ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: P02234-24937
998 Serenity

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Lumber 2383 (Dunn, NC).

Pages or sheets covered by this seal: I73152014 thru I73152045

My license renewal date for the state of North Carolina is December 31, 2025.

North Carolina COA: C-0844

May 2,2025

Galinski, John

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	998 Serenity	
P02234-24937	A01E	Common Supported Gable	1	1	Job Reference (optional)	I73152014

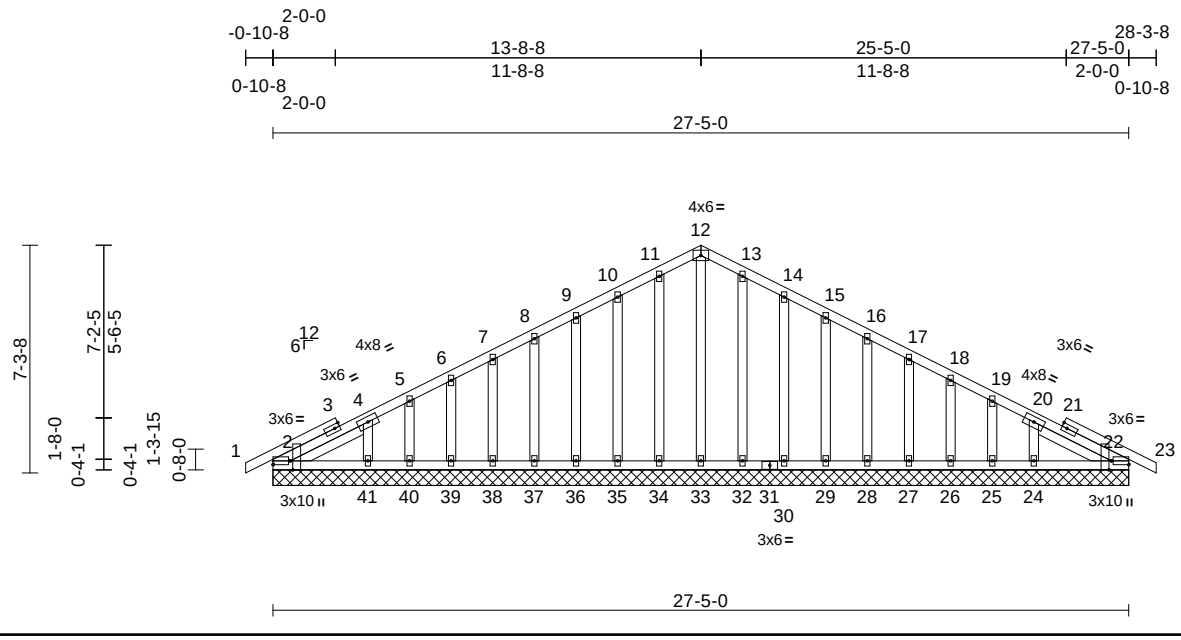

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Plate Offsets (X, Y): [2:0-3-8,Edge], [2:Edge,0-1-8], [22:0-3-8,Edge], [22:Edge,0-1-8]

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 201 lb	FT = 20%

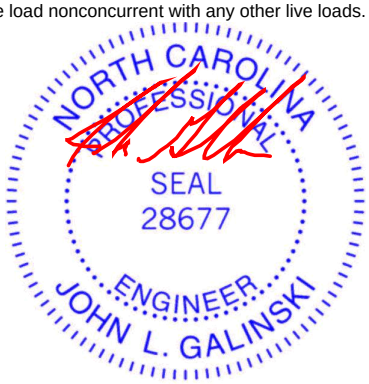
LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 33-12:2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 2-7-7, Right 2x4 SP No.3 -- 2-7-7

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=27-5-0, 22=27-5-0, 24=27-5-0, 25=27-5-0, 26=27-5-0, 27=27-5-0, 28=27-5-0, 29=27-5-0, 30=27-5-0, 32=27-5-0, 33=27-5-0, 34=27-5-0, 35=27-5-0, 36=27-5-0, 37=27-5-0, 38=27-5-0, 39=27-5-0, 40=27-5-0, 41=27-5-0
Max Horiz 2=110 (LC 20)
Max Uplift 2=-27 (LC 12), 22=-21 (LC 17), 24=-63 (LC 17), 25=-44 (LC 17), 26=-41 (LC 17), 27=-42 (LC 17), 28=-42 (LC 17), 29=-42 (LC 17), 30=-47 (LC 17), 32=-30 (LC 17), 34=-34 (LC 16), 35=-46 (LC 16), 36=-42 (LC 16), 37=-42 (LC 16), 38=-42 (LC 16), 39=-41 (LC 16), 40=-45 (LC 16), 41=-55 (LC 16)
Max Grav 2=183 (LC 2), 22=183 (LC 2), 24=139 (LC 37), 25=90 (LC 37), 26=101 (LC 2), 27=98 (LC 37), 28=99 (LC 37), 29=99 (LC 2), 30=111 (LC 24), 32=113 (LC 24), 33=124 (LC 33), 34=113 (LC 23), 35=111 (LC 23), 36=99 (LC 2), 37=99 (LC 36), 38=98 (LC 36), 39=101 (LC 2), 40=90 (LC 36), 41=139 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-4=-133/59, 4-5=-91/62, 5-6=-65/70, 6-7=-48/84, 7-8=-38/99, 8-9=-42/115, 9-10=-54/138, 10-11=-67/171, 11-12=-77/194, 12-13=-77/194, 13-14=-67/171, 14-15=-54/138, 15-16=-42/108, 16-17=-30/78, 17-18=-22/48, 18-19=-25/21, 19-20=-41/16, 20-22=-83/42, 22-23=0/18
BOT CHORD 2-41=-42/117, 40-41=-40/115, 39-40=-40/115, 38-39=-40/115, 37-38=-40/115, 36-37=-40/115, 35-36=-40/115, 34-35=-40/115, 33-34=-40/115, 32-33=-40/115, 30-32=-40/115, 29-30=-40/115, 28-29=-40/115, 27-28=-40/115, 26-27=-40/115, 25-26=-40/115, 24-25=-40/115, 22-24=-41/117
WEBS 12-33=-113/28, 11-34=-86/42, 10-35=-85/62, 9-36=-72/56, 8-37=-72/56, 7-38=-72/56, 6-39=-72/56, 5-40=-69/56, 4-41=-97/74, 13-32=-86/41, 14-30=-85/62, 15-29=-72/56, 16-28=-72/56, 17-27=-72/56, 18-26=-72/56, 19-25=-69/56, 20-24=-97/74

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=4.2psf; BCDL=3.0psf; 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 13-8-8, Corner(3R) 13-8-8 to 16-8-8, Exterior(2N) 16-8-8 to 28-3-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) All plates are 2x4 (||) MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 1-4-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.



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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 21 lb uplift at joint 22, 34 lb uplift at joint 34, 46 lb uplift at joint 35, 42 lb uplift at joint 36, 42 lb uplift at joint 37, 42 lb uplift at joint 38, 41 lb uplift at joint 39, 45 lb uplift at joint 40, 55 lb uplift at joint 41, 30 lb uplift at joint 32, 47 lb uplift at joint 30, 42 lb uplift at joint 29, 42 lb uplift at joint 28, 42 lb uplift at joint 27, 41 lb uplift at joint 26, 44 lb uplift at joint 25, 63 lb uplift at joint 24 and 27 lb uplift at joint 2.
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	998 Serenity	
P02234-24937	A02	Common	9	1	Job Reference (optional)	I73152015

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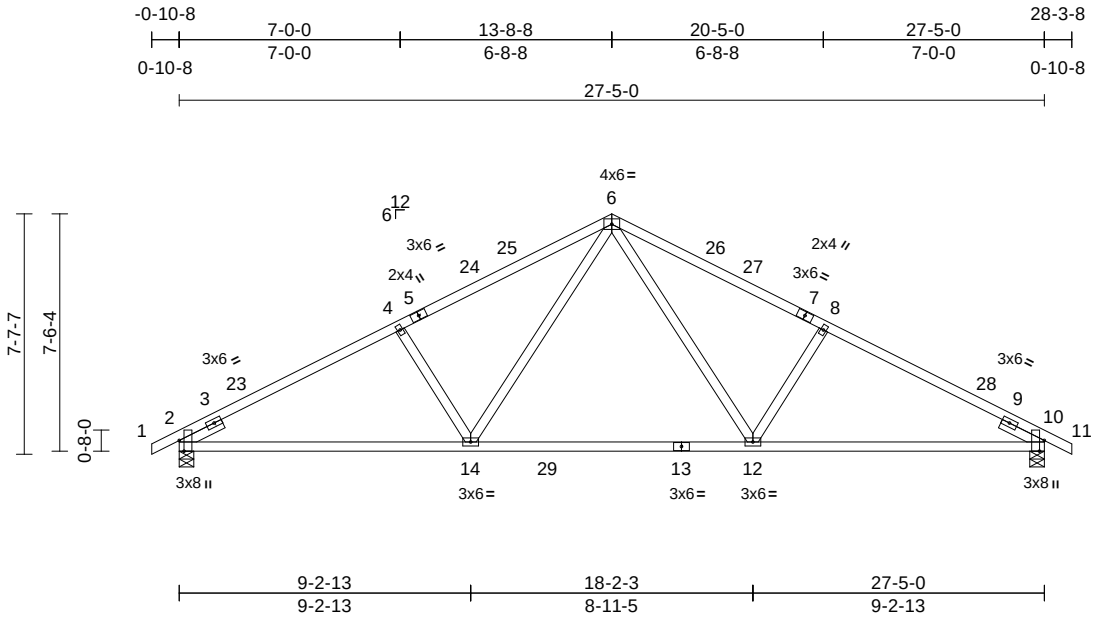

Scale = 1:73

Plate Offsets (X, Y): [2:0-4-1,Edge], [10:0-4-1,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	0.68	Vert(LL)	-0.27	12-14	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.42	12-14	>792	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.06	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 131 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

REACTIONS (size) 2=0-5-8, 10=0-5-8
Max Horiz 2=116 (LC 16)
Max Uplift 2=-256 (LC 16), 10=-256 (LC 17)
Max Grav 2=1153 (LC 3), 10=1153 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-4=-1794/417, 4-6=-1659/428, 6-8=-1660/428, 8-10=-1795/417, 10-11=0/21
BOT CHORD 2-14=-374/1556, 12-14=-151/1070, 10-12=-292/1557
WEBS 6-12=-185/690, 8-12=-343/242, 6-14=-185/688, 4-14=-343/242

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=4.2psf; BCDL=3.0psf; 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 13-8-8, Exterior(2R) 13-8-8 to 16-8-8, Interior (1) 16-8-8 to 28-3-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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, with BCDL = 10.0psf.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 256 lb uplift at joint 2 and 256 lb uplift at joint 10.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	A03G	Common Girder	1	**2**	Job Reference (optional)	I73152016

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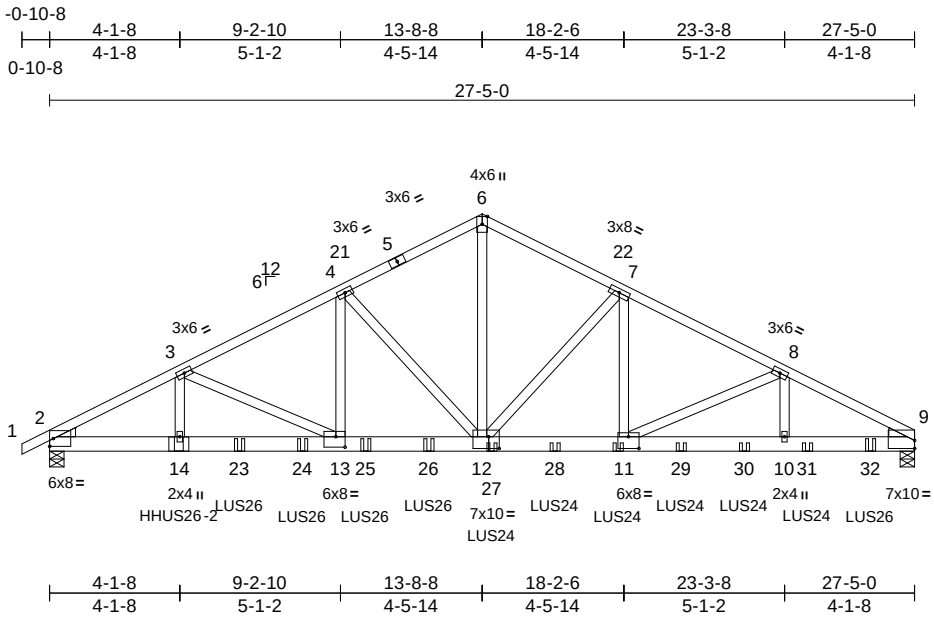

Scale = 1:73

Plate Offsets (X, Y): [9:Edge,0-3-1], [11:0-4-0,0-4-8], [12:0-4-0,0-4-8], [13:0-3-8,0-4-0]

