ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 21040027-B
103 Carolina Lakes-Roof-Aurora

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Carter Components (Sanford, NC)).

Pages or sheets covered by this seal: I46179746 thru I46179772

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

North Carolina COA: C-0844

May 19,2021

Sevier, Scott

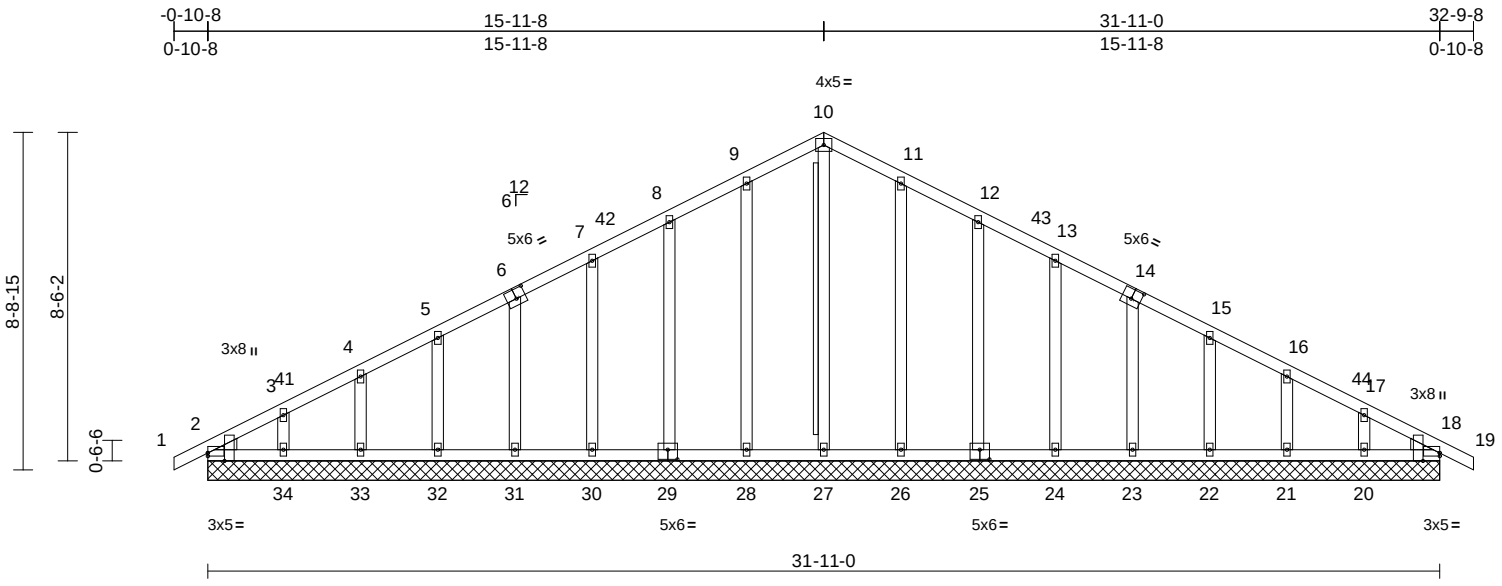
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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	103 Carolina Lakes-Roof-Aurora
21040027-B	A01	Common Supported Gable	1	1	I46179746 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:07
ID:Qog5IWCIEQwb9wayC8P8e2zd73n-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:59.7

Plate Offsets (X, Y): [2:Edge,0-1-0], [2:0-2-8,Edge], [6:0-3-0,0-3-0], [14:0-3-0,0-3-0], [18:Edge,0-1-0], [18:0-2-8,Edge], [25:0-3-0,0-3-0], [29:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	18	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 200 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3 *Except* 0-0:2x4 SPF No.2(flat)
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

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	T-Brace: 2x4 SPF No.2 - 10-27 Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance. Brace must cover 90% of web length.

REACTIONS (size) 2=31-11-0, 18=31-11-0, 20=31-11-0, 21=31-11-0, 22=31-11-0, 23=31-11-0, 24=31-11-0, 25=31-11-0, 26=31-11-0, 27=31-11-0, 28=31-11-0, 29=31-11-0, 30=31-11-0, 31=31-11-0, 32=31-11-0, 33=31-11-0, 34=31-11-0, 35=31-11-0, 38=31-11-0

Max Horiz 2=-133 (LC 15), 35=-133 (LC 15)

Max Uplift 2=-16 (LC 10), 20=-61 (LC 15), 21=-40 (LC 15), 22=-44 (LC 15), 23=-43 (LC 15), 24=-44 (LC 15), 25=-46 (LC 15), 26=-40 (LC 15), 28=-42 (LC 14), 29=-45 (LC 14), 30=-45 (LC 14), 31=-43 (LC 14), 32=-44 (LC 14), 33=-39 (LC 14), 34=-69 (LC 14), 35=-16 (LC 10)

Max Grav 2=137 (LC 21), 18=137 (LC 22), 20=159 (LC 35), 21=161 (LC 1), 22=159 (LC 22), 23=160 (LC 1), 24=176 (LC 22), 25=229 (LC 22), 26=245 (LC 22), 27=178 (LC 31), 28=245 (LC 21), 29=229 (LC 21), 30=176 (LC 21), 31=160 (LC 1), 32=159 (LC 21), 33=161 (LC 1), 34=159 (LC 34), 35=137 (LC 21), 38=137 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-165/61, 3-41=-127/53, 4-41=-121/69, 4-5=-91/81, 5-6=-69/100, 6-7=-56/124, 7-42=-58/142, 8-42=-52/152, 8-9=-77/199, 9-10=-95/241, 10-11=-95/241, 11-12=-77/199, 12-43=-52/152, 13-43=-58/142, 13-14=-41/106, 14-15=-41/61, 15-16=-50/26, 16-44=-66/25, 17-44=-72/16, 17-18=-108/45, 18-19=0/23

BOT CHORD 2-34=-35/140, 33-34=-35/140, 32-33=-35/140, 31-32=-35/140, 30-31=-36/141, 29-30=-36/141, 28-29=-35/140, 27-28=-35/140, 26-27=-35/140, 25-26=-35/140, 24-25=-36/141, 23-24=-36/141, 22-23=-35/140, 21-22=-35/140, 20-21=-35/140, 18-20=-35/140

WEBS 10-27=-149/24, 9-28=-204/71, 8-29=-189/81, 7-30=-136/77, 6-31=-120/77, 5-32=-119/76, 4-33=-122/77, 3-34=-112/100, 11-26=-204/71, 12-25=-189/81, 13-24=-136/77, 14-23=-120/77, 15-22=-119/76, 16-21=-122/77, 17-20=-112/100

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-3-13, Exterior (2N) 2-3-13 to 12-9-3, Corner(3R) 12-9-3 to 19-1-13, Exterior(2N) 19-1-13 to 29-7-3, Corner(3E) 29-7-3 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.

May 19,2021

Continued on page 2

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

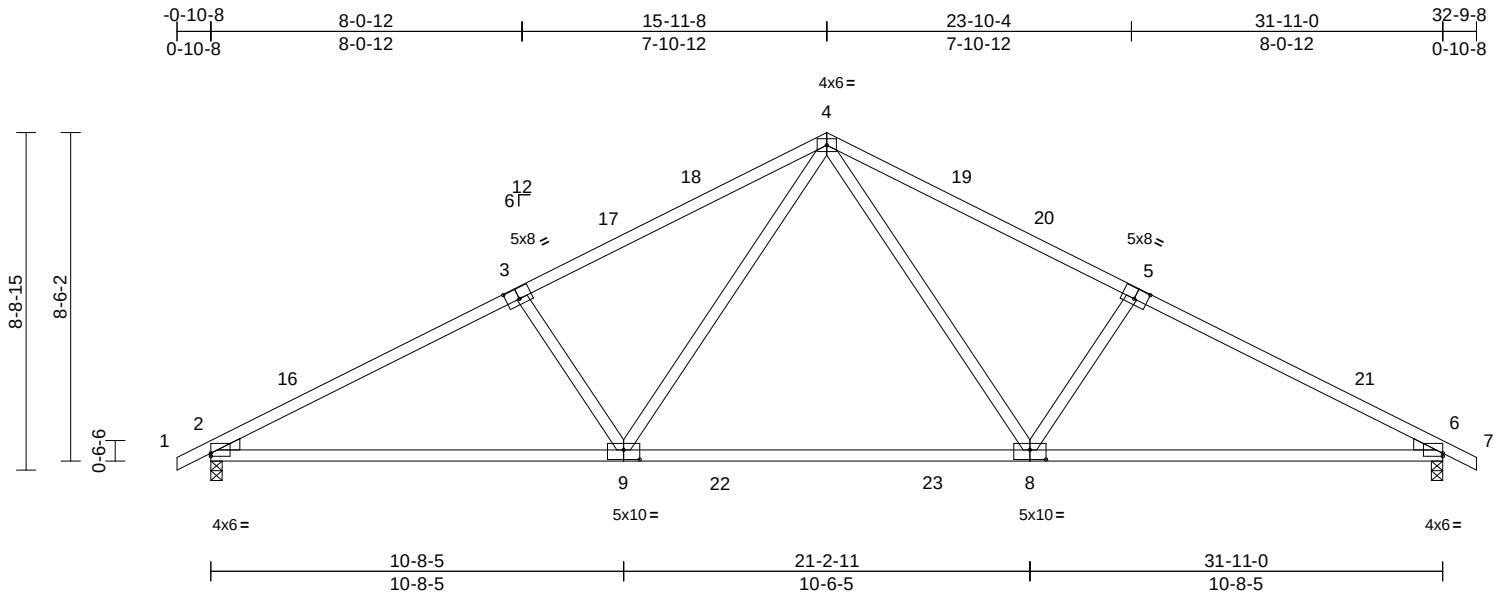
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 16 lb uplift at joint 2, 42 lb uplift at joint 28, 45 lb uplift at joint 29, 45 lb uplift at joint 30, 43 lb uplift at joint 31, 44 lb uplift at joint 32, 39 lb uplift at joint 33, 69 lb uplift at joint 34, 40 lb uplift at joint 26, 46 lb uplift at joint 25, 44 lb uplift at joint 24, 43 lb uplift at joint 23, 44 lb uplift at joint 22, 40 lb uplift at joint 21, 61 lb uplift at joint 20 and 16 lb uplift at joint 2.
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) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	A02	Common	6	1	I46179747 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:09
ID:Y6YHkPzR95_WrmUFybY8EYzd72n-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:59.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.92	Vert(LL)	-0.41	8-9	>927	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.61	8-9	>629	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 148 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP 2400F 2.0E *Except* 5-7,3-1:2x4 SP No.2
BOT CHORD	2x4 SP No.1
WEBS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

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

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=-133 (LC 15)
Max Uplift 2=-140 (LC 14), 6=-140 (LC 15)
Max Grav 2=1442 (LC 3), 6=1442 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-16=-2401/231, 3-16=-2309/268, 3-17=-2175/261, 17-18=-2073/271, 4-18=-2063/289, 4-19=-2063/289, 19-20=-2073/271, 5-20=-2175/261, 5-21=-2309/268, 6-21=-2401/231, 6-7=0/23
BOT CHORD	2-9=-298/2079, 9-22=-33/1377, 22-23=-33/1377, 8-23=-33/1377, 6-8=-132/2079
WEBS	3-9=-532/263, 4-9=-113/937, 4-8=-113/937, 5-8=-532/263

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-3-13, Interior (1) 2-3-13 to 12-9-3, Exterior(2R) 12-9-3 to 19-1-13, Interior (1) 19-1-13 to 29-7-3, Exterior(2E) 29-7-3 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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, with BCDL = 10.0psf.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 2 and 140 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.

