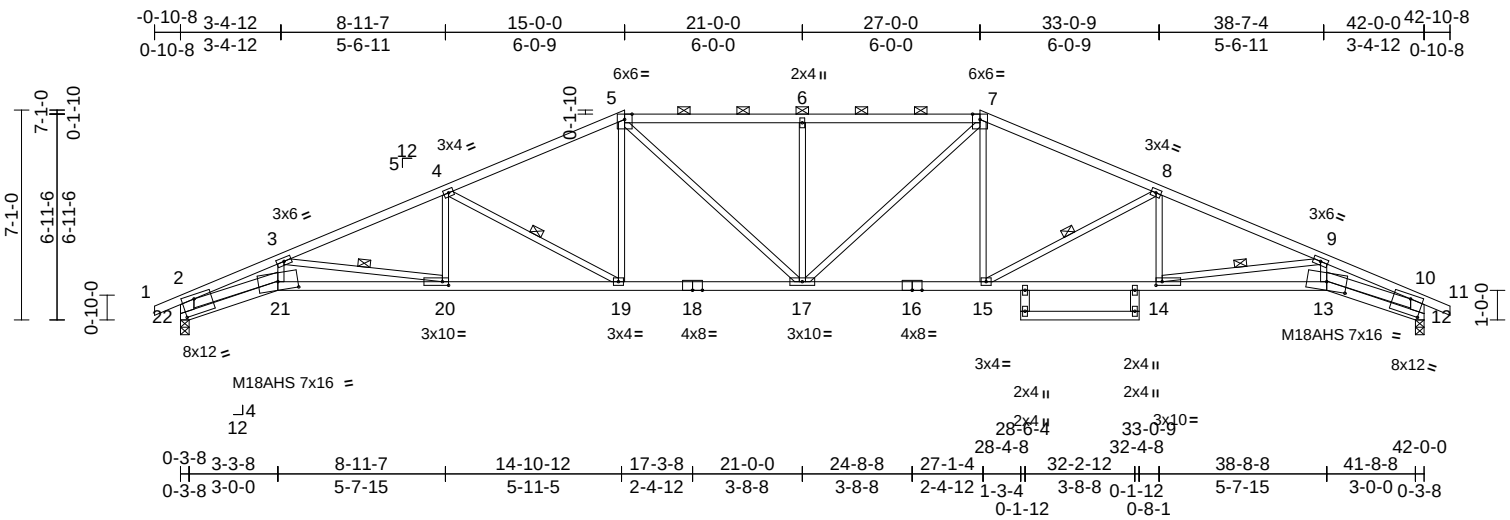
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A5	Hip	1	1	I66389190
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:50 Page: 1

ID:q5HqtzhfPb1JIXYhfa?Y3kzNWbA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:77.8

Plate Offsets (X, Y): [12:0-5-0,0-6-4], [13:0-8-0,0-3-7], [14:0-2-8,0-1-8], [20:0-2-8,0-1-8], [21:0-8-0,0-3-7], [22:0-5-0,0-6-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.48	17	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.87	15-17	>570	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.55	Horz(CT)	0.54	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.32	17	>999	240	Weight: 168 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 21-18,16-13:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 22-2,12-10:2x6 SPF No.2, 21-2,13-10:2x4 SPF 2100F 1.8E, 23-25,24-26:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (2-2-0 max.): 5-7.

BOT CHORD Rigid ceiling directly applied or 9-6-15 oc bracing.

WEBS 1 Row at midpt 3-20, 4-19, 8-15, 9-14

REACTIONS (size) 12=0-3-8, 22=0-3-8
Max Horiz 22=-94 (LC 13)
Max Uplift 12=-213 (LC 9), 22=-213 (LC 8)
Max Grav 12=1947 (LC 1), 22=1947 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 5-6=-3479/486, 6-7=-3479/486, 7-8=-3482/436, 8-9=-4412/463, 9-10=-6154/580, 10-11=0/30, 2-22=-1982/263, 10-12=-1982/232, 1-2=0/30, 2-3=-6154/685, 3-4=-4412/463, 4-5=-3482/436

BOT CHORD 21-22=-138/430, 20-21=-680/5526, 19-20=-363/4040, 17-19=-238/3132, 15-17=-238/3132, 14-15=-337/4040, 13-14=-495/5526, 12-13=-37/430

WEBS 3-21=-49/761, 3-20=-1507/322, 4-20=0/431, 4-19=-1023/261, 5-19=-53/611, 5-17=-105/670, 6-17=-537/205, 7-17=-105/670, 7-15=-46/611, 8-15=-1023/246, 8-14=0/431, 9-14=-1507/259, 9-13=-7/761, 2-21=-560/5227, 10-13=-477/5227

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Bearing at joint(s) 22, 12 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 213 lb uplift at joint 22 and 213 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

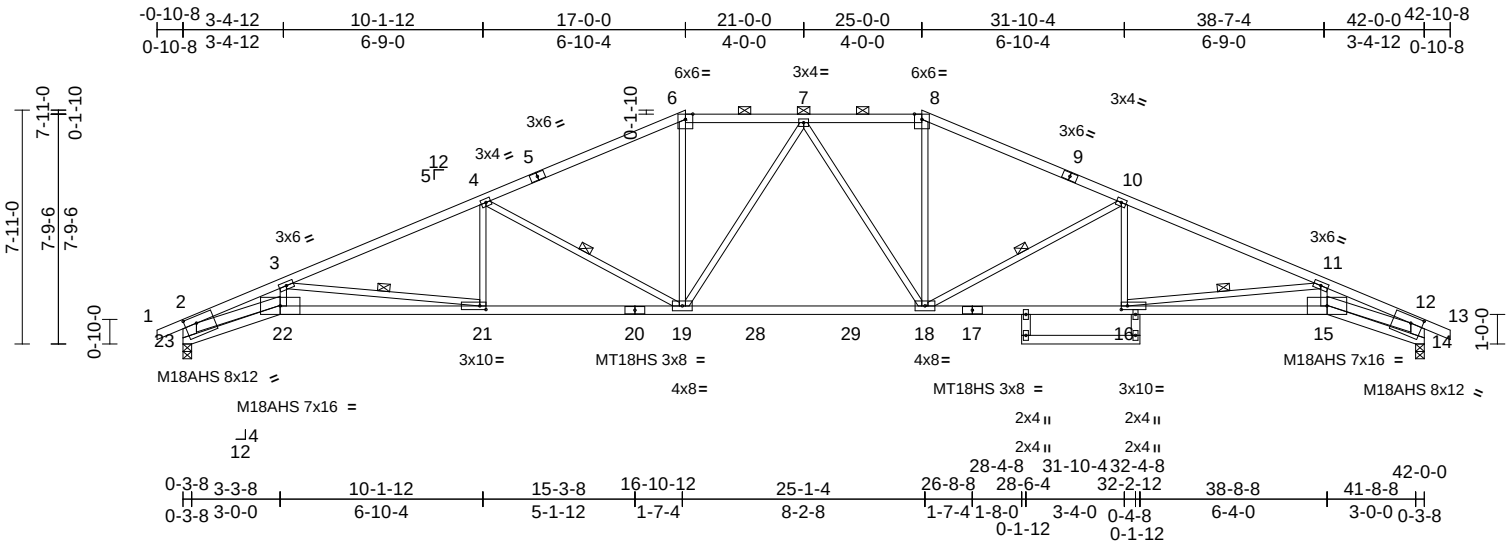
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A6	Hip	1	1	I66389191
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 E Dec 14 2023 Print: 8.730 E Dec 14 2023 MiTek Industries, Inc. Fri Jun 21 13:19:51 Page: 1

ID:GNEEB7nAflqmZ7HxHPc7aDzNWYT-KEhLTPI2ZUyn24hmbnWbp92l0X8twl_TkRMtOQz42St

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:78

Plate Offsets (X, Y): [14:0-4-12,0-2-12], [16:0-2-8,0-1-8], [21:0-2-8,0-1-8], [23:0-4-12,0-2-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.55	18-19	>902	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.96	18-19	>521	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.55	14	n/a	n/a	MT18HS	197/144
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.26	18-19	>999	240	Weight: 169 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 1-5,9-13:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2 *Except* 22-20,17-15,20-17:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 23-2,14-12:2x6 SPF No.2, 22-2,15-12:2x4 SPF 2100F 1.8E, 24-26,25-27:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-2-11 max.): 6-8.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 8-10-8 oc bracing: 21-22.

WEBS 1 Row at midpt 4-19, 3-21, 10-18, 11-16

REACTIONS (lb/size) 14=1947/0-3-8, 23=1947/0-3-8
Max Horiz 23=-109 (LC 13)
Max Uplift 14=-232 (LC 9), 23=-232 (LC 8)
Max Grav 14=2009 (LC 2), 23=2009 (LC 2)

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

TOP CHORD 2-3=-6453/783, 3-4=-4407/449, 4-5=-3373/330, 5-6=-3281/357, 6-7=-3028/352, 7-8=-3028/352, 8-9=-3281/357, 9-10=-3373/330, 10-11=-4407/417, 11-12=-6453/663, 2-23=-2048/282, 12-14=-2048/247

BOT CHORD 22-23=-150/532, 21-22=-788/5788, 20-21=-397/4035, 19-20=-397/4035, 19-28=-177/3124, 28-29=-177/3124, 18-29=-177/3124, 17-18=-258/4035, 16-17=-258/4035, 15-16=-575/5788, 14-15=-33/490

WEBS 3-22=-53/902, 6-19=-31/1001, 8-18=-31/1001, 11-15=-5/902, 2-22=-657/5460, 12-15=-549/5460, 7-19=-420/109, 7-18=-420/109, 4-21=0/509, 4-19=-1136/299, 3-21=-1771/395, 10-18=-1137/284, 10-16=0/509, 11-16=-1770/320

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Bearing at joint(s) 23, 14 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 232 lb uplift at joint 23 and 232 lb uplift at joint 14.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

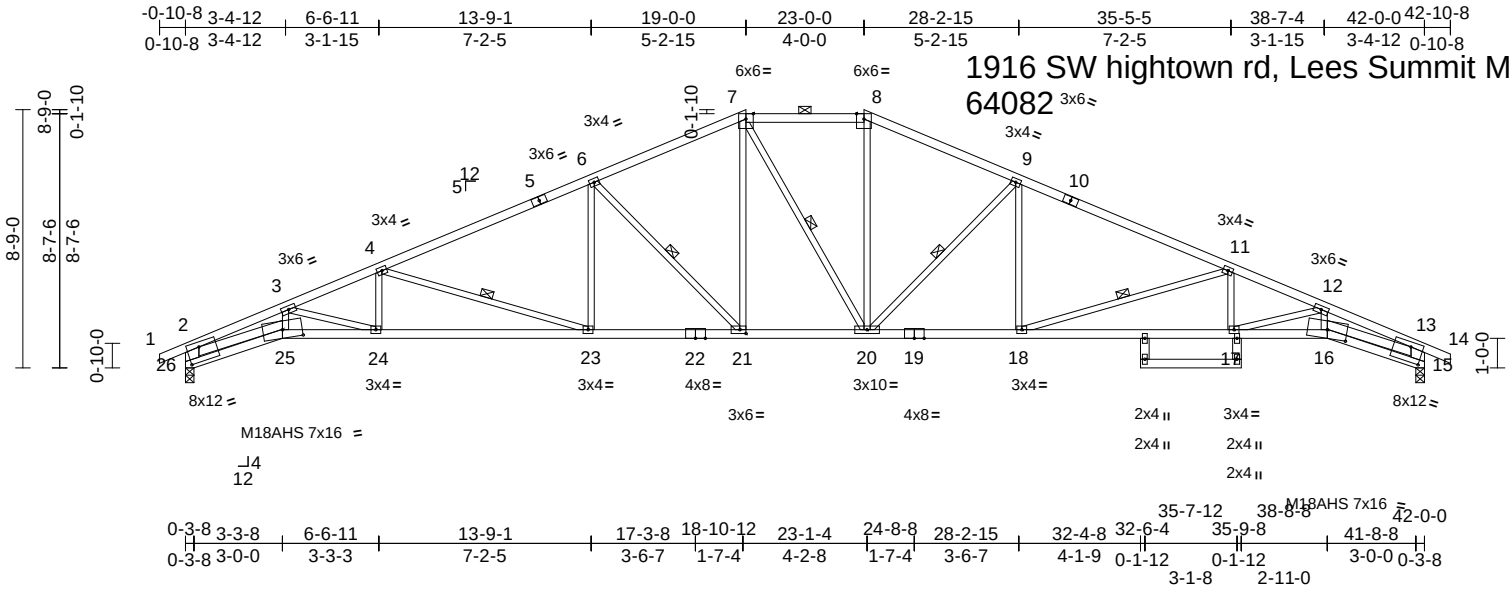
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	A7	Hip	1	1	I66389192
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:51 Page: 1

ID:UqqDauCh0iUc?cPKMLBUYuzNWU2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:78.1

Plate Offsets (X, Y): [15:0-5-0,0-6-0], [16:0-8-0,0-3-7], [21:0-2-8,0-1-8], [25:0-8-0,0-3-7], [26:0-5-0,0-6-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.98	Vert(LL)	-0.44	21	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.80	Vert(CT)	-0.80	21-23	>623	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.50	15	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.29	21-23	>999	240	Weight: 176 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 25-22,19-16:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 26-2,15-13:2x6 SPF No.2, 25-2,16-13:2x4 SPF 2100F 1.8E, 27-29,28-17:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-4-9 max.): 7-8.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-8-14 oc bracing: 24-25.

WEBS 1 Row at midpt 7-20, 6-21, 4-23, 9-20, 11-18

REACTIONS (size) 15=0-3-8, 26=0-3-8
Max Horiz 26=-123 (LC 13)
Max Uplift 15=-250 (LC 9), 26=-250 (LC 8)
Max Grav 15=1947 (LC 1), 26=1947 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-6023/808, 3-4=-4898/615, 4-6=-3668/416, 6-7=-2911/338, 7-8=-2612/320, 8-9=-2913/319, 9-11=-3667/390, 11-12=-4899/556, 12-13=-6023/669, 13-14=0/30, 2-26=-2003/325, 13-15=-2003/285

BOT CHORD 25-26=-209/508, 24-25=-809/5391, 23-24=-612/4532, 21-23=-317/3298, 20-21=-135/2609, 18-20=-170/3297, 17-18=-434/4532, 16-17=-564/5391, 15-16=-78/508

WEBS 3-25=-105/714, 7-21=-133/774, 7-20=-244/252, 8-20=-66/775, 12-16=-50/714, 2-25=-628/5010, 13-16=-502/5010, 6-21=-969/258, 4-24=0/438, 3-24=-897/205, 4-23=-1294/310, 6-23=-14/531, 9-20=-965/249, 9-18=-4/528, 11-18=-1295/277, 11-17=0/438, 12-17=-896/135

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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) All plates are 3x4 MT20 unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Bearing at joint(s) 26, 15 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 250 lb uplift at joint 26 and 250 lb uplift at joint 15.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

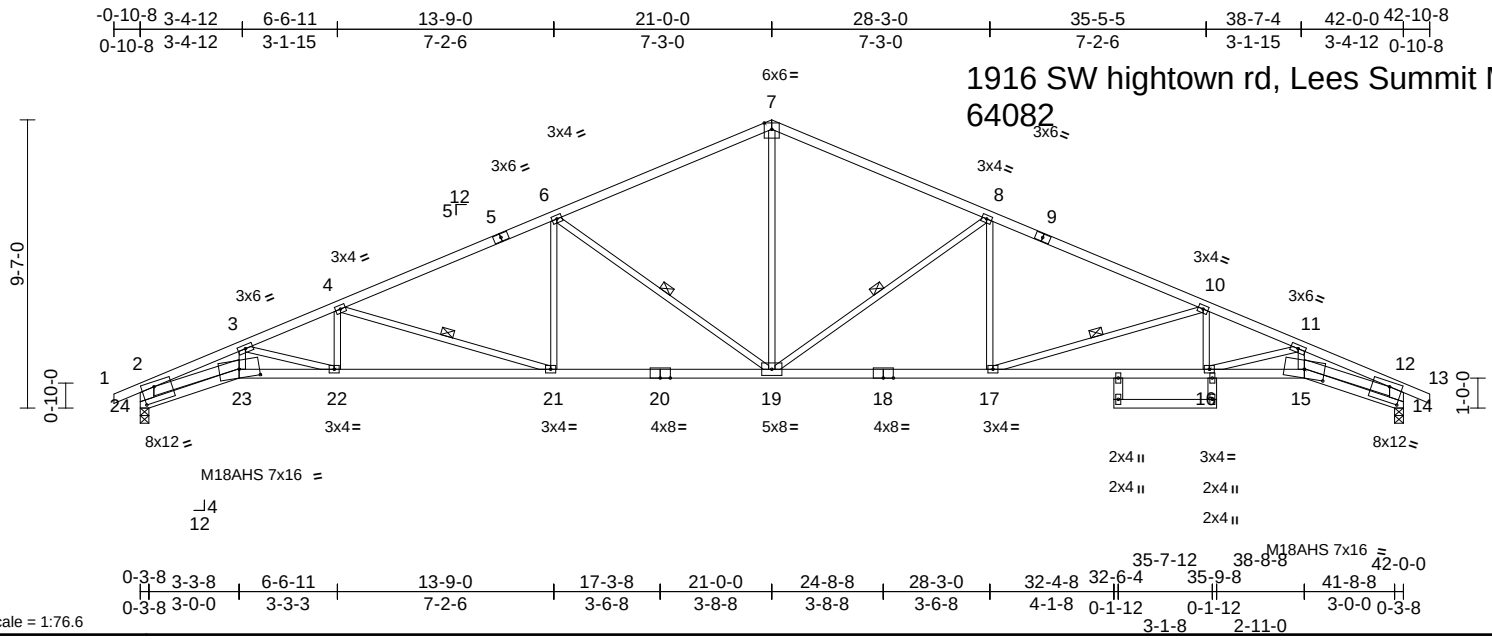
LOAD CASE(S) Standard

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B1	Roof Special	1	1	I66389193
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:51 Page: 1
ID:OxhlzhDjOVrVLroOgWhezjzX478-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:76.6

Plate Offsets (X, Y): [14:0-5-0,0-6-0], [15:0-8-0,0-3-7], [23:0-8-0,0-3-7], [24:0-5-0,0-6-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.44	17-19	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.82	17-19	>608	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.51	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.30	21	>999	240	Weight: 167 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF 2100F 1.8E *Except* 1-5,9-13:2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 23-20,18-15:2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 24-2,14-12:2x6 SPF No.2, 23-2,15-12:2x4 SPF 2100F 1.8E, 25-27,26-16:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals.

BOT CHORD Rigid ceiling directly applied or 8-4-1 oc bracing.

WEBS 1 Row at midpt 8-19, 6-19, 4-21, 10-17

REACTIONS (size) 14=0-3-8, 24=0-3-8
Max Horiz 24=-139 (LC 9)
Max Uplift 14=-265 (LC 9), 24=-265 (LC 8)
Max Grav 14=1947 (LC 1), 24=1947 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/30, 2-3=-6030/882, 3-4=-4887/664, 4-6=-3682/466, 6-7=-2676/338, 7-8=-2676/356, 8-10=-3682/437, 10-11=-4887/598, 11-12=-6030/725, 12-13=0/30, 2-24=-2001/345, 12-14=-2001/300

BOT CHORD 23-24=-227/503, 22-23=-892/5399, 21-22=-672/4518, 19-21=-383/3317, 17-19=-217/3317, 16-17=-471/4518, 15-16=-616/5399, 14-15=-79/503

WEBS 7-19=-126/1520, 8-19=-1170/304, 11-15=-54/716, 6-19=-1170/316, 3-23=-116/716, 2-23=-696/5022, 12-15=-554/5022, 4-22=0/431, 3-22=-920/230, 4-21=-1258/303, 6-21=-1/556, 8-17=0/556, 10-17=-1258/266, 10-16=0/431, 11-16=-920/152

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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) All plates are 3x4 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Bearing at joint(s) 24, 14 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 265 lb uplift at joint 24 and 265 lb uplift at joint 14.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED
16952
ARKANSAS
PROFESSIONAL ENGINEER

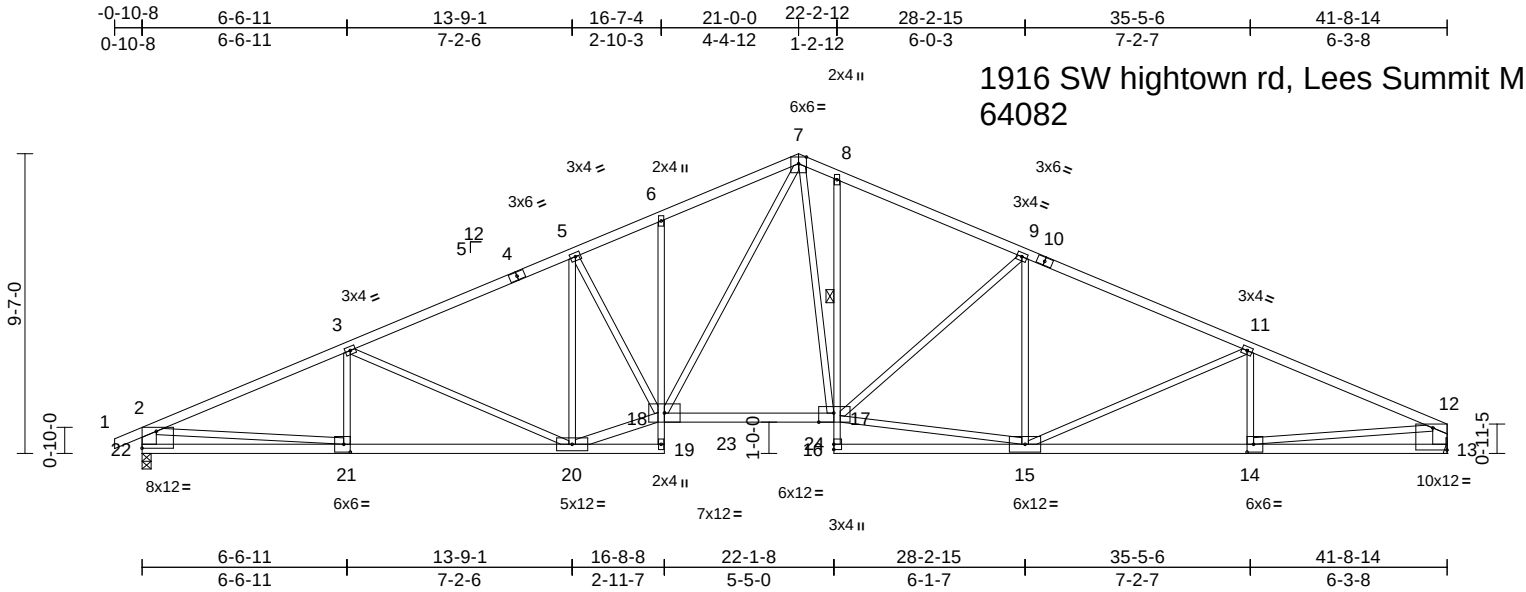
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B2	Roof Special	4	1	I66389194 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:51 Page: 1
ID:s8F8B0EM9ozMz?NbEECtVxzX477-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:73.7

Plate Offsets (X, Y): [13:Edge,0-8-8], [14:0-2-8,0-3-0], [17:0-5-12,Edge], [21:0-2-8,0-3-0], [22:Edge,0-6-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.36	17-18	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.63	17-18	>788	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.17	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	17-18	>999	240	Weight: 184 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x3 SPF No.2 *Except* 22-19:2x4 SPF 2100F 1.8E, 18-17,16-13:2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 22-2,13-12:2x6 SPF No.2, 18-20:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-20
2-2-0 oc bracing: 14-15.
1 Row at midpt 8-17

REACTIONS (size) 13= Mechanical, 22=0-3-8
Max Horiz 22=87 (LC 8)
Max Uplift 13=-26 (LC 9), 22=-39 (LC 8)
Max Grav 13=1929 (LC 2), 22=1995 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-3598/58, 3-5=-3189/65, 5-6=-3289/82, 6-7=-3268/125, 7-8=-2807/96, 8-9=-2875/63, 9-11=-3162/63, 11-12=-3480/56, 2-22=-1874/71, 12-13=-1818/56
BOT CHORD 21-22=-127/652, 20-21=-86/3251, 19-20=-42/31, 18-19=0/8, 6-18=-166/59, 17-18=0/2427, 16-17=0/103, 8-17=-260/91, 15-16=-1/88, 14-15=-12/3153, 13-14=-19/367
WEBS 5-18=0/294, 7-18=-103/1195, 7-17=-91/1106, 9-17=-475/112, 2-21=0/2618, 12-14=0/2806, 3-21=-135/104, 3-20=-479/87, 5-20=-654/33, 18-20=0/3049, 9-15=-160/83, 11-15=-411/86, 15-17=0/2812, 11-14=-208/84

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
5) All bearings are assumed to be SPF No.2 .
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 22 and 26 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.