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	0.94	Vert(LL)	-0.20	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.36	10-11	>927	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.67	Horz(CT)	0.08	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 354 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP DSS
WEBS 2x4 SP No.3 *Except* 12-4,12-6,12-7:2x4 SP No.2
WEDGE Left: 2x4 SP No.3
Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-5-1 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=122 (LC 12)
Max Uplift 2=-1254 (LC 12), 9=-1375 (LC 13)
Max Grav 2=5041 (LC 2), 9=6147 (LC 27)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-3=-9330/2291, 3-4=-8256/1909, 4-6=-6394/1510, 6-7=-6393/1510, 7-8=-8693/1986, 8-9=-10446/2342
BOT CHORD 2-14=-2101/8250, 13-14=-2101/8250, 11-13=-1691/7754, 10-11=-2041/9263, 9-10=-2041/9263
WEBS 8-10=-256/1426, 3-14=-286/857, 4-13=-538/2379, 3-13=-1014/451, 4-12=-2508/691, 6-12=-1257/5487, 7-12=-3201/791, 7-11=-647/3183, 8-11=-1668/430

NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
8) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 1375 lb uplift at joint 9 and 1254 lb uplift at joint 2.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 4-10d Truss) or equivalent at 4-1-2 from the left end to connect truss(es) to front face of bottom chord.
14) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent spaced at 14-0-0 oc max. starting at 6-0-4 from the left end to 26-0-4 to connect truss(es) to front face of bottom chord.
15) Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent at 14-0-4 from the left end to connect truss(es) to front face of bottom chord.
16) Use Simpson Strong-Tie LUS24 (4-SD9112 Girder, 2-SD9212 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 16-0-4 from the left end to 24-0-4 to connect truss(es) to front face of bottom chord.
17) 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: 1-6=-37, 6-9=-37, 15-18=-20
Concentrated Loads (lb)

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Vert: 14=-989 (F), 11=-595 (F), 23=-554 (F), 24=-542 (F), 25=-530 (F), 26=-518 (F), 27=-506 (F), 28=-595 (F), 29=-595 (F), 30=-595 (F), 31=-595 (F), 32=-595 (F)

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B01E	Common Supported Gable	1	1	Job Reference (optional)	I73152017

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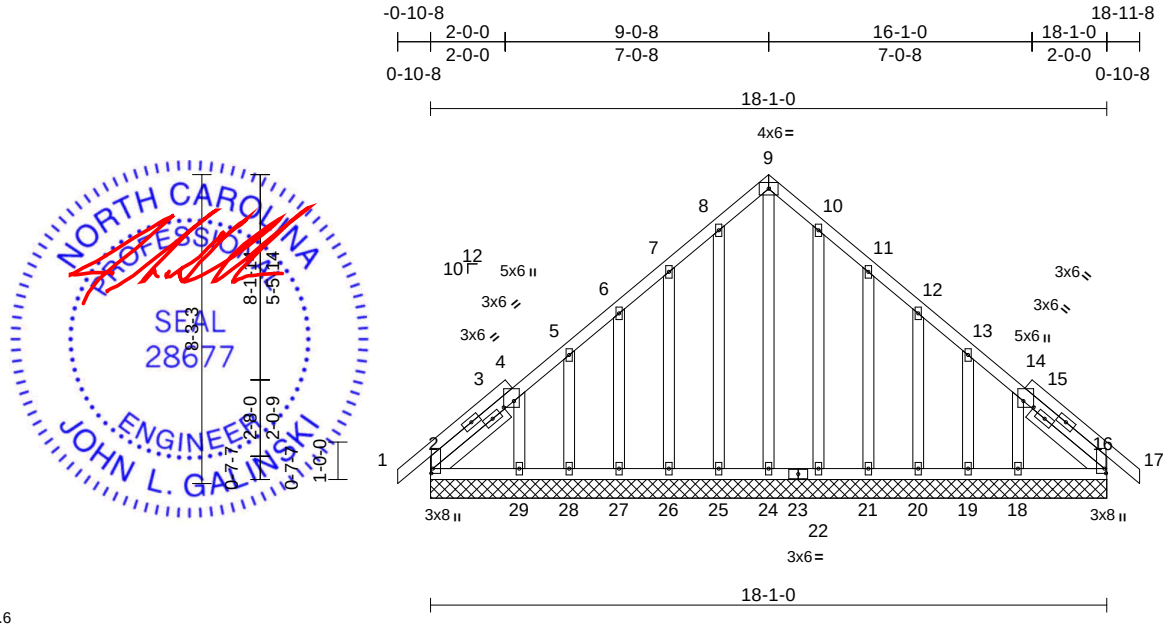

Scale = 1:61.6

Plate Offsets (X, Y): [2:0-1-8,0-0-8], [4:0-2-1,0-3-4], [14:0-2-1,0-3-4], [16:0-1-8,0-0-8]

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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.00	16	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 156 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.3 *Except* 24-9,25-8,22-10:2x4 SP No.2
SLIDER	Left 2x4 SP No.3 -- 2-6-0, Right 2x4 SP No.3 -- 2-6-0

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=18-1-0, 16=18-1-0, 18=18-1-0, 19=18-1-0, 20=18-1-0, 21=18-1-0, 22=18-1-0, 24=18-1-0, 25=18-1-0, 26=18-1-0, 27=18-1-0, 28=18-1-0, 29=18-1-0
Max Horiz 2=185 (LC 13)
Max Uplift 2=-36 (LC 10), 16=-15 (LC 11), 18=-126 (LC 15), 19=-53 (LC 15), 20=-63 (LC 15), 21=-71 (LC 15), 22=-47 (LC 15), 24=-1 (LC 13), 25=-53 (LC 14), 26=-69 (LC 14), 27=-63 (LC 14), 28=-49 (LC 14), 29=-118 (LC 14)
Max Grav 2=164 (LC 27), 16=155 (LC 2), 18=161 (LC 27), 19=98 (LC 27), 20=109 (LC 27), 21=109 (LC 27), 22=107 (LC 27), 24=144 (LC 15), 25=113 (LC 26), 26=107 (LC 26), 27=109 (LC 26), 28=94 (LC 2), 29=152 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/21, 2-4=-192/145, 4-5=-114/102, 5-6=-100/92, 6-7=-89/94, 7-8=-79/135, 8-9=-95/181, 9-10=-95/181, 10-11=-72/135, 11-12=-42/72, 12-13=-53/32, 13-14=-67/44, 14-16=-148/80, 16-17=0/21
BOT CHORD	2-29=-78/184, 28-29=-73/180, 27-28=-73/180, 26-27=-73/180, 25-26=-73/180, 24-25=-73/180, 22-24=-73/180, 21-22=-73/180, 20-21=-73/180, 19-20=-73/180, 18-19=-73/180, 16-18=-77/184
WEBS	9-24=-167/61, 8-25=-86/61, 7-26=-81/89, 6-27=-80/80, 5-28=-73/72, 4-29=-120/126, 10-22=-80/60, 11-21=-83/89, 12-20=-81/80, 13-19=-77/72, 14-18=-112/124

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-4-8, Exterior(2N) 2-4-8 to 9-0-8, Corner(3R) 9-0-8 to 12-0-8, Exterior(2N) 12-0-8 to 18-11-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) All plates are 2x4 (||) MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 1-4-0 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 36 lb uplift at joint 2, 1 lb uplift at joint 24, 53 lb uplift at joint 25, 69 lb uplift at joint 26, 63 lb uplift at joint 27, 49 lb uplift at joint 28, 118 lb uplift at joint 29, 47 lb uplift at joint 22, 71 lb uplift at joint 21, 63 lb uplift at joint 20, 53 lb uplift at joint 19, 126 lb uplift at joint 18 and 15 lb uplift at joint 16.
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.

May 2,2025

Continued on page 2

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

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B02	Common	5	1	Job Reference (optional)	I73152018

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:35 Page: 1
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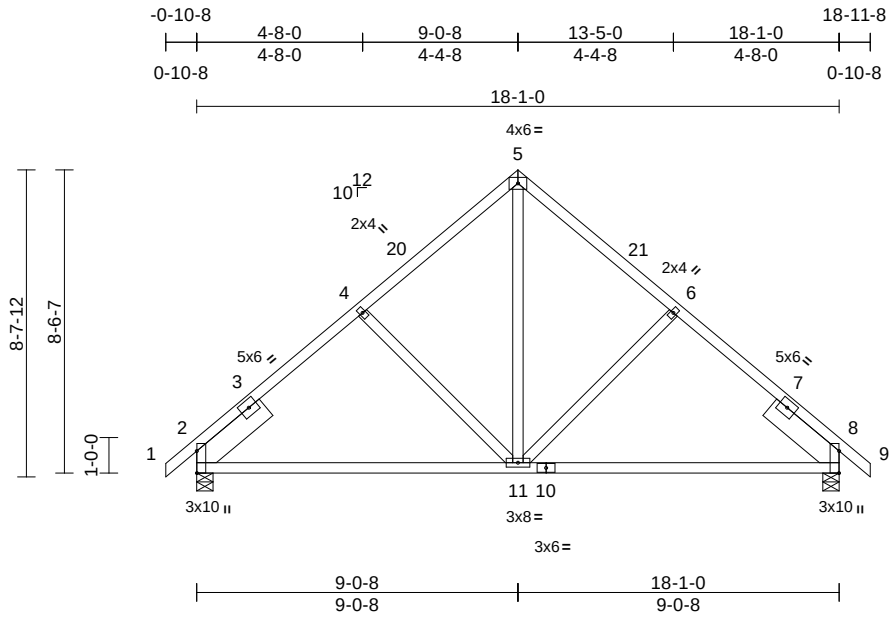

Scale = 1:64.9

Plate Offsets (X, Y): [2:0-7-7,Edge], [8:0-7-7,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	0.21	Vert(LL)	-0.08	11-18	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.16	11-18	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 111 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 11-5:2x4 SP No.2
SLIDER Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

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

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=194 (LC 13)
Max Uplift 2=-157 (LC 14), 8=-157 (LC 15)
Max Grav 2=716 (LC 2), 8=716 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-4=-624/199, 4-5=-585/210, 5-6=-585/210, 6-8=-624/199, 8-9=0/30
BOT CHORD 2-11=-188/566, 8-11=-87/509
WEBS 5-11=-151/456, 6-11=-215/199, 4-11=-214/199

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=4.2psf; BCDL=3.0psf; 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 9-0-8, Exterior(2R) 9-0-8 to 12-0-8, Interior (1) 12-0-8 to 18-11-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 157 lb uplift at joint 2 and 157 lb uplift at joint 8.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B03	Attic	6	1	Job Reference (optional)	I73152019

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:35 Page: 1
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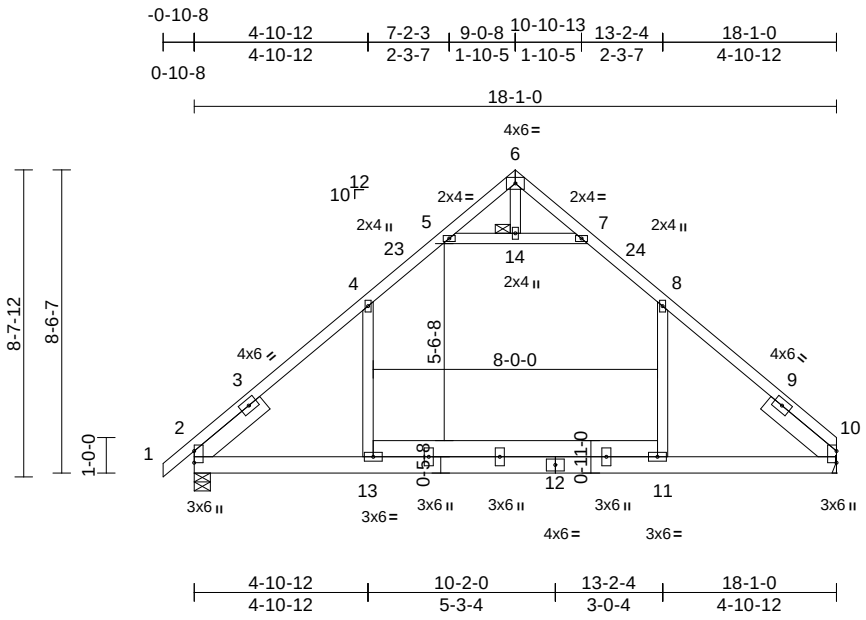

Scale = 1:64.9

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	0.81	Vert(LL)	0.13	11-17	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.21	11-13	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.05	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.06	11-13	>999	360		
BCDL	10.0										Weight: 131 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.1 *Except* 6-14:2x4 SP No.3
SLIDER Left 2x6 SP No.2 -- 2-6-0, Right 2x6 SP No.2 -- 2-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 14

REACTIONS (size) 2=0-5-8, 10= Mechanical
Max Horiz 2=188 (LC 13)
Max Uplift 2=-196 (LC 14), 10=-176 (LC 15)
Max Grav 2=948 (LC 27), 10=902 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-4=-1006/265, 4-5=-794/250, 5-6=-41/127, 6-7=-41/128, 7-8=-794/250, 8-10=-1004/264
BOT CHORD 2-13=-201/764, 11-13=-129/764, 10-11=-129/764
WEBS 8-11=-60/312, 4-13=-61/313, 5-14=-854/312, 7-14=-854/312, 6-14=-4/12

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=4.2psf; BCDL=3.0psf; 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 9-0-8, Exterior(2R) 9-0-8 to 12-0-8, Interior (1) 12-0-8 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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) Bottom chord live load (20.0 psf) and additional bottom chord dead load (0.0 psf) applied only to room. 11-13
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 176 lb uplift at joint 10 and 196 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.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 182 lb down and 39 lb up at 7-2-3, and 182 lb down and 39 lb up at 10-10-13 on top chord. The design/selection of such connection device(s) is the responsibility of others.
13) Attic room checked for L/360 deflection.
14) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-37, 6-10=-37, 15-19=-20
Concentrated Loads (lb)
Vert: 5=-100 (F), 7=-100 (F)