LOAD CASE(S) Standard

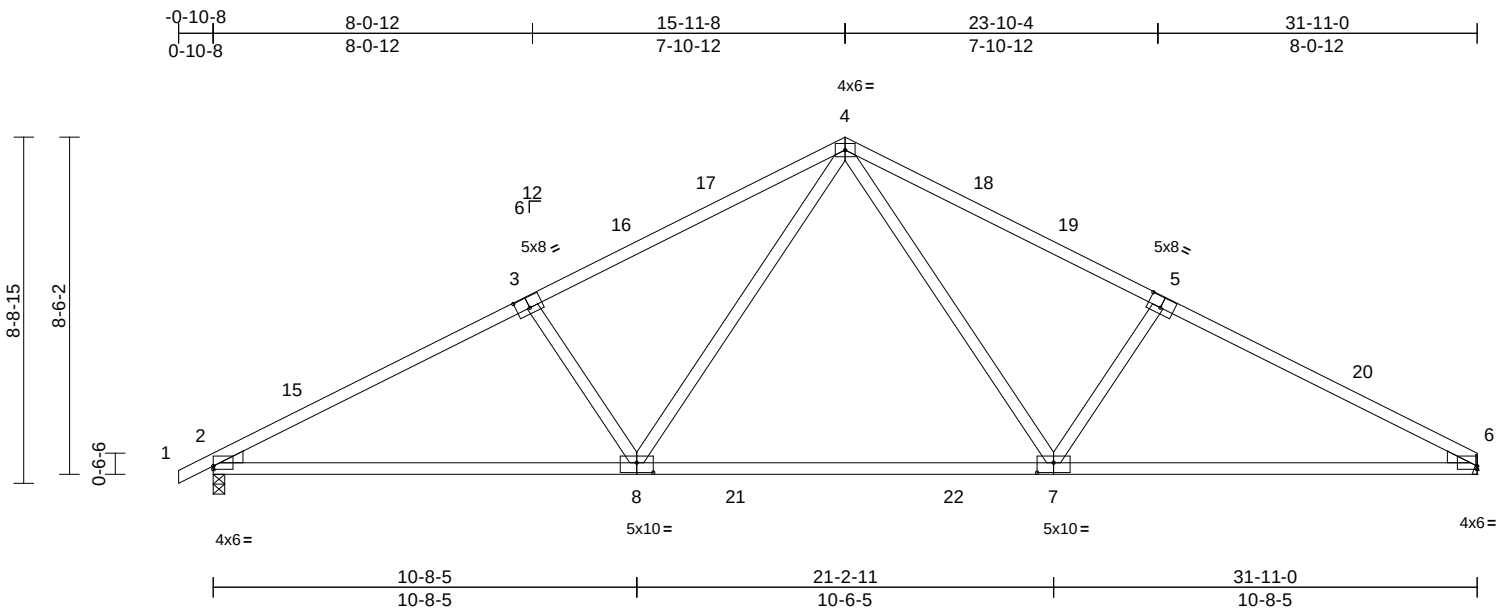
May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	A03	Common	6	1	I46179748 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:09
ID:nNeXm6VP1IPQVNGWz7qEUczd726-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:58.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.93	Vert(LL)	-0.41	7-8	>927	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.61	7-8	>630	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.07	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 147 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP 2400F 2.0E *Except* 1-3,5-6:2x4 SP No.2
BOT CHORD	2x4 SP No.1
WEBS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

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

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=140 (LC 14)
Max Uplift 2=-140 (LC 14), 6=-122 (LC 15)
Max Grav 2=1442 (LC 3), 6=1397 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-15=-2402/233, 3-15=-2310/271, 3-16=-2176/263, 16-17=-2074/273, 4-17=-2064/291, 4-18=-2066/296, 18-19=-2077/278, 5-19=-2179/257, 5-20=-2314/275, 6-20=-2405/238
BOT CHORD	2-8=-303/2080, 8-21=-40/1379, 21-22=-40/1379, 7-22=-40/1379, 6-7=-163/2083
WEBS	4-8=-113/937, 3-8=-532/263, 4-7=-114/941, 5-7=-535/263

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-3-13, Interior (1) 2-3-13 to 12-9-3, Exterior(2R) 12-9-3 to 19-1-13, Interior (1) 19-1-13 to 28-8-11, Exterior(2E) 28-8-11 to 31-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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, with BCDL = 10.0psf.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 2 and 122 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.

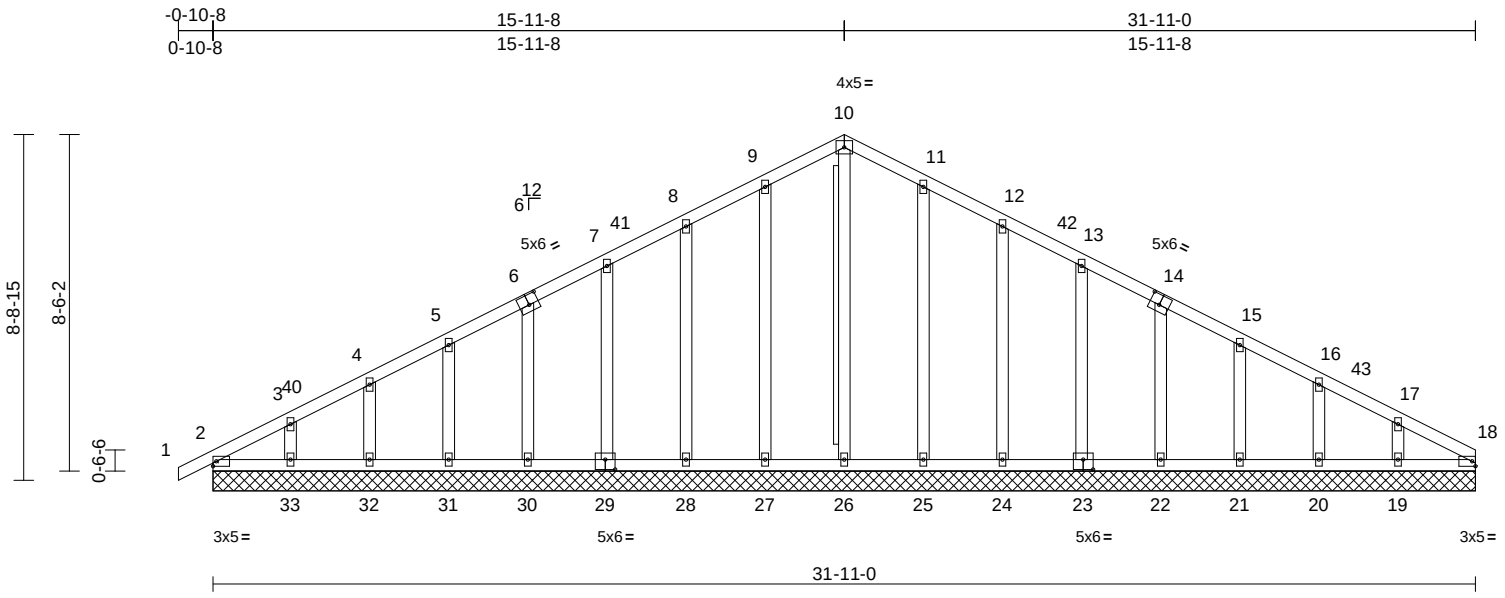
LOAD CASE(S) Standard

May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	A04	Common Supported Gable	1	1	I46179749 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:10 Page: 1
ID:V6qbZzEgg25mJlQE2RQXSUzd719-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:58.2

Plate Offsets (X, Y): [6:0-3-0,0-3-0], [14:0-3-0,0-3-0], [23:0-3-0,0-3-0], [29:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	18	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 197 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 0-0:2x4 SPF No.2(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS T-Brace: 2x4 SPF No.2 - 10-26
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance.
Brace must cover 90% of web length.

REACTIONS (size) 2=31-11-0, 18=31-11-0, 19=31-11-0, 20=31-11-0, 21=31-11-0, 22=31-11-0, 23=31-11-0, 24=31-11-0, 25=31-11-0, 26=31-11-0, 27=31-11-0, 28=31-11-0, 29=31-11-0, 30=31-11-0, 31=31-11-0, 32=31-11-0, 33=31-11-0, 34=31-11-0
Max Horiz 2=140 (LC 14), 34=140 (LC 14)
Max Uplift 2=-49 (LC 15), 19=-12 (LC 15), 20=-73 (LC 15), 21=-35 (LC 15), 22=-47 (LC 15), 23=-43 (LC 15), 24=-48 (LC 15), 25=-38 (LC 15), 27=-41 (LC 14), 28=-45 (LC 14), 29=-44 (LC 14), 30=-44 (LC 14), 31=-44 (LC 14), 32=-38 (LC 14), 33=-68 (LC 14), 34=-49 (LC 15)
Max Grav 2=112 (LC 34), 19=248 (LC 22), 20=113 (LC 35), 21=172 (LC 22), 22=155 (LC 35), 23=178 (LC 22), 24=227 (LC 22), 25=247 (LC 22), 26=252 (LC 27), 27=246 (LC 21), 28=228 (LC 21), 29=177 (LC 21), 30=159 (LC 34), 31=160 (LC 21), 32=159 (LC 34), 33=170 (LC 1), 34=112 (LC 34)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=-145/141, 3-40=-102/118, 4-40=-92/146, 4-5=-62/156, 5-6=-31/164, 6-7=-34/184, 7-41=-53/198, 8-41=-48/208, 8-9=-72/241, 9-10=-90/282, 10-11=-90/282, 11-12=-72/241, 12-42=-48/194, 13-42=-53/184, 13-14=-34/148, 14-15=-16/104, 15-16=0/91, 16-43=-10/82, 17-43=-15/34, 17-18=-63/99
BOT CHORD 2-33=-86/81, 32-33=-56/81, 31-32=-56/81, 30-31=-56/81, 29-30=-56/82, 28-29=-56/81, 27-28=-56/81, 26-27=-56/81, 25-26=-56/81, 24-25=-56/81, 23-24=-56/81, 22-23=-57/82, 21-22=-56/81, 20-21=-56/81, 19-20=-56/81, 18-19=-56/81
WEBS 10-26=-212/20, 9-27=-206/69, 8-28=-187/82, 7-29=-137/77, 6-30=-120/77, 5-31=-119/77, 4-32=-120/76, 3-33=-122/106, 11-25=-208/69, 12-24=-186/82, 13-23=-138/77, 14-22=-118/78, 15-21=-125/73, 16-20=-99/93, 17-19=-158/114

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-3-13, Exterior (2N) 2-3-13 to 12-9-3, Corner(3R) 12-9-3 to 19-1-13, Exterior(2N) 19-1-13 to 28-8-11, Corner(3E) 28-8-11 to 31-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.

May 19,2021

Continued on page 2

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

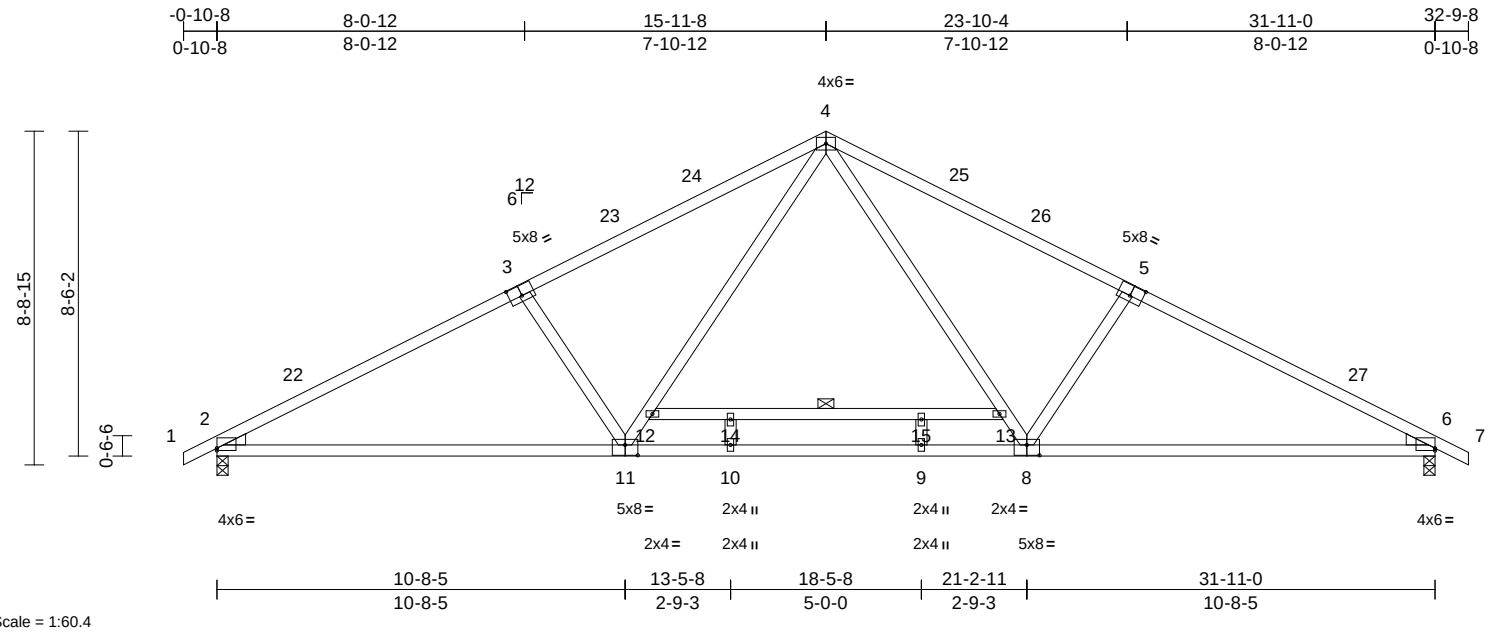
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 2, 41 lb uplift at joint 27, 45 lb uplift at joint 28, 44 lb uplift at joint 29, 44 lb uplift at joint 30, 44 lb uplift at joint 31, 38 lb uplift at joint 32, 68 lb uplift at joint 33, 38 lb uplift at joint 25, 48 lb uplift at joint 24, 43 lb uplift at joint 23, 47 lb uplift at joint 22, 35 lb uplift at joint 21, 73 lb uplift at joint 20, 12 lb uplift at joint 19 and 49 lb uplift at joint 2.
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) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	A05	Common	3	1	I46179750 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:11
ID:8DDQs0WjIphXn9UGnnmYo7zd6xd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:60.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.90	Vert(LL)	-0.22	8-21	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.51	9-10	>749	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.52	Horz(CT)	0.08	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 164 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP 2400F 2.0E *Except* 1-3,5-7:2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 12-13:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 12-13