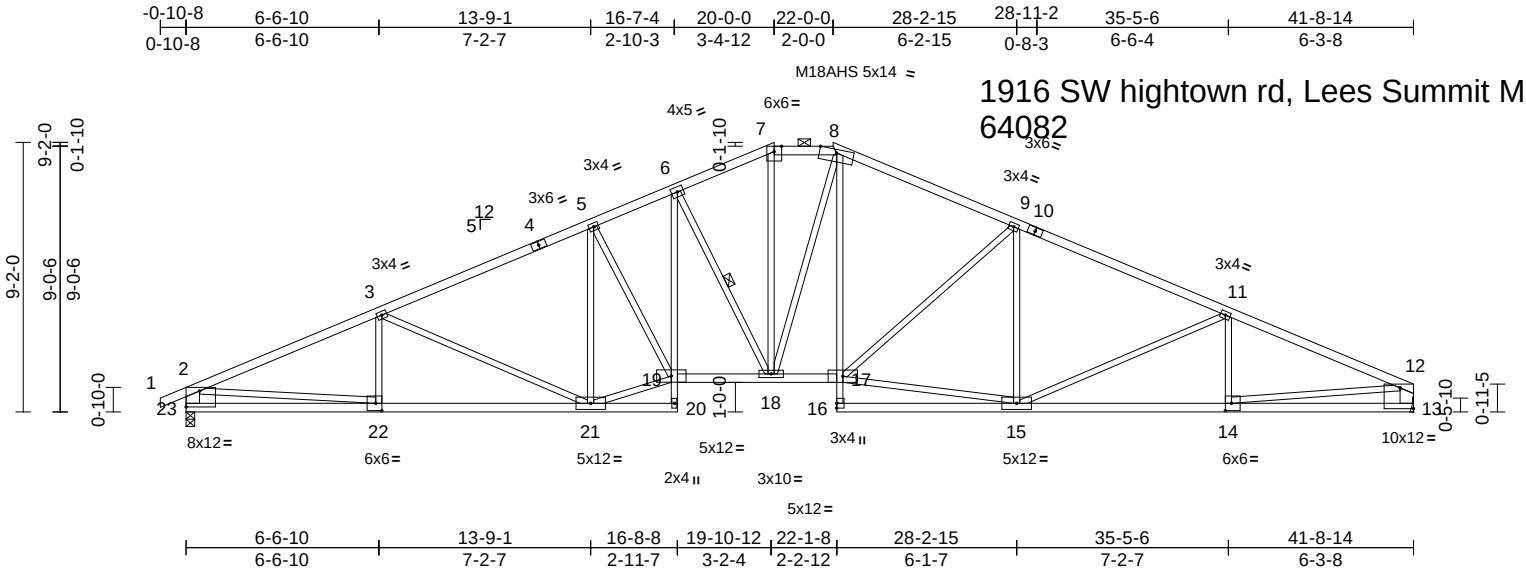
LOAD CASE(S) Standard

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B3	Hip	1	1	I66389195
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:51 Page: 1
ID:1FPIUnMFZBMonijiN1vSSFzX46y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:78.4

Plate Offsets (X, Y): [13:Edge,0-8-8], [14:0-2-8,0-3-0], [22:0-2-8,0-3-0], [23:Edge,0-6-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.29	18-19	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.88	Vert(CT)	-0.52	18-19	>958	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.18	13	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	19	>999	240	Weight: 188 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 20-6,8-16:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 23-2,13-12:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-7-7 max.): 7-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-18

REACTIONS (size) 13= Mechanical, 23=0-3-8
Max Horiz 23=82 (LC 8)
Max Uplift 13=-21 (LC 9), 23=-34 (LC 8)
Max Grav 13=1857 (LC 1), 23=1936 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-3473/50, 3-5=-3070/55, 5-6=-3136/72, 6-7=-2696/59, 7-8=-2467/67, 8-9=-2745/49, 9-11=-3051/53, 11-12=-3359/46, 2-23=-1862/67, 12-13=-1785/52
BOT CHORD 22-23=-120/600, 21-22=-73/3123, 20-21=-8/110, 19-20=0/14, 6-19=-53/770, 18-19=0/2831, 17-18=0/2439, 16-17=0/104, 8-17=-31/646, 15-16=0/179, 14-15=-3/3030, 13-14=-19/356
WEBS 5-19=-1/288, 9-17=-484/116, 2-22=0/2536, 12-14=0/2694, 6-18=-789/89, 8-18=-165/338, 9-15=-135/106, 11-15=-401/85, 15-17=0/2583, 11-14=-208/83, 3-22=-131/107, 3-21=-477/88, 5-21=-629/32, 19-21=0/2792, 7-18=-4/795

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 23 and 21 lb uplift at joint 13.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

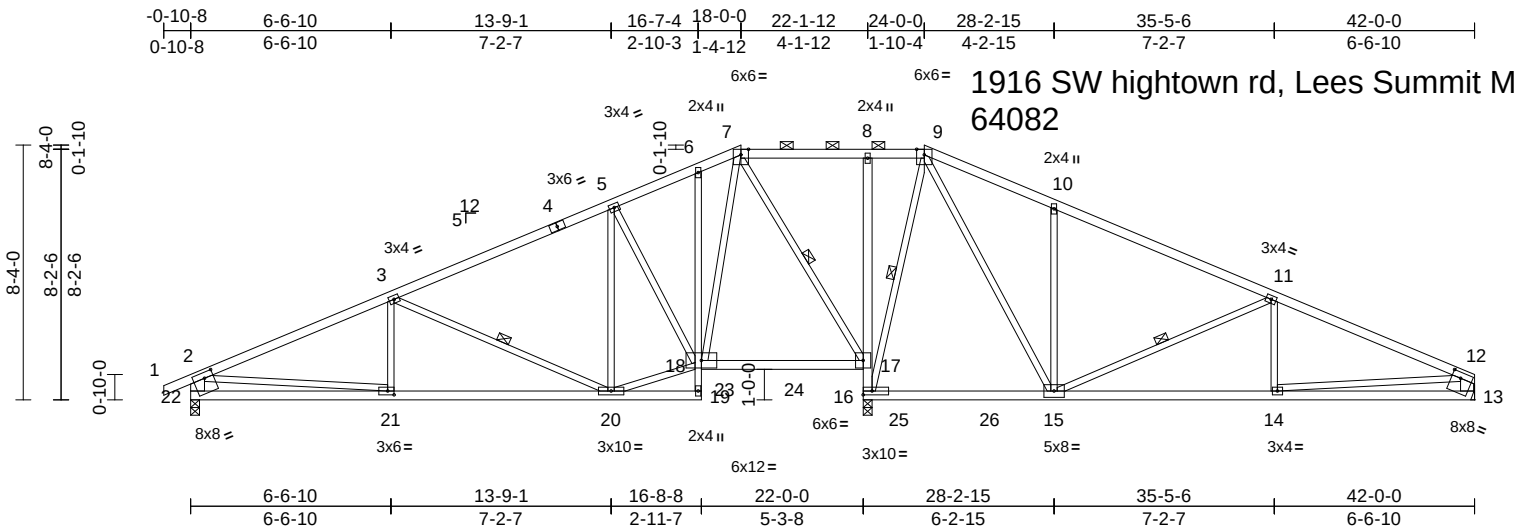
LOAD CASE(S) Standard

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B4	Hip	1	1	I66389196
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:51 Page: 1
ID:dgk9slKNGG_DwE_7ivMlqdzX47?-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:75.4

Plate Offsets (X, Y): [13:0-3-8,0-2-4], [21:0-2-8,0-1-8], [22:0-3-8,0-2-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.10	20-21	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.19	20-21	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.61	Horz(CT)	-0.04	16	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	20-21	>999	240	Weight: 186 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 19-6:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 22-2,13-12:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-5 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-20,15-16.
WEBS 1 Row at midpt 9-16, 7-17, 11-15, 3-20

REACTIONS (size) 13= Mechanical, 16=0-3-8, 22=0-3-8
Max Horiz 22=72 (LC 10)
Max Uplift 13=-69 (LC 9), 22=-61 (LC 8)
Max Grav 13=827 (LC 22), 16=2192 (LC 2), 22=1004 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-1535/104, 3-5=-868/117, 5-6=-561/140, 6-7=-472/142, 7-8=0/314, 8-9=0/298, 2-22=-932/93, 12-13=-744/101, 9-10=-595/231, 10-11=-621/163, 11-12=-1306/148
BOT CHORD 21-22=-118/412, 20-21=-114/1353, 19-20=-55/4, 18-19=0/7, 6-18=-12/80, 17-18=0/296, 16-17=-1253/17, 8-17=-297/66, 15-16=-96/32, 14-15=-93/1148, 13-14=-29/304
WEBS 5-18=-585/80, 9-16=-858/16, 2-21=0/961, 12-14=-64/848, 7-18=-34/812, 7-17=-1015/28, 10-15=-440/131, 11-15=-723/80, 11-14=0/229, 9-15=-91/1073, 3-21=0/228, 3-20=-690/80, 5-20=0/266, 18-20=-20/805

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
6) All bearings are assumed to be SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 61 lb uplift at joint 22 and 69 lb uplift at joint 13.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

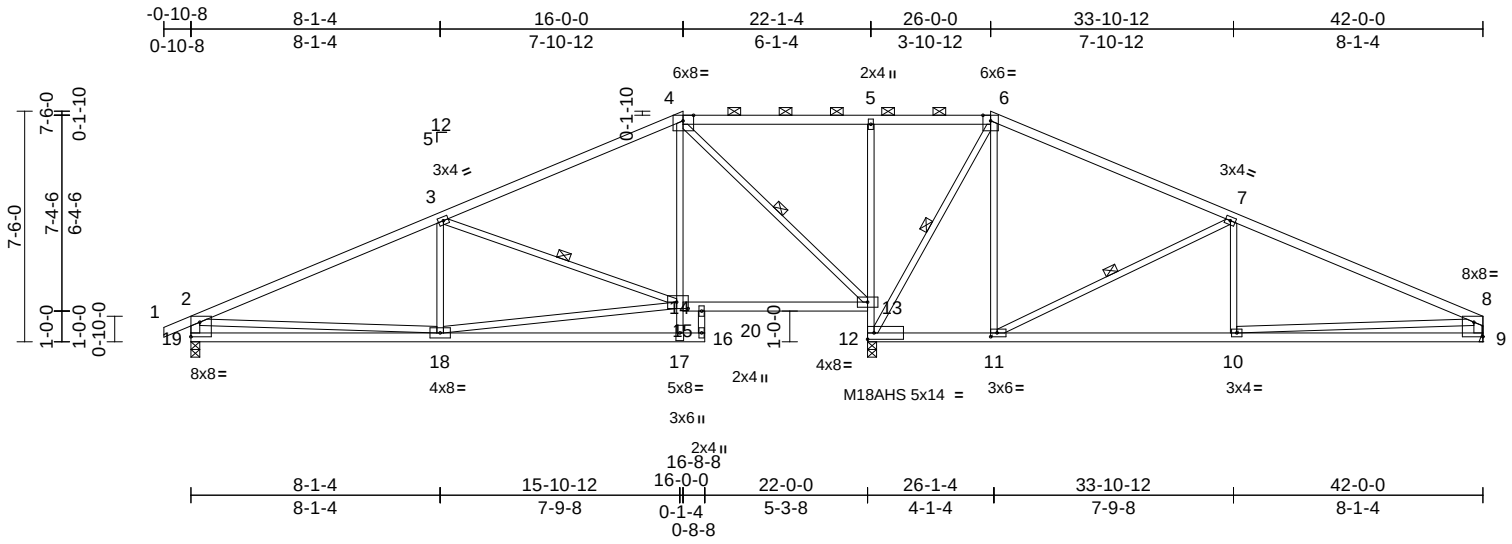
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B5	Hip	1	1	I66389197
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1

ID:9UAnfQJlVysMI4Px8CqWIPzX470-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:74.9

Plate Offsets (X, Y): [4:0-4-2,Edge], [8:Edge,0-5-11], [11:0-2-8,0-1-8], [15:0-4-8,0-2-8], [19:Edge,0-5-11]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.83	Vert(LL)	-0.10	18-19	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.21	18-19	>999	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.82	Horz(CT)	-0.03	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	17-18	>999	240	Weight: 170 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2

BOT CHORD 2x4 SPF No.2 *Except* 16-14,5-12:2x3 SPF No.2

WEBS 2x3 SPF No.2 *Except* 19-2:2x4 SPF 2100F 1.8E, 9-8:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-7-11 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 4-6.

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

WEBS 1 Row at midpt 4-13, 6-12, 7-11, 3-15

REACTIONS (size) 9= Mechanical, 12=0-3-8, 19=0-3-8

Max Horiz 19=65 (LC 8)

Max Uplift 9=-66 (LC 9), 19=-58 (LC 8)

Max Grav 9=842 (LC 22), 12=2128 (LC 2), 19=1021 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 4-5=0/276, 5-6=0/273, 6-7=-438/157, 7-8=-1290/147, 2-19=-927/101, 8-9=-754/108, 1-2=0/27, 2-3=-1532/105, 3-4=-769/107

BOT CHORD 18-19=-142/621, 17-18=-7/113, 16-17=-20/81, 14-16=-249/0, 14-15=0/580, 13-14=0/626, 12-13=-1265/30, 5-13=-395/92, 11-12=0/286, 10-11=-80/1112, 9-10=-41/443

WEBS 4-13=-1176/0, 6-12=-975/0, 6-11=0/666, 7-11=-928/103, 7-10=0/311, 2-18=0/723, 8-10=-39/676, 3-18=-40/202, 3-15=-764/104, 15-17=0/447, 4-15=0/708, 15-18=-88/1246

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 19 and 66 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.

LOAD CASE(S) Standard

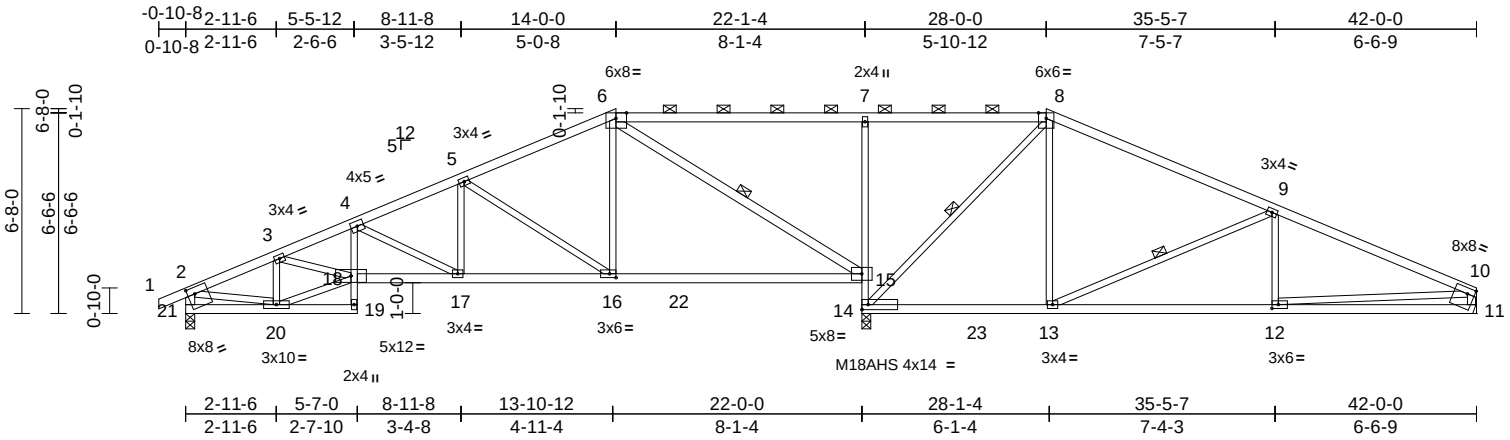
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B6	Hip	1	1	I66389198
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1
ID:hHcPR4I6kekWhwrkaUJHlCzX471-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:75

Plate Offsets (X, Y): [6:0-4-2,Edge], [10:0-2-12,0-2-4], [12:0-2-8,0-1-8], [16:0-2-8,0-1-8], [21:0-2-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.14	15-16	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.26	15-16	>995	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.70	Horz(CT)	0.03	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	17-18	>999	240	Weight: 165 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 19-4,7-14:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 15-6,21-2,11-10:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-9-15 oc purlins, except end verticals, and 2-0-0 oc purlins (9-10-3 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-15, 8-14, 9-13

REACTIONS (size) 11= Mechanical, 14=0-3-8, 21=0-3-8
Max Horiz 21=56 (LC 8)
Max Uplift 11=-58 (LC 9), 21=-50 (LC 8)
Max Grav 11=849 (LC 22), 14=2138 (LC 2), 21=1015 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-3=-1444/69, 3-4=-2238/135, 4-5=-1654/118, 5-6=-1009/89, 6-7=0/269, 7-8=0/268, 8-9=-642/132, 9-10=-1374/129, 2-21=-946/64, 10-11=-763/90
BOT CHORD 20-21=-62/205, 19-20=-8/81, 18-19=0/61, 4-18=0/364, 17-18=-120/2066, 16-17=-72/1507, 15-16=0/874, 14-15=-1324/65, 7-15=-579/135, 13-14=0/501, 12-13=-76/1213, 11-12=-24/306
WEBS 5-16=-742/100, 6-16=0/702, 6-15=-1295/0, 8-14=-1018/0, 8-13=0/617, 9-13=-771/97, 9-12=0/235, 10-12=-53/911, 5-17=0/418, 4-17=-630/55, 3-20=-676/79, 3-18=-31/786, 18-20=-90/1304, 2-20=-31/1133

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 21 and 58 lb uplift at joint 11.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

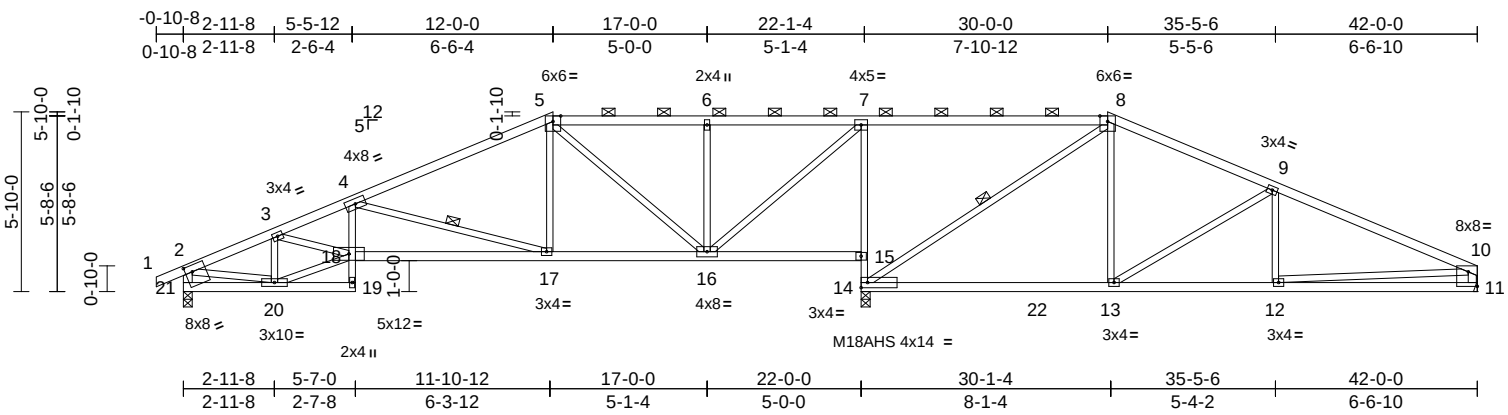
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:00

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B7	Hip	1	1	I66389199
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1
ID:D520EkHUzLcf3mGY0no2C_zX472-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:74.8

Plate Offsets (X, Y): [10:Edge,0-5-11], [21:0-2-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.82	Vert(LL)	-0.15	13-14	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.29	13-14	>804	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.03	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	17-18	>999	240	Weight: 160 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 19-4,7-14:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 21-2,11-10:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-5 oc purlins, except end verticals, and 2-0-0 oc purlins (5-10-6 max.): 5-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 15-16.
WEBS 1 Row at midpt 4-17, 8-14

REACTIONS (size) 11= Mechanical, 14=0-3-8, 21=0-3-8
Max Horiz 21=47 (LC 8)
Max Uplift 11=-36 (LC 9), 14=-43 (LC 5), 21=-33 (LC 8)
Max Grav 11=882 (LC 22), 14=2053 (LC 2), 21=1031 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1460/32, 3-4=-2347/88, 4-5=-1348/42, 5-6=-759/73, 6-7=-757/71, 7-8=0/165, 8-9=-914/81, 9-10=-1395/81, 2-21=-960/47, 10-11=-770/73
BOT CHORD 20-21=-57/217, 19-20=-22/80, 18-19=0/59, 4-18=0/387, 17-18=-85/2227, 16-17=0/1167, 15-16=-178/34, 14-15=-1349/98, 7-15=-1284/125, 13-14=0/778, 12-13=-30/1226, 11-12=-24/372
WEBS 4-17=-1088/128, 5-17=0/529, 5-16=-556/27, 7-16=-2/1182, 8-14=-1076/0, 8-13=0/578, 9-13=-524/86, 9-12=0/164, 10-12=-6/858, 3-20=-672/48, 3-18=-31/903, 18-20=-29/1332, 2-20=0/1124, 6-16=-326/75

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 21, 43 lb uplift at joint 14 and 36 lb uplift at joint 11.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

June 21,2024

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

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

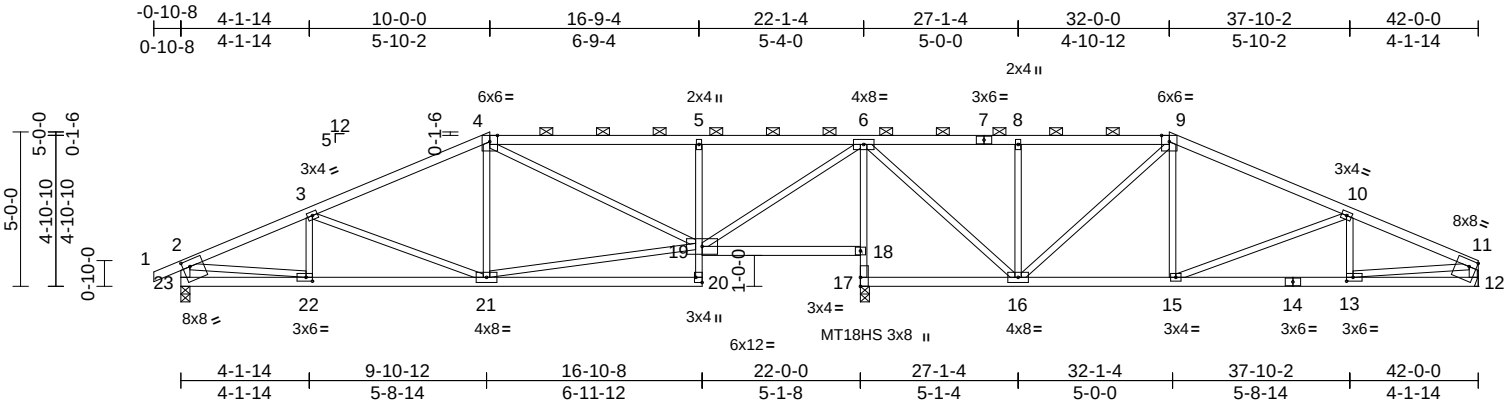
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:00

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	B8	Hip	1	1	I66389200
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1
ID:lvUe0OHsC1UoRdhMT3HpgnzX473-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:74.6

Plate Offsets (X, Y): [11:Edge,0-2-8], [13:0-2-8,0-1-8], [20:Edge,0-2-8], [22:0-2-8,0-1-8], [23:0-2-12,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.08	20-21	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.17	20-21	>999	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.48	Horz(CT)	-0.02	17	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	21-22	>999	240	Weight: 163 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 20-5,6-17:2x3 SPF No.2
WEBS 2x3 SPF No.2 *Except* 23-2,12-11:2x4 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-4-3 oc purlins, except end verticals, and 2-0-0 oc purlins (4-9-13 max.): 4-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 18-19,16-17.