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B04	Hip	1	1	Job Reference (optional)	I73152020

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:36 Page: 1
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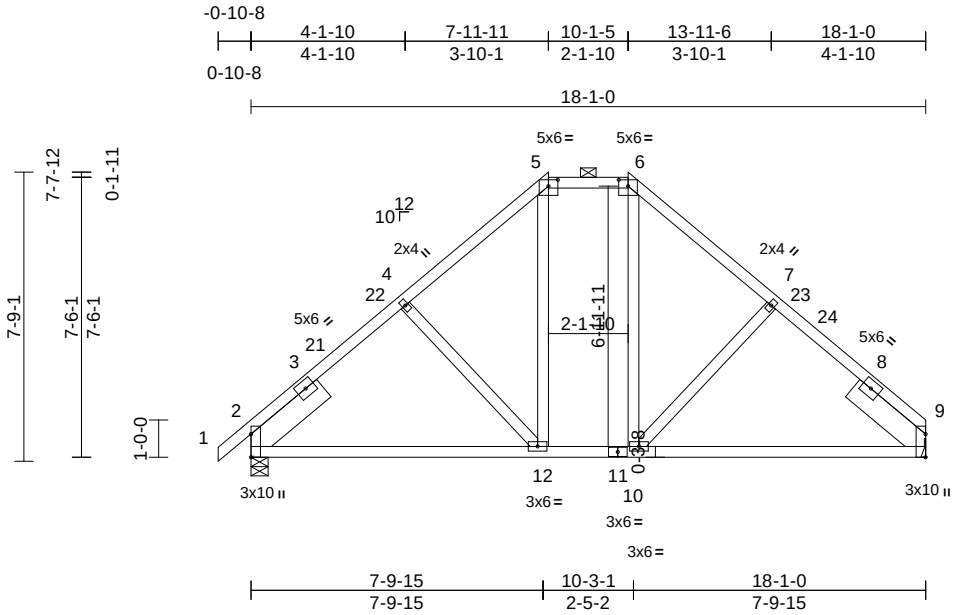

Scale = 1:61.8

Plate Offsets (X, Y): [2:0-7-7,Edge], [5:0-3-0,0-2-1], [6:0-3-0,0-2-1], [9:0-7-7,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	0.20	Vert(LL)	-0.08	10-15	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.51	Vert(CT)	-0.14	10-15	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 115 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 4-12,7-10:2x4 SP No.3
SLIDER Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

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

REACTIONS (size) 2=0-5-8, 9= Mechanical
Max Horiz 2=166 (LC 13)
Max Uplift 2=-154 (LC 14), 9=-134 (LC 15)
Max Grav 2=779 (LC 26), 9=733 (LC 27)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-4=-756/203, 4-5=-678/214, 5-6=-476/208, 6-7=-679/223, 7-9=-757/210
BOT CHORD 2-12=-165/650, 10-12=-51/512, 9-10=-103/562
WEBS 5-12=-71/282, 6-10=-71/285, 4-12=-193/183, 7-10=-197/183

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=4.2psf; BCDL=3.0psf; 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 7-11-11, Exterior(2E) 7-11-11 to 10-1-5, Exterior(2R) 10-1-5 to 14-4-3, Interior (1) 14-4-3 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 134 lb uplift at joint 9 and 154 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B05	Hip	1	1	Job Reference (optional)	I73152021

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:36 Page: 1
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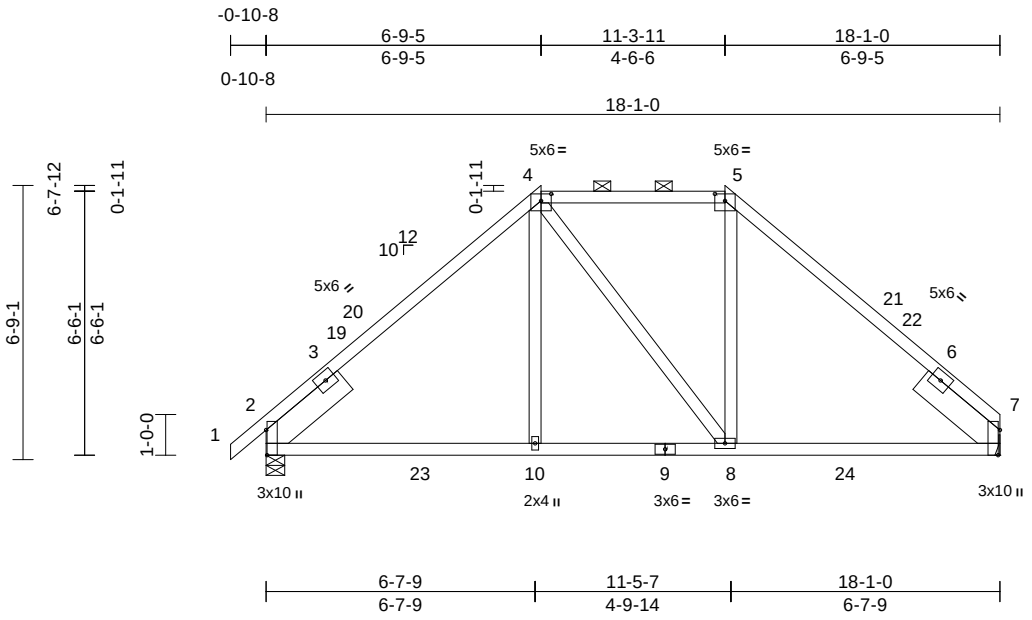

Scale = 1:56.8

Plate Offsets (X, Y): [2:0-7-7,Edge], [4:0-3-0,0-2-1], [5:0-3-0,0-2-1], [7:0-7-7,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	0.39	Vert(LL)	0.09	8-13	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.09	8-13	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	-0.04	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 107 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-4:2x4 SP No.2
SLIDER Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

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

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=142 (LC 13)
Max Uplift 2=-149 (LC 14), 7=-129 (LC 15)
Max Grav 2=796 (LC 3), 7=756 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-4=-782/204, 4-5=-547/215, 5-7=-756/205
BOT CHORD 2-10=-262/577, 8-10=-111/571, 7-8=-180/552
WEBS 4-10=-17/261, 4-8=-107/108, 5-8=-29/276

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=4.2psf; BCDL=3.0psf; 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 6-9-5, Exterior(2E) 6-9-5 to 11-3-11, Exterior(2R) 11-3-11 to 15-6-10, Interior (1) 15-6-10 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 129 lb uplift at joint 7 and 149 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B06	Hip	1	1	Job Reference (optional)	I73152022

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:36 Page: 1

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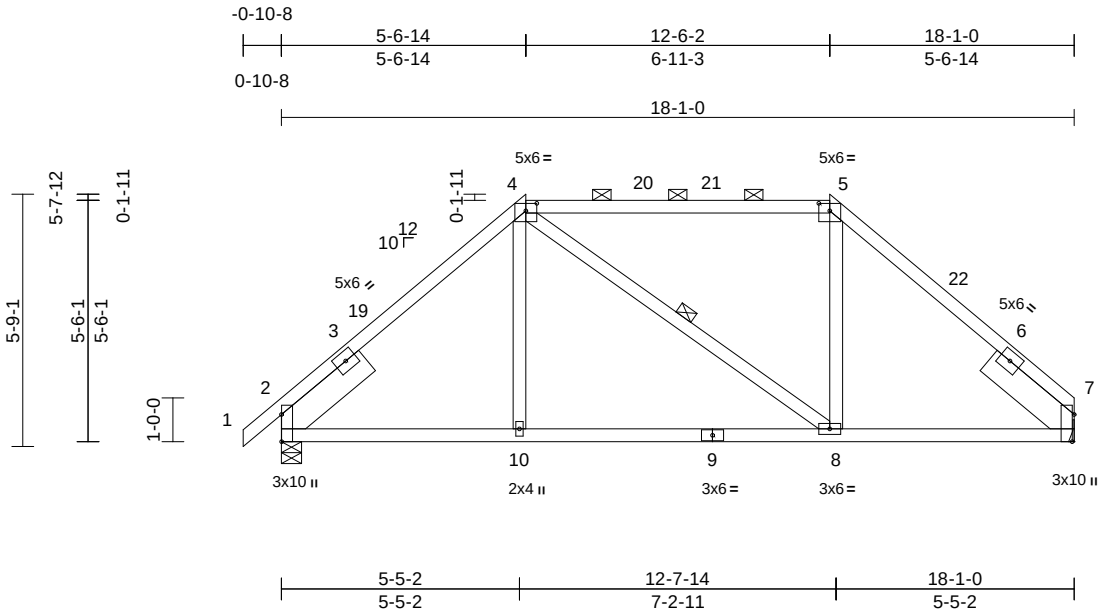

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Plate Offsets (X, Y): [2:0-7-7,Edge], [4:0-3-0,0-2-1], [5:0-3-0,0-2-1], [7:0-7-7,Edge]

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	0.76	Vert(LL)	-0.07	8-10	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.15	8-10	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 104 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 8-4:2x4 SP No.2
SLIDER	Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

BRACING

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

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=119 (LC 11)
Max Uplift 2=-141 (LC 14), 7=-121 (LC 15)
Max Grav 2=717 (LC 2), 7=668 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/30, 2-4=-739/198, 4-5=-521/213, 5-7=-741/199
BOT CHORD	2-10=-189/522, 8-10=-139/519, 7-8=-128/525
WEBS	4-10=0/252, 4-8=-82/83, 5-8=0/252

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=4.2psf; BCDL=3.0psf; 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 5-6-14, Exterior(2R) 5-6-14 to 9-9-13, Interior (1) 9-9-13 to 12-6-2, Exterior(2R) 12-6-2 to 16-9-0, Interior (1) 16-9-0 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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 121 lb uplift at joint 7 and 141 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B07	Hip	1	1	Job Reference (optional)	I73152023

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:37
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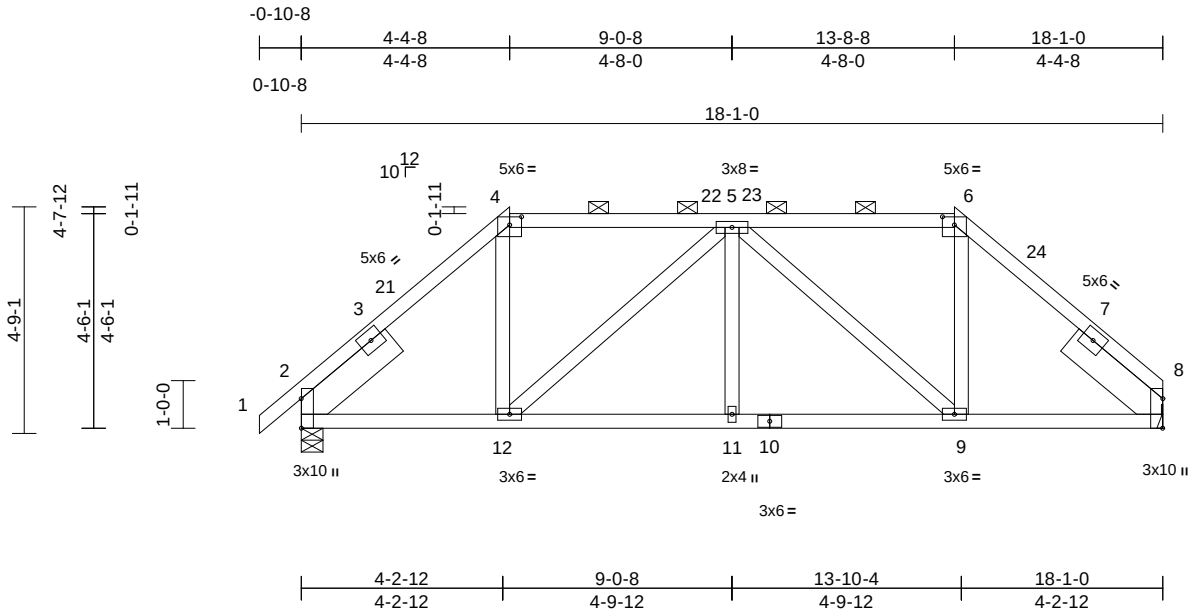

Scale = 1:48.4

Plate Offsets (X, Y): [2:0-7-7,Edge], [4:0-3-0,0-2-1], [6:0-3-0,0-2-1], [8:0-7-7,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	0.29	Vert(LL)	-0.03	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	-0.05	11-12	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 111 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
SLIDER	Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

BRACING

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

REACTIONS (size) 2=0-5-8, 8= Mechanical
Max Horiz 2=95 (LC 13)
Max Uplift 2=-132 (LC 14), 8=-111 (LC 15)
Max Grav 2=717 (LC 2), 8=668 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/30, 2-4=-739/199, 4-5=-520/196, 5-6=-523/188, 6-8=-742/201
BOT CHORD	2-12=-153/528, 11-12=-196/756, 9-11=-196/756, 8-9=-95/531
WEBS	4-12=-46/298, 5-12=-357/143, 5-9=-355/143, 6-9=-46/298, 5-11=0/211

