ENGINEERING BY
TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 23120143-01
127 Serenity-Roof-B326 A GLH COP 4BR

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

Pages or sheets covered by this seal: I62903199 thru I62903235

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

North Carolina COA: C-0844

January 9,2024

Gilbert, Eric

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	127 Serenity-Roof-B326 A GLH COP 4BR I62903199
23120143-01	A01	Piggyback Base Supported Gable	1	1	Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:07 Page: 1
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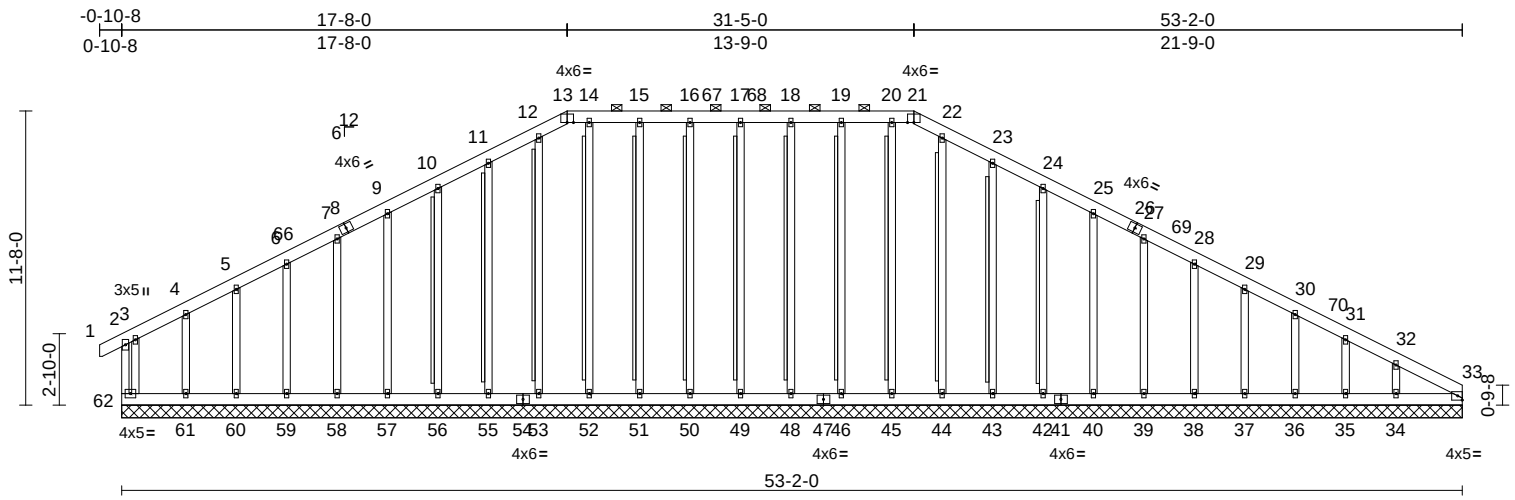

Scale = 1:91.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.01	33	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 545 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3 *Except* 49-17,48-18,46-19,45-20,44-22,50-16,51-15, 52-14,53-12:2x4 SP No.2, 0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0,0-0:2x4 SPF No.2(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 13-21.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS T-Brace: 2x4 SPF No.2 - 17-49, 18-48, 19-46, 20-45, 22-44, 23-43, 24-42, 16-50, 15-51, 14-52, 12-53, 11-55, 10-56
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance.
Brace must cover 90% of web length.