REACTIONS (size) 12= Mechanical, 17=0-3-8, 23=0-3-8
Max Horiz 23=39 (LC 8)
Max Uplift 12=-28 (LC 9), 17=-49 (LC 5), 23=-28 (LC 8)
Max Grav 12=850 (LC 20), 17=1958 (LC 1), 23=1026 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1593/43, 3-4=-1296/61, 4-5=-1008/113, 5-6=-1002/107, 6-8=-638/91, 8-9=-640/92, 9-10=-1055/64, 10-11=-1420/61, 2-23=-975/47, 11-12=-804/45
BOT CHORD 22-23=-36/197, 21-22=-45/1425, 20-21=0/80, 19-20=0/123, 5-19=-471/110, 18-19=-168/10, 17-18=-1922/75, 6-18=-1846/106, 16-17=-154/7, 15-16=0/895, 13-15=-34/1272, 12-13=-7/162
WEBS 3-21=-321/85, 4-21=0/257, 19-21=0/1057, 4-19=-147/25, 6-19=-38/1389, 9-15=0/313, 2-22=-10/1241, 11-13=-27/1122, 6-16=-9/1053, 8-16=-366/86, 9-16=-362/4, 10-15=-401/73, 10-13=-78/94, 3-22=-107/60

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 23, 49 lb uplift at joint 17 and 28 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

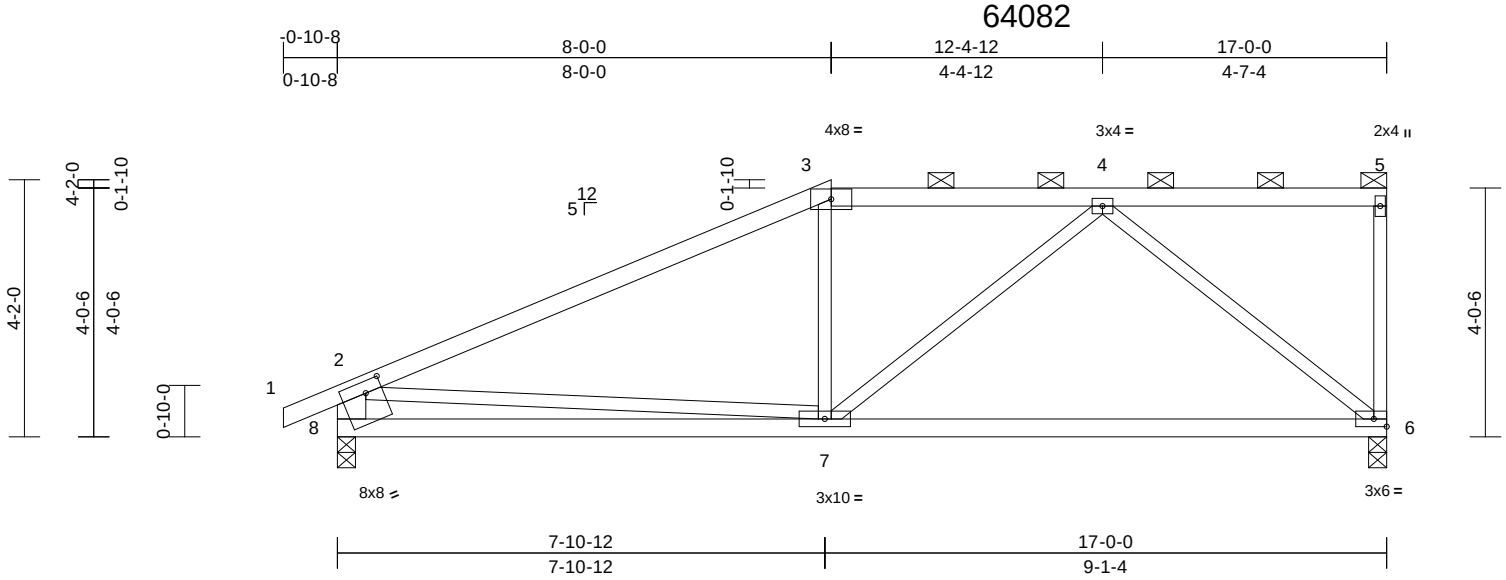
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	C1	Half Hip	1	1	I66389201
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1
ID:w0foK9PmdPsEGJ1Tct_Oc5zX46u-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:37.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.18	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.36	6-7	>550	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.71	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	7-8	>999	240	Weight: 62 lb	FT = 10%

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

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

REACTIONS (size) 6=0-3-8, 8=0-3-8
Max Horiz 8=169 (LC 7)
Max Uplift 6=-133 (LC 5), 8=-116 (LC 8)
Max Grav 6=747 (LC 1), 8=830 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-1078/120, 3-4=-892/139, 4-5=-65/37, 5-6=-136/57, 2-8=-768/155
BOT CHORD 7-8=-311/685, 6-7=-180/661
WEBS 3-7=-13/161, 4-7=-27/319, 4-6=-835/199, 2-7=0/393

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 133 lb uplift at joint 6 and 116 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.

LOAD CASE(S) Standard

June 21,2024

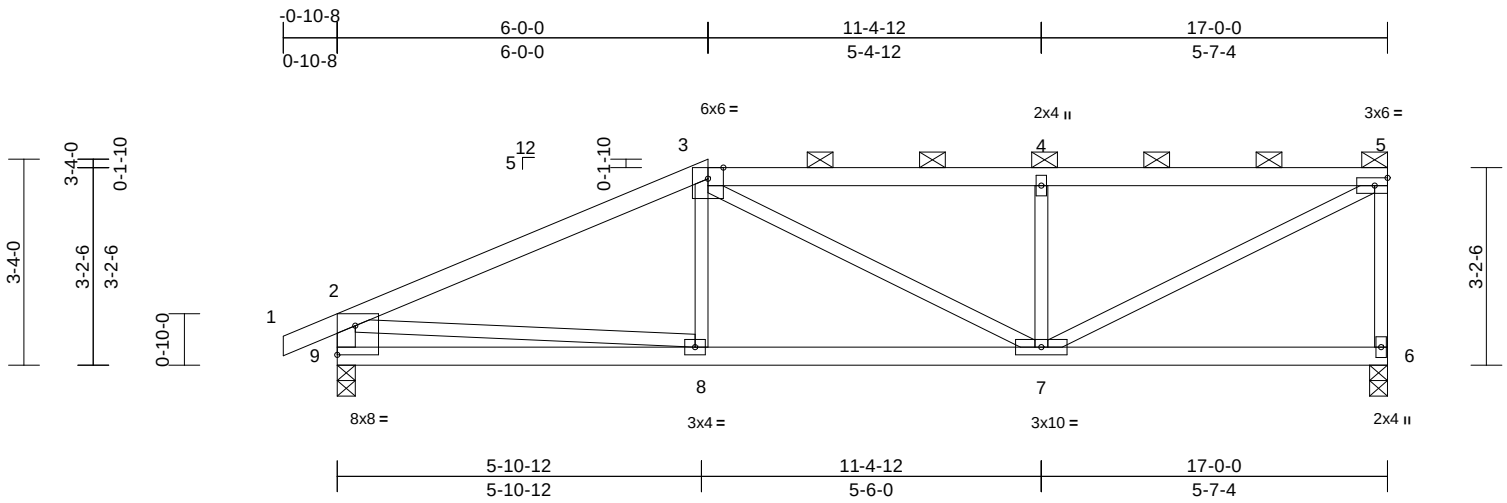
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:00

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	C2	Half Hip	1	1	I66389202 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:52 Page: 1
ID:w0foK9PmdPsEGJ1Tct_Oc5zX46u-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:37.3

Plate Offsets (X, Y): [9:Edge,0-5-11]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.04	7-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.08	7-8	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.03	7-8	>999	240	Weight: 62 lb	FT = 10%

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

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

REACTIONS (size) 6=0-3-8, 9=0-3-8
Max Horiz 9=132 (LC 5)
Max Uplift 6=-137 (LC 5), 9=-116 (LC 4)
Max Grav 6=752 (LC 1), 9=827 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-1171/163, 3-4=-1043/209, 4-5=-1040/207, 5-6=-700/163, 2-9=-770/147
BOT CHORD 8-9=-174/414, 7-8=-193/1003, 6-7=-38/29
WEBS 5-7=-211/1149, 2-8=-34/628, 3-8=0/185, 3-7=-40/163, 4-7=-456/185

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 137 lb uplift at joint 6 and 116 lb uplift at joint 9.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

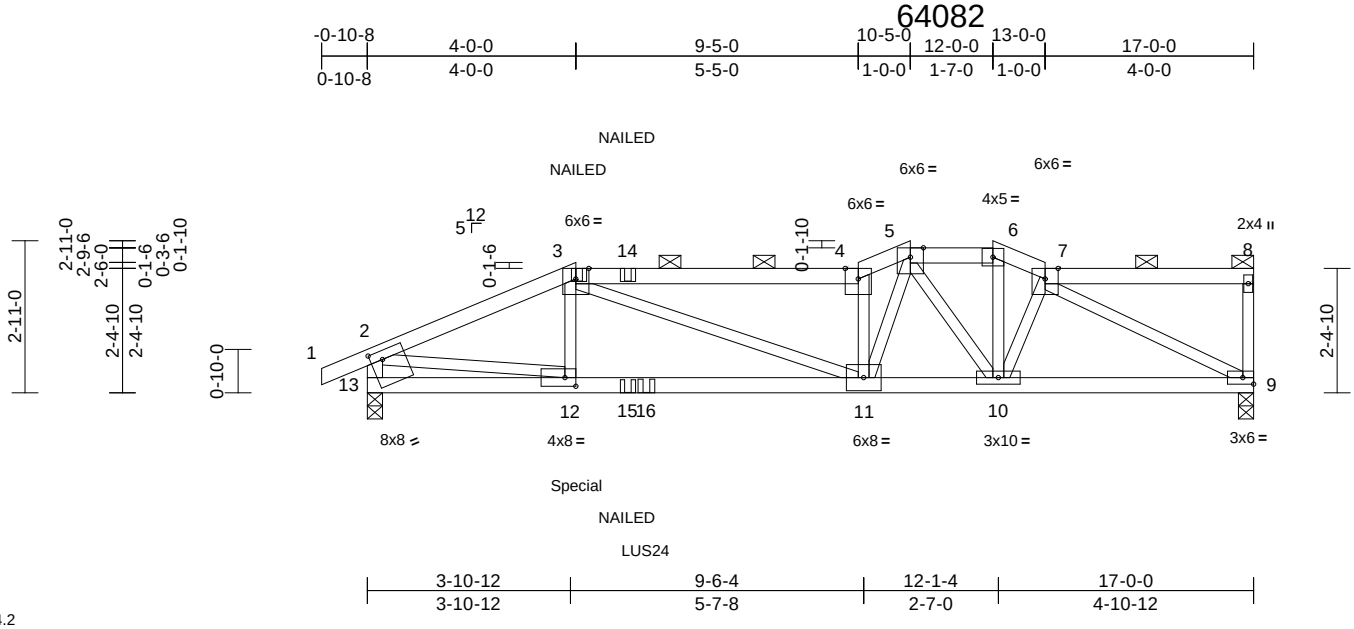
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	C3	Roof Special Girder	1	1	I66389203
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1

ID:w0foK9PmdPsEGJ1Tct_Oc5zX46u-RfC?PsB70Hq3NSgRqnL8u3ulTXbGKWrCDoi7J4zJC?f

1916 SW nightown rd, Lees Summit MO 64082



Scale = 1:44.2

Plate Offsets (X, Y): [12:0-2-8,0-2-0], [13:0-2-12,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.14	11-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.26	11-12	>784	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.03	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.12	11-12	>999	240	Weight: 65 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2

BOT CHORD 2x4 SPF 2100F 1.8E

WEBS 2x3 SPF No.2 *Except* 13-2:2x4 SPF No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-7-4 oc purlins, except end verticals, and 2-0-0 oc purlins (2-9-14 max.): 3-4, 5-6, 7-8.

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

REACTIONS (size) 9=0-3-8, 13=0-3-8

Max Horiz 13=96 (LC 5)

Max Uplift 9=-163 (LC 5), 13=-315 (LC 8)

Max Grav 9=960 (LC 1), 13=1369 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-3=-2355/544, 3-4=-2273/470, 4-5=-2424/513, 5-6=-1405/264, 6-7=-1554/284, 7-8=-44/24, 8-9=-140/54, 2-13=-1381/343

BOT CHORD 12-13=-121/225, 11-12=-490/2112, 10-11=-308/1737, 9-10=-260/1421

WEBS 3-12=-44/446, 3-11=-264/220, 4-11=-1186/319, 6-10=-84/499, 7-10=-27/137, 7-9=-1587/272, 2-12=-426/1930, 5-11=-361/1443, 5-10=-642/172

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 163 lb uplift at joint 9 and 315 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) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent at 5-4-4 from the left end to connect truss(es) to front face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.
12) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 219 lb down and 55 lb up at 4-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

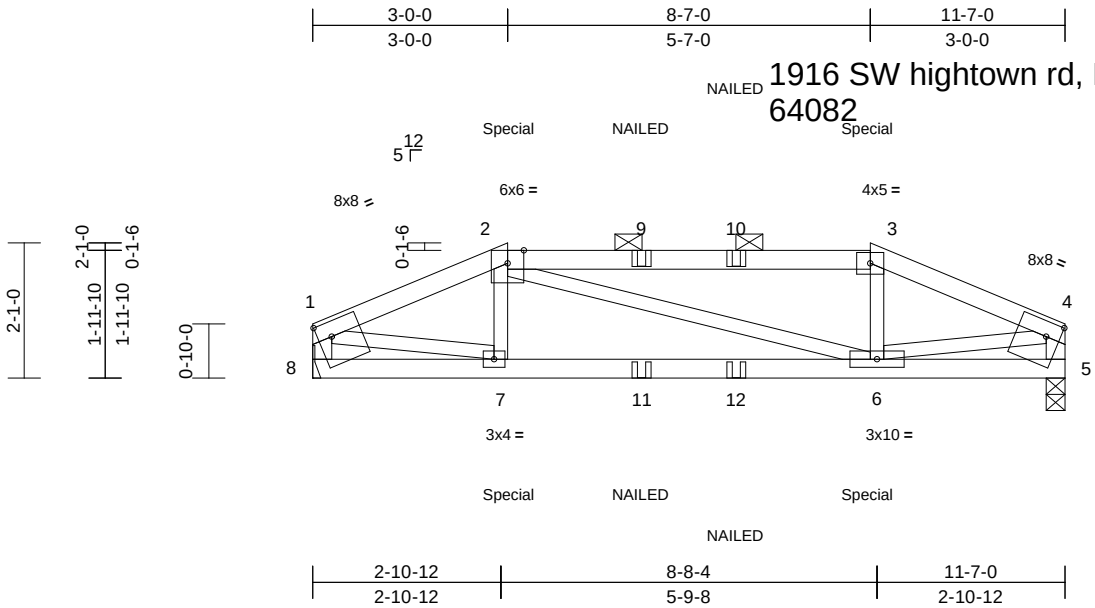
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-2=-70, 2-3=-70, 3-4=-70, 4-5=-70, 5-6=-70, 6-7=-70, 7-8=-70, 9-13=-20
   Concentrated Loads (lb)
   Vert: 3=-47 (F), 12=-219 (F), 14=-47 (F), 15=-24 (F), 16=-413 (F)

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	C4	Hip Girder	1	1	I66389204
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1
ID:etku_8VdNB5RrhWZ3ZV8aOz4MmY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.04	6-7	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.08	6-7	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.25	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	6-7	>999	240	Weight: 39 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 8-1,5-4:2x4 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 (5-4-12 max.): 2-3.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-8, 8= Mechanical
Max Horiz 8=-20 (LC 4)
Max Uplift 5=-146 (LC 9), 8=-146 (LC 8)
Max Grav 5=553 (LC 1), 8=553 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-863/244, 2-3=-778/248, 3-4=-863/243, 1-8=-536/147, 4-5=-536/147
BOT CHORD 7-8=-35/72, 6-7=-225/778, 5-6=-36/72
WEBS 2-7=-36/119, 2-6=-28/28, 3-6=-43/119, 1-7=-196/721, 4-6=-196/721

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 146 lb uplift at joint 8 and 146 lb uplift at joint 5.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
11) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 82 lb down and 139 lb up at 3-0-0, and 82 lb down and 139 lb up at 8-7-0 on top chord, and 30 lb down at 3-0-0, and 30 lb down at 8-6-4 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.
13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-4=-70, 5-8=-20
Concentrated Loads (lb)
Vert: 2=-13 (F), 3=-13 (F), 7=-10 (F), 6=-10 (F), 9=-13 (F), 10=-13 (F), 11=-10 (F), 12=-10 (F)

June 21,2024

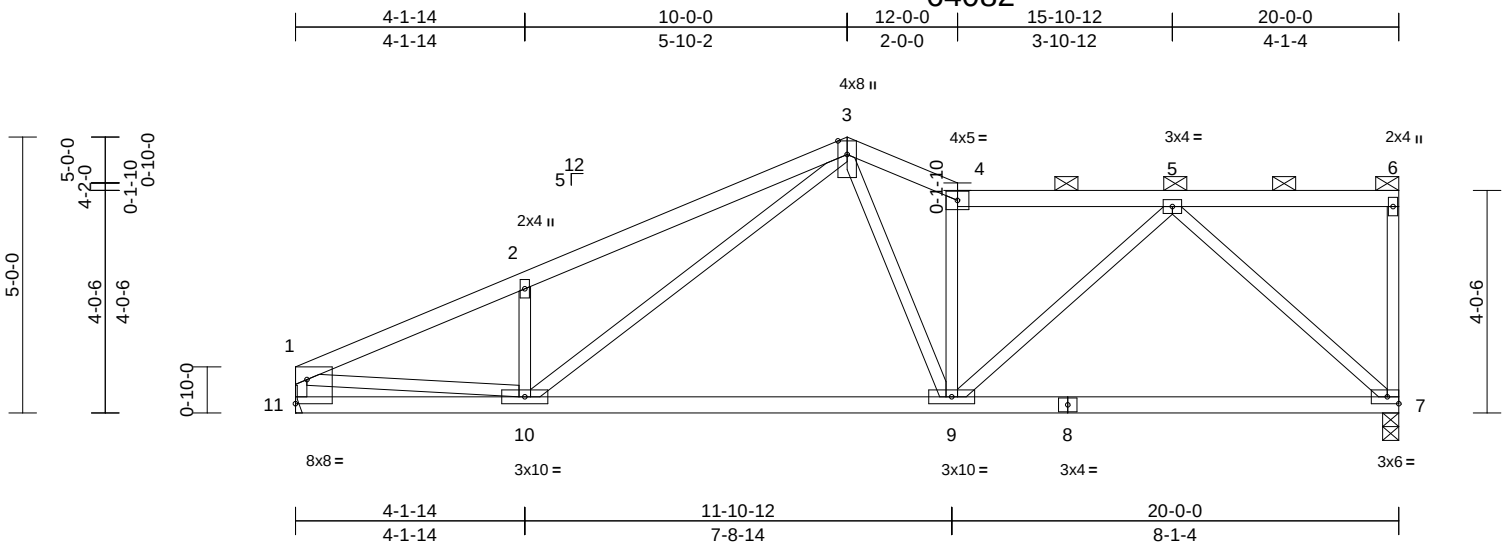
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:00

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	D1	Roof Special	1	1	I66389205 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1
ID:RQRL1CjSF16FGTBPWB1Xn?zX4oO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:41.8

Plate Offsets (X, Y): [11:Edge,0-5-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	-0.11	7-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.23	7-9	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.78	Horz(CT)	-0.02	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	9-10	>999	240	Weight: 76 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 3-10-4 oc purlins, except end verticals, and 2-0-0 oc purlins (5-3-6 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 11= Mechanical
Max Horiz 7=157 (LC 5)
Max Uplift 7=-134 (LC 5), 11=-112 (LC 8)
Max Grav 7=891 (LC 1), 11=891 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-7=-114/43, 4-5=-1157/122, 5-6=-62/37, 3-4=-1255/139, 1-2=-1517/185, 2-3=-1556/292, 1-11=-850/124
BOT CHORD 10-11=-31/154, 9-10=-14/960, 7-9=-40/772
WEBS 1-10=-114/1218, 5-7=-1039/192, 2-10=-390/208, 4-9=-617/116, 5-9=-21/524, 3-10=-179/569, 3-9=-22/523

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 7 and 112 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

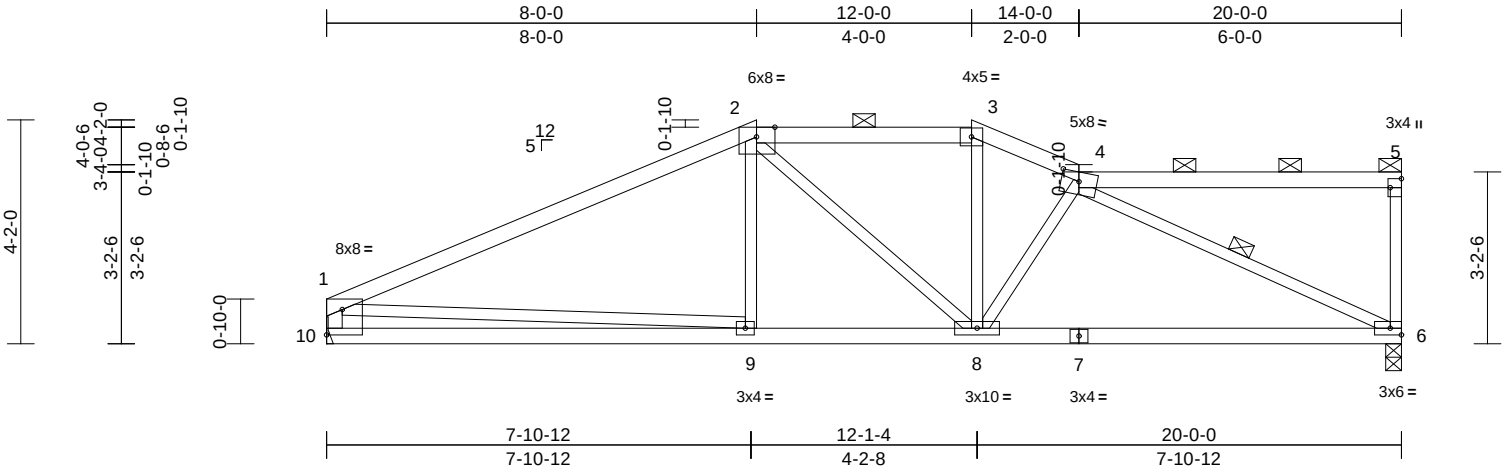
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	D2	Roof Special	1	1	I66389206 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1
ID:KxbDhDibnVqs2xSHhWw?brz4MLA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:42.9