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=4.2psf; BCDL=3.0psf; 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 4-4-8, Exterior(2R) 4-4-8 to 8-7-7, Interior (1) 8-7-7 to 13-8-8, Exterior(2E) 13-8-8 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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 111 lb uplift at joint 8 and 132 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B08	Hip	1	1	Job Reference (optional)	I73152024

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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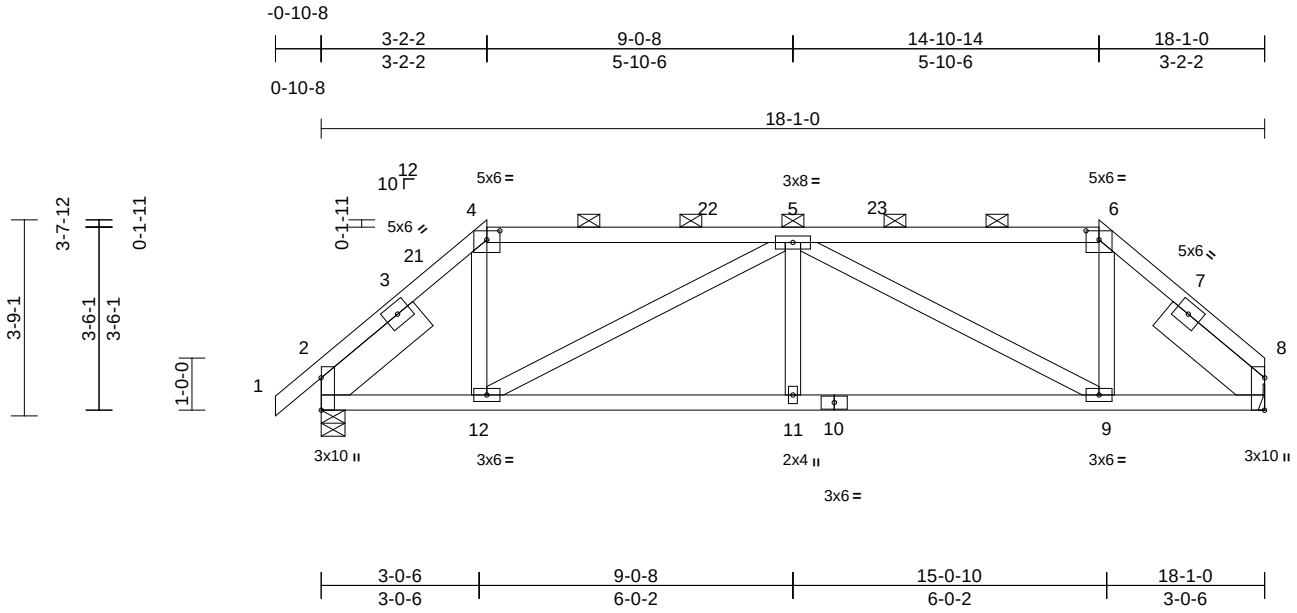

Scale = 1:44.2

Plate Offsets (X, Y): [2:0-7-7,Edge], [4:0-3-0,0-2-1], [6:0-3-0,0-2-1], [8:0-7-7,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	0.45	Vert(LL)	-0.04	9-11	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.09	11-12	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 107 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 12-5,9-5:2x4 SP No.2
SLIDER	Left 2x8 SP DSS -- 2-6-0, Right 2x8 SP DSS -- 2-6-0

BRACING

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

REACTIONS (size) 2=0-5-8, 8= Mechanical
Max Horiz 2=72 (LC 13)
Max Uplift 2=-144 (LC 11), 8=-138 (LC 10)
Max Grav 2=717 (LC 2), 8=668 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/30, 2-4=-756/186, 4-5=-538/172, 5-6=-543/172, 6-8=-760/191
BOT CHORD	2-12=-166/551, 11-12=-288/1023, 9-11=-288/1023, 8-9=-113/556
WEBS	4-12=-41/343, 5-12=-576/201, 5-11=0/264, 5-9=-573/201, 6-9=-41/343

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=4.2psf; BCDL=3.0psf; 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 3-2-2, Exterior(2R) 3-2-2 to 7-5-0, Interior (1) 7-5-0 to 14-10-14, Exterior(2E) 14-10-14 to 18-1-0 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
6) Provide adequate drainage to prevent water ponding.
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 138 lb uplift at joint 8 and 144 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.
12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	B09	Hip Girder	1	**2**	Job Reference (optional)	I73152025

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:37
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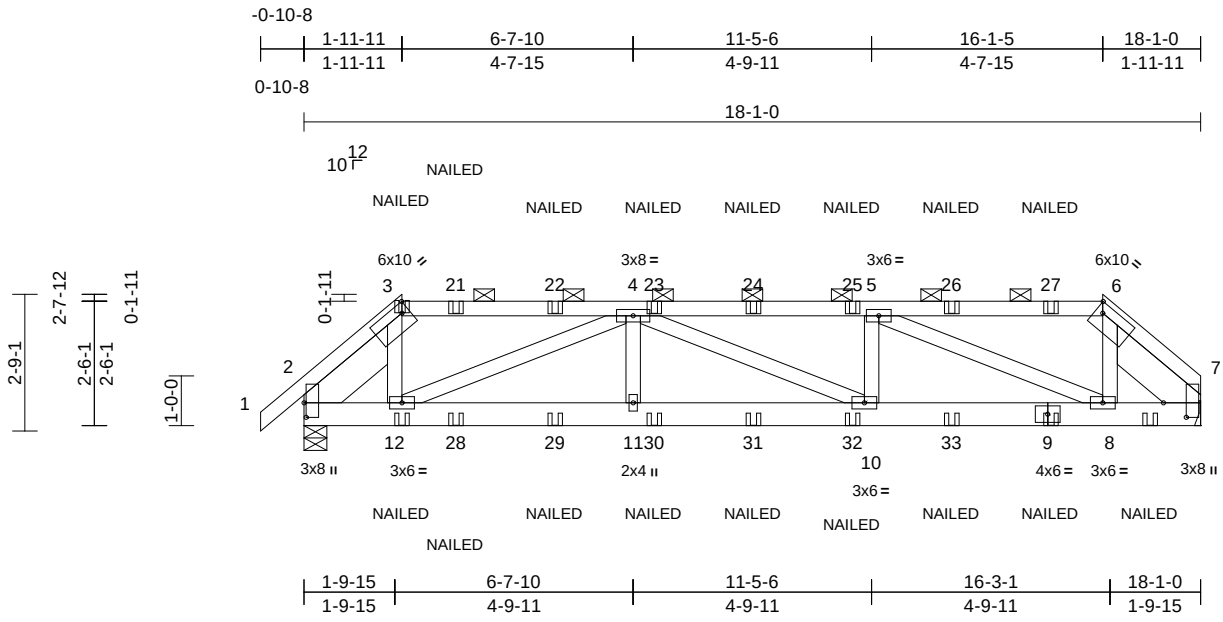


Scale = 1:46.5

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

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	0.21	Vert(LL)	0.04	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.25	Vert(CT)	-0.07	10-11	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.17	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 239 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x8 SP DSS -- 2-3-9, Right 2x8 SP DSS -- 2-3-9

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

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=41 (LC 10)
Max Uplift 2=-364 (LC 7), 7=-374 (LC 6)
Max Grav 2=972 (LC 1), 7=1009 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-1107/441, 3-4=-973/405, 4-5=-2034/826, 5-6=-991/397, 6-7=-1136/431
BOT CHORD 2-12=-397/956, 11-12=-818/2042, 10-11=-818/2042, 8-10=-800/2034, 7-8=-363/973
WEBS 3-12=-52/302, 4-12=-1189/482, 4-11=-2/270, 4-10=-26/20, 5-10=-2/264, 5-8=-1161/486, 6-8=-61/297

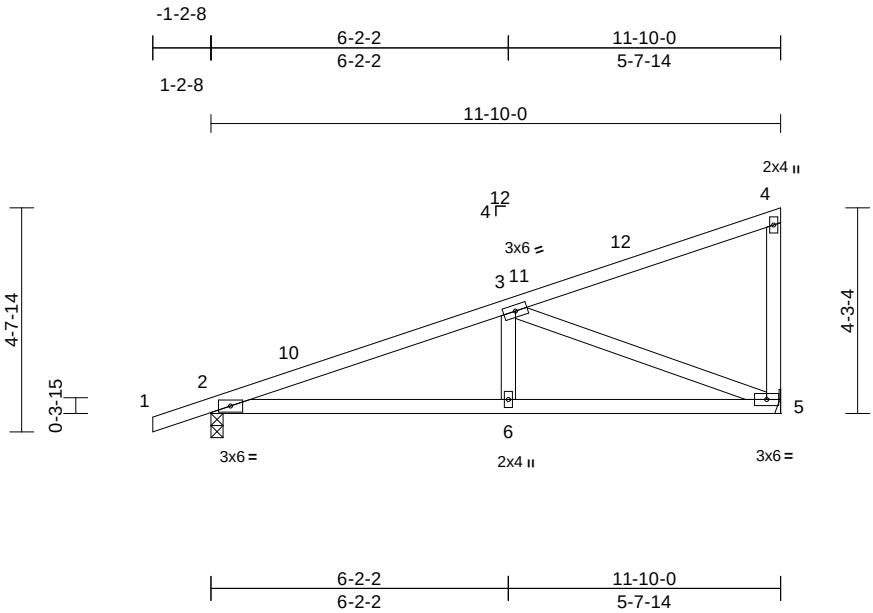
NOTES
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; 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); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 374 lb uplift at joint 7 and 364 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) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
15) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidlines.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-37, 3-6=-47, 6-7=-37, 13-17=-20
Concentrated Loads (lb)
Vert: 3=-24 (B), 9=-29 (B), 12=-22 (B), 15=-116 (B), 21=-58 (B), 22=-58 (B), 23=-58 (B), 24=-58 (B), 25=-58 (B), 26=-58 (B), 27=-58 (B), 28=-29 (B), 29=-29 (B), 30=-29 (B), 31=-29 (B), 32=-29 (B), 33=-29 (B)

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	E01	Monopitch	3	1	Job Reference (optional)	I73152026



Scale = 1:47.9

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)	0.04	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.09	6-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 55 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-7-10 oc bracing.

REACTIONS (size) 2=0-3-0, 5= Mechanical
Max Horiz 2=165 (LC 15)
Max Uplift 2=-171 (LC 12), 5=-141 (LC 16)
Max Grav 2=501 (LC 2), 5=429 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-3=-784/276, 3-4=-104/65, 4-5=-132/119
BOT CHORD 2-6=-364/719, 5-6=-364/719
WEBS 3-6=0/264, 3-5=-752/329

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 11-8-4 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 at joint(s) 2.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 171 lb uplift at joint 2 and 141 lb uplift at joint 5.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	E02	Monopitch Structural Gable	1	1	Job Reference (optional)	I73152027

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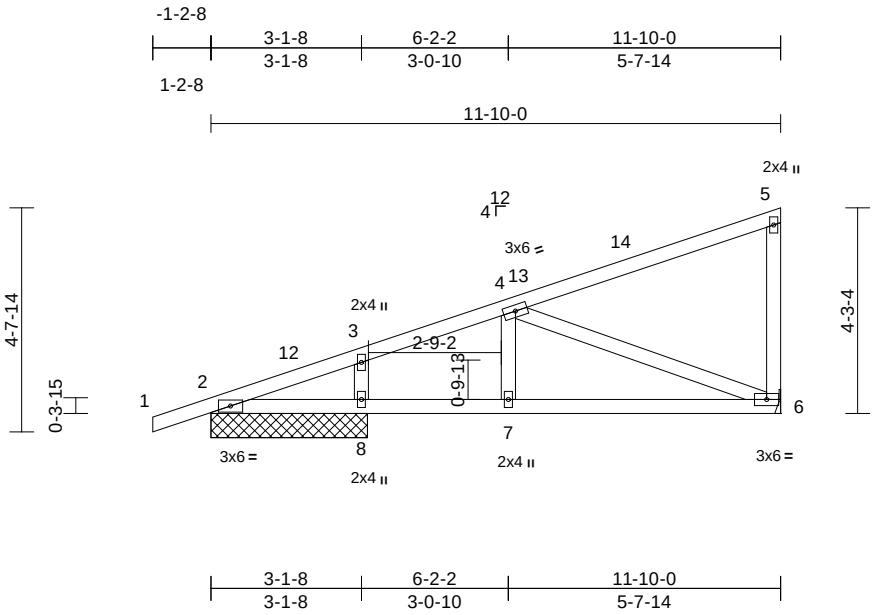


Scale = 1:47.9

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)	-0.03	6-7	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.07	6-7	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 56 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=3-3-0, 6= Mechanical, 8=3-3-0
Max Horiz 2=165 (LC 15)
Max Uplift 2=-121 (LC 12), 6=-121 (LC 16), 8=-75 (LC 16)
Max Grav 2=338 (LC 2), 6=370 (LC 23), 8=222 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-3=-541/168, 3-4=-545/202, 4-5=-105/66, 5-6=-141/125
BOT CHORD 2-8=-278/499, 7-8=-278/499, 6-7=-278/499
WEBS 4-7=0/193, 4-6=-511/235, 3-8=-137/80

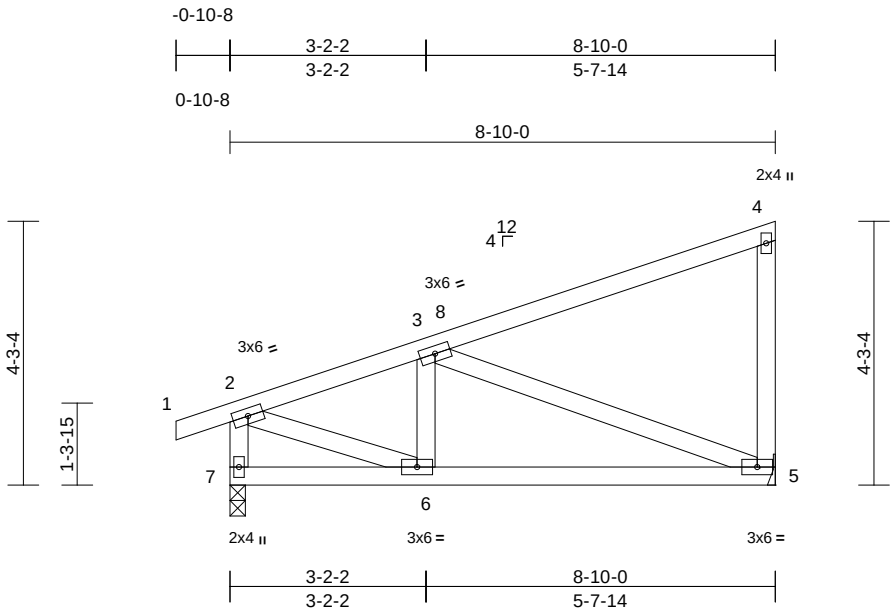
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 11-8-4 zone; cantilever 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) Gable studs spaced at 1-4-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * 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) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 121 lb uplift at joint 2, 121 lb uplift at joint 6, 75 lb uplift at joint 8 and 121 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.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	E03	Monopitch	5	1	Job Reference (optional)	I73152028



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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)	-0.03	5-6	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.07	5-6	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 50 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 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-7-14 oc bracing.