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=-133 (LC 15)
Max Uplift 2=-40 (LC 14), 6=-40 (LC 15)
Max Grav 2=1429 (LC 1), 6=1429 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-22=-2439/15, 3-22=-2251/46, 3-23=-2168/27, 23-24=-2047/48, 4-24=-2033/65, 4-25=-2033/65, 25-26=-2047/48, 5-26=-2168/27, 5-27=-2251/46, 6-27=-2439/15, 6-7=0/23
BOT CHORD 2-11=-234/2096, 10-11=0/1454, 9-10=0/1454, 8-9=0/1454, 6-8=0/2096
WEBS 3-11=-524/272, 11-12=-56/813, 4-12=0/896, 4-13=0/896, 8-13=-55/813, 5-8=-524/272, 12-14=-78/0, 14-15=-78/0, 13-15=-78/0, 10-14=0/62, 9-15=0/62

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-3-13, Interior (1) 2-3-13 to 12-9-3, Exterior(2R) 12-9-3 to 19-1-13, Interior (1) 19-1-13 to 29-7-3, Exterior(2E) 29-7-3 to 32-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 15-11-8 from left end, supported at two points, 5-0-0 apart.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 40 lb uplift at joint 2 and 40 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

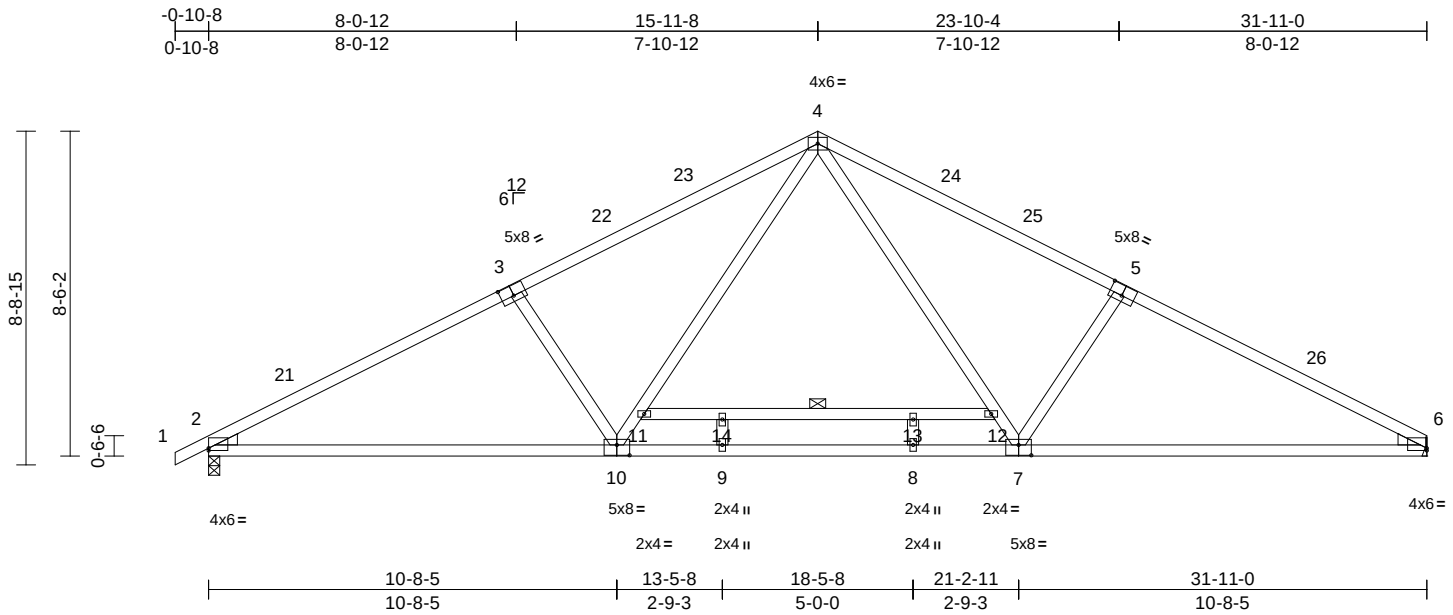
May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	A06	Common	4	1	I46179751 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:12
ID:d1xMTEmK2Sgwe_s3Jv6iTrzd6w0-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:60.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.22	7-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.51	8-9	>750	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.08	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 162 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP 2400F 2.0E *Except* 5-6,3-1:2x4 SP No.2
BOT CHORD	2x4 SP No.1
WEBS	2x4 SP No.3 *Except* 11-12:2x4 SP No.2
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 11-12

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=140 (LC 14)
Max Uplift 2=-40 (LC 14), 6=-22 (LC 15)
Max Grav 2=1430 (LC 1), 6=1376 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-21=-2440/18, 3-21=-2252/48, 3-22=-2169/29, 22-23=-2048/50, 4-23=-2034/68, 4-24=-2037/72, 24-25=-2051/55, 5-25=-2172/33, 5-26=-2256/53, 6-26=-2444/27
BOT CHORD	2-10=-240/2096, 9-10=0/1456, 8-9=0/1456, 7-8=0/1456, 6-7=0/2101
WEBS	10-11=-56/812, 4-11=0/896, 4-12=0/900, 7-12=-57/817, 11-14=-78/0, 13-14=-78/0, 12-13=-78/0, 8-13=0/62, 3-10=-524/272, 5-7=-526/273, 9-14=0/62

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-3-13, Interior (1) 2-3-13 to 12-9-3, Exterior(2R) 12-9-3 to 19-1-13, Interior (1) 19-1-13 to 28-8-11, Exterior(2E) 28-8-11 to 31-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 15-11-8 from left end, supported at two points, 5-0-0 apart.
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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 6 and 40 lb uplift at joint 2.
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.

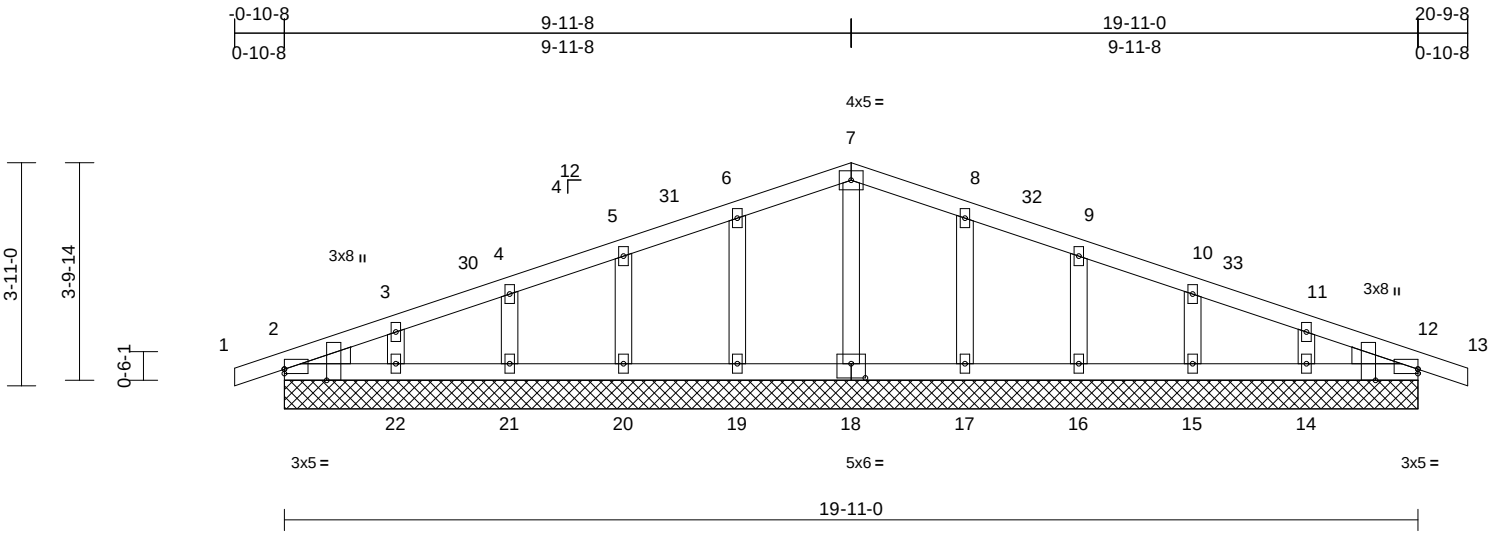
LOAD CASE(S) Standard

May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	B01	Common Supported Gable	1	1	I46179752 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:12 Page: 1
ID:kLxR?z897Vj7TSTZ4IuaZPzd790-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.5

Plate Offsets (X, Y): [2:Edge,0-0-15], [2:0-2-6,Edge], [12:Edge,0-0-15], [12:0-2-6,Edge], [18:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	27	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 90 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

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

REACTIONS (size) 2=19-11-0, 12=19-11-0, 14=19-11-0, 15=19-11-0, 16=19-11-0, 17=19-11-0, 18=19-11-0, 19=19-11-0, 20=19-11-0, 21=19-11-0, 22=19-11-0, 23=19-11-0, 27=19-11-0
Max Horiz 2=-57 (LC 19), 23=-57 (LC 19)
Max Uplift 2=-29 (LC 10), 12=-38 (LC 11), 14=-36 (LC 15), 15=-34 (LC 11), 16=-33 (LC 15), 17=-37 (LC 15), 19=-37 (LC 14), 20=-33 (LC 14), 21=-34 (LC 10), 22=-40 (LC 14), 23=-29 (LC 10), 27=-38 (LC 11)
Max Grav 2=133 (LC 21), 12=133 (LC 22), 14=157 (LC 35), 15=206 (LC 22), 16=217 (LC 22), 17=231 (LC 22), 18=145 (LC 22), 19=231 (LC 21), 20=217 (LC 21), 21=206 (LC 21), 22=157 (LC 34), 23=133 (LC 21), 27=133 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/17, 2-3=-53/35, 3-30=-42/36, 4-30=-26/41, 4-5=-35/55, 5-31=-34/75, 6-31=-20/79, 6-7=-39/121, 7-8=-39/121, 8-32=-20/79, 9-32=-34/75, 9-10=-35/46, 10-33=0/18, 11-33=-25/10, 11-12=-26/15, 12-13=0/17
BOT CHORD 2-22=-13/53, 21-22=-11/53, 20-21=-11/53, 19-20=-11/53, 18-19=-11/53, 17-18=-11/53, 16-17=-11/53, 15-16=-11/53, 14-15=-11/53, 12-14=-11/53
WEBS 7-18=-105/12, 6-19=-191/107, 5-20=-177/80, 4-21=-167/81, 3-22=-110/68, 8-17=-191/107, 9-16=-177/80, 10-15=-167/81, 11-14=-110/68

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 1-11-8, Exterior(2N) 1-11-8 to 6-11-8, Corner(3R) 6-11-8 to 12-11-8, Exterior (2N) 12-11-8 to 17-9-8, Corner(3E) 17-9-8 to 20-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 2, 38 lb uplift at joint 12, 37 lb uplift at joint 19, 33 lb uplift at joint 20, 34 lb uplift at joint 21, 40 lb uplift at joint 22, 37 lb uplift at joint 17, 33 lb uplift at joint 16, 34 lb uplift at joint 15, 36 lb uplift at joint 14, 29 lb uplift at joint 2 and 38 lb uplift at joint 12.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 12, 27.