Plate Offsets (X, Y): [1:Edge,0-5-11], [2:0-4-2,Edge], [4:0-4-0,0-2-2], [5:Edge,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.13	6-8	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	-0.26	6-8	>899	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.59	Horz(CT)	-0.03	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	8-9	>999	240	Weight: 73 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2 *Except* 2-1:2x4 SPF 2100F 1.8E
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 10-1:2x4 SPF No.2

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

REACTIONS (size) 6=0-3-8, 10= Mechanical
Max Horiz 6=121 (LC 7)
Max Uplift 6=-138 (LC 5), 10=-96 (LC 8)
Max Grav 6=889 (LC 1), 10=889 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-202/80, 4-5=-60/29, 3-4=-1277/160, 2-3=-1130/148, 1-2=-1371/140, 1-10=-810/142
BOT CHORD 9-10=-133/544, 8-9=-68/1167, 6-8=-103/1257
WEBS 4-6=-1362/220, 4-8=-223/124, 3-8=-33/344, 2-8=-164/111, 2-9=0/202, 1-9=-14/635

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 138 lb uplift at joint 6 and 96 lb uplift at joint 10.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

June 21,2024

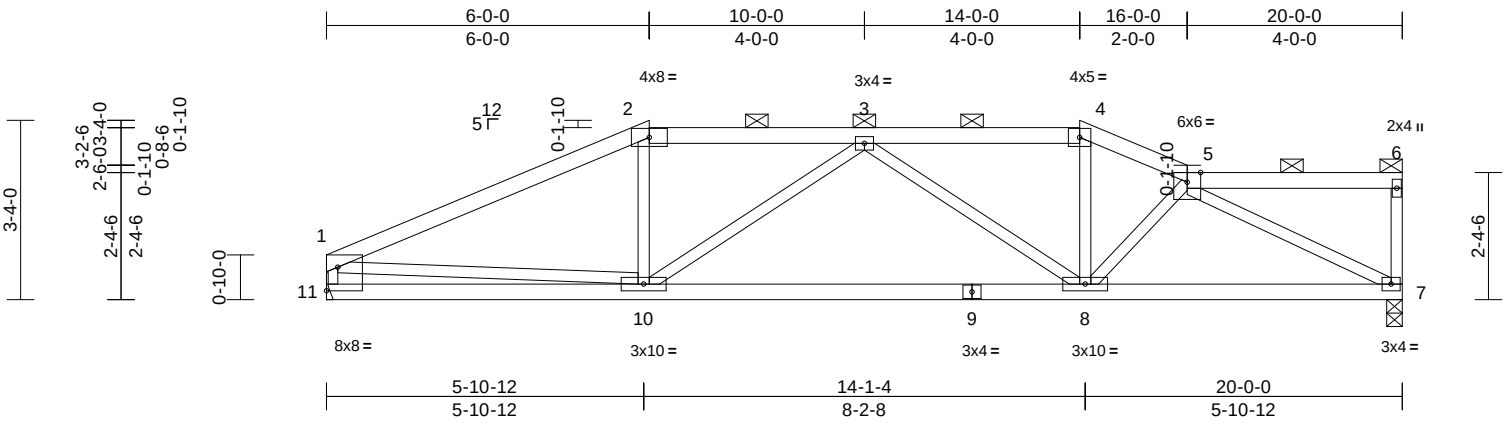
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:01

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	D3	Roof Special	1	1	I66389207
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1
ID:s0ZG2hud0PrayOgMdtDlEDz4MKw-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:42.8

Plate Offsets (X, Y): [11:Edge,0-5-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.11	8-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.24	8-10	>987	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.74	Horz(CT)	-0.04	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	8-10	>999	240	Weight: 71 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 3-8-13 oc purlins, except end verticals, and 2-0-0 oc purlins (5-0-0 max.): 5-6, 2-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, 11= Mechanical
Max Horiz 7=85 (LC 5)
Max Uplift 7=-141 (LC 5), 11=-95 (LC 4)
Max Grav 7=891 (LC 1), 11=891 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-7=-140/54, 5-6=-41/23, 4-5=-1421/191, 2-3=-1297/187, 3-4=-1279/183, 1-2=-1485/177, 1-11=-839/120
BOT CHORD 10-11=-87/316, 8-10=-209/1518, 7-8=-140/1314
WEBS 5-7=-1467/232, 5-8=-51/92, 4-8=-8/352, 2-10=0/285, 1-10=-68/990, 3-10=-378/113, 3-8=-367/123

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 141 lb uplift at joint 7 and 95 lb uplift at joint 11.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

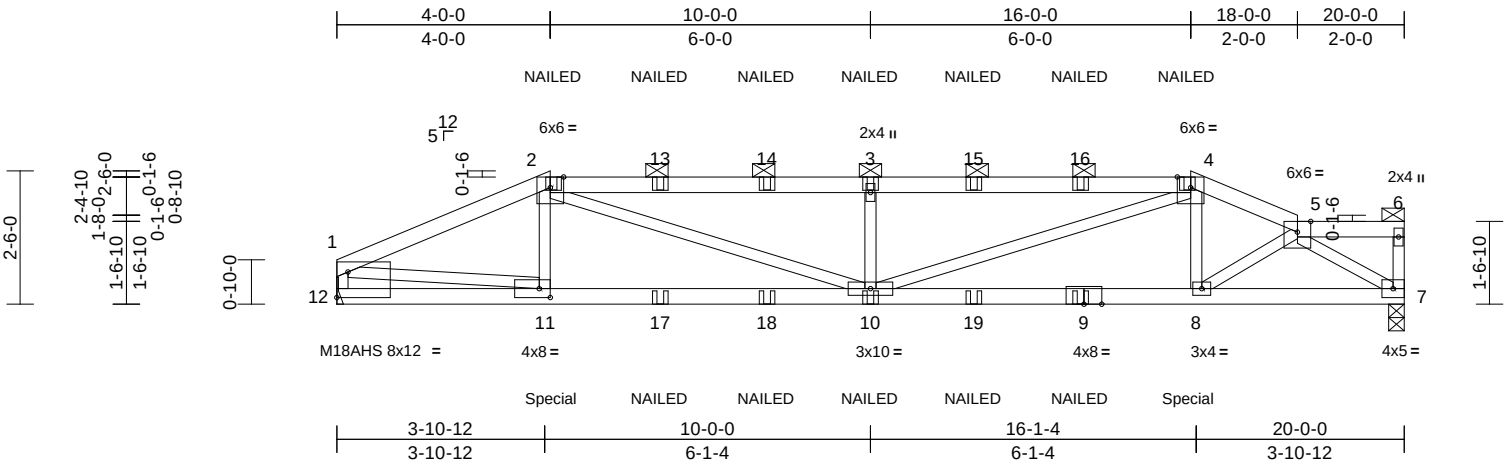
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:01

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	D4	Roof Special Girder	1	1	I66389208 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:53 Page: 1

ID:tH5hcV5H?e_AV?Ud7x0kQoz4MKf-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:43.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.16	10-11	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.29	10-11	>816	240	M18AHS	142/136
BCLL	0.0*	Rep Stress Incr	NO	WB	0.67	Horz(CT)	-0.06	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.14	10-11	>999	240	Weight: 68 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2 *Except* 4-2:2x4 SPF 2100F 1.8E

BOT CHORD 2x4 SPF No.2

WEBS 2x3 SPF No.2

BRACING

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

BOT CHORD Rigid ceiling directly applied or 8-6-13 oc bracing.

REACTIONS (size) 7=0-3-8, 12= Mechanical
Max Horiz 7=49 (LC 26)
Max Uplift 7=-294 (LC 5), 12=-272 (LC 4)
Max Grav 7=1334 (LC 1), 12=1334 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 6-7=-99/34, 5-6=-37/19, 4-5=-2353/523, 2-3=-3407/797, 3-4=-3407/797, 1-2=-2376/519, 1-12=-1296/281

BOT CHORD 11-12=-62/217, 10-11=-466/2156, 8-10=-463/2169, 7-8=-369/1778

WEBS 5-7=-2129/478, 5-8=-109/545, 4-8=0/182, 4-10=-315/1355, 3-10=-691/326, 2-10=-317/1379, 2-11=0/172, 1-11=-416/1964

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) All bearings are assumed to be SPF No.2 .
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 294 lb uplift at joint 7 and 272 lb uplift at joint 12.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.
13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 219 lb down and 55 lb up at 4-0-0, and 219 lb down and 55 lb up at 15-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
14) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 5-6=-70, 4-5=-70, 2-4=-70, 1-2=-70, 7-12=-20
Concentrated Loads (lb)
Vert: 4=-47 (B), 2=-47 (B), 9=-24 (B), 8=-219 (B), 3=-47 (B), 10=-24 (B), 11=-219 (B), 13=-47 (B), 14=-47 (B), 15=-47 (B), 16=-47 (B), 17=-24 (B), 18=-24 (B), 19=-24 (B)

June 21,2024

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:01

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	E1	Monopitch	3	1	I66389209

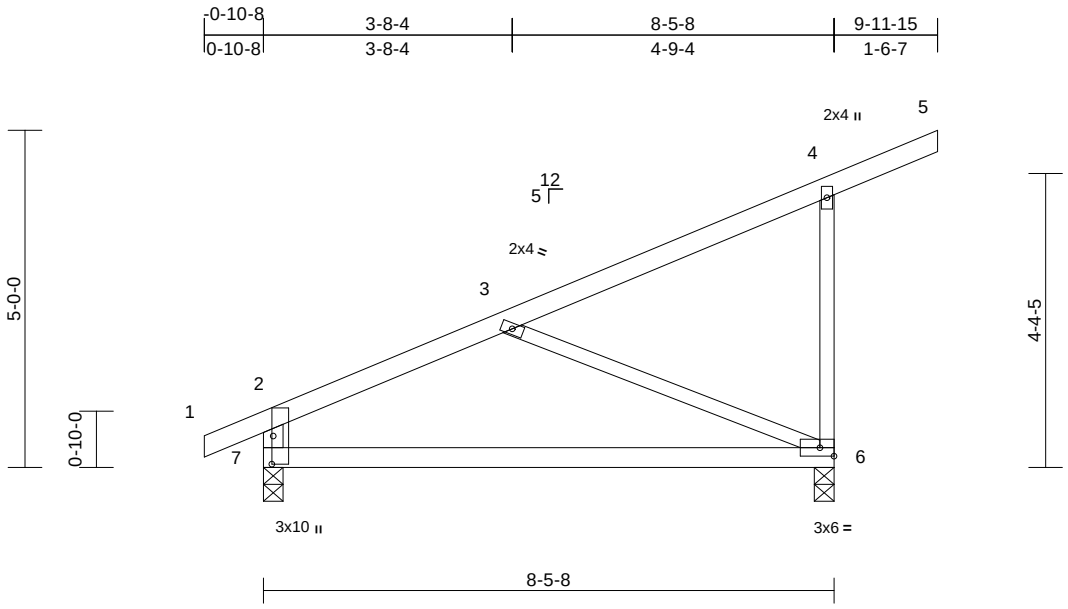
1916 SW hightown rd, Lees Summit MO 64082

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1

ID:KKpWOME_w65Da9ynnxk628zX476-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:34.2

Plate Offsets (X, Y): [7:0-5-0,0-0-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	-0.17	6-7	>569	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.34	6-7	>291	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.23	Horz(CT)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	-0.01	6-7	>999	240	Weight: 31 lb	FT = 10%

LUMBER

TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 7-2:2x4 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) 6=0-3-8, 7=0-3-8
Max Horiz 7=209 (LC 5)
Max Uplift 6=-142 (LC 8), 7=-57 (LC 8)
Max Grav 6=491 (LC 1), 7=434 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-413/84, 3-4=-136/54, 4-5=-44/0, 4-6=-287/123, 2-7=-343/107
BOT CHORD 6-7=-131/334
WEBS 3-6=-346/178

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 142 lb uplift at joint 6 and 57 lb uplift at joint 7.
6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

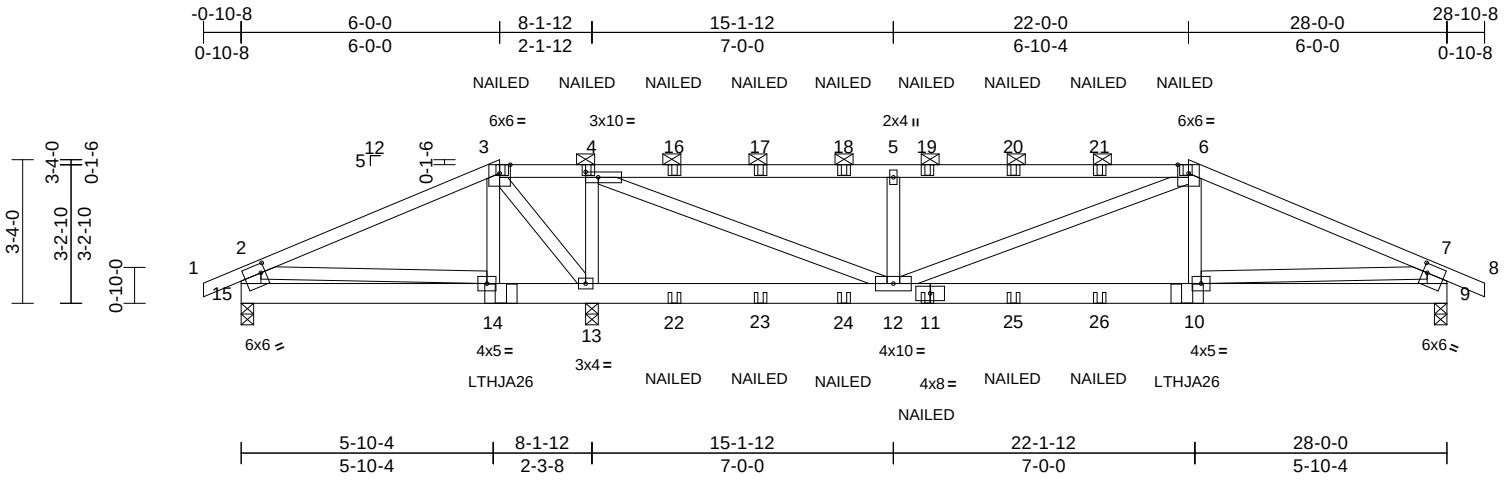
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	G1	Hip Girder	1	2	I66389210
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:oouJAWSGgeNgkwKErj2KnxzX46q-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:53.5

Plate Offsets (X, Y): [4:0-3-8,0-1-8], [9:0-1-4,0-2-8], [15:0-1-4,0-2-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.06	10-12	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.12	10-12	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.44	Horz(CT)	0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.05	10-12	>999	240	Weight: 260 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SPF No.2
WEBS 2x4 SPF No.2 *Except* 15-2,9-7:2x6 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.): 3-6.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 9=0-3-8, 13=0-3-8, 15=0-3-8
Max Horiz 15=31 (LC 8)
Max Uplift 9=-303 (LC 9), 13=-659 (LC 4), 15=-225 (LC 27)
Max Grav 9=1465 (LC 1), 13=3211 (LC 1), 15=110 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-145/715, 3-4=-232/1269, 4-5=-2065/489, 5-6=-2069/491, 6-7=-2566/537, 7-8=0/30, 2-15=-79/262, 7-9=-1392/322
BOT CHORD 14-15=-184/257, 13-14=-671/178, 12-13=-1272/315, 10-12=-443/2279, 9-10=-186/627
WEBS 3-14=-75/457, 6-10=0/503, 2-14=-817/232, 7-10=-332/1760, 4-13=-1988/543, 3-13=-1144/255, 6-12=-236/88, 5-12=-985/472, 4-12=-781/3595

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web 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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 225 lb uplift at joint 15, 303 lb uplift at joint 9 and 659 lb uplift at joint 13.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
12) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Right Hand Hip) or equivalent at 6-0-6 from the left end to connect truss(es) to back face of bottom chord.
13) Use Simpson Strong-Tie LTHJA26 (LTHJA26 on 2 ply, Left Hand Hip) or equivalent at 21-11-10 from the left end to connect truss(es) to back face of bottom chord.
14) Fill all nail holes where hanger is in contact with lumber.
15) "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidlines.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-6=-70, 6-7=-70, 7-8=-70, 9-15=-20
Concentrated Loads (lb)
Vert: 3=-112 (B), 6=-112 (B), 11=-52 (B), 14=-419 (B), 10=-419 (B), 4=-38 (B), 16=-112 (B), 17=-112 (B), 18=-112 (B), 19=-112 (B), 20=-112 (B), 21=-112 (B), 22=-52 (B), 23=-52 (B), 24=-52 (B), 25=-52 (B), 26=-52 (B)

STATE OF MISSOURI JUAN GARCIA NUMBER E-2000162101 PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

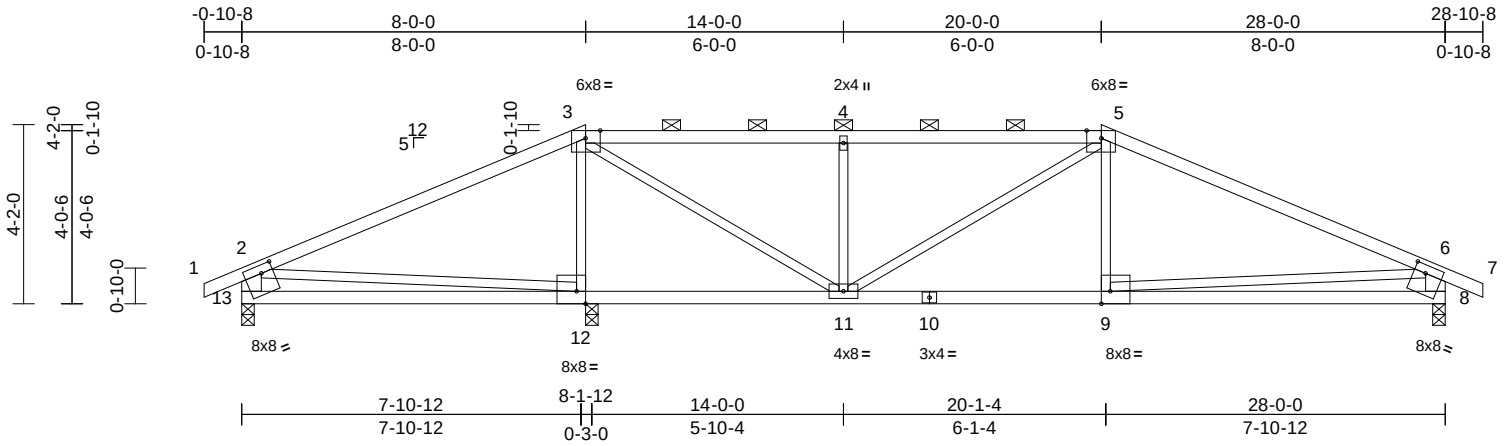
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	G2	Hip	1	1	I66389211
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:sPmZlqR0916yVdAsjI0siWzX46s-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:53.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.09	8-9	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.18	8-9	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.03	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.04	9-11	>999	240	Weight: 101 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 13-2,8-6:2x6 SPF No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-7-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-6-1 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 11-12.

REACTIONS (size) 8=0-3-8, 12=0-3-8, 13=0-3-8
Max Horiz 13=-43 (LC 13)
Max Uplift 8=-134 (LC 9), 12=-153 (LC 4), 13=-134 (LC 8)
Max Grav 8=944 (LC 1), 12=1339 (LC 1), 13=359 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-36/258, 3-4=-967/238, 4-5=-967/238, 5-6=-1316/193, 6-7=0/30, 2-13=-295/178, 6-8=-872/179
BOT CHORD 12-13=-287/590, 11-12=-183/35, 9-11=-105/1106, 8-9=-247/718
WEBS 3-12=-1118/229, 3-11=-204/1279, 4-11=-481/194, 5-11=-199/38, 5-9=0/274, 2-12=-677/219, 6-9=0/569

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) All bearings are assumed to be SPF No.2 .
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 13, 153 lb uplift at joint 12 and 134 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.