REACTIONS (size) 5= Mechanical, 7=0-3-0
Max Horiz 7=158 (LC 15)
Max Uplift 5=-108 (LC 16), 7=-125 (LC 12)
Max Grav 5=315 (LC 23), 7=374 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-412/220, 3-4=-104/80, 4-5=-132/140, 2-7=-360/234
BOT CHORD 6-7=-294/179, 5-6=-375/396
WEBS 3-6=-24/126, 3-5=-404/351, 2-6=-188/401

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 2-1-8 to 5-1-8, Interior (1) 5-1-8 to 11-8-4 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 125 lb uplift at joint 7 and 108 lb uplift at joint 5.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	E05E	Monopitch Supported Gable	1	1	I73152029 Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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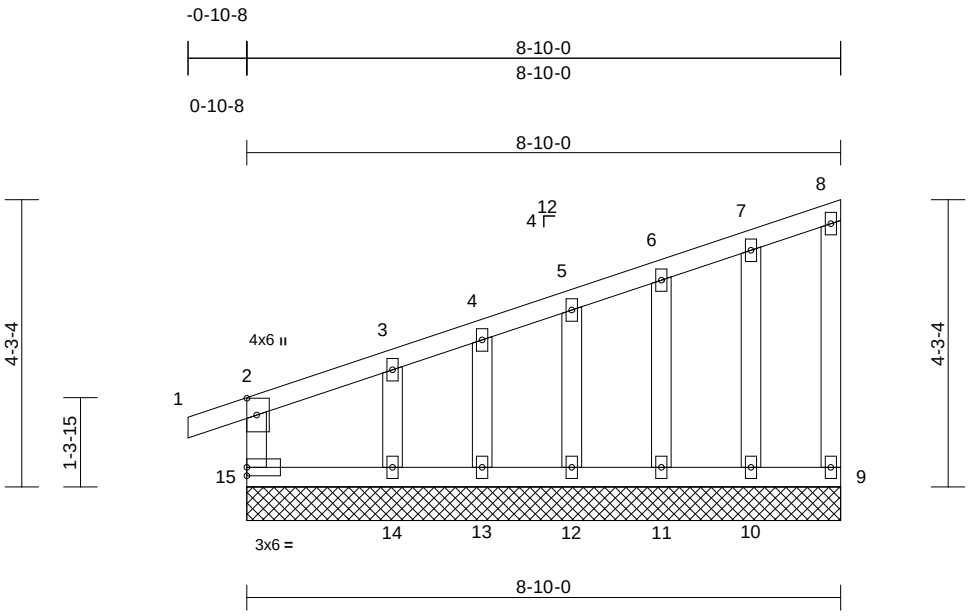

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Plate Offsets (X, Y): [2:0-3-0,0-1-12]

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	0.48	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 53 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) 9=8-10-0, 10=8-10-0, 11=8-10-0, 12=8-10-0, 13=8-10-0, 14=8-10-0, 15=8-10-0
Max Horiz 15=158 (LC 15)
Max Uplift 9=-35 (LC 13), 10=-25 (LC 12), 11=-35 (LC 16), 12=-41 (LC 16), 13=-10 (LC 12), 14=-133 (LC 13), 15=-7 (LC 12)
Max Grav 9=38 (LC 23), 10=105 (LC 23), 11=104 (LC 23), 12=106 (LC 23), 13=90 (LC 2), 14=126 (LC 2), 15=155 (LC 31)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-273/146, 3-4=-178/104, 4-5=-161/105, 5-6=-123/93, 6-7=-87/84, 7-8=-63/76, 8-9=-29/56, 2-15=-117/90
BOT CHORD 14-15=-69/85, 13-14=-69/85, 12-13=-69/85, 11-12=-69/85, 10-11=-69/85, 9-10=-69/85
WEBS 7-10=-77/95, 6-11=-78/108, 5-12=-78/112, 4-13=-68/72, 3-14=-150/286

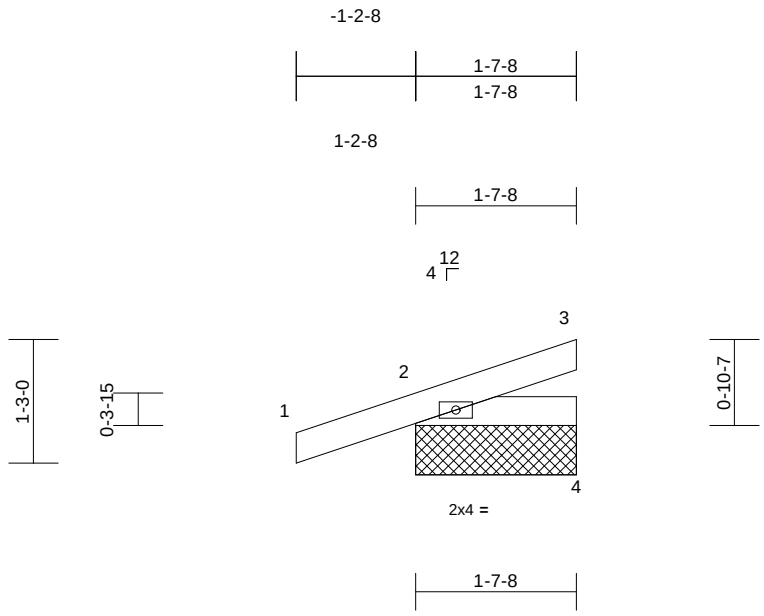
NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 2-1-8 to 5-2-0, Exterior(2N) 5-2-0 to 11-8-4 zone; cantilever 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) All plates are 2x4 (||) MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
11) Gable studs spaced at 1-4-0 oc.
12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
13) * 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.
14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 35 lb uplift at joint 9, 7 lb uplift at joint 15, 25 lb uplift at joint 10, 35 lb uplift at joint 11, 41 lb uplift at joint 12, 10 lb uplift at joint 13 and 133 lb uplift at joint 14.
15) 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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	E06E	Roof Special Supported Gable	1	1	Job Reference (optional)	I73152030



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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/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 7 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 0-7-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=1-7-8, 3=1-7-8, 4=1-7-8
Max Horiz 2=40 (LC 12)
Max Uplift 2=-84 (LC 12), 3=-15 (LC 16)
Max Grav 2=150 (LC 2), 3=20 (LC 2), 4=33 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-3=-22/12
BOT CHORD 2-4=0/0

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 15 lb uplift at joint 3, 84 lb uplift at joint 2 and 84 lb uplift at joint 2.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G0E	Common Supported Gable	1	1	Job Reference (optional)	I73152031

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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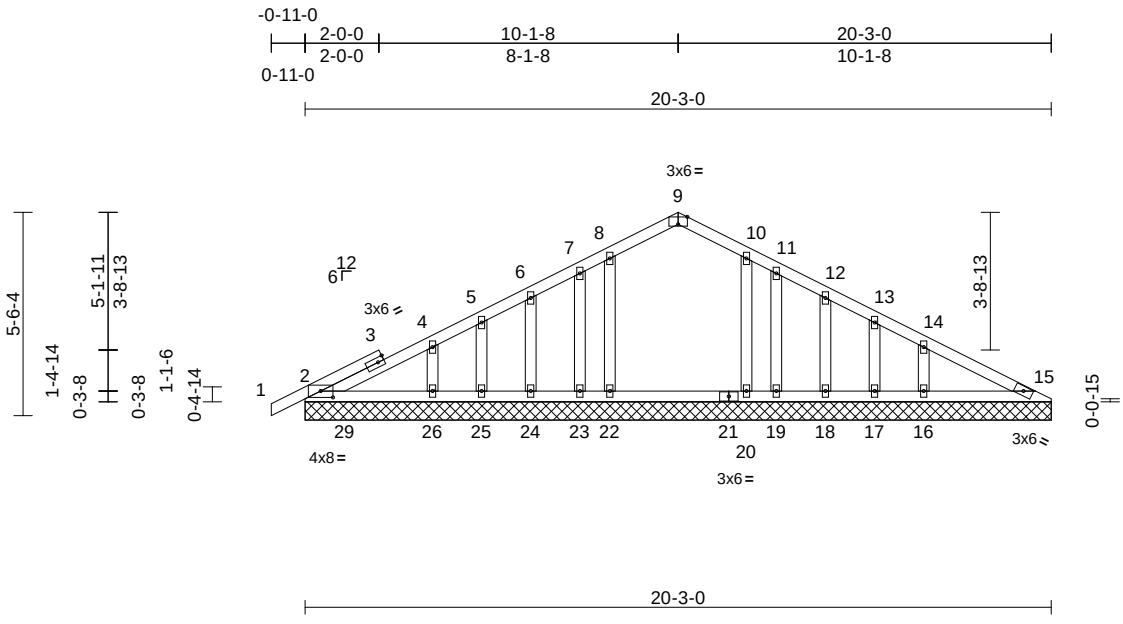

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Plate Offsets (X, Y): [2:0-4-0,0-2-1], [9:0-3-0,Edge]

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	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 105 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) 2=20-3-0, 15=20-3-0, 16=20-3-0, 17=20-3-0, 18=20-3-0, 19=20-3-0, 20=20-3-0, 22=20-3-0, 23=20-3-0, 24=20-3-0, 25=20-3-0, 26=20-3-0
Max Horiz 2=88 (LC 20)
Max Uplift 2=-22 (LC 16), 16=-96 (LC 17), 17=-19 (LC 17), 18=-46 (LC 17), 19=-55 (LC 29), 20=-14 (LC 17), 22=-25 (LC 16), 23=-51 (LC 28), 24=-43 (LC 16), 25=-31 (LC 16), 26=-76 (LC 16)
Max Grav 2=195 (LC 2), 15=124 (LC 2), 16=242 (LC 3), 17=41 (LC 3), 18=134 (LC 39), 19=32 (LC 24), 20=276 (LC 6), 22=276 (LC 30), 23=32 (LC 23), 24=134 (LC 3), 25=41 (LC 36), 26=257 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-4=-128/26, 4-5=-112/14, 5-6=-85/26, 6-7=-91/42, 7-8=-71/66, 8-9=-104/91, 9-10=-104/91, 10-11=-71/66, 11-12=-91/40, 12-13=-89/14, 13-14=-102/1, 14-15=-129/21
BOT CHORD 2-26=-27/125, 25-26=-26/124, 24-25=-26/124, 23-24=-26/124, 22-23=-26/124, 20-22=-26/124, 19-20=-26/124, 18-19=-26/124, 17-18=-26/124, 16-17=-26/124, 15-16=-26/124
WEBS 8-22=-121/47, 7-23=-44/53, 6-24=-79/64, 5-25=-38/41, 4-26=-172/121, 10-20=-120/45, 11-19=-44/52, 12-18=-78/65, 13-17=-43/40, 14-16=-143/143

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-11-0 to 2-1-0, Exterior(2N) 2-1-0 to 10-1-8, Corner(3R) 10-1-8 to 13-1-8, Exterior(2N) 13-1-8 to 19-9-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
7) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
8) All plates are 2x4 (||) MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 1-4-0 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, with BCDL = 10.0psf.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 22 lb uplift at joint 2, 25 lb uplift at joint 22, 51 lb uplift at joint 23, 43 lb uplift at joint 24, 31 lb uplift at joint 25, 76 lb uplift at joint 26, 14 lb uplift at joint 20, 55 lb uplift at joint 19, 46 lb uplift at joint 18, 19 lb uplift at joint 17 and 96 lb uplift at joint 16.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G02	Common	5	1	Job Reference (optional)	I73152032