May 19,2021

Continued on page 2

ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

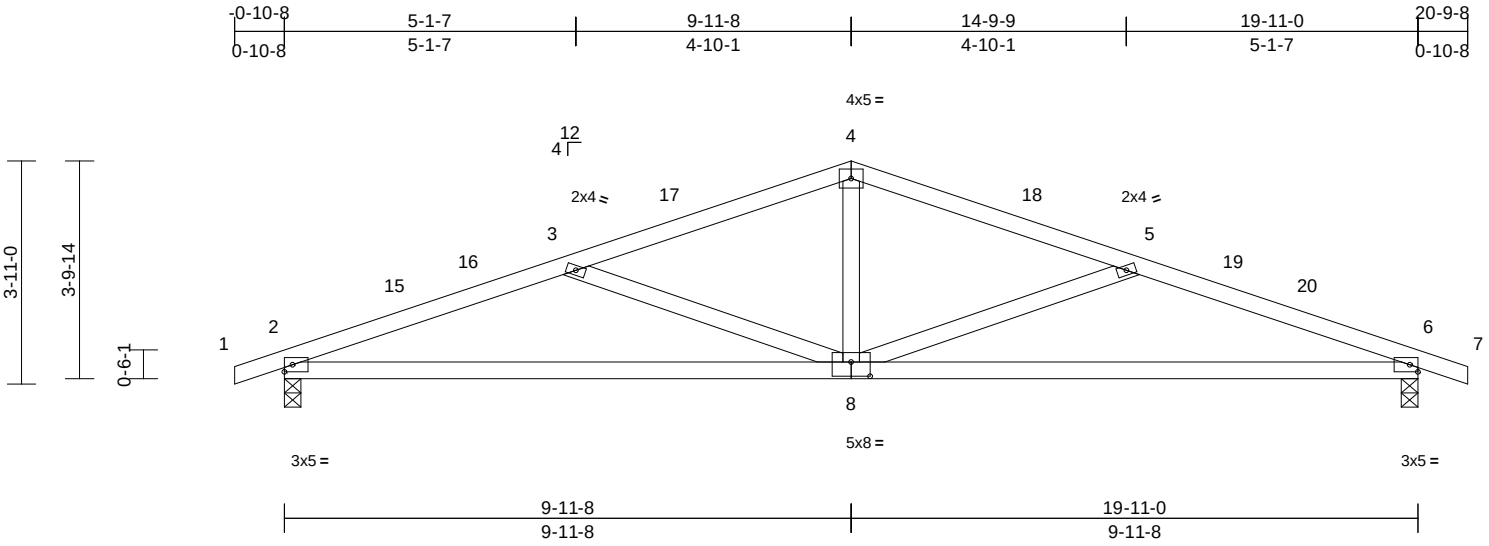
14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	B02	Common	1	1	I46179753 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:14
ID:ZO_iEjfZhvTOzfXbu2eu7mzd773-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.15	8-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.32	8-11	>747	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.05	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 84 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=-57 (LC 19)
Max Uplift 2=-126 (LC 10), 6=-126 (LC 11)
Max Grav 2=906 (LC 21), 6=906 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-15=-1896/406, 15-16=-1850/411, 3-16=-1808/422, 3-17=-1304/278, 4-17=-1245/290, 4-18=-1245/290, 5-18=-1304/278, 5-19=-1808/422, 19-20=-1850/411, 6-20=-1896/406, 6-7=0/17
BOT CHORD 2-8=-325/1755, 6-8=-325/1755
WEBS 4-8=-2/541, 5-8=-627/201, 3-8=-627/200

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 17-9-8, Exterior(2E) 17-9-8 to 20-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 126 lb uplift at joint 2 and 126 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.

LOAD CASE(S) Standard

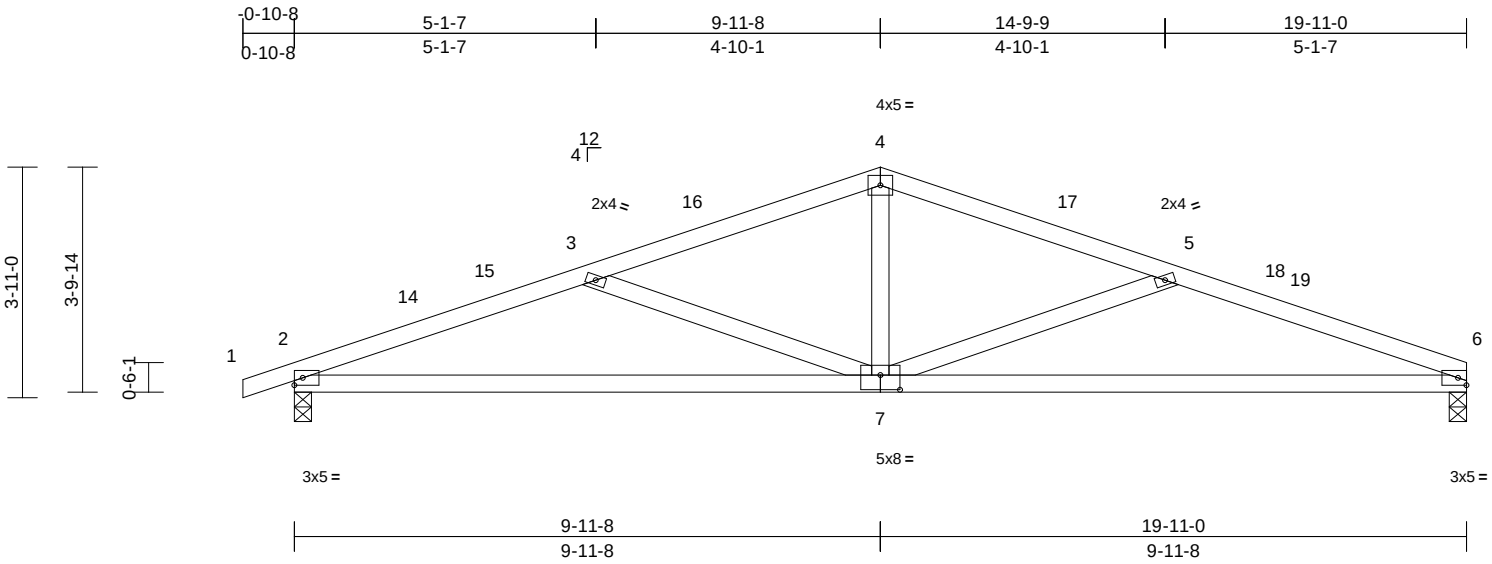
May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	B03	Common	3	1	I46179754 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:14
ID:6lUA9?3Gw2djQkYwKTkdzjzd76Y-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.54	Vert(LL)	-0.15	7-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.32	7-10	>742	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.05	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 83 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-9 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6=0-3-8
Max Horiz 2=62 (LC 14)
Max Uplift 2=-127 (LC 10), 6=-94 (LC 11)
Max Grav 2=906 (LC 21), 6=852 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-14=-1898/415, 14-15=-1852/421, 3-15=-1810/431, 3-16=-1306/289, 4-16=-1249/300, 4-17=-1249/301, 5-17=-1308/289, 5-18=-1818/449, 18-19=-1854/442, 6-19=-1906/433
BOT CHORD 2-7=-350/1757, 6-7=-371/1765
WEBS 4-7=-10/543, 5-7=-634/214, 3-7=-627/200

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 16-11-0, Exterior(2E) 16-11-0 to 19-11-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 6 and 127 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

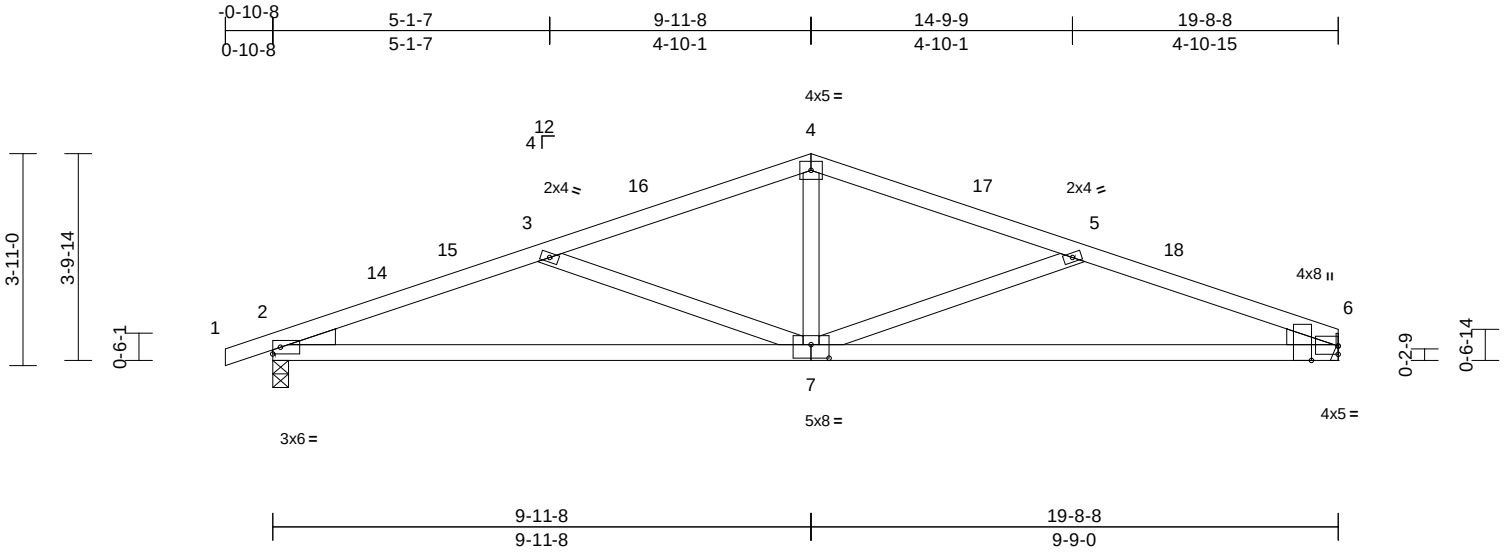
May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	B04	Common	1	1	I46179755 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:15
ID:aCZ_x9HZgZu9bVwOOF2riWzd76G-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:42.6

Plate Offsets (X, Y): [6:Edge,0-1-14], [6:0-3-3,Edge], [7:0-4-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	-0.16	7-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.34	7-10	>696	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.04	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 85 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-1-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 9-7-3 oc bracing.

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=63 (LC 14)
Max Uplift 2=-126 (LC 10), 6=-92 (LC 11)
Max Grav 2=900 (LC 21), 6=844 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/17, 2-14=-1877/416, 14-15=-1832/422, 3-15=-1789/432, 3-16=-1282/291, 4-16=-1221/302, 4-17=-1221/302, 5-17=-1277/291, 5-18=-1750/438, 6-18=-1824/425
BOT CHORD	2-7=-352/1738, 6-7=-358/1696
WEBS	4-7=-9/526, 5-7=-590/197, 3-7=-630/198

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 16-8-8, Exterior(2E) 16-8-8 to 19-8-8 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 92 lb uplift at joint 6.
10) One RT7A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
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

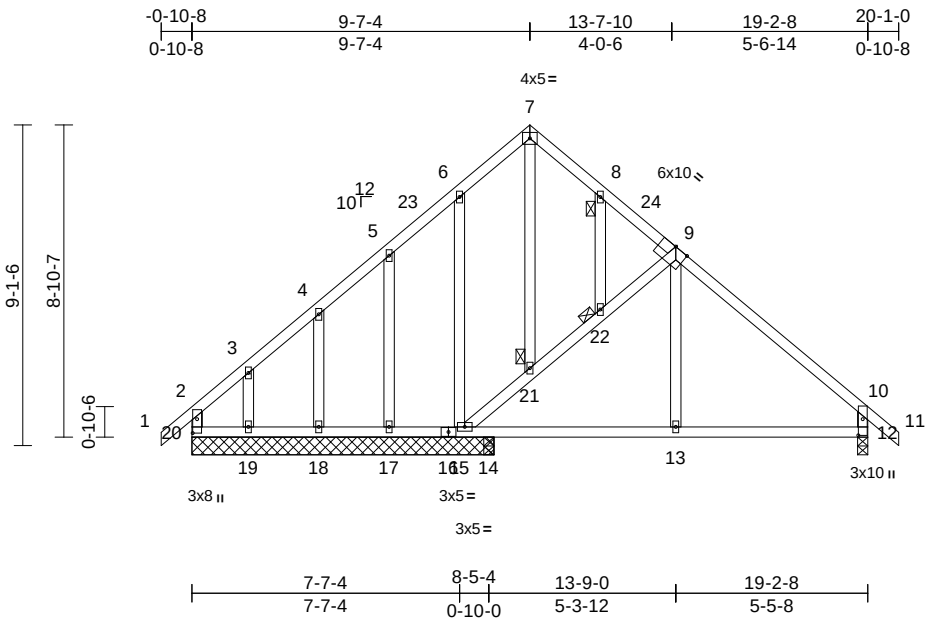
May 19,2021

ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	C01	Common Structural Gable	1	1	I46179756 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:15 Page: 1
ID:Hil1qPxACFu9nuniVnMSvIzd6uV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:65.5