LOAD CASE(S) Standard

June 21,2024

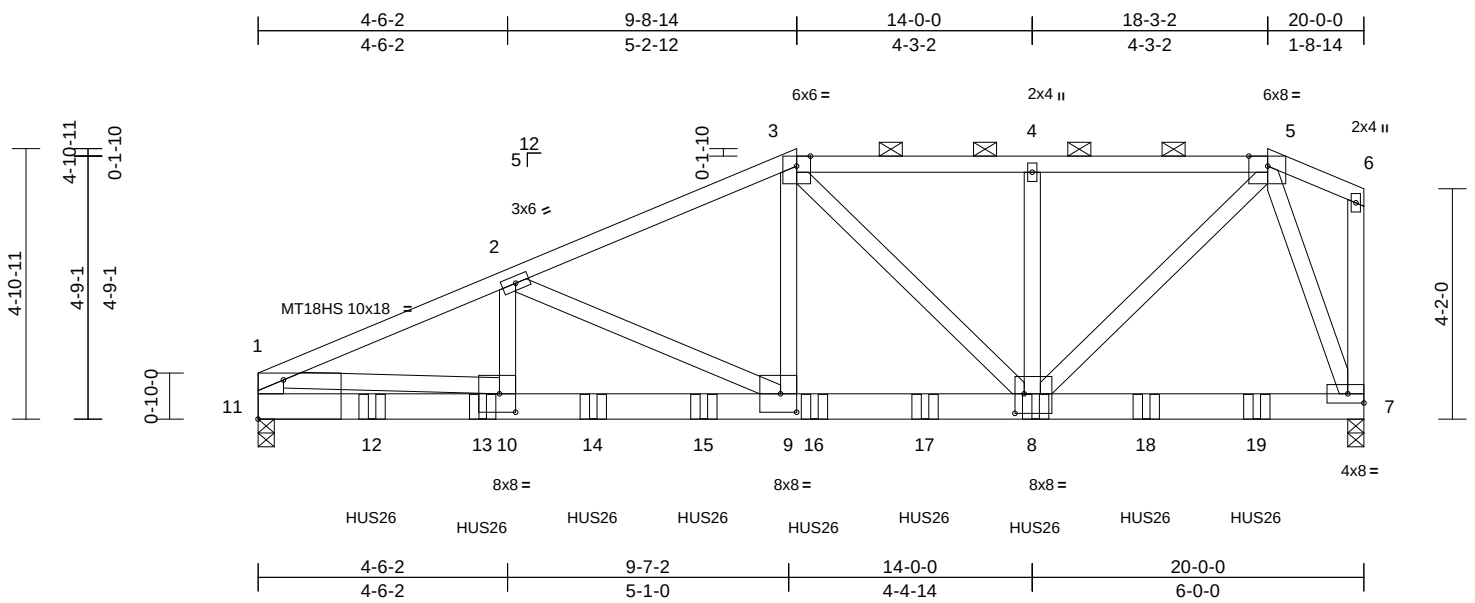
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	G3	Hip Girder	1	2	I66389212

1916 SW hightown rd, Lees Summit MO 64082

Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:0hIod5rQsMHx345fsG3xMezNVpv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:41.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.12	9-10	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.21	9-10	>999	240	MT18HS	197/144
BCLL	0.0*	Rep Stress Incr	NO	WB	0.67	Horz(CT)	0.03	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.08	9-10	>999	240	Weight: 231 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 11-1:2x6 SP 2400F 2.0E

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-10 oc purlins, except end verticals, and 2-0-0 oc purlins (5-5-9 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7=0-3-8, (req. 0-3-10), 11=0-3-8, (req. 0-4-0)
Max Horiz 11=163 (LC 7)
Max Uplift 7=-495 (LC 5), 11=-685 (LC 8)
Max Grav 7=4626 (LC 1), 11=5117 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-8433/1029, 2-3=-6385/705, 3-4=-4951/565, 4-5=-4951/565, 5-6=-144/62, 1-11=-4081/518, 6-7=-114/34
BOT CHORD 10-11=-455/2282, 9-10=-999/7722, 8-9=-666/5760, 7-8=-201/1418
WEBS 2-10=-210/1476, 2-9=-2053/460, 3-9=-310/2950, 3-8=-1178/211, 4-8=-457/152, 5-7=-3998/480, 1-10=-583/5484, 5-8=-517/5106

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 0-6-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.
Web 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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) WARNING: Required bearing size at joint(s) 11, 7 greater than input bearing size.
10) All bearings are assumed to be SPF No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 685 lb uplift at joint 11 and 495 lb uplift at joint 7.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 8-0-12 to connect truss(es) to back face of bottom chord.
15) Use Simpson Strong-Tie HUS26 (14-10d Girder, 4-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 10-0-12 from the left end to 18-0-12 to connect truss(es) to back face of bottom chord.
16) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 3-5=-70, 5-6=-70, 7-11=-20
Concentrated Loads (lb)
Vert: 8=-806 (B), 12=-1314 (B), 13=-871 (B), 14=-869 (B), 15=-871 (B), 16=-830 (B), 17=-820 (B), 18=-809 (B), 19=-787 (B)

STATE OF MISSOURI JUAN GARCIA NUMBER E-2000163101 PROFESSIONAL ENGINEER

JUAN GARCIA LICENSED 16952 KANSAS PROFESSIONAL ENGINEER

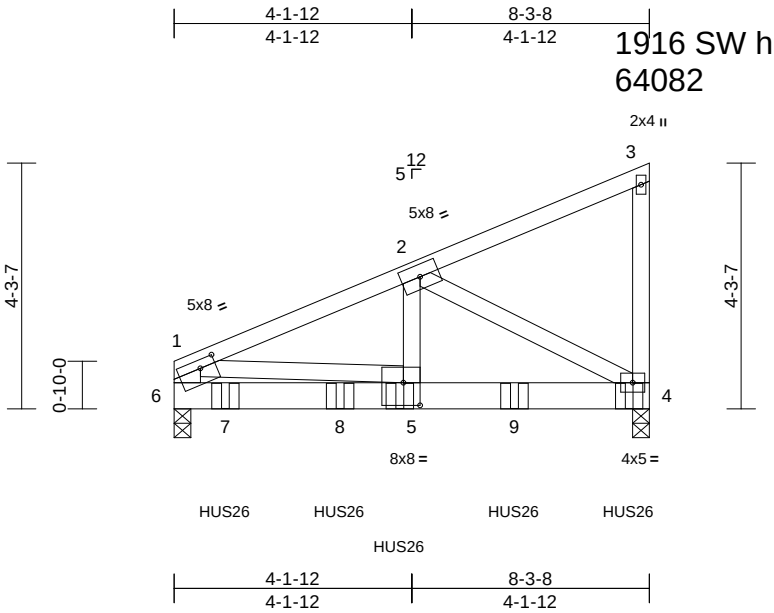
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	G4	Monopitch Girder	1	**2**	I66389213
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:BAIOWzILIPprf5eA1excASzNVrK-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:40.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	-0.05	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.08	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.62	Horz(CT)	0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P		Wind(LL)	0.02	5-6	>999	240	Weight: 90 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SPF No.2 *Except* 6-1:2x6 SPF No.2

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

REACTIONS (size) 4=0-3-8, (req. 0-4-2), 6=0-3-8, (req. 0-4-0)
Max Horiz 6=165 (LC 5)
Max Uplift 4=-175 (LC 8), 6=-135 (LC 8)
Max Grav 4=5289 (LC 15), 6=5107 (LC 18)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5770/158, 2-3=-89/40, 3-4=-127/43, 1-6=-3035/115
BOT CHORD 5-6=-162/15, 4-5=-175/5233
WEBS 2-5=-41/4853, 2-4=-5959/235, 1-5=-115/5353

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-4-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-5-0 oc.
Web 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) 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) exterior zone; 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
6) WARNING: Required bearing size at joint(s) 4, 6 greater than input bearing size.
7) All bearings are assumed to be SPF No.2 .
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 175 lb uplift at joint 4 and 135 lb uplift at joint 6.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-10-12 from the left end to 7-11-4 to connect truss(es) to front face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-70, 4-6=-20
Concentrated Loads (lb)
Vert: 4=-1845 (F), 5=-1837 (F), 7=-1840 (F), 8=-1837 (F), 9=-1837 (F)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

June 21,2024

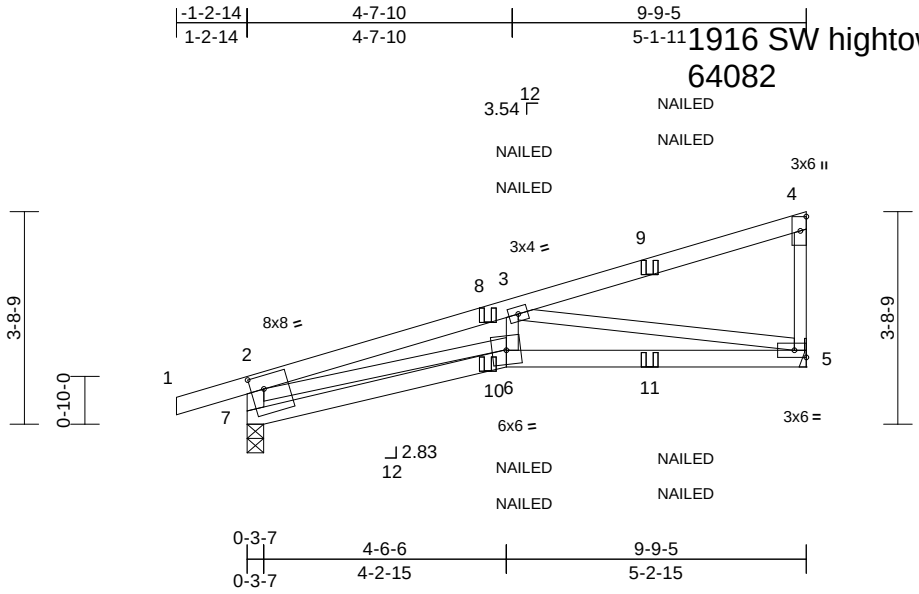
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:01

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J1	Diagonal Hip Girder	1	1	I66389214 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:?ZIMXg1MuezcxqpwEfN9kHzNXbI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:40.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.08	6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.15	5-6	>744	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.05	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.07	6	>999	240	Weight: 35 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-3 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 8-11-7 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-7
Max Horiz 7=138 (LC 5)
Max Uplift 5=-130 (LC 8), 7=-147 (LC 4)
Max Grav 5=535 (LC 1), 7=578 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-571/184, 1-2=0/27, 2-3=-1565/360, 3-4=-151/32, 4-5=-199/94
BOT CHORD 6-7=-148/237, 5-6=-417/1425
WEBS 2-6=-286/1238, 3-6=0/337, 3-5=-1395/404

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 130 lb uplift at joint 5 and 147 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 6-7=-20, 5-6=-20
Concentrated Loads (lb)
Vert: 9=-97 (F=-48, B=-48), 10=-5 (F=-3, B=-3), 11=-56 (F=-28, B=-28)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

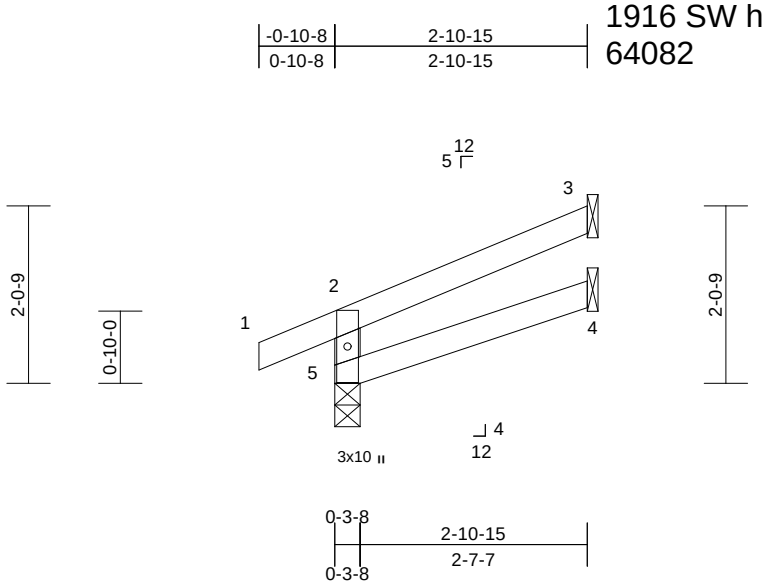
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J2	Jack-Open	2	1	I66389215
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:54 Page: 1
ID:hskaECvfZNNgvinFrLja0tzNXck-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:26.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	-0.01	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	4-5	>999	240	Weight: 9 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=53 (LC 5)
Max Uplift 3=-45 (LC 8), 5=-29 (LC 8)
Max Grav 3=80 (LC 1), 4=50 (LC 3), 5=207 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-181/56, 1-2=0/27, 2-3=-46/23
BOT CHORD 4-5=-18/12

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 5 and 45 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

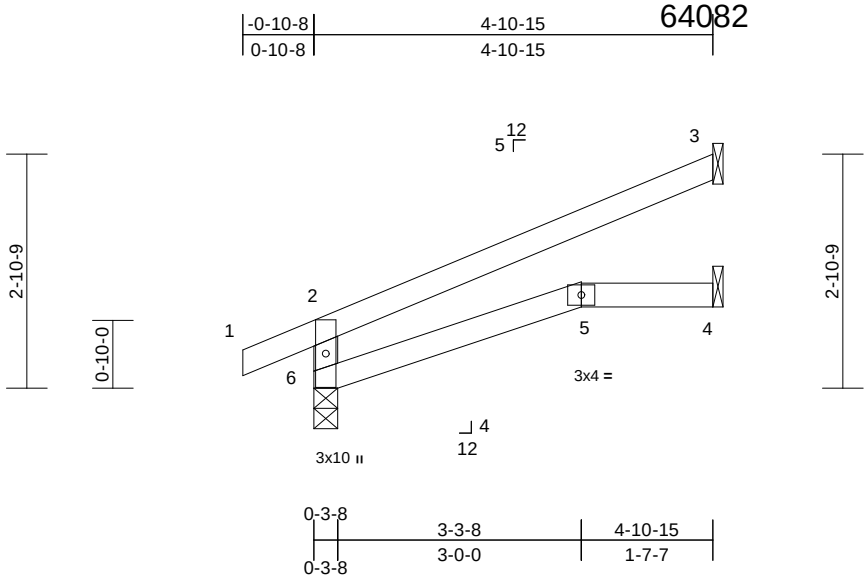
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J3	Jack-Open	2	1	I66389216
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:6RQisEyXsImFm9VqWTHHdWzNXch-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:28.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.34	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)	0.03	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.03	5-6	>999	240	Weight: 14 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 6=0-3-8
Max Horiz 6=86 (LC 8)
Max Uplift 3=-77 (LC 8), 6=-37 (LC 8)
Max Grav 3=147 (LC 1), 4=88 (LC 3), 6=291 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-6=-253/82, 1-2=0/27, 2-3=-78/44
BOT CHORD 5-6=-31/6, 4-5=0/0

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 6 and 77 lb uplift at joint 3.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

June 21,2024

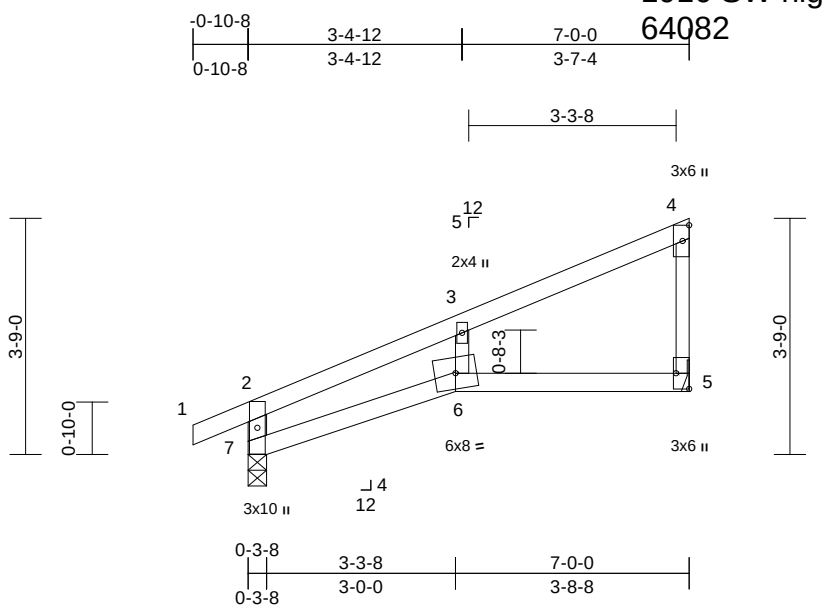
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J4	Jack-Closed	11	1	I66389217
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1

ID:_CfDic?2wXGgEmpblJLDoMzNXcd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:36.6

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 (roof)	25.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.15	6	>536	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.27	6	>302	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.09	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.11	6	>737	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* 7-2:2x4 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) 5= Mechanical, 7=0-3-8
Max Horiz 7=107 (LC 5)
Max Uplift 5=-26 (LC 8), 7=-14 (LC 8)
Max Grav 5=298 (LC 1), 7=381 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-324/26, 1-2=0/27, 2-3=-175/0, 3-4=-101/17, 4-5=-190/36
BOT CHORD 6-7=-27/82, 5-6=-24/87
WEBS 3-6=-31/83

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) 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.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 7 and 26 lb uplift at joint 5.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

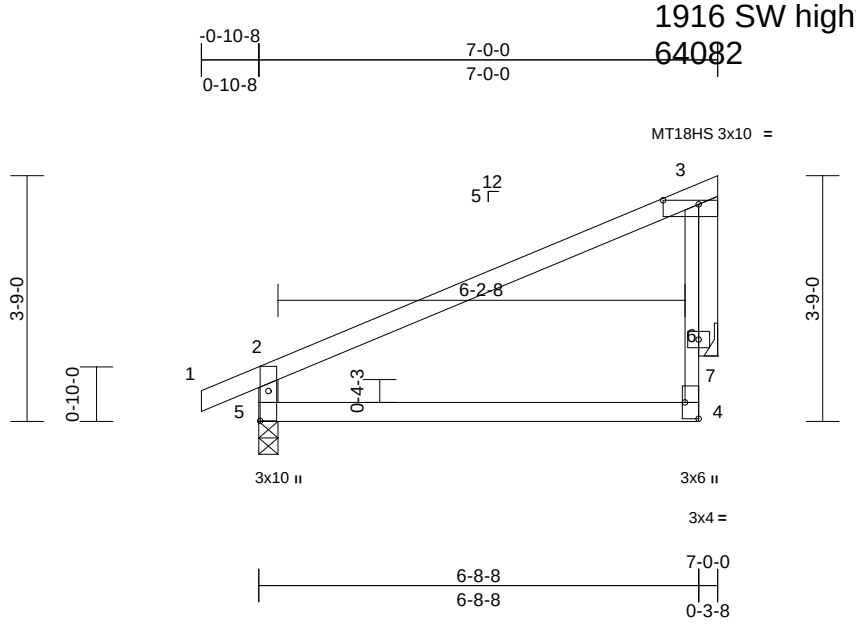
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J5	Jack-Closed	1	1	I66389218
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:6iy8Q29BsXvqImI50X4Gp5zNXcQ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:35.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	-0.05	4-5	>999	360	MT18HS	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.10	4-5	>824	240	MT20	197/144
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.02	4-5	>999	240	Weight: 23 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 3-4:2x3 SPF No.2
OTHERS 2x4 SPF No.2

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

REACTIONS (size) 5=0-3-8, 7= Mechanical
Max Horiz 5=85 (LC 5)
Max Uplift 5=-5 (LC 8), 7=-34 (LC 8)
Max Grav 5=380 (LC 1), 7=273 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-335/55, 1-2=0/27, 2-3=-223/0, 4-6=0/135, 3-6=-246/131
BOT CHORD 4-5=-19/132
WEBS 3-7=-93/46

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) 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
5) All bearings are assumed to be SPF No.2 .
6) Refer to girder(s) for truss to truss connections.
7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 5 and 34 lb uplift at joint 7.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

June 21,2024

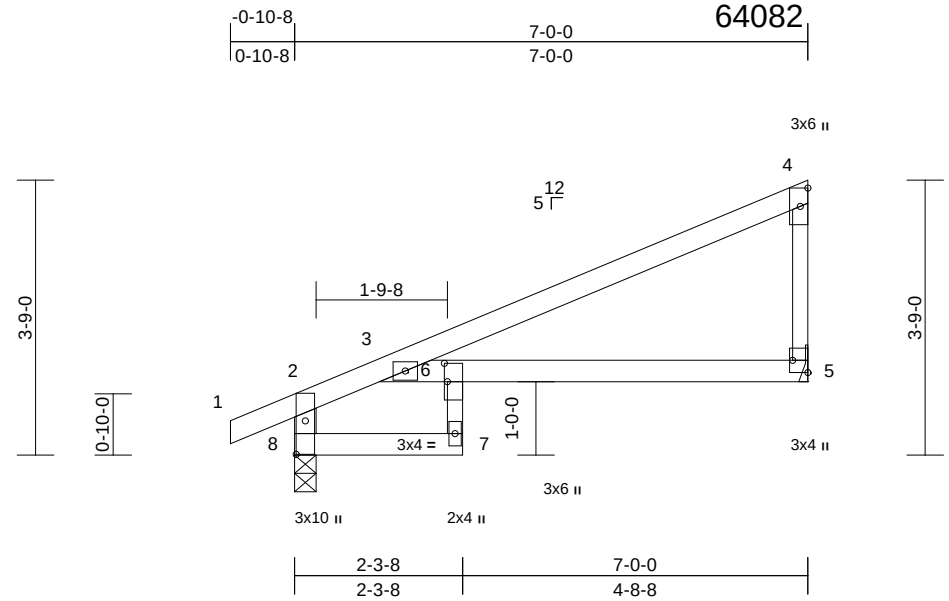
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J6	Jack-Closed	3	1	I66389219
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1

ID:6iy8Q29BsXvqImI50X4Gp5zNXcQ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:31.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.10	5-6	>809	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.20	5-6	>399	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.09	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.07	5-6	>999	240	Weight: 22 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2 *Except* 7-6:2x3 SPF No.2
WEBS 2x4 SPF No.2 *Except* 4-5:2x3 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) 5= Mechanical, 8=0-3-8
Max Horiz 8=106 (LC 5)
Max Uplift 5=-26 (LC 8), 8=-14 (LC 8)
Max Grav 5=298 (LC 1), 8=381 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-375/37, 1-2=0/27, 2-3=-233/11, 3-4=-131/12, 4-5=-187/45
BOT CHORD 7-8=-45/129, 6-7=-5/48, 3-6=-64/50, 5-6=-19/65

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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 8 and 26 lb uplift at joint 5.
7) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

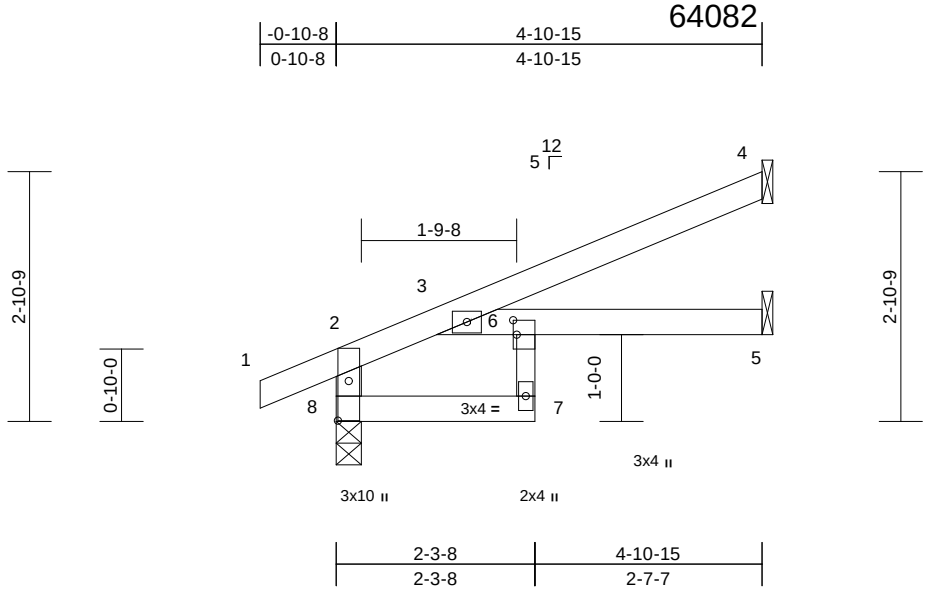
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J7	Jack-Open	2	1	I66389220
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:?ZIMXg1MuezcxqpwEfN9kHzNXbI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:26.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	-0.03	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.06	5-6	>984	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.03	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.03	5-6	>999	240	Weight: 15 lb	FT = 10%

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

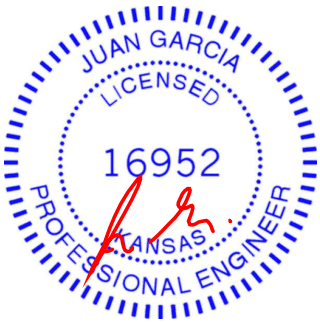
BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=87 (LC 8)
Max Uplift 4=-61 (LC 8), 8=-30 (LC 8)
Max Grav 4=133 (LC 1), 5=97 (LC 3), 8=305 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-293/58, 1-2=0/27, 2-3=-153/0, 3-4=-49/41
BOT CHORD 7-8=-46/76, 6-7=-4/46, 3-6=-76/46, 5-6=0/0

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 8 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.

LOAD CASE(S) Standard



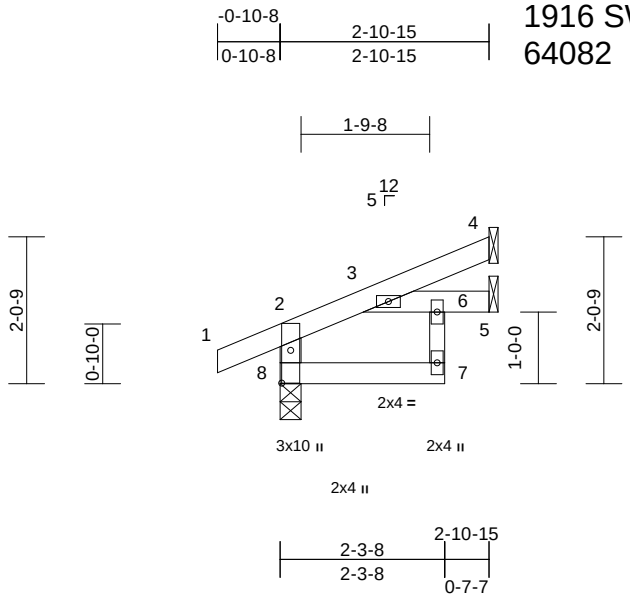
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J8	Jack-Open	2	1	I66389221
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:?ZIMXg1MuezcxqpwEfN9kHzNXbI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:32.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	0.00	3	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	0.00	3-6	>999	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.00	3	>999	240	Weight: 10 lb	FT = 10%

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

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 8=0-3-8
Max Horiz 8=53 (LC 8)
Max Uplift 4=-30 (LC 8), 5=-2 (LC 8), 8=-24 (LC 8)
Max Grav 4=66 (LC 1), 5=72 (LC 3), 8=216 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-8=-196/45, 1-2=0/27, 2-3=-69/0, 3-4=-21/21
BOT CHORD 7-8=-16/25, 6-7=0/42, 3-6=-25/16, 5-6=0/0

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 8, 30 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.