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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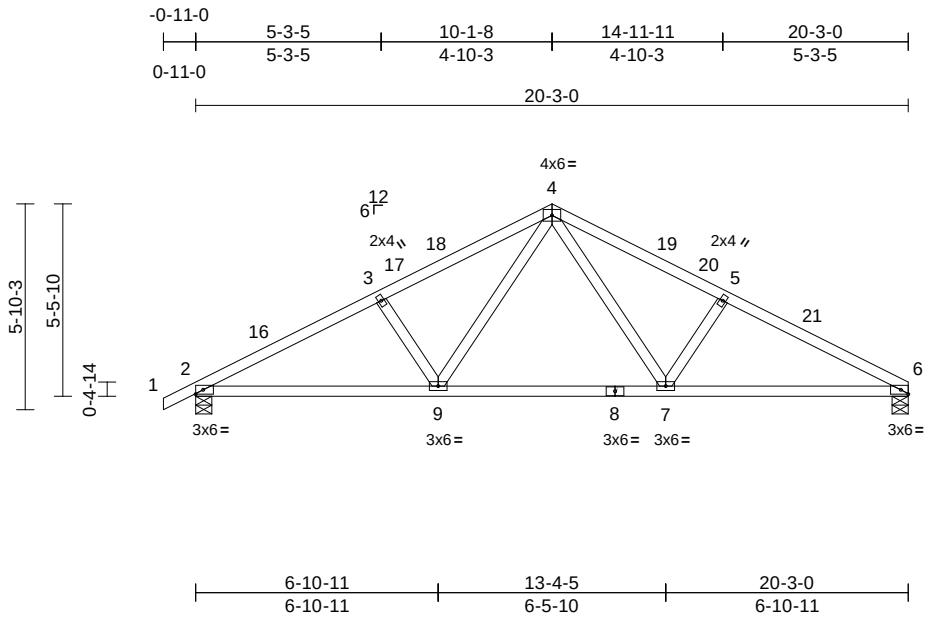

Scale = 1:65.5

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	0.29	Vert(LL)	-0.05	7-12	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.11	7-12	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.03	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 92 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 4-11-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 6=0-5-8
Max Horiz 2=95 (LC 20)
Max Uplift 2=-197 (LC 16), 6=-175 (LC 17)
Max Grav 2=800 (LC 2), 6=748 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1285/396, 3-4=-1143/398, 4-5=-1148/405, 5-6=-1289/403
BOT CHORD 2-9=-306/1105, 7-9=-144/738, 6-7=-303/1110
WEBS 4-7=-144/445, 5-7=-277/185, 4-9=-141/439, 3-9=-274/183

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 10-1-8, Exterior(2R) 10-1-8 to 13-1-8, Interior (1) 13-1-8 to 20-3-0 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 175 lb uplift at joint 6 and 197 lb uplift at joint 2.
10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G03	Common	1	1	Job Reference (optional)	I73152033

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:39 Page: 1
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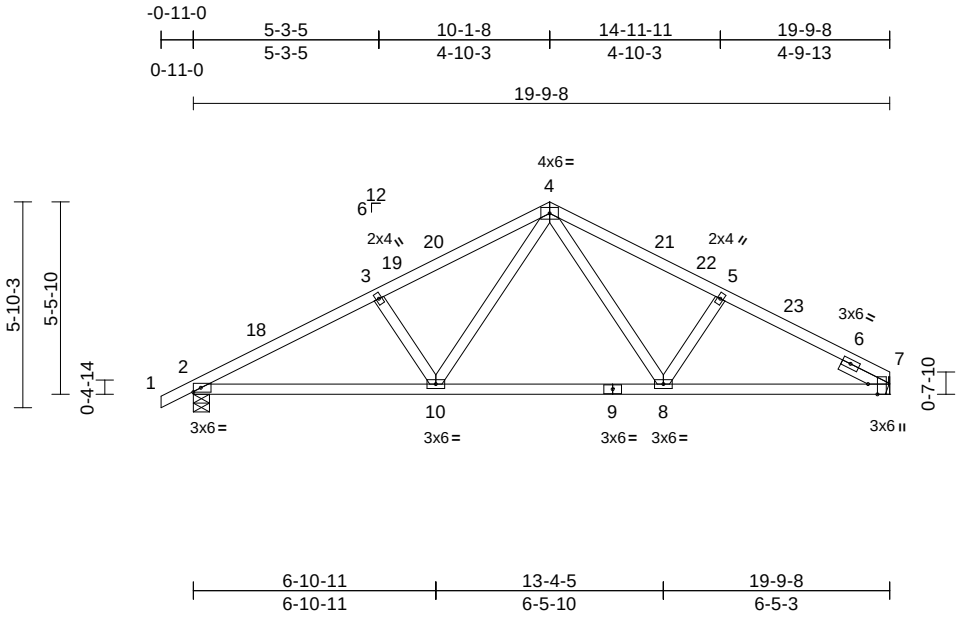

Scale = 1:65.5

Plate Offsets (X, Y): [7:0-3-8,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	0.34	Vert(LL)	-0.05	10-17	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.11	10-17	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 93 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-0-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=99 (LC 16)
Max Uplift 2=-194 (LC 16), 7=-169 (LC 17)
Max Grav 2=783 (LC 2), 7=731 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1250/393, 3-4=-1109/394, 4-5=-1053/384, 5-7=-1161/381
BOT CHORD 2-10=-311/1074, 8-10=-146/704, 7-8=-283/1001
WEBS 4-8=-124/369, 5-8=-230/168, 4-10=-141/444, 3-10=-273/182

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 10-1-8, Exterior(2R) 10-1-8 to 13-1-8, Interior (1) 13-1-8 to 19-9-8 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 169 lb uplift at joint 7 and 194 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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G04	Half Hip	1	1	Job Reference (optional)	I73152034

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:40 Page: 1
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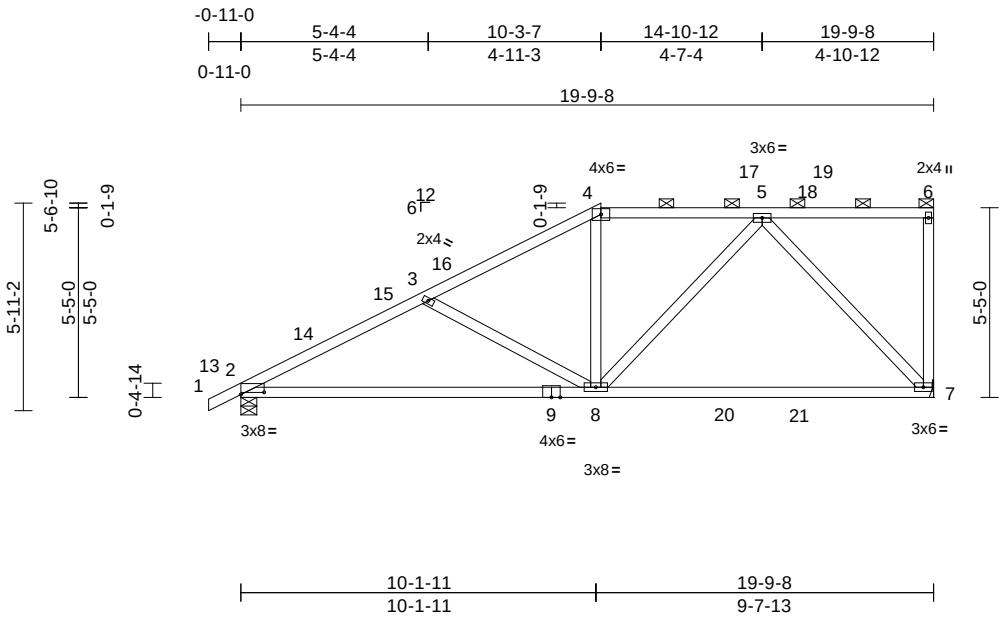

Scale = 1:65.8

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

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	0.52	Vert(LL)	-0.25	7-8	>946	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.41	7-8	>572	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 105 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-7:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 8-5,7-5:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 8-7-8 oc bracing.

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=198 (LC 15)
Max Uplift 2=-192 (LC 16), 7=-205 (LC 13)
Max Grav 2=862 (LC 40), 7=817 (LC 39)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/24, 2-3=-1277/318, 3-4=-990/249, 4-5=-832/248, 5-6=-103/97, 6-7=-138/59
BOT CHORD 2-8=-462/1123, 7-8=-239/540
WEBS 3-8=-449/219, 4-8=0/257, 5-8=-90/504, 5-7=-756/262

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 10-3-7, Exterior(2R) 10-3-7 to 14-6-6, Interior (1) 14-6-6 to 19-7-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 192 lb uplift at joint 2 and 205 lb uplift at joint 7.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	G05	Half Hip	1	1	I73152035
					Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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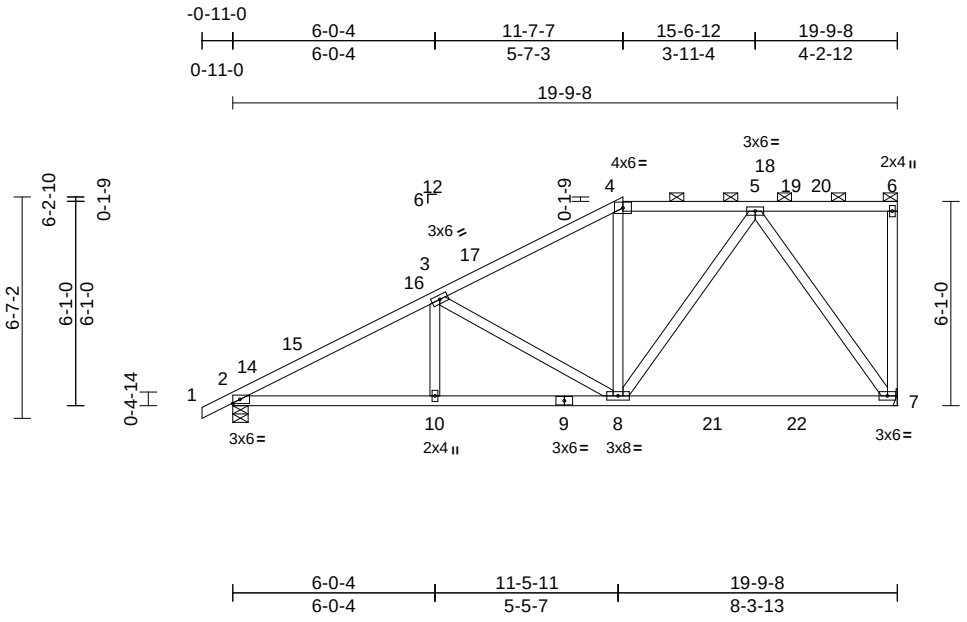

Scale = 1:68.6

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	0.49	Vert(LL)	-0.20	7-8	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.34	7-8	>697	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 112 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-5,8-5:2x4 SP No.2

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

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=223 (LC 15)
Max Uplift 2=-198 (LC 16), 7=-201 (LC 13)
Max Grav 2=851 (LC 40), 7=805 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1367/296, 3-4=-840/240, 4-5=-696/241, 5-6=-111/109, 6-7=-119/54
BOT CHORD 2-10=-450/1174, 8-10=-450/1174, 7-8=-217/428
WEBS 5-7=-709/260, 4-8=0/195, 5-8=-122/527, 3-8=-598/232, 3-10=0/200

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 11-7-7, Exterior(2R) 11-7-7 to 15-10-6, Interior (1) 15-10-6 to 19-7-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 201 lb uplift at joint 7 and 198 lb uplift at joint 2.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G06	Half Hip	1	1	Job Reference (optional)	I73152036

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:40 Page: 1
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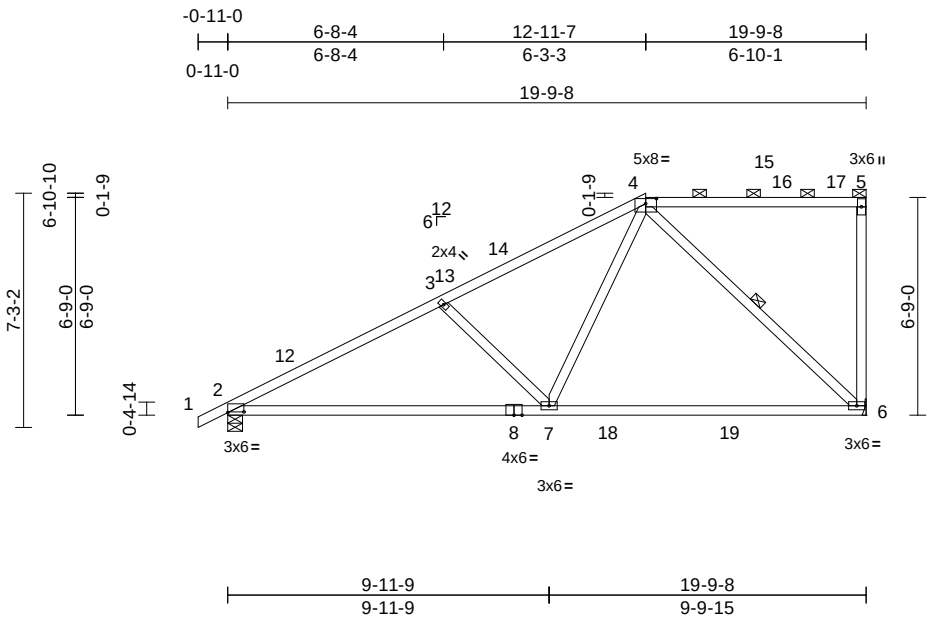