REACTIONS (size) 33=53-2-0, 34=53-2-0, 35=53-2-0, 36=53-2-0, 37=53-2-0, 38=53-2-0, 39=53-2-0, 40=53-2-0, 42=53-2-0, 43=53-2-0, 44=53-2-0, 45=53-2-0, 46=53-2-0, 48=53-2-0, 49=53-2-0, 50=53-2-0, 51=53-2-0, 52=53-2-0, 53=53-2-0, 55=53-2-0, 56=53-2-0, 57=53-2-0, 58=53-2-0, 59=53-2-0, 60=53-2-0, 61=53-2-0, 62=53-2-0, 63=53-2-0
Max Horiz 62=-186 (LC 12)
Max Uplift 33=-36 (LC 14), 34=-96 (LC 15), 35=-28 (LC 15), 36=-47 (LC 15), 37=-43 (LC 15), 38=-44 (LC 15), 39=-44 (LC 15), 40=-43 (LC 15), 42=-46 (LC 15), 43=-51 (LC 15), 46=-29 (LC 11), 48=-28 (LC 11), 49=-25 (LC 10), 50=-28 (LC 11), 51=-28 (LC 10), 55=-53 (LC 14), 56=-46 (LC 14), 57=-43 (LC 14), 58=-44 (LC 14), 59=-45 (LC 14), 60=-27 (LC 14), 61=-116 (LC 14), 62=-33 (LC 15), 63=-36 (LC 14)
Max Grav 33=134 (LC 27), 34=217 (LC 55), 35=143 (LC 1), 36=164 (LC 43), 37=159 (LC 1), 38=172 (LC 43), 39=221 (LC 43), 40=230 (LC 43), 42=229 (LC 43), 43=231 (LC 43), 44=211 (LC 43), 45=192 (LC 38), 46=220 (LC 38), 48=218 (LC 38), 49=216 (LC 38), 50=218 (LC 38), 51=220 (LC 38), 52=192 (LC 38), 53=214 (LC 41), 55=235 (LC 41), 56=233 (LC 41), 57=233 (LC 41), 58=232 (LC 41), 59=188 (LC 41), 60=159 (LC 1), 61=180 (LC 47), 62=172 (LC 1), 63=134 (LC 27)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-62=-132/168, 1-2=0/26, 2-3=-69/82, 3-4=-72/64, 4-5=-68/99, 5-6=-81/150, 6-7=-97/195, 7-9=-113/240, 9-10=-129/285, 10-11=-145/332, 11-12=-162/381, 12-13=-161/380, 13-14=-151/376, 14-15=-151/376, 15-16=-151/376, 16-17=-151/376, 17-18=-151/376, 18-19=-151/376, 19-20=-151/376, 20-21=-151/376, 21-22=-161/380, 22-23=-162/381, 23-24=-145/332, 24-25=-129/285, 25-27=-113/240, 27-28=-97/199, 28-29=-93/176, 29-30=-106/152, 30-31=-119/129, 31-32=-140/107, 32-33=-184/114

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818 Soundside Road
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BOT CHORD 61-62=-87/181, 60-61=-87/181, 59-60=-87/181, 58-59=-87/181, 57-58=-87/181, 56-57=-87/181, 55-56=-87/181, 53-55=-87/181, 52-53=-87/181, 51-52=-87/181, 50-51=-87/181, 49-50=-87/181, 48-49=-87/181, 46-48=-87/181, 45-46=-87/181, 44-45=-87/181, 43-44=-87/181, 42-43=-87/181, 40-42=-87/181, 39-40=-87/181, 38-39=-87/181, 37-38=-87/181, 36-37=-87/181, 35-36=-87/181, 34-35=-87/181, 33-34=-87/181

WEBS 17-49=-176/57, 18-48=-178/62, 19-46=-180/60, 20-45=-152/14, 22-44=-171/10, 23-43=-191/88, 24-42=-189/81, 25-40=-190/77, 27-39=-181/77, 28-38=-132/77, 29-37=-120/77, 30-36=-121/80, 31-35=-113/103, 32-34=-149/155, 16-50=-178/62, 15-51=-180/60, 14-52=-152/8, 12-53=-174/0, 11-55=-195/88, 10-56=-193/81, 9-57=-193/77, 7-58=-192/77, 6-59=-148/77, 5-60=-122/90, 4-61=-120/162, 3-62=-177/99

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-9-14 to 4-6-8, Exterior(2N) 4-6-8 to 12-4-3, Corner(3R) 12-4-3 to 22-11-13, Exterior (2N) 22-11-13 to 26-1-3, Corner(3R) 26-1-3 to 36-6-8, Exterior(2N) 36-6-8 to 47-10-3, Corner(3E) 47-10-3 to 53-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 62, 25 lb uplift at joint 49, 28 lb uplift at joint 48, 29 lb uplift at joint 46, 51 lb uplift at joint 43, 46 lb uplift at joint 42, 43 lb uplift at joint 40, 44 lb uplift at joint 39, 44 lb uplift at joint 38, 43 lb uplift at joint 37, 47 lb uplift at joint 36, 28 lb uplift at joint 35, 96 lb uplift at joint 34, 28 lb uplift at joint 50, 28 lb uplift at joint 51, 53 lb uplift at joint 55, 46 lb uplift at joint 56, 43 lb uplift at joint 57, 44 lb uplift at joint 58, 45 lb uplift at joint 59, 27 lb uplift at joint 60, 116 lb uplift at joint 61, 36 lb uplift at joint 33 and 36 lb uplift at joint 33.
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.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903200
23120143-01	A03	Piggyback Base	8	1	Job Reference (optional)