LOAD CASE(S) Standard

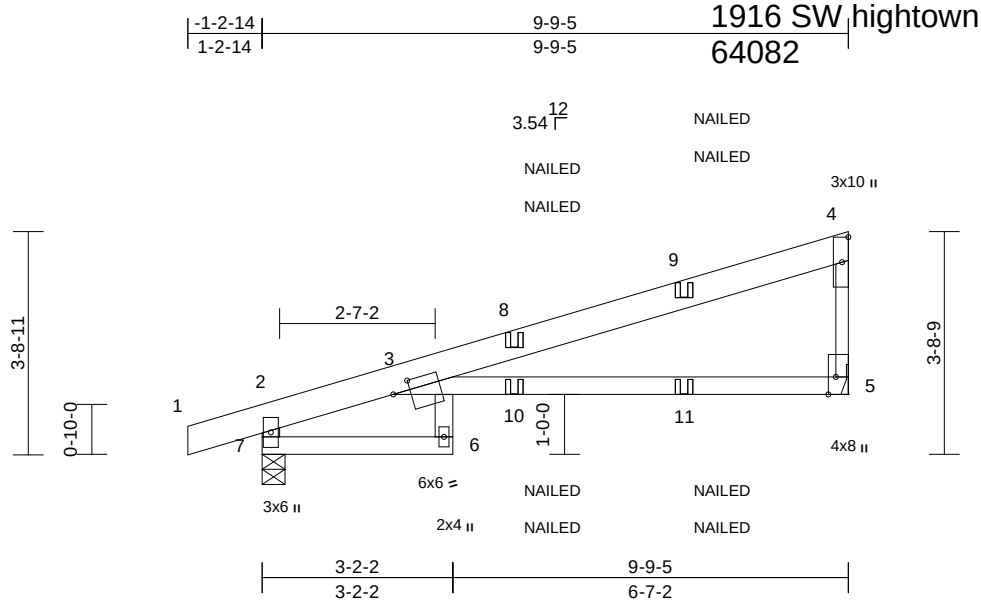
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J9	Diagonal Hip Girder	1	1	I66389222
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:Tlskl01_fy5TZ_O7oNuOHVzNXbH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:38.4

Plate Offsets (X, Y): [3:0-3-7,0-1-14], [5:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.60	Vert(LL)	-0.21	6	>552	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.51	Vert(CT)	-0.44	3-5	>261	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.15	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.20	6	>558	240	Weight: 42 lb	FT = 10%

LUMBER
TOP CHORD 2x6 SP 2400F 2.0E
BOT CHORD 2x4 SPF 2100F 1.8E *Except* 6-3:2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 4-5:2x3 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) 5= Mechanical, 7=0-4-9
Max Horiz 7=134 (LC 5)
Max Uplift 5=-111 (LC 8), 7=-148 (LC 4)
Max Grav 5=568 (LC 1), 7=621 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-603/170, 1-2=0/27, 2-3=-187/16, 3-4=-184/25, 4-5=-397/156
BOT CHORD 6-7=-37/0, 3-6=0/76, 3-5=-26/108

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 148 lb uplift at joint 7 and 111 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-3=-70, 3-4=-70, 6-7=-20, 3-5=-20
Concentrated Loads (lb)
Vert: 9=-68 (F=-34, B=-34), 10=-50 (F=-25, B=-25), 11=-99 (F=-49, B=-49)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

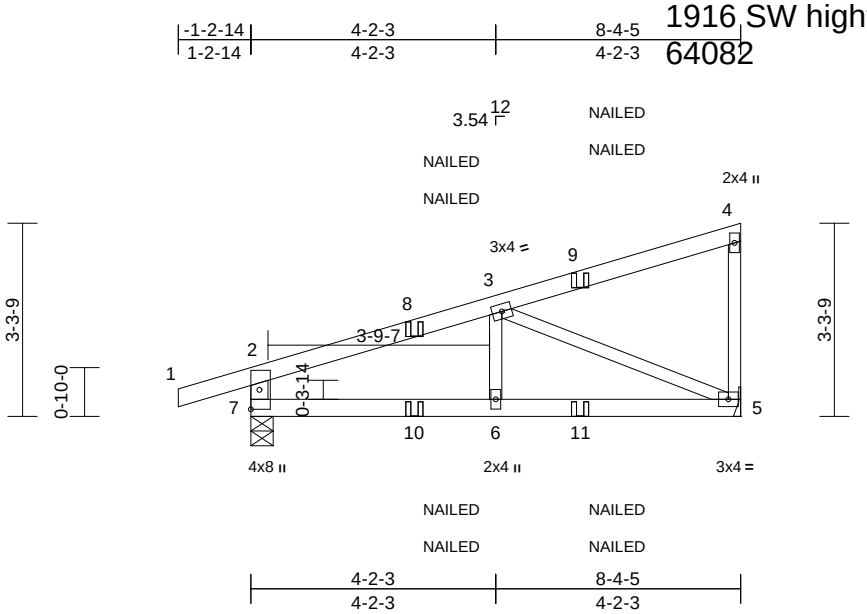
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J10	Diagonal Hip Girder	2	1	I66389223 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:WRzgi7NtKUUfPrluxlQh?TzX46x-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:39.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	-0.03	5-6	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.06	5-6	>999	240		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.24	Horz(CT)	0.01	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S		Wind(LL)	0.02	5-6	>999	240	Weight: 28 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x3 SPF No.2 *Except* 7-2:2x4 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) 5= Mechanical, 7=0-4-9
Max Horiz 7=135 (LC 5)
Max Uplift 5=-97 (LC 8), 7=-131 (LC 4)
Max Grav 5=396 (LC 1), 7=487 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-417/144, 1-2=0/27, 2-3=-549/103, 3-4=-107/29, 4-5=-142/61
BOT CHORD 6-7=-131/462, 5-6=-131/462
WEBS 3-6=0/173, 3-5=-484/144

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 131 lb uplift at joint 7 and 97 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 2-4=-70, 5-7=-20
Concentrated Loads (lb)
Vert: 9=-30 (F=-15, B=-15), 10=3 (F=1, B=1), 11=-29 (F=-15, B=-15)

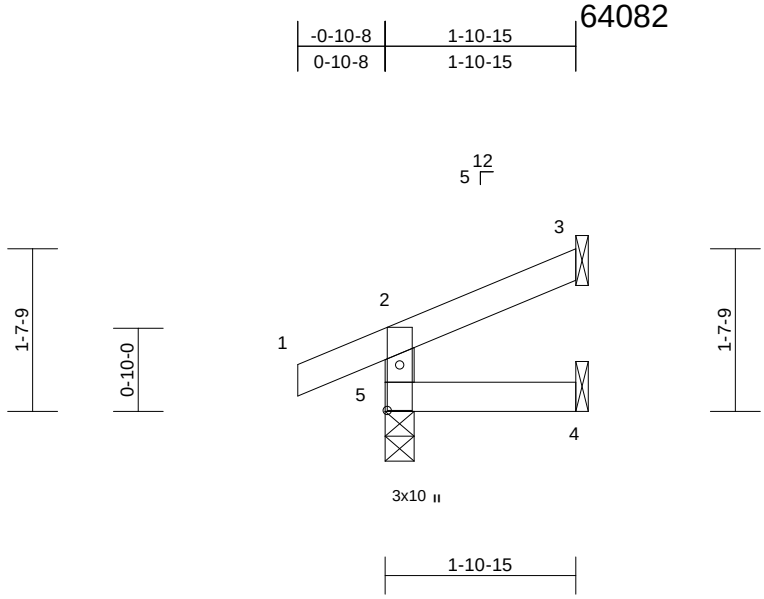
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J11	Jack-Open	8	1	I66389224 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:KKpWOME_w65Da9ynnxk628zX476-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:23.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	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	4-5	>999	240	Weight: 6 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=41 (LC 5)
Max Uplift 3=-29 (LC 8), 5=-32 (LC 4)
Max Grav 3=44 (LC 1), 4=32 (LC 3), 5=171 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-150/47, 1-2=0/27, 2-3=-32/12
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 5 and 29 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.

LOAD CASE(S) Standard

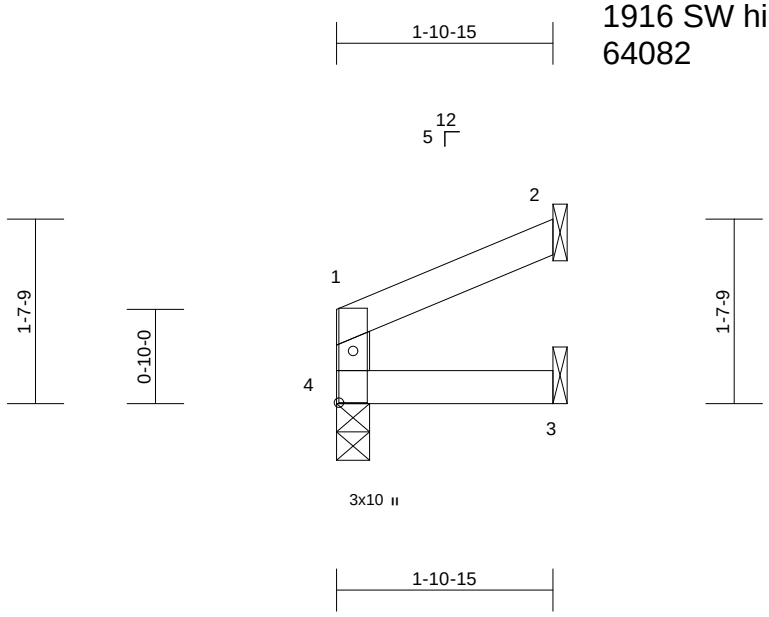
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J11A	Jack-Open	2	1	I66389225
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:55 Page: 1
ID:VZthYGjTSX1WAsdGJ7L8_uz4MnY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:20.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	0.00	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	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: 5 lb	FT = 10%

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

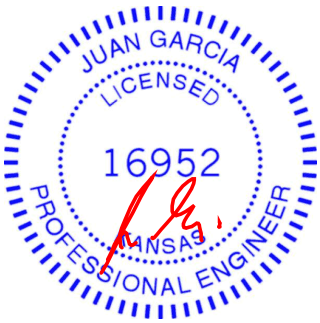
BRACING
TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2= Mechanical, 3= Mechanical, 4=0-3-8
Max Horiz 4=32 (LC 5)
Max Uplift 2=-32 (LC 8)
Max Grav 2=57 (LC 1), 3=34 (LC 3), 4=79 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-65/18, 1-2=-29/17
BOT CHORD 3-4=0/0

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 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.

LOAD CASE(S) Standard



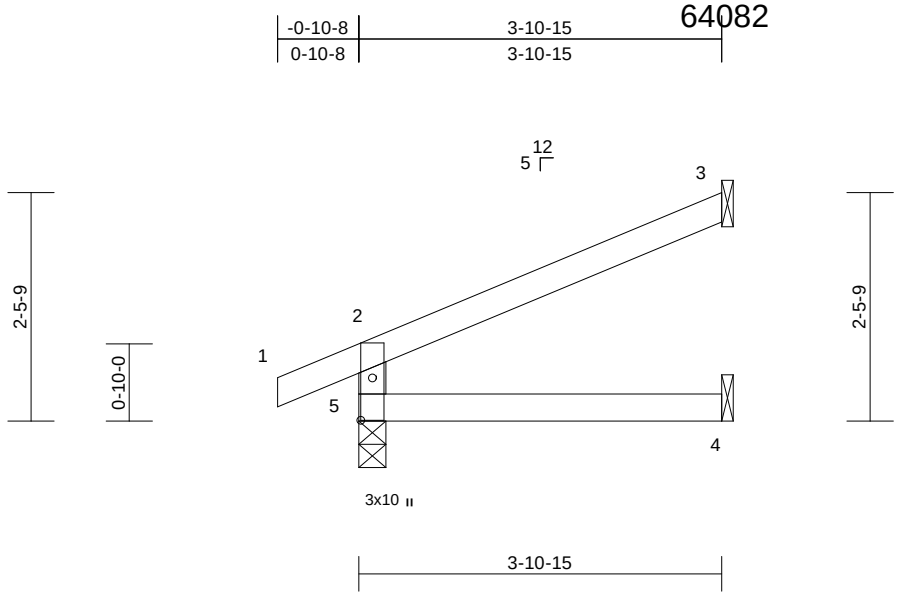
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J12	Jack-Open	4	1	I66389226
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:KKpWOME_w65Da9ynnxk628zX476-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:24.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.19	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)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=70 (LC 8)
Max Uplift 3=-61 (LC 8), 5=-34 (LC 8)
Max Grav 3=114 (LC 1), 4=70 (LC 3), 5=248 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-217/69, 1-2=0/27, 2-3=-62/34
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 5 and 61 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.

LOAD CASE(S) Standard

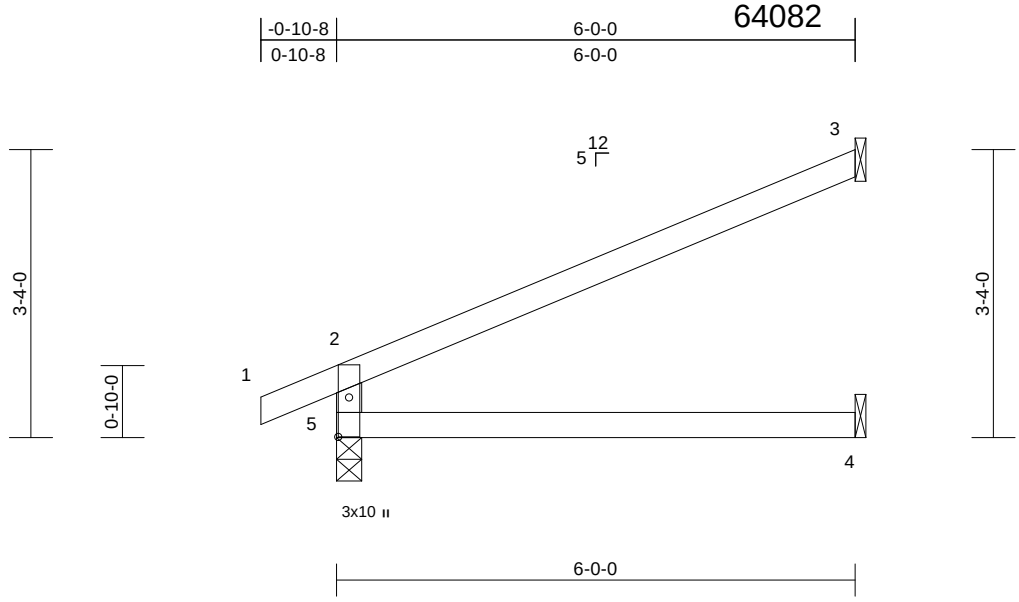
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J13	Jack-Open	9	1	I66389227
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:KbKxyASevKEp7ml2H?X5EkzX46r-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:26.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.05	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.12	4-5	>593	240		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.05	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-R		Wind(LL)	0.06	4-5	>999	240	Weight: 16 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=105 (LC 8)
Max Uplift 3=-92 (LC 8), 5=-43 (LC 8)
Max Grav 3=182 (LC 1), 4=109 (LC 3), 5=338 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-295/98, 1-2=0/27, 2-3=-96/55
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 5 and 92 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.

LOAD CASE(S) Standard

June 21,2024

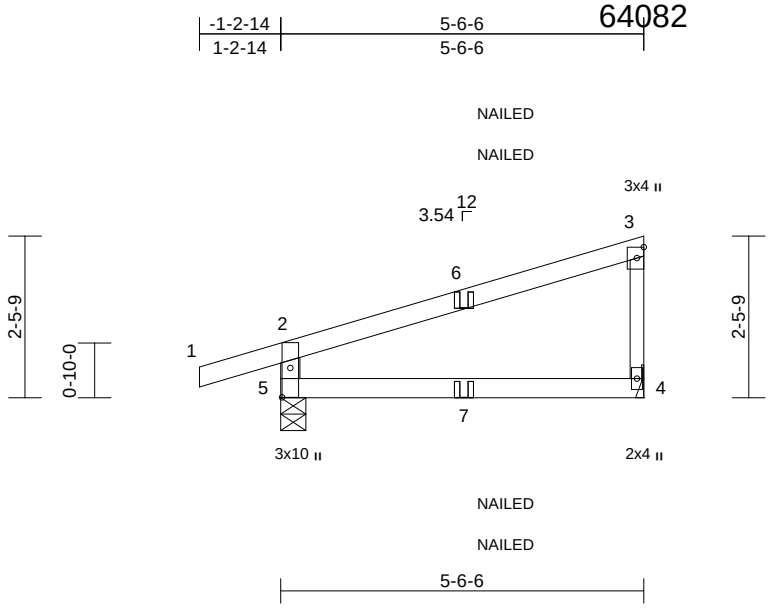
MiTek®
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J14	Diagonal Hip Girder	3	1	I66389228
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:_1yVKPxmC3IzKd?jMvgMjhz4MnG-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:35.1

Plate Offsets (X, Y): [5:0-5-6,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	-0.03	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.06	4-5	>991	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: 16 lb	FT = 10%

LUMBER
TOP CHORD 2x4 SPF No.2
BOT CHORD 2x4 SPF No.2
WEBS 2x4 SPF No.2 *Except* 3-4:2x3 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, 5=0-4-9
Max Horiz 5=99 (LC 5)
Max Uplift 4=-49 (LC 8), 5=-103 (LC 4)
Max Grav 4=224 (LC 1), 5=346 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-305/141, 1-2=0/27, 2-3=-128/14, 3-4=-161/72
BOT CHORD 4-5=-26/50

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 5 and 49 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) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

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

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

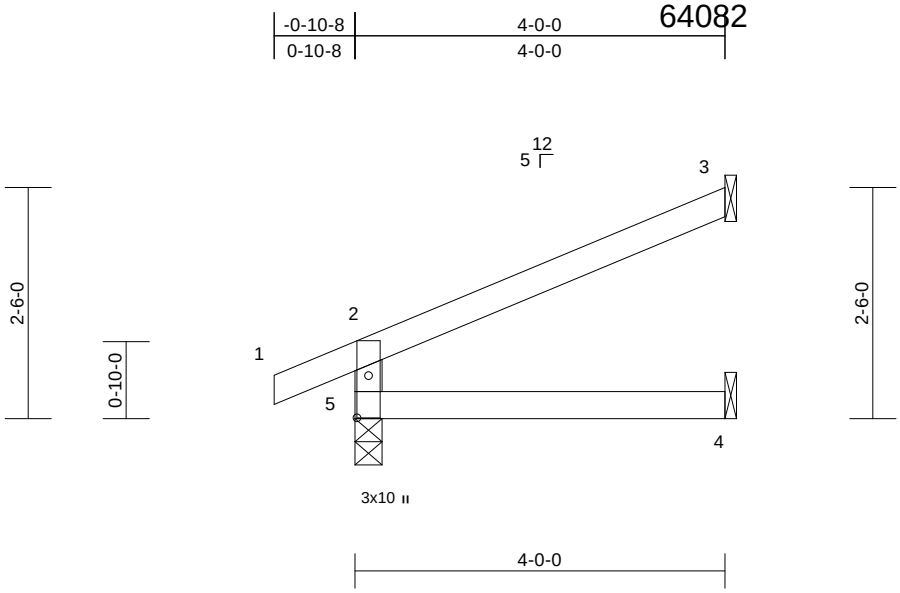
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J15	Jack-Open	9	1	I66389229
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:laRW081nKWIqIrcGqapE2Nz4Mn8-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:24.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.13	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)	0.01	4-5	>999	240	Weight: 11 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=71 (LC 8)
Max Uplift 3=-62 (LC 8), 5=-34 (LC 8)
Max Grav 3=117 (LC 1), 4=71 (LC 3), 5=252 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-220/71, 1-2=0/27, 2-3=-64/35
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 5 and 62 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.