Scale = 1:71.4

Plate Offsets (X, Y): [2:0-6-0,0-0-4], [4:0-4-0,0-1-15]

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	0.81	Vert(LL)	-0.33	6-7	>725	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.50	6-7	>469	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.03	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 103 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 8-6:2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 7-3:2x4 SP No.3

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

REACTIONS (size) 2=0-5-8, 6= Mechanical
Max Horiz 2=248 (LC 15)
Max Uplift 2=-202 (LC 16), 6=-197 (LC 13)
Max Grav 2=848 (LC 40), 6=815 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1310/297, 3-4=-1059/264, 4-5=-125/124, 5-6=-232/98
BOT CHORD 2-7=-450/1145, 6-7=-277/552
WEBS 3-7=-474/247, 4-7=-131/789, 4-6=-731/278

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 12-11-7, Exterior(2R) 12-11-7 to 17-2-6, Interior (1) 17-2-6 to 19-7-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 202 lb uplift at joint 2 and 197 lb uplift at joint 6.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	G07	Half Hip	1	1	Job Reference (optional)	I73152037

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:41 Page: 1
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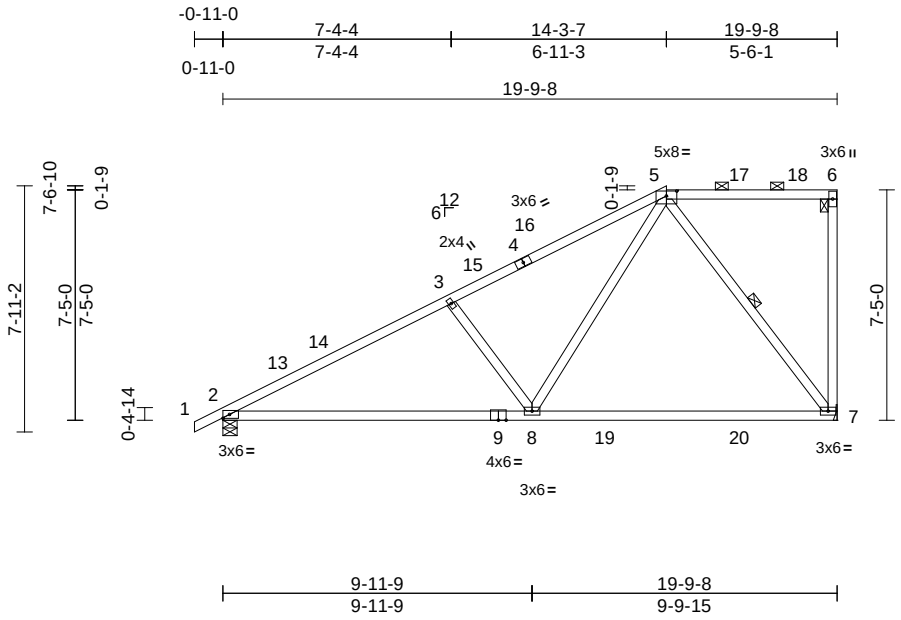

Scale = 1:74.2

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

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	0.74	Vert(LL)	-0.36	7-8	>655	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.84	Vert(CT)	-0.54	7-8	>439	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.26	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 105 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 9-7:2x4 SP No.1
WEBS 2x4 SP No.2 *Except* 8-3:2x4 SP No.3

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

REACTIONS (size) 2=0-5-8, 7= Mechanical
Max Horiz 2=273 (LC 15)
Max Uplift 2=-204 (LC 16), 7=-193 (LC 13)
Max Grav 2=835 (LC 40), 7=823 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/22, 2-3=-1286/289, 3-5=-1094/282, 5-6=-131/133, 6-7=-184/82
BOT CHORD 2-8=-440/1125, 7-8=-254/431
WEBS 3-8=-487/265, 5-8=-190/893, 5-7=-690/290

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-11-0 to 2-1-0, Interior (1) 2-1-0 to 14-3-7, Exterior(2R) 14-3-7 to 18-6-6, Interior (1) 18-6-6 to 19-7-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 204 lb uplift at joint 2 and 193 lb uplift at joint 7.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	HC01	Diagonal Hip Girder	1	1	Job Reference (optional)	I73152038

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:41 Page: 1
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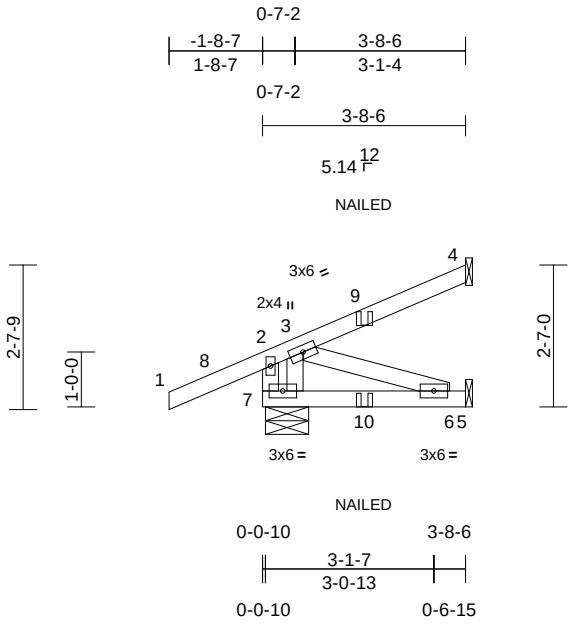

Scale = 1:42

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	0.23	Vert(LL)	-0.01	6-7	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.02	6-7	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 20 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 3-8-6 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-9-7
Max Horiz 7=70 (LC 12)
Max Uplift 4=-43 (LC 12), 5=-13 (LC 12), 7=-71 (LC 12)
Max Grav 4=74 (LC 19), 5=70 (LC 7), 7=257 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-7=-210/171, 1-2=0/39, 2-3=-48/70, 3-4=-43/22
BOT CHORD 6-7=-65/29, 5-6=0/0
WEBS 3-7=-116/89, 3-6=-31/68

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=4.2psf; BCDL=3.0psf; 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
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 43 lb uplift at joint 4, 13 lb uplift at joint 5 and 71 lb uplift at joint 7.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) "NAILED" indicates 2-12d (0.148"x3.25") toe-nails per NDS guidlines.
13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-37, 2-4=-37, 5-7=-20
Concentrated Loads (lb)
Vert: 10=-3 (B)

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	J6-1	Jack-Open	7	1	I73152039 Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:41 Page: 1
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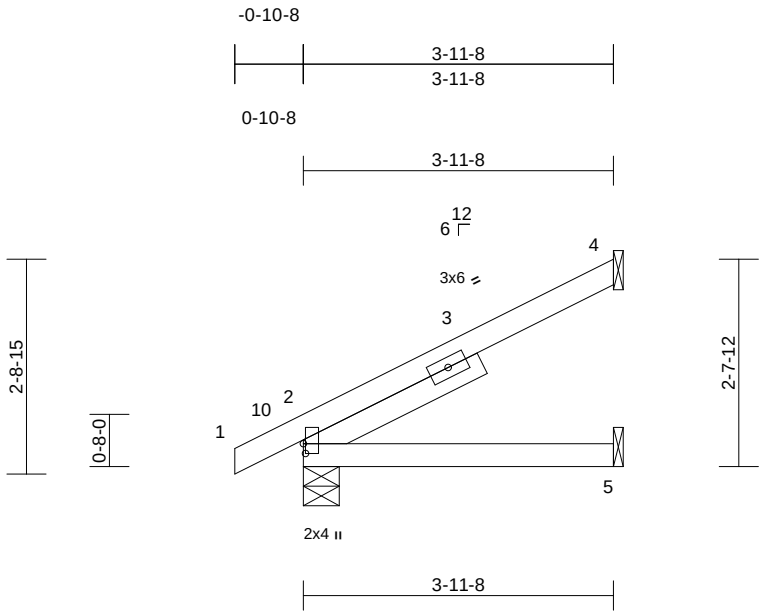

Scale = 1:29.4

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

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	0.23	Vert(LL)	0.02	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	-0.02	5-8	>999	180		
TCDL	7.0	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
SLIDER Left 2x4 SP No.3 -- 2-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-11-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=85 (LC 16)
Max Uplift 2=-41 (LC 16), 4=-62 (LC 16), 5=-4 (LC 16)
Max Grav 2=197 (LC 2), 4=106 (LC 23), 5=66 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-4=-174/85
BOT CHORD 2-5=-149/78

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; 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 3-10-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 62 lb uplift at joint 4, 41 lb uplift at joint 2 and 4 lb uplift at joint 5.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	J6-1B	Half Hip	1	1	I73152040 Job Reference (optional)

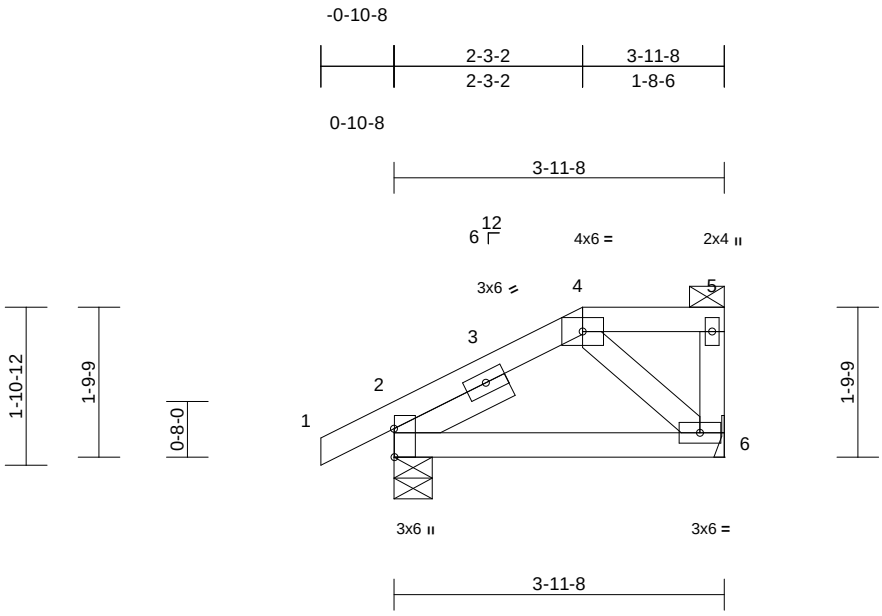

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Plate Offsets (X, Y): [2:0-4-1,Edge]

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)	-0.01	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	16.5/15.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	-0.01	6-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	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
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0

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

REACTIONS (size) 2=0-5-8, 6= Mechanical
Max Horiz 2=60 (LC 15)
Max Uplift 2=-54 (LC 16), 6=-43 (LC 13)
Max Grav 2=224 (LC 38), 6=136 (LC 37)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-4=-172/70, 4-5=-26/28, 5-6=-54/43
BOT CHORD 2-6=-105/90
WEBS 4-6=-96/109

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=4.2psf; BCDL=3.0psf; 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=16.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
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 11.5 psf on overhangs non-concurrent with other live loads.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Provide adequate drainage to prevent water ponding.
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) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 54 lb uplift at joint 2 and 43 lb uplift at joint 6.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	J6-2	Jack-Open	1	1	I73152041
					Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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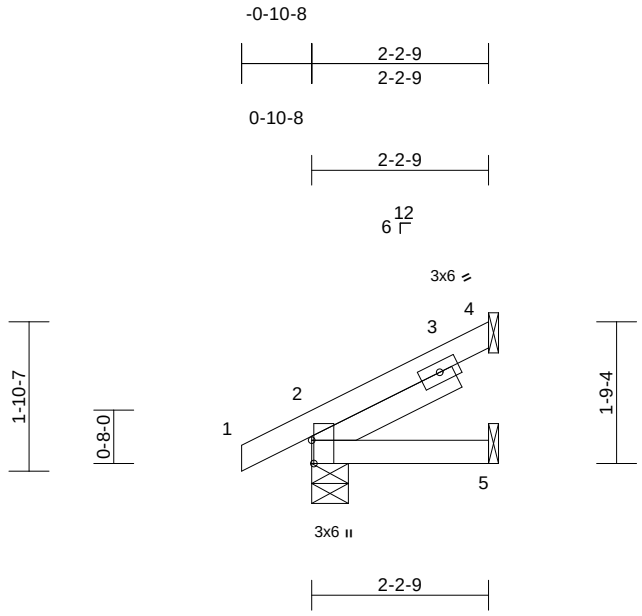

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Plate Offsets (X, Y): [2:0-3-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	0.00	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	0.00	5-8	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 12 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
SLIDER	Left 2x4 SP No.3 -- 1-11-12

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-2-9 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=53 (LC 16)
Max Uplift 2=-31 (LC 16), 4=-36 (LC 16), 5=-1 (LC 16)
Max Grav 2=141 (LC 23), 4=52 (LC 23), 5=32 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/22, 2-4=-44/23
BOT CHORD	2-5=-44/31