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.68	Vert(LL)	-0.02	13-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	-0.04	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horz(CT)	0.01	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 130 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 9-15,9-13:2x4 SP No.2
OTHERS 2x4 SP No.3

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.
JOINTS 1 Brace at Jt(s): 21, 22, 8

REACTIONS (size) 12=0-3-8, 14=0-3-8, 15=8-7-0, 17=8-7-0, 18=8-7-0, 19=8-7-0, 20=8-7-0
Max Horiz 20=-220 (LC 12)
Max Uplift 12=-50 (LC 15), 15=-110 (LC 15), 17=-94 (LC 14), 18=-51 (LC 14), 19=-191 (LC 14), 20=-59 (LC 10)
Max Grav 12=642 (LC 22), 14=224 (LC 7), 15=320 (LC 21), 17=186 (LC 21), 18=175 (LC 24), 19=160 (LC 12), 20=318 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/38, 2-3=-293/119, 3-4=-215/83, 4-5=-225/66, 5-23=-205/85, 6-23=-169/92, 6-7=-228/104, 7-8=-223/103, 8-24=-201/66, 9-24=-307/53, 2-20=-255/51, 10-12=-579/95, 9-10=-643/42, 10-11=0/38
BOT CHORD 19-20=-64/192, 18-19=-64/192, 17-18=-64/192, 16-17=-64/192, 15-16=-64/192, 14-15=0/402, 13-14=0/402, 12-13=0/404
WEBS 15-21=-314/136, 21-22=-367/168, 9-22=-304/147, 9-13=0/212, 7-21=-50/88, 6-15=-247/60, 5-17=-142/119, 4-18=-138/85, 3-19=-112/151, 8-22=-109/33

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-7-4, Exterior(2R) 6-7-4 to 12-7-4, Interior (1) 12-7-4 to 17-1-0, Exterior(2E) 17-1-0 to 20-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * 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.
12) N/A
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

May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	C02	Common Girder	1	**2**	I46179757 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:16 Page: 1
ID:WitsIIFU4FATvtmi0EqYynzd6u5-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

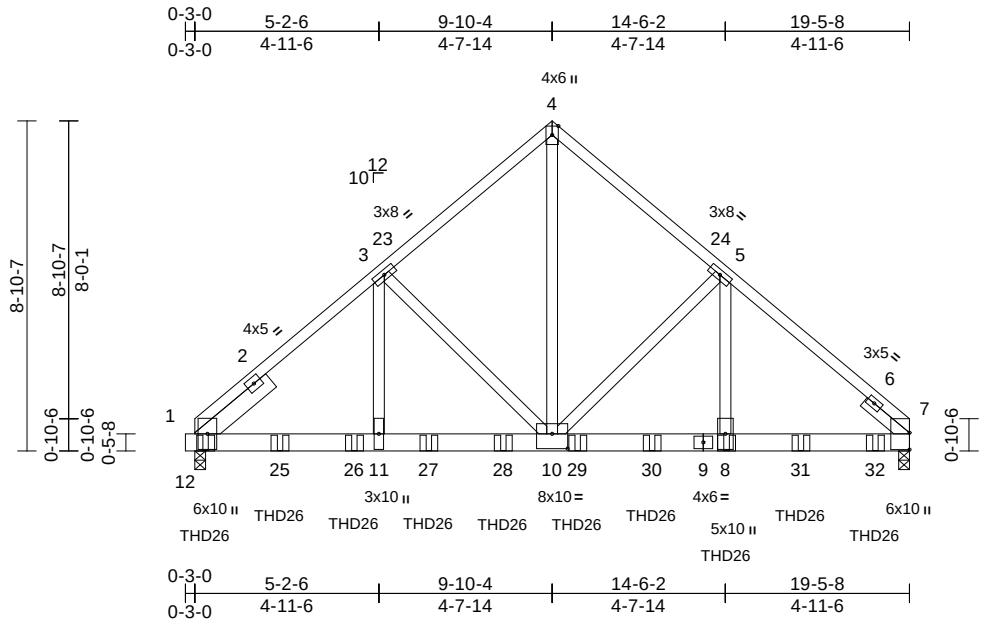


Plate Offsets (X, Y): [1:0-5-0,0-1-1], [10:0-5-0,0-4-12]

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.91	Vert(LL)	-0.10	8-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.19	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 268 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 10-4:2x4 SP No.2
SLIDER Left 2x6 SP No.2 -- 2-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-11-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-3-8, 7=0-3-8
Max Horiz 1=-182 (LC 10)
Max Uplift 1=-405 (LC 12), 7=-629 (LC 13)
Max Grav 1=7704 (LC 18), 7=7162 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-5012/247, 2-3=-7372/517, 3-23=-5426/509, 4-23=-5356/541, 4-24=-5358/541, 5-24=-5439/510, 5-6=-7713/694, 6-7=-5666/430
BOT CHORD 1-12=0/0, 1-25=-419/5560, 25-26=-419/5560, 11-26=-419/5560, 11-27=-419/5560, 27-28=-419/5560, 10-28=-419/5560, 10-29=-473/5856, 29-30=-473/5856, 9-30=-473/5856, 8-9=-473/5856, 8-31=-473/5856, 31-32=-473/5856, 7-32=-473/5856
WEBS 4-10=-581/6538, 5-10=-2438/394, 5-8=-271/2981, 3-10=-2124/194, 3-11=-27/2633

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-7-0 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=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 405 lb uplift at joint 1 and 629 lb uplift at joint 7.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
11) Use MiTek THD26 (With 18-16d nails into Girder & 12-10d x 1-1/2 nails into Truss) or equivalent spaced at 2-0-0 oc max. starting at 0-3-8 from the left end to 18-3-8 to connect truss(es) to back face of bottom chord.
12) Fill all nail holes where hanger is in contact with lumber.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-58, 4-7=-58, 13-19=-19
Concentrated Loads (lb)
Vert: 8=-1257 (B), 15=-1361 (B), 25=-1357 (B), 26=-1357 (B), 27=-1357 (B), 28=-1257 (B), 29=-1257 (B), 30=-1257 (B), 31=-1257 (B), 32=-1257 (B)

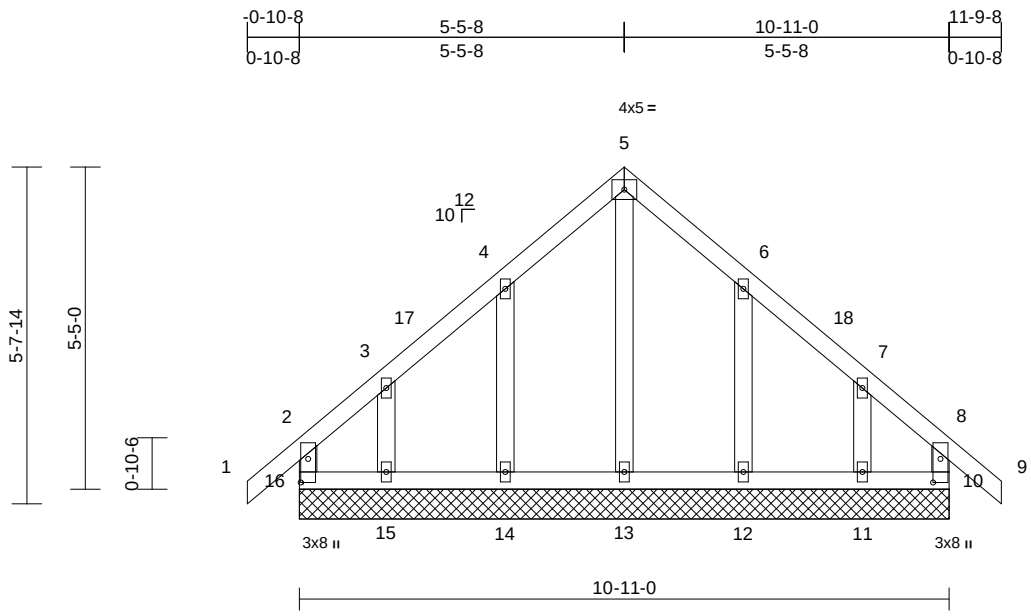
May 19,2021

ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	D01	Common Supported Gable	1	1	I46179758 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:16
ID:XDsImjXoBX?P3TtNT5wEwSzd74e-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.7

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

Loading	(psf)	Spacing	1-11-4	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 64 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3

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) 10=10-11-0, 11=10-11-0, 12=10-11-0, 13=10-11-0, 14=10-11-0, 15=10-11-0, 16=10-11-0
Max Horiz 16=-142 (LC 12)
Max Uplift 10=-41 (LC 11), 11=-95 (LC 15), 12=-73 (LC 15), 14=-73 (LC 14), 15=-99 (LC 14), 16=-59 (LC 10)
Max Grav 10=126 (LC 24), 11=155 (LC 22), 12=272 (LC 22), 13=170 (LC 27), 14=272 (LC 21), 15=159 (LC 24), 16=141 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-115/96, 1-2=0/38, 2-3=-88/86, 3-17=-61/105, 4-17=-52/115, 4-5=-110/224, 5-6=-110/224, 6-18=-43/115, 7-18=-58/105, 7-8=-67/65, 8-9=0/38, 8-10=-105/96
BOT CHORD 15-16=-66/117, 14-15=-66/117, 13-14=-66/117, 12-13=-66/117, 11-12=-66/117, 10-11=-66/117
WEBS 5-13=-205/42, 4-14=-232/147, 3-15=-126/143, 6-12=-232/147, 7-11=-126/143

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 2-5-8, Corner(3R) 2-5-8 to 8-5-8, Exterior(2N) 8-5-8 to 8-9-8, Corner(3E) 8-9-8 to 11-9-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * 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.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 59 lb uplift at joint 16, 41 lb uplift at joint 10, 73 lb uplift at joint 14, 99 lb uplift at joint 15, 73 lb uplift at joint 12 and 95 lb uplift at joint 11.
14) This truss 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

May 19,2021

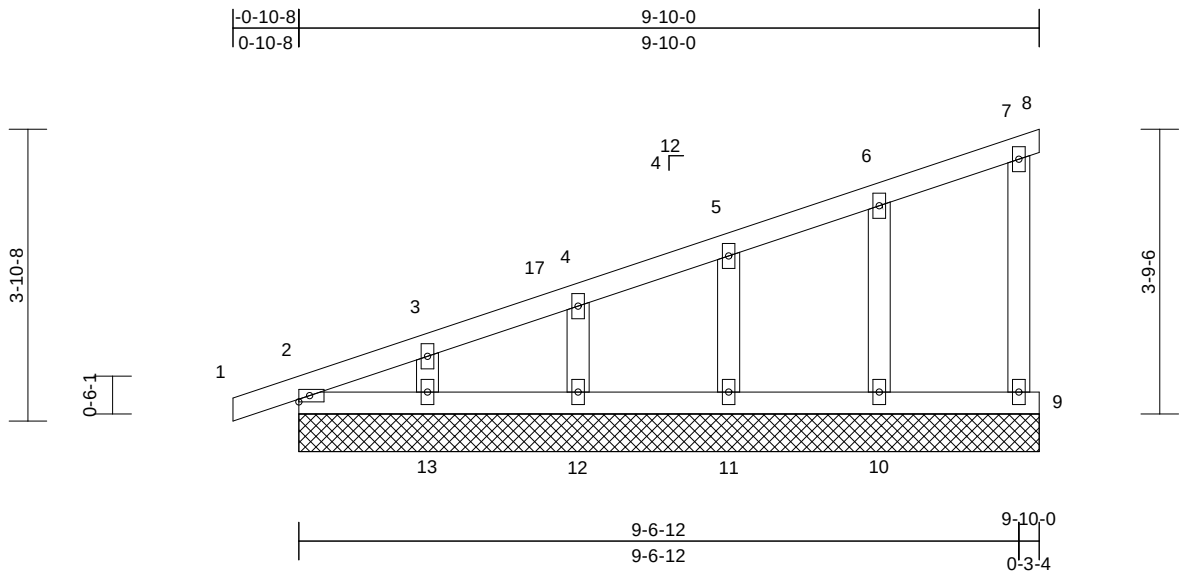
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	E01	Monopitch Supported Gable	2	1	I46179759 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:16
ID:S?uvRjS4dzrq_kj09Ne3Htzd6v7-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:30.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 45 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

BRACING

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

REACTIONS (size) 2=9-10-0, 8=9-10-0, 9=9-10-0, 10=9-10-0, 11=9-10-0, 12=9-10-0, 13=9-10-0, 14=9-10-0
Max Horiz 2=134 (LC 10), 14=134 (LC 10)
Max Uplift 8=-3 (LC 21), 9=-22 (LC 10), 10=-33 (LC 10), 11=-35 (LC 14), 12=-31 (LC 10), 13=-50 (LC 14)
Max Grav 2=123 (LC 21), 8=0 (LC 7), 9=113 (LC 21), 10=225 (LC 21), 11=219 (LC 21), 12=204 (LC 21), 13=145 (LC 1), 14=123 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/17, 2-3=-230/69, 3-17=-182/43, 4-17=-175/54, 4-5=-131/41, 5-6=-81/27, 6-7=-32/20, 7-8=-9/0, 7-9=-98/72
BOT CHORD	2-13=-91/36, 12-13=-2/2, 11-12=-2/2, 10-11=-2/2, 9-10=-2/2
WEBS	6-10=-183/140, 5-11=-180/135, 4-12=-163/136, 3-13=-108/136

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 9-10-0 zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 8, 22 lb uplift at joint 9, 33 lb uplift at joint 10, 35 lb uplift at joint 11, 31 lb uplift at joint 12 and 50 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.