LOAD CASE(S) Standard

June 21,2024

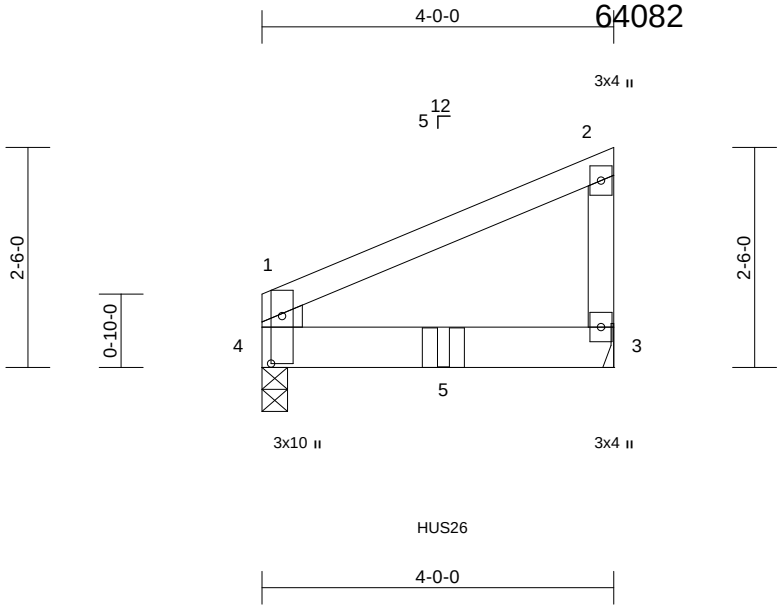
MiTek®
16023 Swingley Ridge Rd
Chesterfield, MO 63017
314.434.1200 / MiTek-US.com

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J16	Jack-Closed Girder	1	1	I66389230 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:_ObdAUz4BA?v1h?3rFhIfcz4Mlx-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:26.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	-0.01	3-4	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.48	Vert(CT)	-0.03	3-4	>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-R		Wind(LL)	0.02	3-4	>999	240	Weight: 15 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4=0-3-8
Max Horiz 4=87 (LC 7)
Max Uplift 3=-120 (LC 8), 4=-99 (LC 8)
Max Grav 3=433 (LC 1), 4=427 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-144/54, 1-2=-120/27, 2-3=-109/54
BOT CHORD 3-4=-40/73

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) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 4 and 120 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.
8) Use Simpson Strong-Tie HUS26 (14-10d Girder, 6-10d Truss, Single Ply Girder) or equivalent at 2-0-12 from the left end to connect truss(es) to front face of bottom chord.
9) Fill all nail holes where hanger is in contact with lumber.
10) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Roof Live (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-70, 3-4=-20
Concentrated Loads (lb)
Vert: 5=-533 (F)

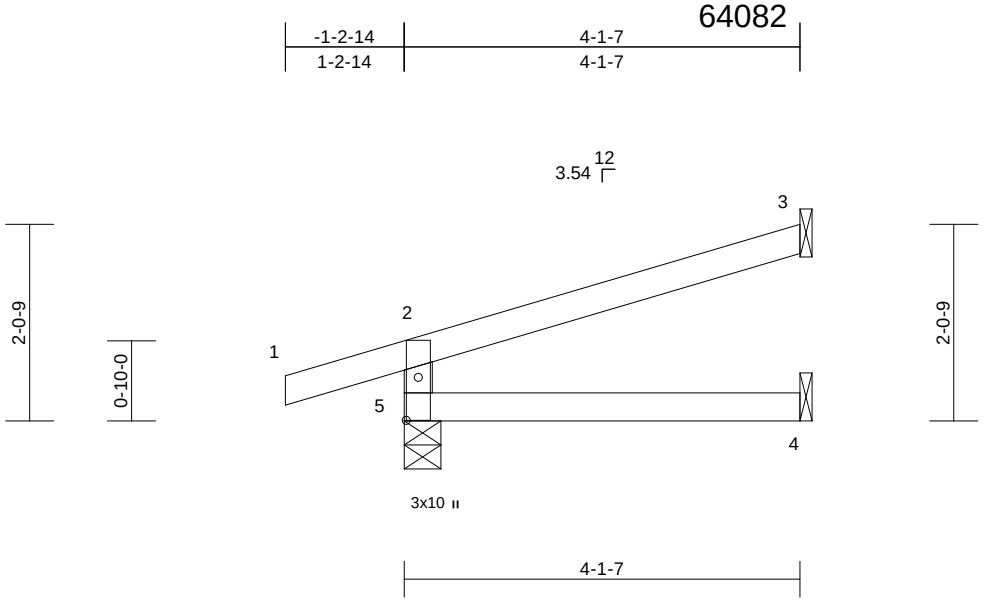
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J17	Diagonal Hip Girder	2	1	I66389231 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:D1XKnIF442aHSd_juM8SmAz4Mms-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:24

Plate Offsets (X, Y): [5:0-5-6,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.14	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	NO	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: 12 lb	FT = 10%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-1-7 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-4-9
Max Horiz 5=50 (LC 12)
Max Uplift 3=-46 (LC 12), 5=-78 (LC 6)
Max Grav 3=80 (LC 1), 4=60 (LC 3), 5=178 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-162/104, 1-2=0/27, 2-3=-30/15
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 78 lb uplift at joint 5 and 46 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.
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 (lb/ft)
Vert: 1-2=-70
Trapezoidal Loads (lb/ft)
Vert: 2=-3 (F=34, B=34)-to-3=-72 (F=-1, B=-1), 5=0 (F=10, B=10)-to-4=-21 (F=0, B=0)

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

June 21,2024

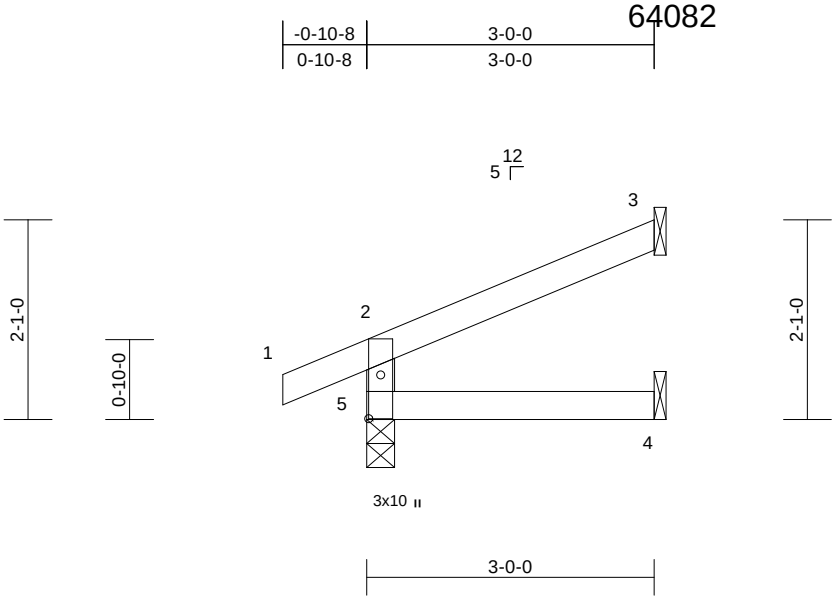
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:02

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	J18	Jack-Open	4	1	I66389232
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:WNSzFiKTRCSHoh13oKm5Yez4Mml-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:24

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	0.00	4-5	>999	360	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	-0.01	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	4-5	>999	240	Weight: 9 lb	FT = 10%

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

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

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=54 (LC 8)
Max Uplift 3=-46 (LC 8), 5=-30 (LC 8)
Max Grav 3=83 (LC 1), 4=52 (LC 3), 5=210 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-5=-184/58, 1-2=0/27, 2-3=-48/24
BOT CHORD 4-5=0/0

NOTES
1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior 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 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
4) All bearings are assumed to be SPF No.2 .
5) Refer to girder(s) for truss to truss connections.
6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 5 and 46 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.

LOAD CASE(S) Standard

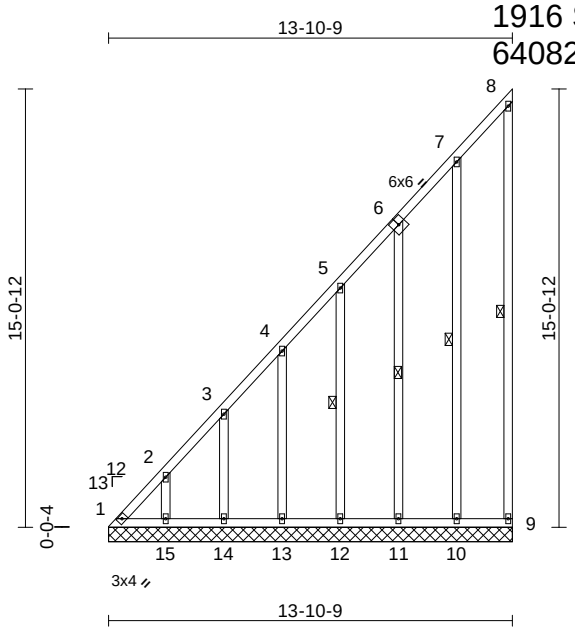
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY1	Lay-In Gable	2	1	I66389233 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 Page: 1
ID:vc?jEYk40KE6tdmb4uYmKDzX4oN-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:79.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 103 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 8-9, 5-12, 6-11, 7-10

REACTIONS (size) 1=13-10-9, 9=13-10-9, 10=13-10-9, 11=13-10-9, 12=13-10-9, 13=13-10-9, 14=13-10-9, 15=13-10-9
Max Horiz 1=593 (LC 8)
Max Uplift 1=-195 (LC 6), 9=-48 (LC 8), 10=-133 (LC 8), 11=-131 (LC 8), 12=-122 (LC 8), 13=-131 (LC 8), 14=-129 (LC 8), 15=-131 (LC 8)
Max Grav 1=600 (LC 8), 9=73 (LC 15), 10=214 (LC 15), 11=206 (LC 15), 12=198 (LC 15), 13=207 (LC 15), 14=205 (LC 15), 15=208 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 8-9=-59/55, 1-2=-832/326, 2-3=-709/278, 3-4=-578/228, 4-5=-447/179, 5-7=-321/131, 7-8=-70/36
BOT CHORD 1-15=-2/2, 14-15=-2/2, 13-14=-2/2, 12-13=-2/2, 11-12=-2/2, 10-11=0/0, 9-10=0/0
WEBS 2-15=-163/148, 3-14=-166/155, 4-13=-166/155, 5-12=-158/146, 6-11=-166/155, 7-10=-173/160

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) exterior zone; cantilever 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) All plates are 2x4 MT20 unless otherwise indicated.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 9, 195 lb uplift at joint 1, 131 lb uplift at joint 15, 129 lb uplift at joint 14, 131 lb uplift at joint 13, 122 lb uplift at joint 12, 131 lb uplift at joint 11 and 133 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.

LOAD CASE(S) Standard

STATE OF MISSOURI
JUAN GARCIA
NUMBER E-2000162101
PROFESSIONAL ENGINEER

JUAN GARCIA
LICENSED
16952
KANSAS
PROFESSIONAL ENGINEER

June 21,2024

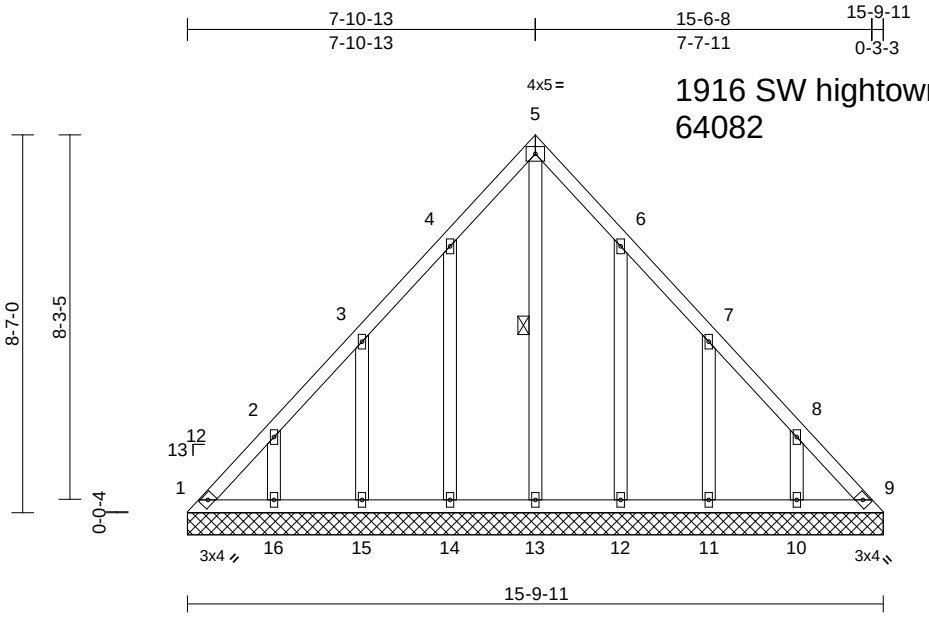
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:02

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY2	Lay-In Gable	1	1	I66389234 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:56 ID:oWMuciFchQD4CJXzLeFLbMzX475-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:52.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.04	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.01	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 78 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 (size) 1=15-9-11, 9=15-9-11, 10=15-9-11, 11=15-9-11, 12=15-9-11, 13=15-9-11, 14=15-9-11, 15=15-9-11, 16=15-9-11
Max Horiz 1=-220 (LC 4)
Max Uplift 1=-94 (LC 6), 9=-58 (LC 7), 10=-130 (LC 9), 11=-132 (LC 9), 12=-127 (LC 9), 14=-129 (LC 8), 15=-132 (LC 8), 16=-131 (LC 8)
Max Grav 1=203 (LC 8), 9=179 (LC 9), 10=208 (LC 16), 11=205 (LC 16), 12=210 (LC 16), 13=196 (LC 9), 14=212 (LC 15), 15=204 (LC 15), 16=209 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-293/188, 2-3=-169/140, 3-4=-136/102, 4-5=-108/164, 5-6=-86/142, 6-7=-99/65, 7-8=-141/91, 8-9=-260/139
BOT CHORD 1-16=-96/203, 15-16=-96/203, 14-15=-96/203, 13-14=-96/203, 12-13=-96/203, 11-12=-96/203, 10-11=-96/203, 9-10=-96/203
WEBS 2-16=-163/149, 3-15=-165/157, 4-14=-173/152, 8-10=-163/149, 7-11=-166/158, 6-12=-171/150, 5-13=-173/21

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 1, 58 lb uplift at joint 9, 131 lb uplift at joint 16, 132 lb uplift at joint 15, 129 lb uplift at joint 14, 130 lb uplift at joint 10, 132 lb uplift at joint 11 and 127 lb uplift at joint 12.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

June 21,2024

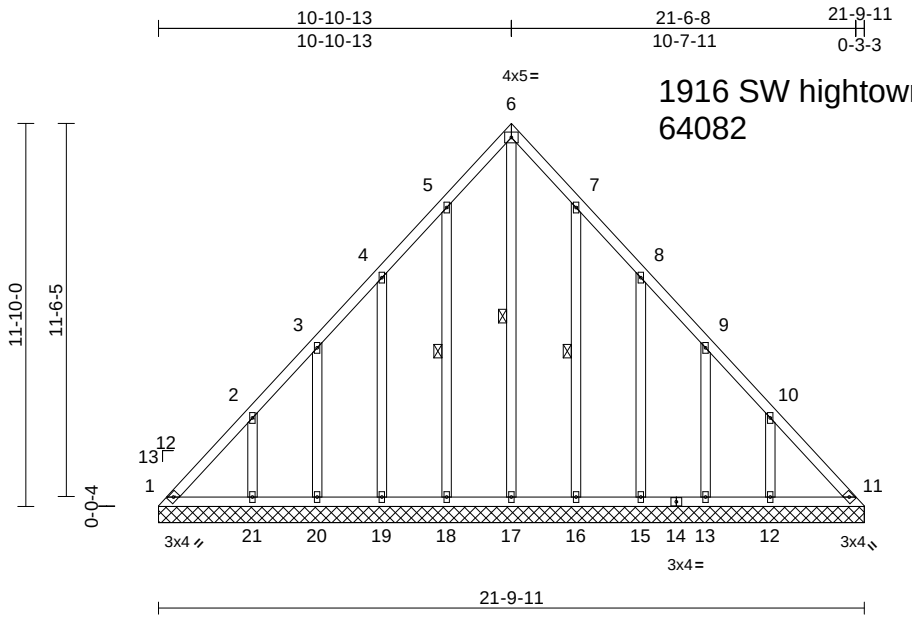
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY3	Lay-In Gable	1	1	I66389235
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57
ID:hqKHU10DI6DNjA6Sz6CrkFz4Mgi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:71.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.01	11	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 127 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 6-17, 5-18, 7-16

REACTIONS (size) 1=21-9-11, 11=21-9-11, 12=21-9-11, 13=21-9-11, 15=21-9-11, 16=21-9-11, 17=21-9-11, 18=21-9-11, 19=21-9-11, 20=21-9-11, 21=21-9-11
Max Horiz 1=-307 (LC 4)
Max Uplift 1=-121 (LC 6), 11=-70 (LC 7), 12=-176 (LC 9), 13=-114 (LC 9), 15=-139 (LC 9), 16=-121 (LC 9), 18=-124 (LC 8), 19=-137 (LC 8), 20=-114 (LC 8), 21=-176 (LC 8)
Max Grav 1=278 (LC 8), 11=245 (LC 9), 12=279 (LC 16), 13=182 (LC 16), 15=211 (LC 16), 16=211 (LC 16), 17=284 (LC 9), 18=214 (LC 15), 19=209 (LC 15), 20=182 (LC 15), 21=279 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-406/263, 2-3=-239/190, 3-4=-174/148, 4-5=-149/166, 5-6=-120/228, 6-7=-94/205, 7-8=-96/120, 8-9=-123/79, 9-10=-193/121, 10-11=-360/194
BOT CHORD 1-21=-136/289, 20-21=-136/289, 19-20=-136/289, 18-19=-136/289, 17-18=-136/289, 16-17=-136/289, 15-16=-136/289, 13-15=-136/289, 12-13=-136/289, 11-12=-136/289
WEBS 6-17=-260/38, 5-18=-175/148, 4-19=-167/161, 3-20=-150/139, 2-21=-214/196, 7-16=-171/145, 8-15=-169/162, 9-13=-150/139, 10-12=-215/196

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 1, 70 lb uplift at joint 11, 124 lb uplift at joint 18, 137 lb uplift at joint 19, 114 lb uplift at joint 20, 176 lb uplift at joint 21, 121 lb uplift at joint 16, 139 lb uplift at joint 15, 114 lb uplift at joint 13 and 176 lb uplift at joint 12.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

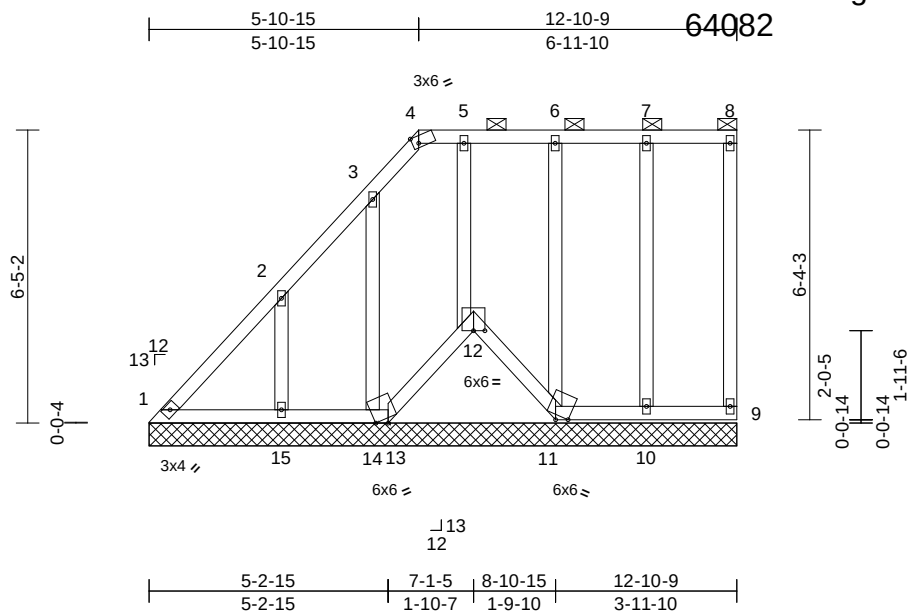
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY4	Lay-In Gable	1	1	I66389236 Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57 Page: 1
ID:zzwCjMF76KBs5olWvvzhOrz4MbF-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:50.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.16	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 68 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.): 4-8.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

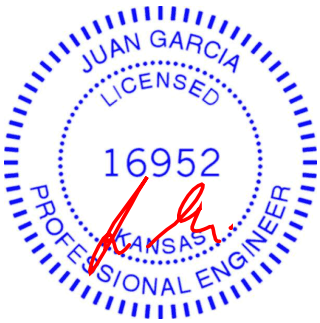
REACTIONS (size) 1=12-10-9, 9=12-10-9, 10=12-10-9, 11=12-10-9, 12=12-10-9, 13=12-10-9, 14=12-10-9, 15=12-10-9
Max Horiz 1=243 (LC 5)
Max Uplift 1=-60 (LC 4), 9=-15 (LC 5), 10=-35 (LC 4), 11=-121 (LC 4), 12=-242 (LC 7), 13=-58 (LC 8), 14=-75 (LC 8), 15=-185 (LC 8)
Max Grav 1=189 (LC 16), 9=68 (LC 1), 10=190 (LC 1), 11=205 (LC 18), 12=196 (LC 15), 13=120 (LC 7), 14=155 (LC 15), 15=281 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-241/174, 2-3=-179/119, 3-4=-116/79, 4-5=-81/65, 5-6=-86/65, 6-7=-86/65, 7-8=-86/65, 8-9=-58/45
BOT CHORD 1-15=-91/66, 14-15=-91/66, 13-14=-91/66, 12-13=-149/106, 11-12=-141/104, 10-11=-87/66, 9-10=-86/65
WEBS 2-15=-214/207, 3-14=-149/94, 5-12=-143/102, 6-11=-136/78, 7-10=-147/83

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) exterior 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) Provide adequate drainage to prevent water ponding.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 1, 15 lb uplift at joint 9, 58 lb uplift at joint 13, 242 lb uplift at joint 12, 185 lb uplift at joint 15, 75 lb uplift at joint 14, 121 lb uplift at joint 11 and 35 lb uplift at joint 10.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 9, 12, 11, 10.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



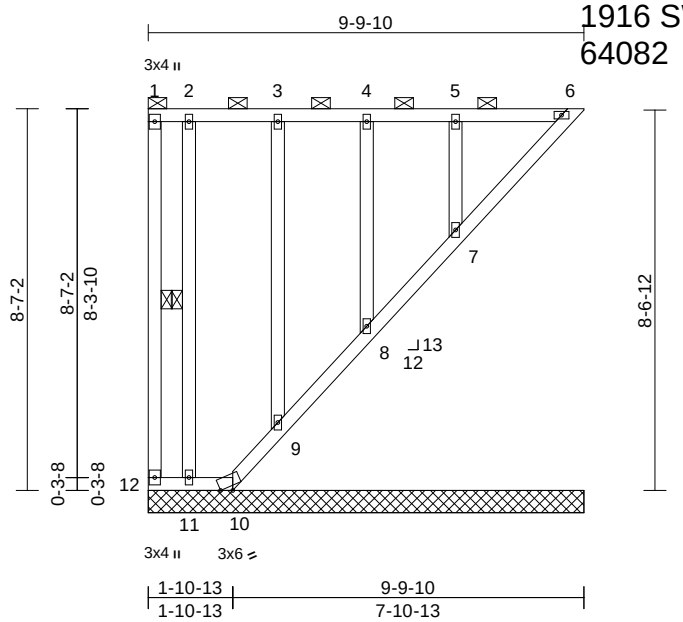
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY5	Lay-In Gable	1	1	I66389237
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57
ID:jzLNGTwqELvYzpIXORVbKNz4Mbf-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:51.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.01	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 61 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 2-0-0 oc purlins (6-0-0 max.): 1-6, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 6-7.
WEBS 1 Row at midpt 1-12, 2-11

REACTIONS (size) 6=9-9-10, 7=9-9-10, 8=9-9-10, 9=9-9-10, 10=9-9-10, 11=9-9-10, 12=9-9-10
Max Horiz 12=-236 (LC 6)
Max Uplift 6=-114 (LC 5), 7=-46 (LC 4), 8=-31 (LC 5), 9=-41 (LC 5), 10=-149 (LC 6), 11=-92 (LC 5), 12=-48 (LC 6)
Max Grav 6=154 (LC 15), 7=244 (LC 1), 8=160 (LC 1), 9=187 (LC 1), 10=131 (LC 5), 11=136 (LC 15), 12=36 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-12=-111/92, 1-2=-117/89, 2-3=-117/89, 3-4=-117/89, 4-5=-117/89, 5-6=-117/89
BOT CHORD 11-12=-89/117, 10-11=-89/117, 9-10=-139/191, 8-9=-139/187, 7-8=-139/189, 6-7=-142/190
WEBS 2-11=-102/119, 3-9=-151/68, 4-8=-125/55, 5-7=-186/74

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) exterior 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) Provide adequate drainage to prevent water ponding.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) All bearings are assumed to be SPF No.2 .
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 12, 114 lb uplift at joint 6, 149 lb uplift at joint 10, 92 lb uplift at joint 11, 41 lb uplift at joint 9, 31 lb uplift at joint 8 and 46 lb uplift at joint 7.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 6, 9, 8, 7.
13) 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

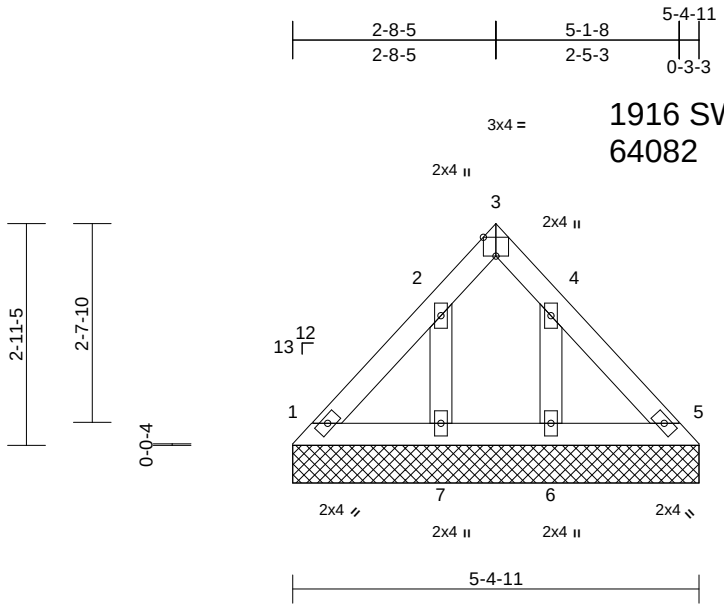
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY6	Lay-In Gable	1	1	I66389238
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57
ID:etku_8VdNB5RrhWZ3ZV8aOz4MmY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