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=4.2psf; BCDL=3.0psf; 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
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 36 lb uplift at joint 4, 31 lb uplift at joint 2 and 1 lb uplift at joint 5.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	J10-9	JACK	1	1	I73152042
					Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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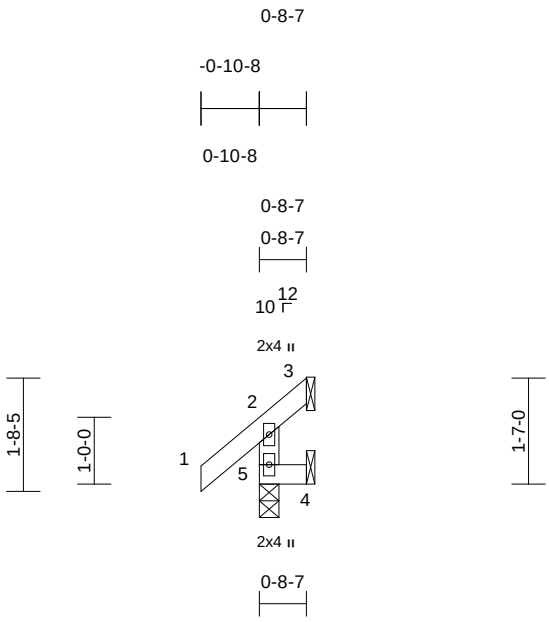

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	0.00	5	>999	240	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	5	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 5 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-6-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3= Mechanical, 4= Mechanical, 5=0-3-8
Max Horiz 5=38 (LC 11)
Max Uplift 3=-25 (LC 2), 4=-20 (LC 11), 5=-10 (LC 14)
Max Grav 3=8 (LC 10), 4=19 (LC 12), 5=127 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-35/27, 2-5=-110/136
BOT CHORD 4-5=0/0

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=4.2psf; BCDL=3.0psf; 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) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 11.5 psf on overhangs non-concurrent with other live loads.
5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
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 20 lb uplift at joint 4, 10 lb uplift at joint 5 and 25 lb uplift at joint 3.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	V01	Valley	1	1	Job Reference (optional)	I73152043

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:42 Page: 1

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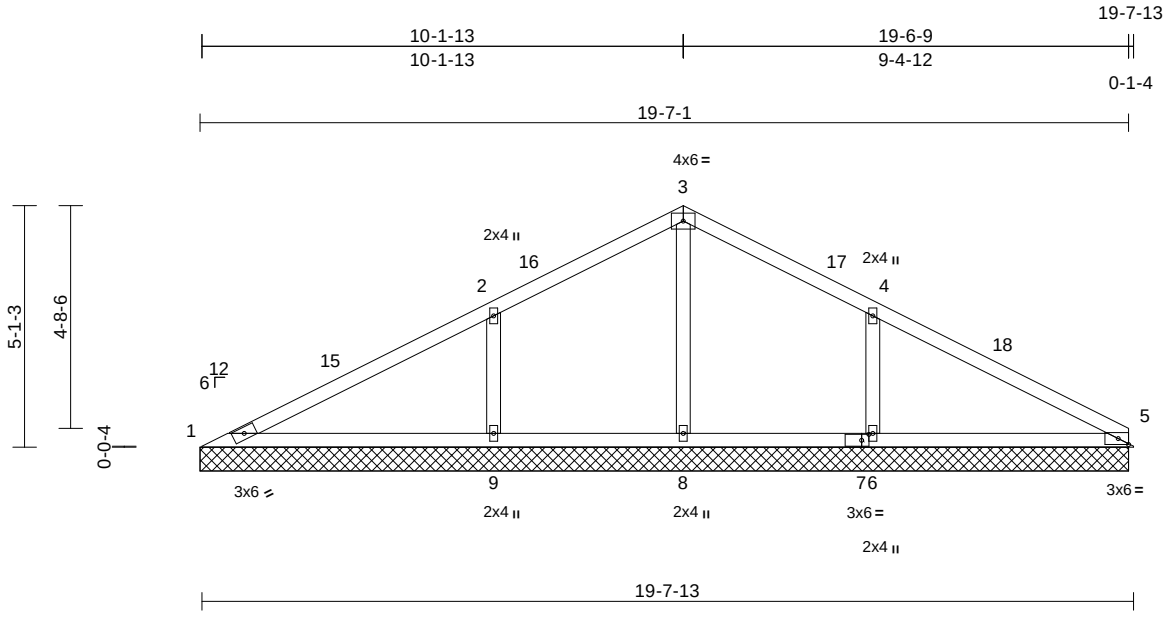

Scale = 1:48.6

Plate Offsets (X, Y): [5:0-2-10,0-1-8], [7:0-1-14,0-1-8]

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	0.39	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.31	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 75 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=19-7-1, 5=19-7-1, 6=19-7-1, 8=19-7-1, 9=19-7-1

Max Horiz 1=82 (LC 16)

Max Uplift 1=-25 (LC 17), 5=-28 (LC 17), 6=-191 (LC 17), 8=-27 (LC 16), 9=-198 (LC 16)

Max Grav 1=126 (LC 2), 5=136 (LC 36), 6=445 (LC 2), 8=321 (LC 2), 9=472 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-189/244, 2-3=-14/191, 3-4=-3/191, 4-5=-82/227
BOT CHORD	1-9=-150/167, 8-9=-150/113, 6-8=-150/113, 5-6=-150/113
WEBS	3-8=-289/61, 2-9=-317/202, 4-6=-303/199

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 10-2-5, Exterior(2R) 10-2-5 to 13-2-5, Interior (1) 13-2-5 to 19-8-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 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 28 lb uplift at joint 5, 25 lb uplift at joint 1, 27 lb uplift at joint 8, 198 lb uplift at joint 9, 191 lb uplift at joint 6 and 28 lb uplift at joint 5.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 5, 1, 10.
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.

LOAD CASE(S) Standard

May 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity	
P02234-24937	V02	Valley	1	1	Job Reference (optional)	I73152044

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 E Feb 1 2025 Print: 8.830 E Feb 1 2025 MiTek Industries, Inc. Thu May 01 16:40:35 Page: 1
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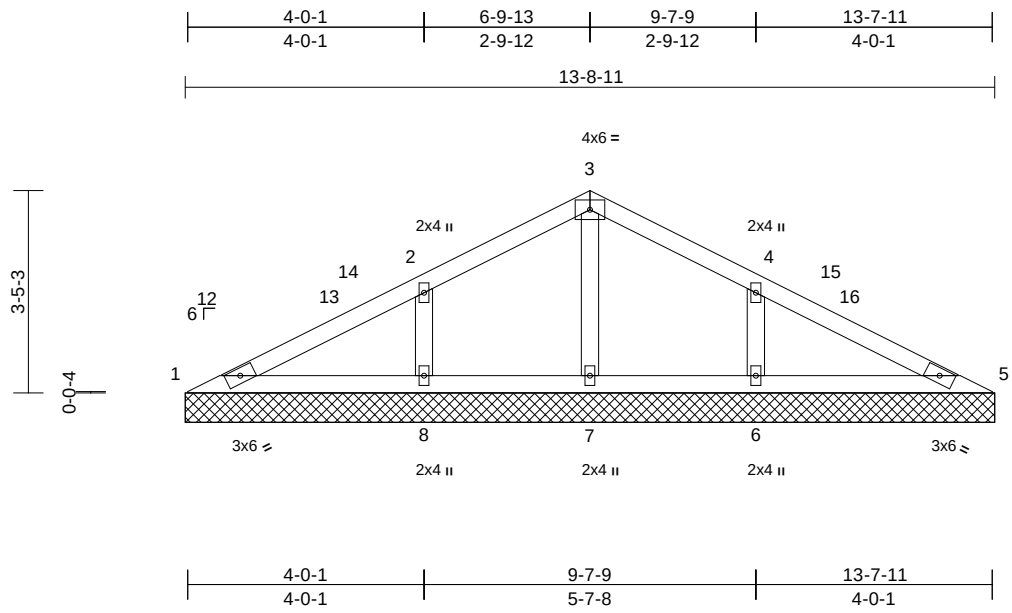

Scale = 1:39.1

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 50 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 10-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (lb/size) 1=60/13-8-11, 5=60/13-8-11, 6=235/13-8-11, 7=194/13-8-11, 8=235/13-8-11
Max Horiz 1=-52 (LC 17)
Max Uplift 1=-12 (LC 17), 5=-20 (LC 17), 6=-128 (LC 17), 7=-13 (LC 16), 8=-128 (LC 16)
Max Grav 1=89 (LC 35), 5=89 (LC 36), 6=310 (LC 23), 7=248 (LC 2), 8=310 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-13=-119/120, 13-14=-67/135, 2-14=-63/168, 2-3=0/146, 3-4=0/146, 4-15=-58/168, 15-16=-62/135, 5-16=-67/120
BOT CHORD 1-8=-107/102, 7-8=-107/96, 6-7=-107/96, 5-6=-107/96
WEBS 3-7=-222/69, 2-8=-216/169, 4-6=-216/169

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 6-10-5, Exterior(2R) 6-10-5 to 9-8-1, Interior (1) 9-8-1 to 13-8-11 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 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) All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1, 20 lb uplift at joint 5, 13 lb uplift at joint 7, 128 lb uplift at joint 8 and 128 lb uplift at joint 6.
13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 5.
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 2,2025

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

Job	Truss	Truss Type	Qty	Ply	998 Serenity
P02234-24937	V03	Valley	1	1	I73152045
					Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Apr 11 2025 Print: 8.830 S Apr 11 2025 MiTek Industries, Inc. Wed Apr 30 15:57:42 Page: 1
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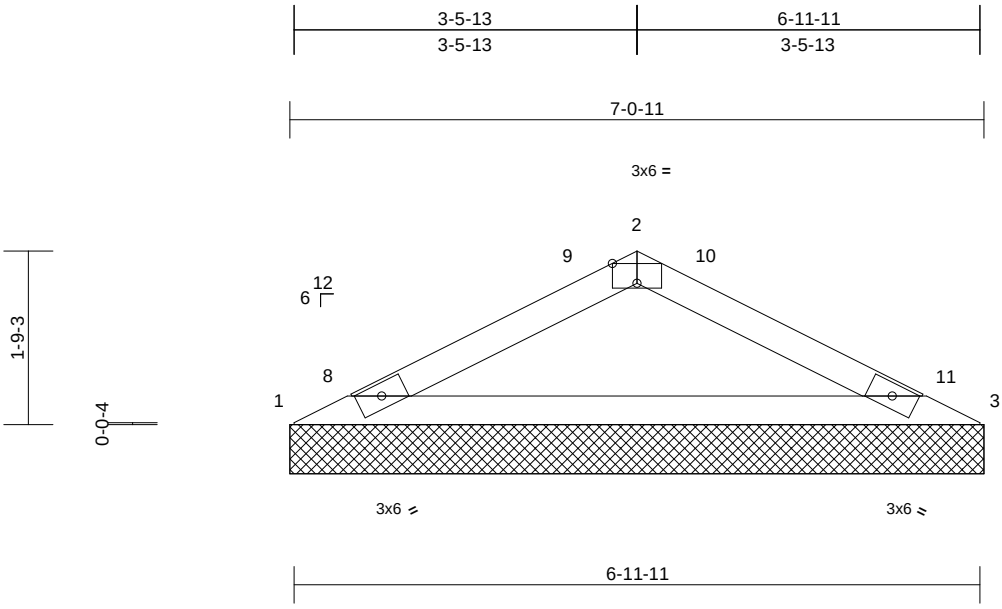


Scale = 1:23.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	11.5/15.0	Lumber DOL	1.15	BC	0.28	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.02	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 20 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 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=7-0-11, 3=7-0-11
Max Horiz 1=25 (LC 16)
Max Uplift 1=-62 (LC 16), 3=-62 (LC 17)
Max Grav 1=261 (LC 2), 3=261 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-511/346, 2-3=-511/345
BOT CHORD 1-3=-316/451

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=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 3-6-5, Exterior(2R) 3-6-5 to 6-6-5, Interior (1) 6-6-5 to 7-0-11 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); Pg=15.0 psf; Pf=11.5 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
7) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 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 62 lb uplift at joint 1 and 62 lb uplift at joint 3.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
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.

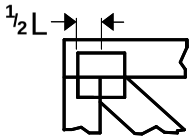
LOAD CASE(S) Standard

May 2,2025

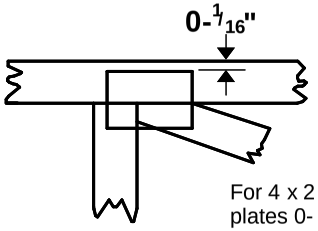
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

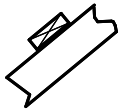
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

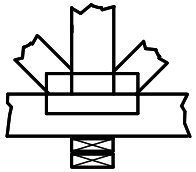
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

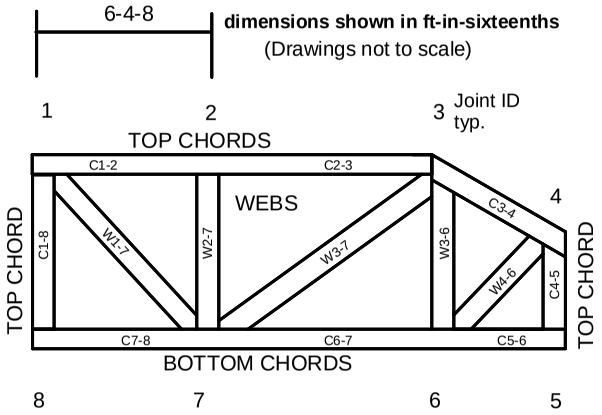


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

MiTek Engineering Reference Sheet: MII-7473 rev. 1/2/2023

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.