LOAD CASE(S) Standard

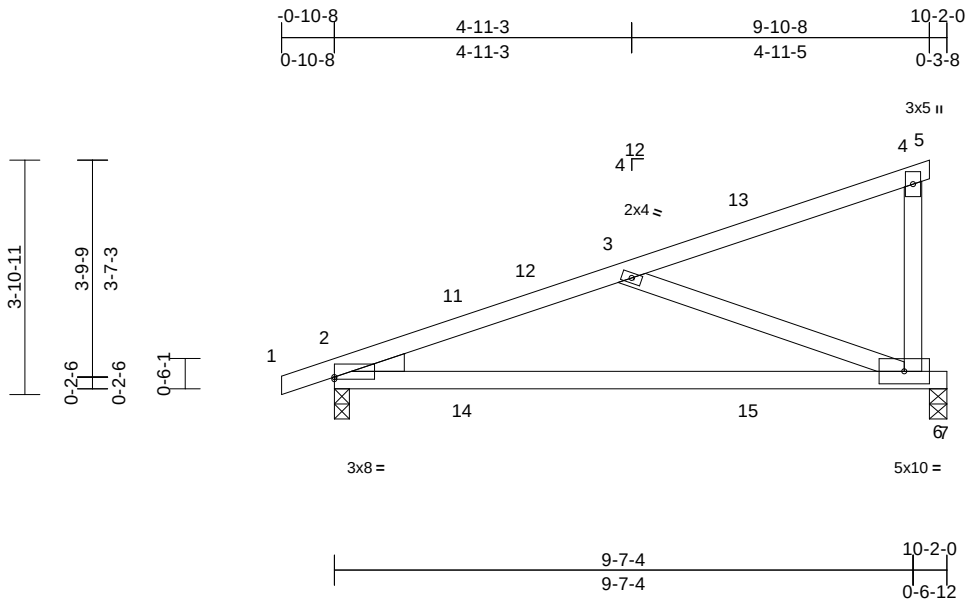
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	E02	Monopitch	5	1	I46179760 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:17 ID:da?DcsAf1vy5jCTbI2jgs0zd6vU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.78	Vert(LL)	0.45	7-10	>265	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.35	7-10	>341	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	-0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 45 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.1
BOT CHORD	2x4 SP 2400F 2.0E
WEBS	2x4 SP No.2 *Except* 7-3:2x4 SP No.3
WEDGE	Left: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 8-6-10 oc bracing.

REACTIONS (size) 2=0-3-0, 6=0-3-8
Max Horiz 2=135 (LC 10)
Max Uplift 2=-162 (LC 10), 6=-167 (LC 10)
Max Grav 2=520 (LC 21), 6=515 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/17, 2-11=-799/519, 11-12=-772/524, 3-12=-723/534, 3-13=-169/92, 4-13=-95/108, 4-5=-8/0, 4-7=-196/73
BOT CHORD	2-14=-672/740, 14-15=-672/740, 7-15=-672/740, 6-7=0/0
WEBS	3-7=-691/566

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 6-10-8, Exterior(2E) 6-10-8 to 9-10-8 zone; cantilever left and right exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) One RT7A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
8) One RT16A MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 6. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2021

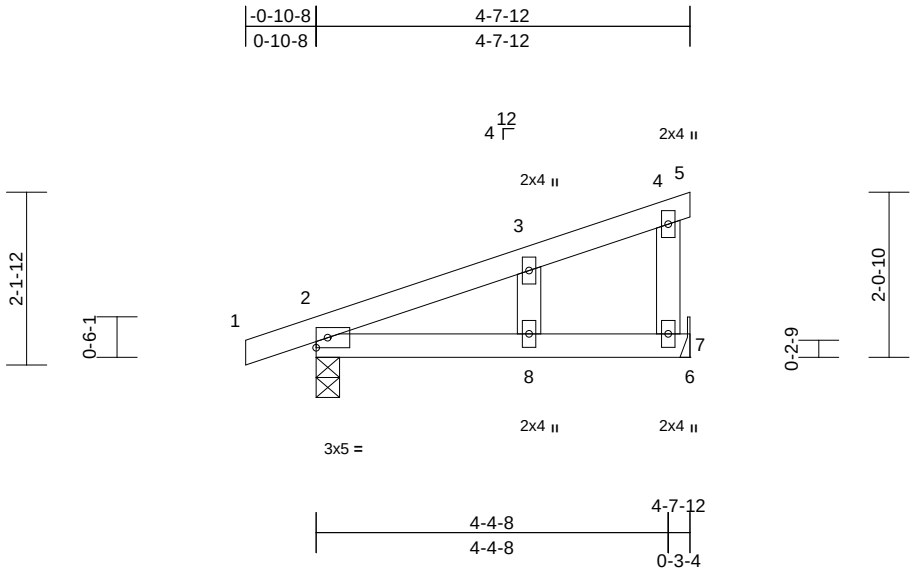
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	G01	Monopitch Supported Gable	1	1	I46179761 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:17
ID:pxcNqEOCZK1tAt77PejzZQzd767-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:28.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	0.09	8-11	>604	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	0.07	8-11	>708	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 19 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-7-12 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 7= Mechanical
Max Horiz 2=71 (LC 10)
Max Uplift 2=-89 (LC 10), 7=-77 (LC 10)
Max Grav 2=323 (LC 21), 7=261 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/25, 2-3=-76/32, 3-4=-72/38, 4-5=-8/0, 4-7=-160/205
BOT CHORD	2-8=-110/49, 7-8=0/0, 6-7=0/0
WEBS	3-8=-81/46

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) zone; cantilever left and right exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 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) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 77 lb uplift at joint 7 and 89 lb uplift at joint 2.
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

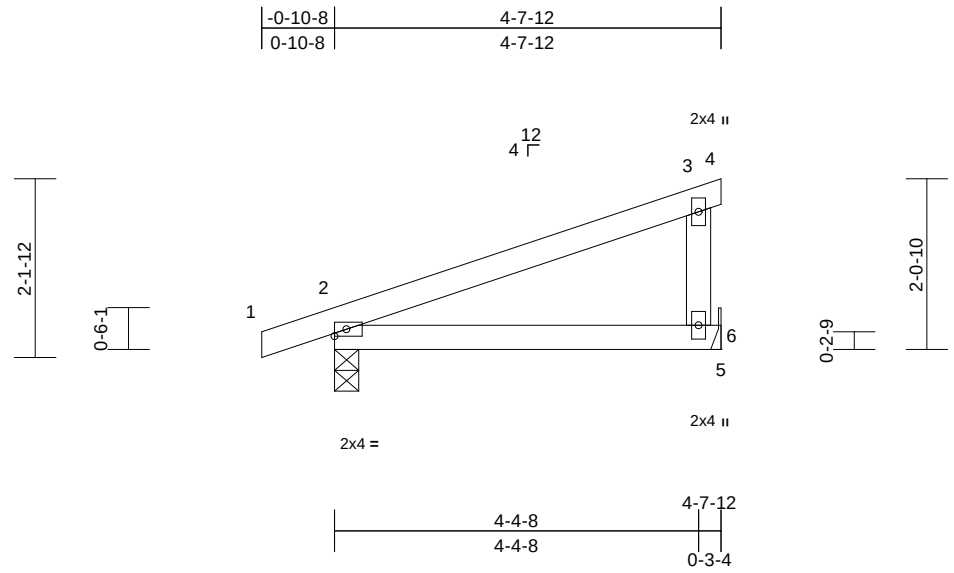
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	G02	Monopitch	5	1	I46179762 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:17 ID:AvQGtxRLNtfAGe?4CBI8GTzd762-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	0.07	6-9	>747	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	0.06	6-9	>911	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 18 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-7-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 6= Mechanical
Max Horiz 2=71 (LC 10)
Max Uplift 2=-89 (LC 10), 6=-77 (LC 10)
Max Grav 2=323 (LC 21), 6=261 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-68/90, 3-4=-8/0, 3-6=-193/167
BOT CHORD 2-6=-100/77, 5-6=0/0

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 77 lb uplift at joint 6 and 89 lb uplift at joint 2.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

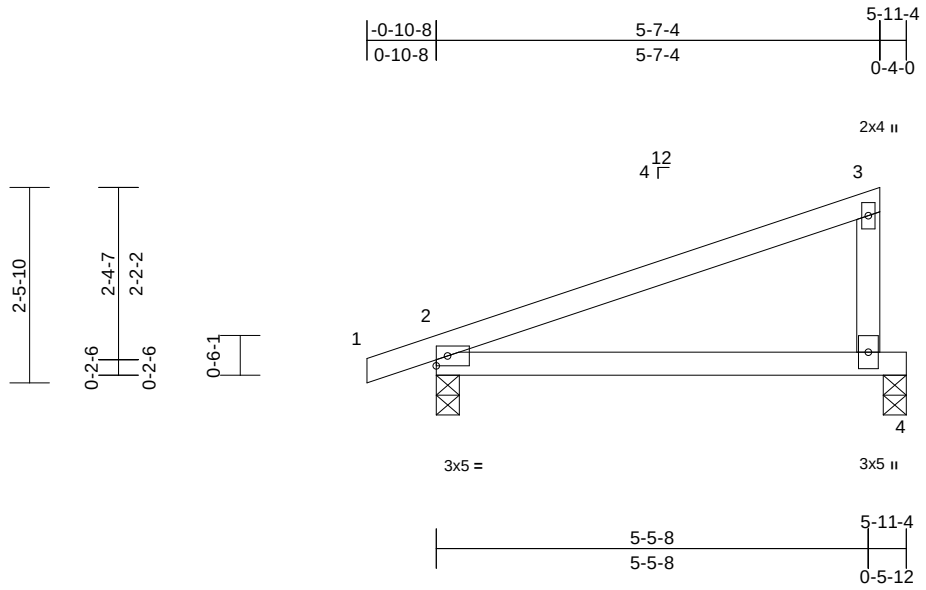
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	G03	Roof Special	4	1	I46179763 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:17 Page: 1
ID:mgNG4_Rm33_X6FGr?QmMbmzd74m-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.66	Vert(LL)	0.17	4-7	>385	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.58	Vert(CT)	0.14	4-7	>473	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 22 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-7-4 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 4=0-3-8
Max Horiz 2=81 (LC 10)
Max Uplift 2=-103 (LC 10), 4=-93 (LC 10)
Max Grav 2=382 (LC 21), 4=291 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-88/121, 3-4=-212/209
BOT CHORD 2-4=-131/106

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 93 lb uplift at joint 4 and 103 lb uplift at joint 2.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

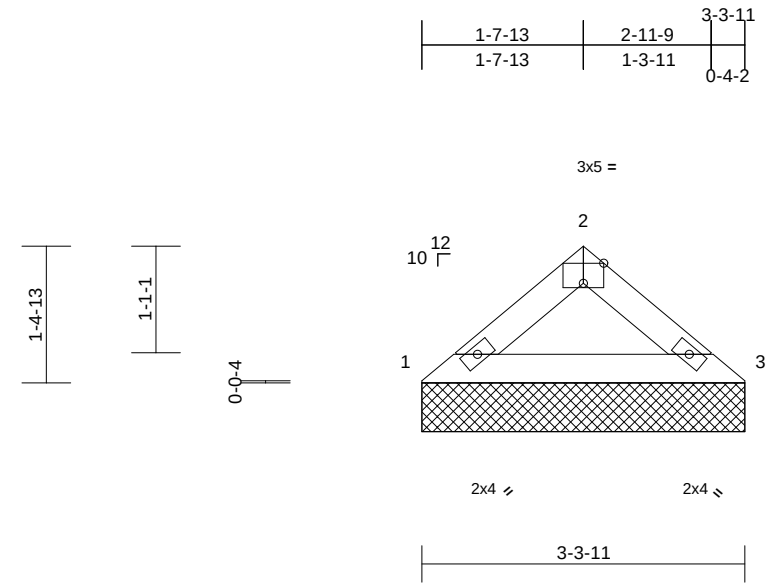
LOAD CASE(S) Standard

May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL3	Valley	1	1	I46179764 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:18 Page: 1
ID:JB49YmUnG_HZtDhJPPI?xPzd727-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:23.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 10 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2