1916 SW hightown rd, Lees Summit MO 64082

Scale = 1:30.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	5	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 2x4 SPF No.2

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

REACTIONS (size) 1=5-4-11, 5=5-4-11, 6=5-4-11, 7=5-4-11
Max Horiz 1=-69 (LC 4)
Max Uplift 6=-96 (LC 9), 7=-98 (LC 8)
Max Grav 1=80 (LC 17), 5=79 (LC 18), 6=167 (LC 16), 7=169 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-102/67, 2-3=-40/6, 3-4=-40/5, 4-5=-101/66
BOT CHORD 1-7=-37/97, 6-7=-37/97, 5-6=-37/97
WEBS 2-7=-135/118, 4-6=-133/117

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 2-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 98 lb uplift at joint 7 and 96 lb uplift at joint 6.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

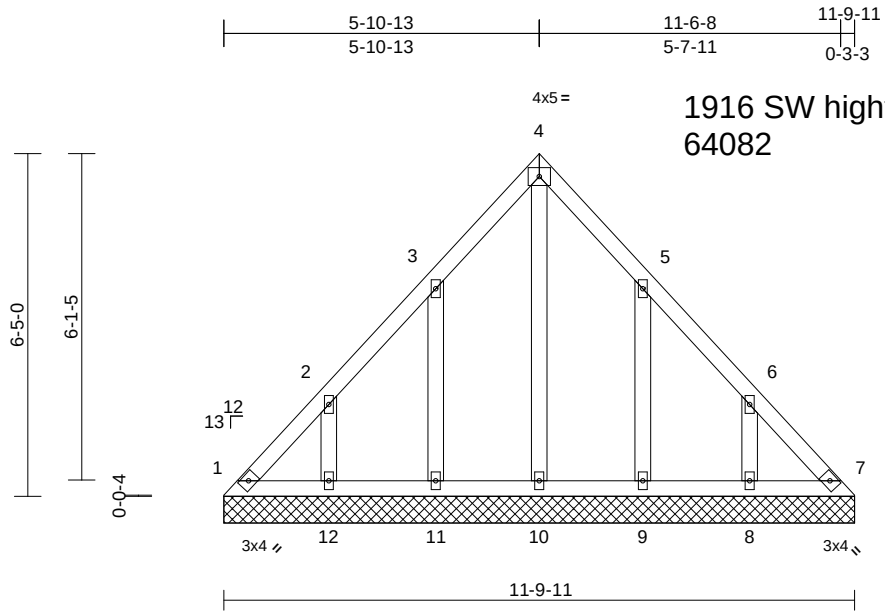
LOAD CASE(S) Standard

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	LAY7	Lay-In Gable	1	1	I66389239
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57 Page: 1
ID:kTHxjY7_ffPvOURwNzhf4Lz4MTf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



1916 SW hightown rd, Lees Summit MO 64082

Scale = 1:43.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	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
OTHERS 2x4 SPF No.2

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

REACTIONS (size) 1=11-9-11, 7=11-9-11, 8=11-9-11, 9=11-9-11, 10=11-9-11, 11=11-9-11, 12=11-9-11
Max Horiz 1=-162 (LC 4)
Max Uplift 1=-55 (LC 6), 7=-28 (LC 7), 8=-132 (LC 9), 9=-131 (LC 9), 11=-132 (LC 8), 12=-132 (LC 8)
Max Grav 1=137 (LC 17), 7=124 (LC 18), 8=208 (LC 16), 9=211 (LC 16), 10=153 (LC 18), 11=213 (LC 15), 12=207 (LC 15)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-199/135, 2-3=-129/88, 3-4=-101/121, 4-5=-87/99, 5-6=-102/51, 6-7=-176/99
BOT CHORD 1-12=-69/145, 11-12=-69/145, 10-11=-69/145, 9-10=-69/145, 8-9=-69/145, 7-8=-69/145

WEBS 2-12=-161/150, 3-11=-174/157, 6-8=-162/151, 5-9=-173/156, 4-10=-114/9

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) All plates are 2x4 MT20 unless otherwise indicated.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 2-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 55 lb uplift at joint 1, 28 lb uplift at joint 7, 132 lb uplift at joint 12, 132 lb uplift at joint 11, 132 lb uplift at joint 8 and 131 lb uplift at joint 9.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

June 21,2024

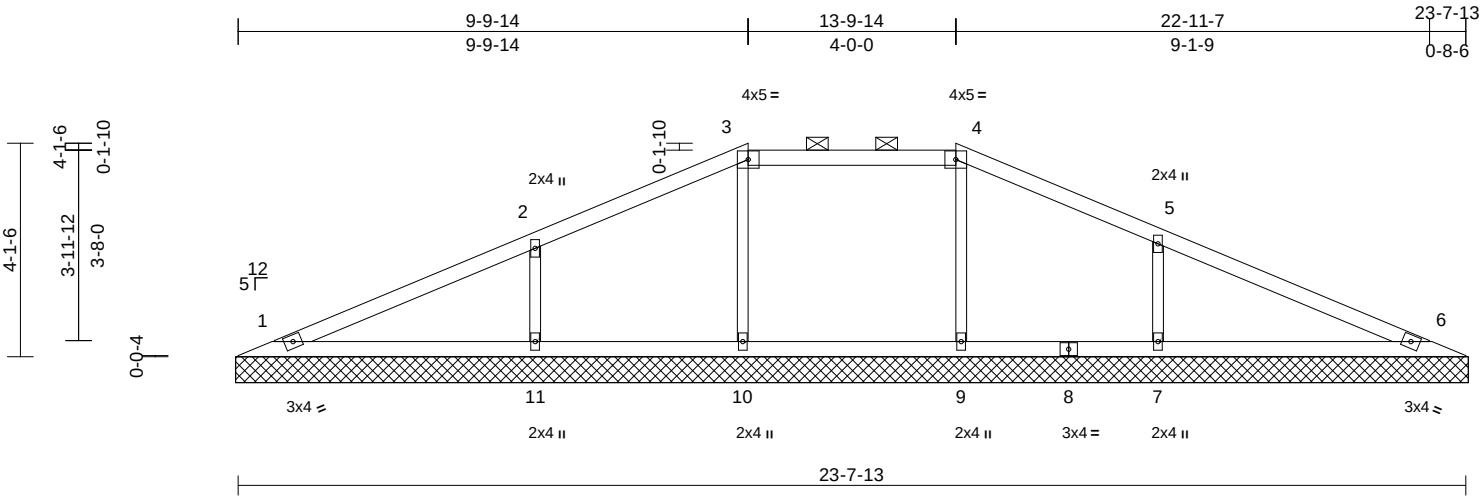
Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	V1	Valley	1	1	I66389240
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57 Page: 1

ID:GjwGp2GESjMxqT69vMma7ZzX474-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:44.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 63 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.): 3-4.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=23-9-0, 6=23-9-0, 7=23-9-0, 9=23-9-0, 10=23-9-0, 11=23-9-0
Max Horiz 1=66 (LC 12)
Max Uplift 1=-12 (LC 8), 6=-27 (LC 9), 7=-139 (LC 9), 9=-15 (LC 5), 10=-18 (LC 4), 11=-138 (LC 8)
Max Grav 1=190 (LC 1), 6=199 (LC 1), 7=498 (LC 1), 9=307 (LC 22), 10=327 (LC 21), 11=490 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-89/77, 2-3=-86/98, 3-4=-27/99, 4-5=-86/87, 5-6=-69/63
BOT CHORD 1-11=-1/54, 10-11=-1/54, 9-10=0/54, 7-9=-2/55, 6-7=-2/55
WEBS 3-10=-253/66, 2-11=-374/191, 4-9=-240/60, 5-7=-378/192

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Provide adequate drainage to prevent water ponding.
5) Gable requires continuous bottom chord bearing.
6) Gable studs spaced at 4-0-0 oc.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
9) All bearings are assumed to be SPF No.2 .
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 27 lb uplift at joint 6, 18 lb uplift at joint 10, 138 lb uplift at joint 11, 15 lb uplift at joint 9 and 139 lb uplift at joint 7.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

June 21,2024

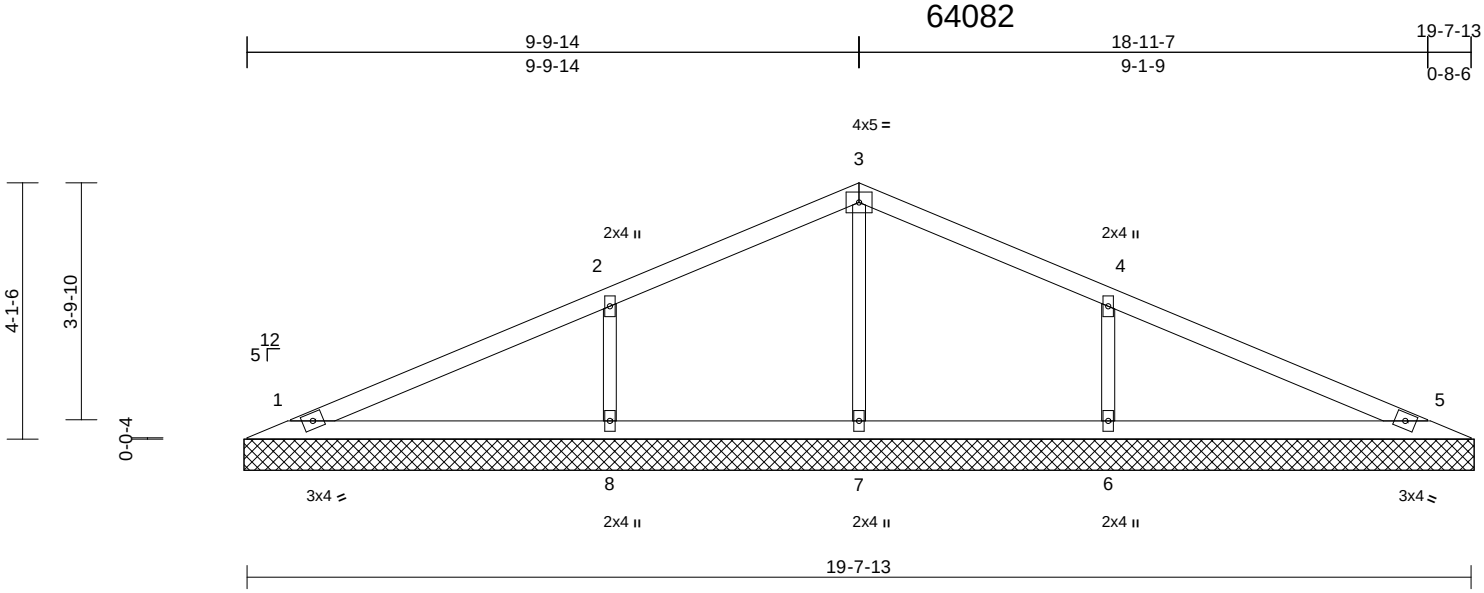
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
03/28/2025 9:00:03

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	V2	Valley	1	1	I66389241
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57 Page: 1
ID:oWMuciFchQD4CJXzLeFLbMzX475-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:37

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	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
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=19-9-0, 5=19-9-0, 6=19-9-0, 7=19-9-0, 8=19-9-0
Max Horiz 1=67 (LC 12)
Max Uplift 1=-15 (LC 8), 5=-26 (LC 9), 6=-138 (LC 9), 8=-138 (LC 8)
Max Grav 1=193 (LC 1), 5=193 (LC 1), 6=508 (LC 22), 7=245 (LC 1), 8=508 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-87/79, 2-3=-90/100, 3-4=-90/90, 4-5=-67/66
BOT CHORD 1-8=-2/54, 7-8=-2/54, 6-7=-2/54, 5-6=-2/54
WEBS 3-7=-191/16, 2-8=-386/193, 4-6=-386/193

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 1, 26 lb uplift at joint 5, 138 lb uplift at joint 8 and 138 lb uplift at joint 6.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

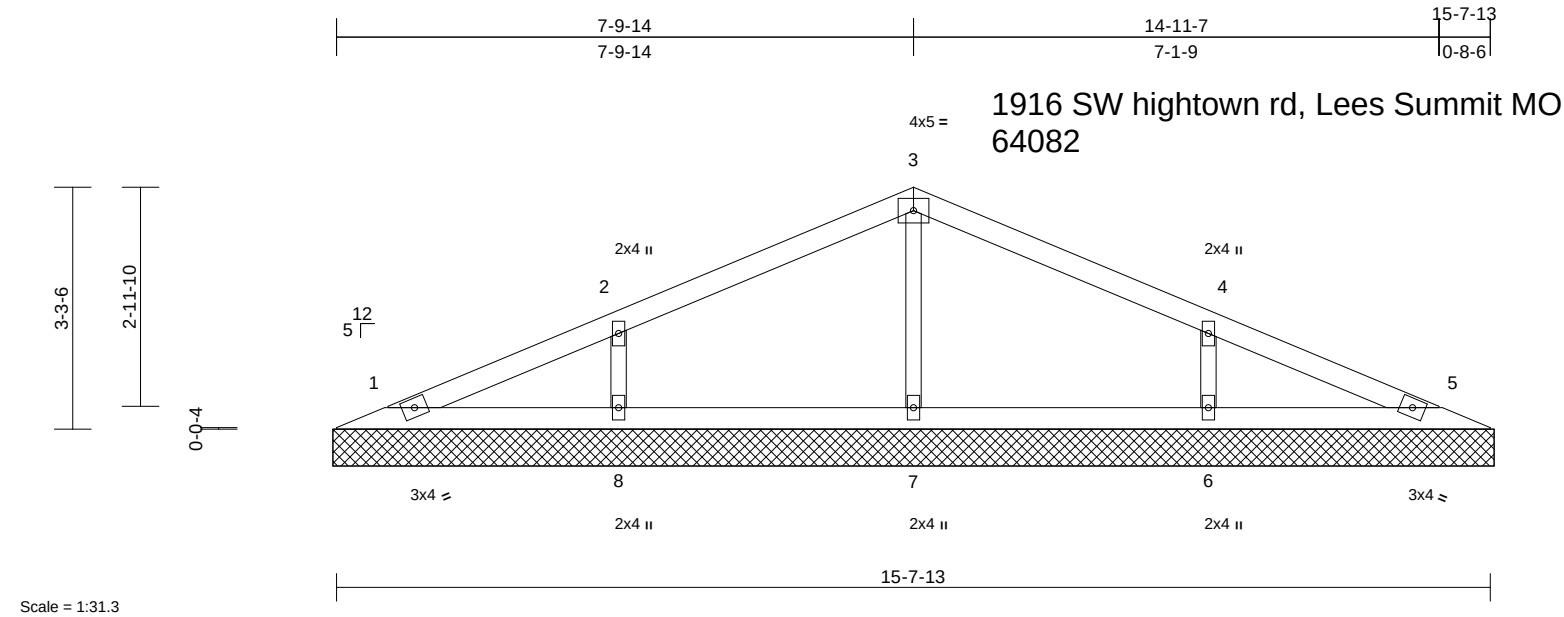
LOAD CASE(S) Standard

June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	V3	Valley	1	1	I66389242
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:57
ID:oWMuciFchQD4CJXzLeFLbMzX475-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:31.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 39 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=15-9-0, 5=15-9-0, 6=15-9-0, 7=15-9-0, 8=15-9-0
Max Horiz 1=52 (LC 12)
Max Uplift 1=-10 (LC 9), 5=-9 (LC 9), 6=-107 (LC 9), 8=-107 (LC 8)
Max Grav 1=111 (LC 1), 5=111 (LC 1), 6=381 (LC 22), 7=313 (LC 1), 8=381 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-70/46, 2-3=-87/78, 3-4=-87/66, 4-5=-53/36
BOT CHORD 1-8=0/42, 7-8=0/42, 6-7=0/42, 5-6=0/42
WEBS 3-7=-234/42, 2-8=-298/150, 4-6=-298/150

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 1, 9 lb uplift at joint 5, 107 lb uplift at joint 8 and 107 lb uplift at joint 6.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

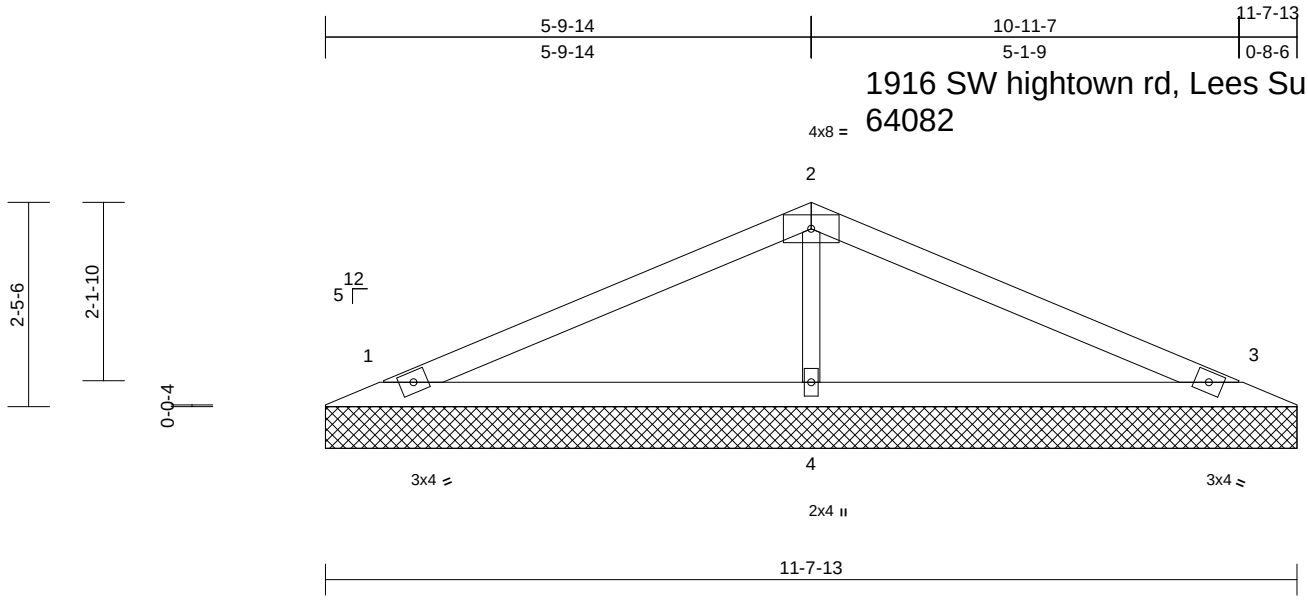
June 21,2024

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	V4	Valley	1	1	I66389243
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:58
ID:oWMuciFchQD4CJXzLeFLbMzX475-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

1916 SW hightown rd, Lees Summit MO 64082



Scale = 1:27.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.22	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 27 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=11-7-13, 3=11-7-13, 4=11-7-13
Max Horiz 1=-38 (LC 13)
Max Uplift 1=-44 (LC 8), 3=-50 (LC 9), 4=-32 (LC 8)
Max Grav 1=211 (LC 21), 3=211 (LC 22), 4=507 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-108/56, 2-3=-108/42
BOT CHORD 1-4=-2/43, 3-4=-2/43
WEBS 2-4=-353/93

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) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 1, 50 lb uplift at joint 3 and 32 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

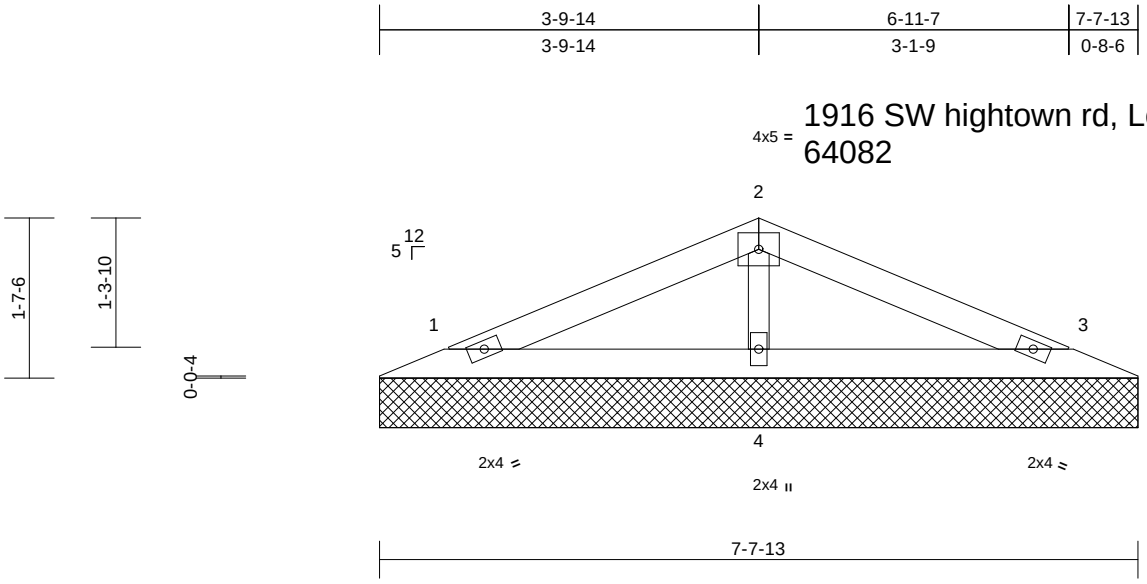
June 21,2024

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

Job	Truss	Truss Type	Qty	Ply	Avalon - Contemporary
Avalon -	V5	Valley	1	1	I66389244
					Job Reference (optional)

Wheeler Lumber, Waverly, KS - 66871,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu Jun 20 15:24:58
ID:oWMuciFchQD4CJXzLeFLbMzX475-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:23.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	25.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	197/144
TCDL	10.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-P							Weight: 17 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=7-7-13, 3=7-7-13, 4=7-7-13
Max Horiz 1=-23 (LC 13)
Max Uplift 1=-33 (LC 8), 3=-37 (LC 9), 4=-7 (LC 8)
Max Grav 1=142 (LC 1), 3=142 (LC 1), 4=278 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-57/33, 2-3=-57/23
BOT CHORD 1-4=-1/24, 3-4=-1/24
WEBS 2-4=-200/54

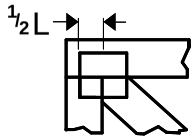
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp C; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) Gable requires continuous bottom chord bearing.
5) Gable studs spaced at 4-0-0 oc.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
8) All bearings are assumed to be SPF No.2 .
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 1, 37 lb uplift at joint 3 and 7 lb uplift at joint 4.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

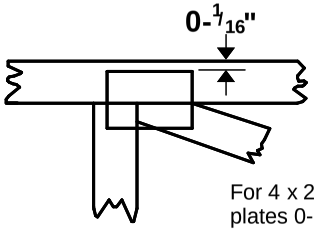
June 21,2024

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

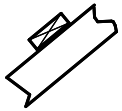
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

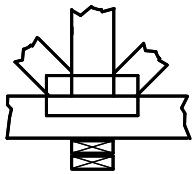
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

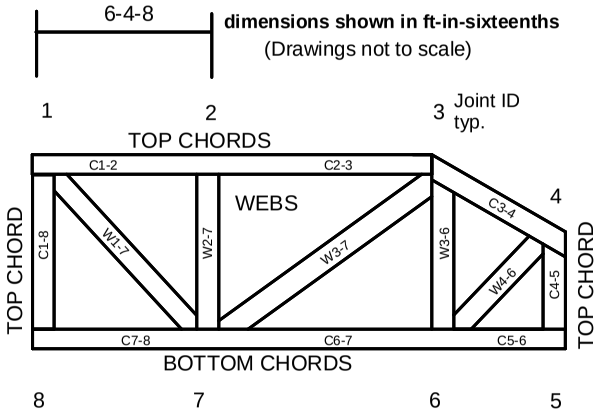


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

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

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

MiTek®

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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