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

REACTIONS (size) 1=3-3-11, 3=3-3-11
Max Horiz 1=-28 (LC 12)
Max Uplift 1=-11 (LC 14), 3=-11 (LC 15)
Max Grav 1=154 (LC 20), 3=154 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-195/78, 2-3=-103/56
BOT CHORD 1-3=-46/142

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 1 and 11 lb uplift at joint 3.
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

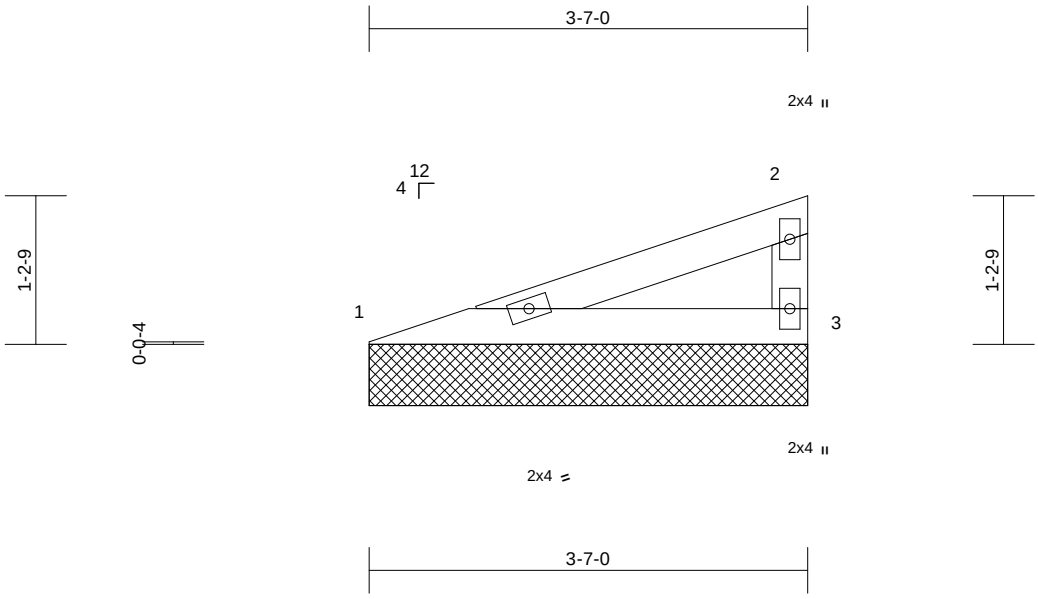
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL3A	Valley	1	1	I46179765 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:18
ID:aCZ_x9HZgZu9bVwOOF2riWzd76G-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:18.8

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 10 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

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

REACTIONS (size) 1=3-7-0, 3=3-7-0
Max Horiz 1=37 (LC 10)
Max Uplift 1=-16 (LC 10), 3=-27 (LC 10)
Max Grav 1=179 (LC 20), 3=179 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-340/147, 2-3=-108/84
BOT CHORD 1-3=-205/313

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 3 and 16 lb uplift at joint 1.
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.

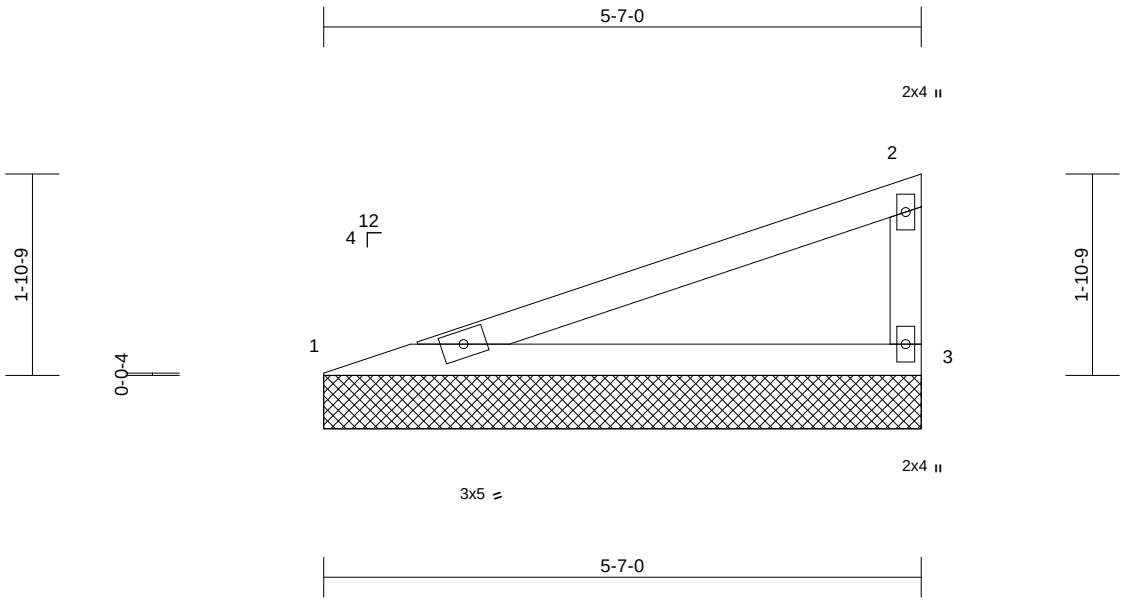
LOAD CASE(S) Standard

May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL5	Valley	1	1	I46179766 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:18 Page: 1
ID:aCZ_x9HZgZu9bVwOOF2riWzd76G-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:21.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.53	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.61	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 18 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

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

REACTIONS (size) 1=5-7-0, 3=5-7-0
Max Horiz 1=62 (LC 10)
Max Uplift 1=-25 (LC 10), 3=-44 (LC 10)
Max Grav 1=296 (LC 20), 3=296 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-676/280, 2-3=-195/149
BOT CHORD 1-3=-384/631

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 44 lb uplift at joint 3 and 25 lb uplift at joint 1.
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

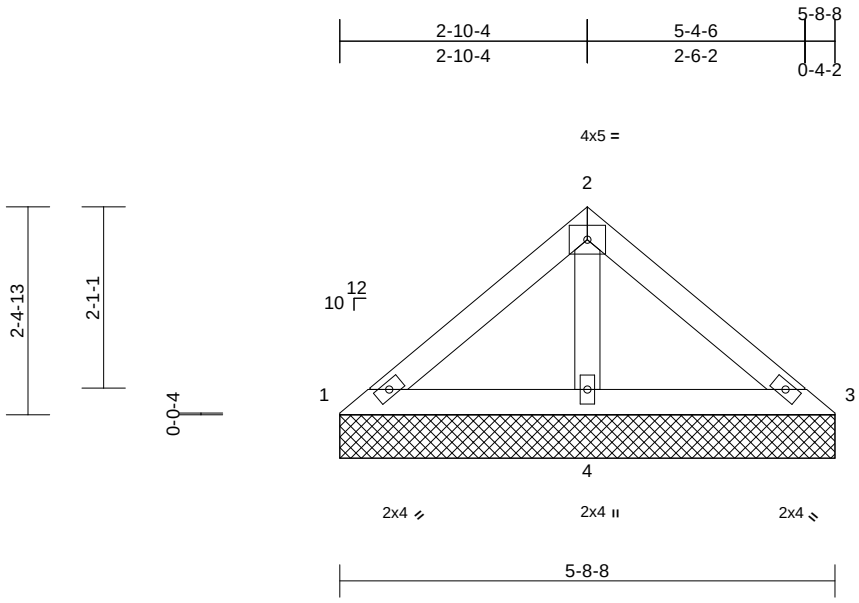
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL6	Valley	1	1	I46179767 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:18
ID:JB49YmUnG_HZtDhJPPI?xPzd727-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:26.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 21 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-8-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=5-8-8, 3=5-8-8, 4=5-8-8
Max Horiz 1=52 (LC 13)
Max Uplift 3=-5 (LC 15), 4=-46 (LC 14)
Max Grav 1=97 (LC 20), 3=97 (LC 21), 4=372 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-87/143, 2-3=-49/143
BOT CHORD 1-4=-107/112, 3-4=-107/112
WEBS 2-4=-246/134

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 3 and 46 lb uplift at joint 4.
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

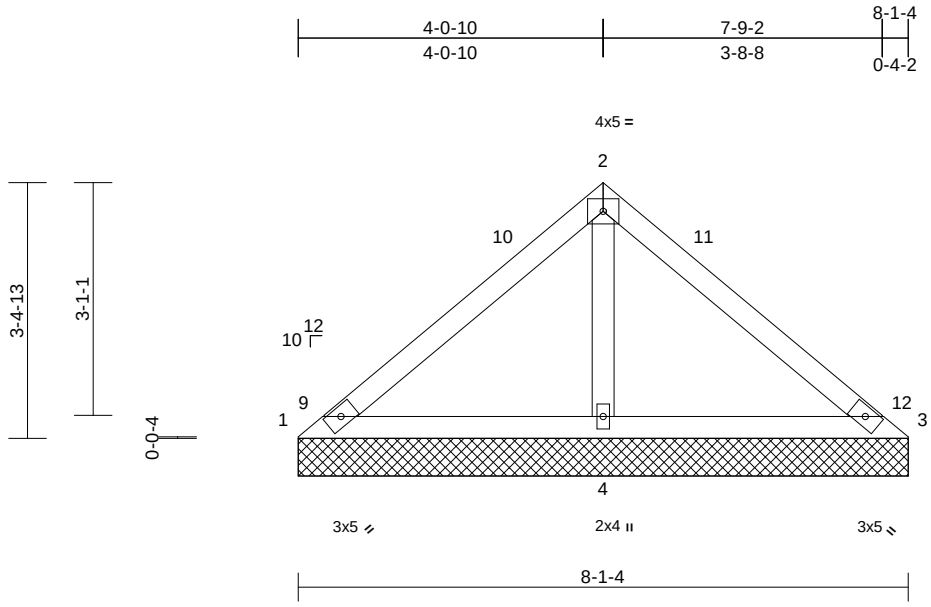
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL8	Valley	1	1	I46179768 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:19
ID:JB49YmUnG_HZtDhJPPI?xPzd727-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:30.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 30 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 8-1-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=8-1-4, 3=8-1-4, 4=8-1-4
Max Horiz 1=75 (LC 13)
Max Uplift 1=-36 (LC 21), 3=-36 (LC 20), 4=-93 (LC 14)
Max Grav 1=93 (LC 20), 3=93 (LC 21), 4=634 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-9=-82/96, 1-9=-79/104, 1-10=-113/208, 2-10=-96/286, 2-11=-96/286, 3-11=-113/208, 3-12=-79/104, 3-12=-82/96
BOT CHORD 1-4=-195/174, 3-4=-195/174
WEBS 2-4=-466/237

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 5-1-9, Exterior(2E) 5-1-9 to 8-1-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 1, 36 lb uplift at joint 3 and 93 lb uplift at joint 4.
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

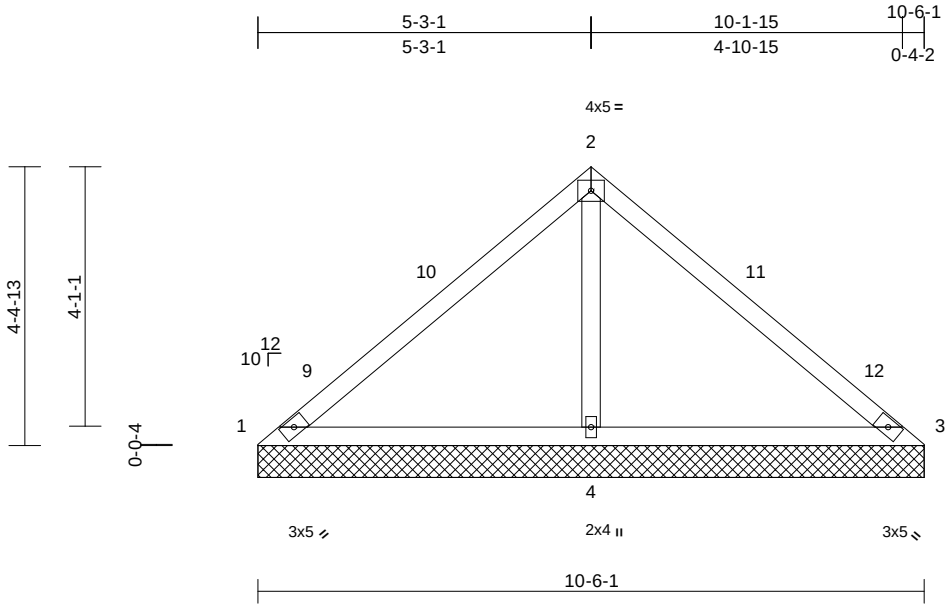
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL10	Valley	1	1	I46179769 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:19
ID:JB49YmUnG_HZtDhJPPI?xPzd727-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:36.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.49	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 40 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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

REACTIONS (size) 1=10-6-1, 3=10-6-1, 4=10-6-1
Max Horiz 1=-99 (LC 12)
Max Uplift 1=-67 (LC 21), 3=-67 (LC 20), 4=-129 (LC 14)
Max Grav 1=81 (LC 20), 3=81 (LC 21), 4=869 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-9=-135/241, 9-10=-132/277, 2-10=-117/430, 2-11=-117/430, 11-12=-132/277, 3-12=-135/241
BOT CHORD 1-4=-248/191, 3-4=-248/191
WEBS 2-4=-680/301

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 7-6-6, Exterior(2E) 7-6-6 to 10-6-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 1, 67 lb uplift at joint 3 and 129 lb uplift at joint 4.
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

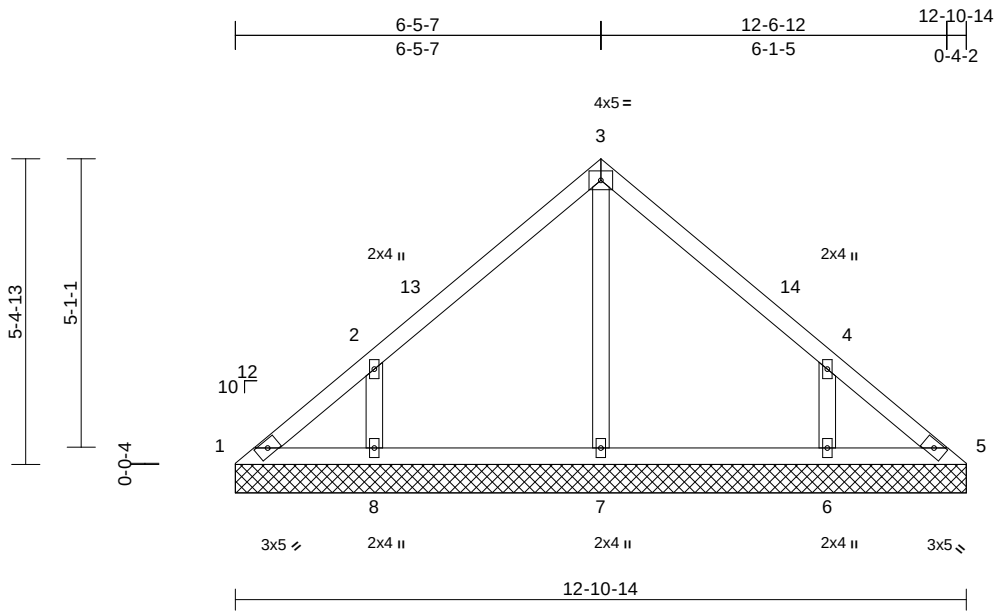
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL13	Valley	1	1	I46179770 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:19
ID:r?WnLQT9Vh9iG367rinmPBzd728-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:40.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 54 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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=12-10-14, 5=12-10-14, 6=12-10-14, 7=12-10-14, 8=12-10-14
Max Horiz 1=-122 (LC 10)
Max Uplift 1=-29 (LC 10), 6=-141 (LC 15), 8=-144 (LC 14)
Max Grav 1=106 (LC 24), 5=84 (LC 27), 6=436 (LC 21), 7=273 (LC 21), 8=436 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-132/108, 2-13=-206/89, 3-13=-73/115, 3-14=-73/115, 4-14=-206/88, 4-5=-81/67
BOT CHORD 1-8=-39/98, 7-8=-39/81, 6-7=-39/81, 5-6=-39/81
WEBS 3-7=-188/0, 2-8=-381/200, 4-6=-381/200

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 3-5-12, Exterior(2R) 3-5-12 to 9-5-12, Interior (1) 9-5-12 to 9-11-3, Exterior(2E) 9-11-3 to 12-11-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 1, 144 lb uplift at joint 8 and 141 lb uplift at joint 6.
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

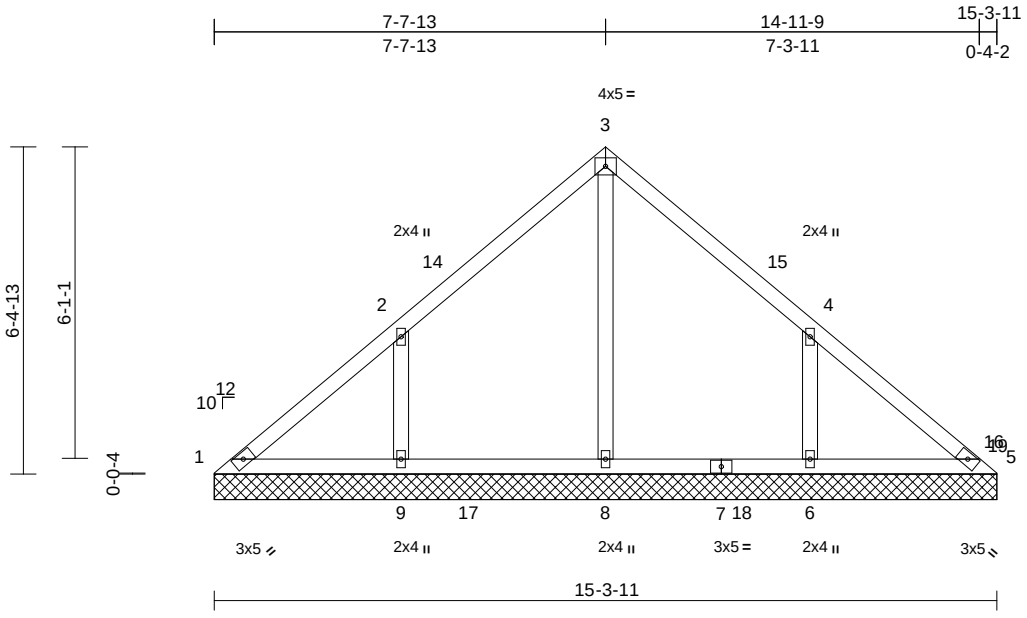
May 19,2021

ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL15	Valley	1	1	I46179771 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:20
ID:r?WnLQT9Vh9iG367rinmPBzd728-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 67 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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

REACTIONS (size) 1=15-3-11, 5=15-3-11, 6=15-3-11, 8=15-3-11, 9=15-3-11
Max Horiz 1=145 (LC 11)
Max Uplift 1=-22 (LC 10), 6=-163 (LC 15), 9=-167 (LC 14)
Max Grav 1=127 (LC 24), 5=87 (LC 26), 6=469 (LC 21), 8=433 (LC 23), 9=471 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-154/174, 2-14=-156/90, 3-14=-28/139, 3-15=-28/118, 4-15=-156/79, 4-5=-91/137, 5-16=-107/2, 5-16=-116/0
BOT CHORD 1-9=-73/131, 9-17=-73/105, 8-17=-73/105, 7-8=-73/105, 7-18=-73/105, 6-18=-73/105, 5-6=-73/105, 5-19=-1/90, 5-19=-2/89
WEBS 3-8=-249/0, 2-9=-379/203, 4-6=-378/201

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 4-8-2, Exterior(2R) 4-8-2 to 10-8-2, Interior (1) 10-8-2 to 11-8-2, Exterior(2E) 11-8-2 to 14-11-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 1, 167 lb uplift at joint 9 and 163 lb uplift at joint 6.
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

May 19,2021

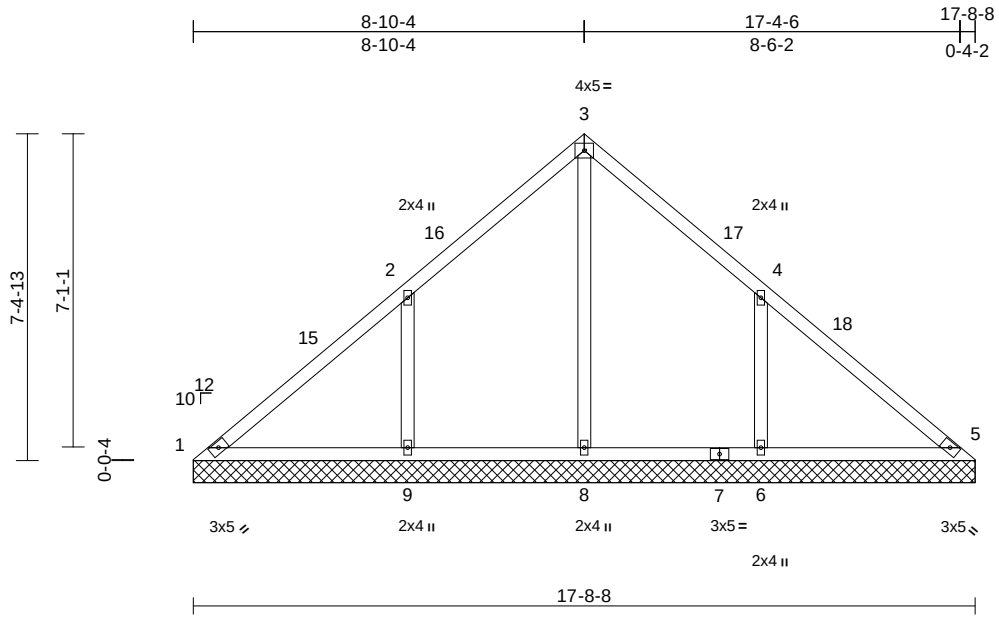
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	103 Carolina Lakes-Roof-Aurora
21040027-B	VL18	Valley	1	1	I46179772 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332,

Run: 8.5 S 0 Apr 20 2021 Print: 8.500 S Apr 20 2021 MiTek Industries, Inc. Tue May 18 14:35:20
ID:r?WnLQT9Vh9iG367rinmPBzd728-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:52.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.48	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 80 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3

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

REACTIONS (size) 1=17-8-8, 5=17-8-8, 6=17-8-8, 8=17-8-8, 9=17-8-8, 14=17-8-8
Max Horiz 1=169 (LC 11)
Max Uplift 1=-58 (LC 10), 6=-194 (LC 15), 9=-201 (LC 14)
Max Grav 1=90 (LC 33), 5=1 (LC 24), 6=548 (LC 24), 8=675 (LC 23), 9=552 (LC 23), 14=1 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-15=-107/326, 2-15=-79/408, 2-16=-10/230, 3-16=0/345, 3-17=0/325, 4-17=0/210, 4-18=-7/328, 5-18=-36/248
BOT CHORD 1-9=-207/84, 8-9=-207/84, 7-8=-207/84, 6-7=-207/84, 5-6=-207/84
WEBS 3-8=-503/0, 2-9=-405/232, 4-6=-404/230

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-10-9, Exterior(2R) 5-10-9 to 11-10-9, Interior (1) 11-10-9 to 14-4-4, Exterior(2E) 14-4-4 to 17-4-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * 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.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1, 201 lb uplift at joint 9 and 194 lb uplift at joint 6.
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.

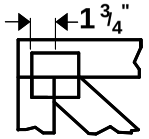
LOAD CASE(S) Standard

May 19,2021

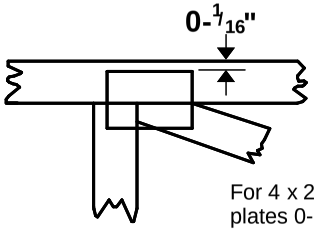
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

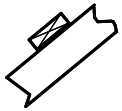
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

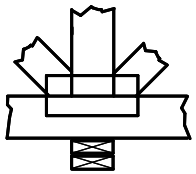
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

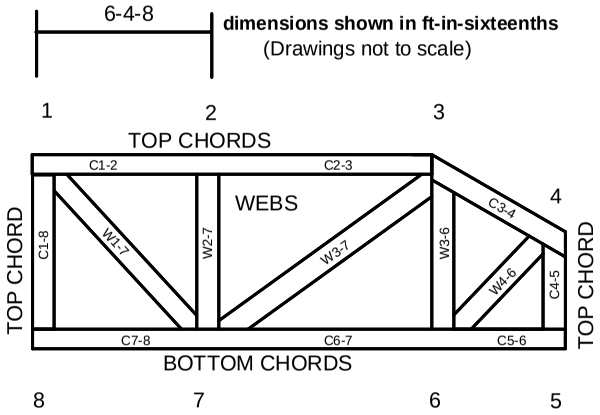


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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