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

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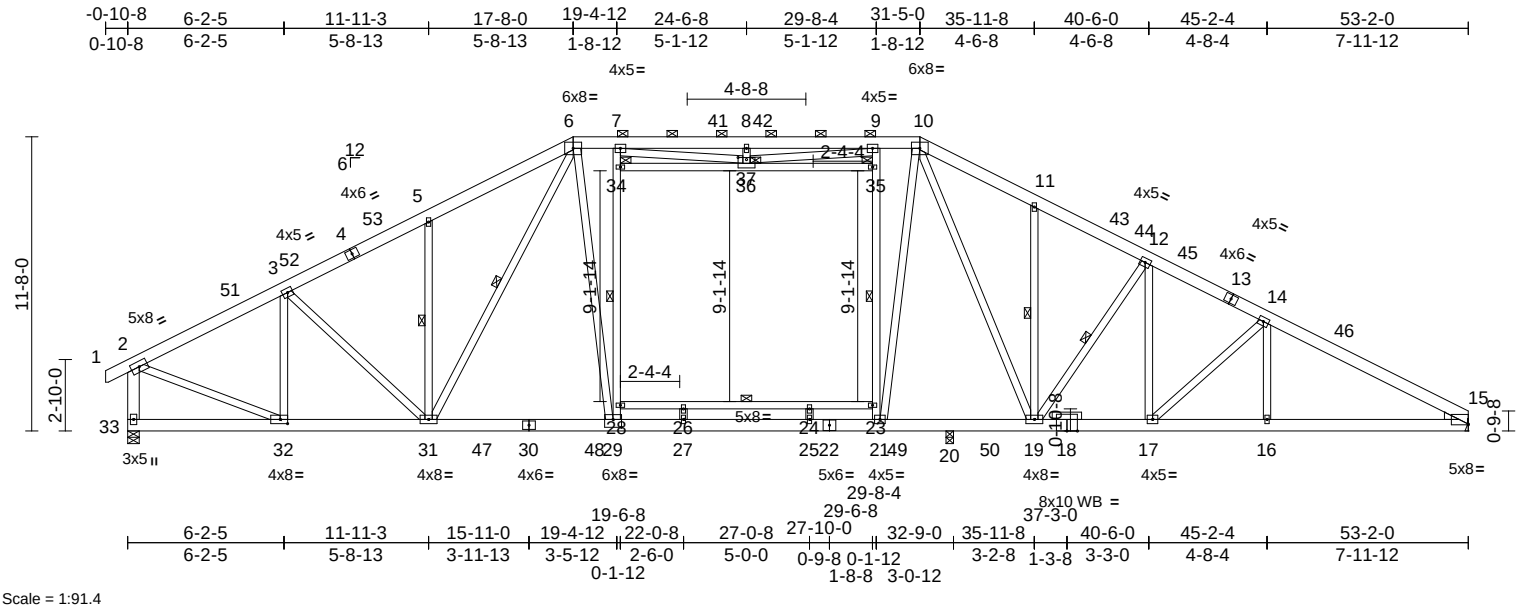

Scale = 1:91.4

Plate Offsets (X, Y): [15:Edge,0-0-7], [29:0-4-0,0-3-12], [32:0-3-8,0-2-0], [36:0-4-0,0-1-0]

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	0.64	Vert(LL)	-0.35	24-26	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.66	24-26	>586	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.10	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 503 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 28-23:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 33-2:2x6 SP No.2, 2-32:2x4 SP No.2
OTHERS 2x4 SP No.3
WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-3-2 oc purlins, except end verticals, and 2-0-0 oc purlins (3-5-3 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
6-0-0 oc bracing: 23-28
WEBS 1 Row at midpt 5-31, 11-19, 12-19, 6-31, 29-34, 21-35
JOINTS 1 Brace at Jt(s): 34, 35, 36

REACTIONS (size) 15= Mechanical, 20=0-3-8, 33=0-5-8
Max Horiz 33=-187 (LC 12)
Max Uplift 20=-198 (LC 15), 33=-116 (LC 14)
Max Grav 15=2251 (LC 45), 20=1009 (LC 37), 33=2651 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 6-7=-2920/122, 7-8=-3232/324, 8-9=-3296/330, 9-10=-2899/120, 10-11=-3273/209, 11-12=-3263/144, 12-14=-3751/109, 14-15=-4061/100, 2-33=-2537/142, 1-2=0/28, 2-3=-2976/118, 3-5=-3373/163, 5-6=-3396/284
BOT CHORD 32-33=-114/231, 31-32=-133/2600, 29-31=0/2776, 27-29=0/2966, 25-27=0/2966, 21-25=0/2966, 20-21=0/2701, 19-20=0/2701, 17-19=0/3313, 16-17=-1/3535, 15-16=-57/3535, 26-28=-92/37, 24-26=-92/37, 23-24=-92/37
WEBS 24-25=-224/0, 14-16=0/165, 26-27=-218/0, 3-32=-828/106, 5-31=-591/201, 3-31=0/521, 12-17=-73/649, 14-17=-364/187, 11-19=-453/167, 12-19=-878/180, 2-32=-21/2696, 6-31=-296/536, 10-19=-233/588, 28-29=-546/206, 28-34=-499/226, 7-34=-483/224, 21-23=-924/201, 23-35=-884/224, 9-35=-869/221, 6-29=0/1182, 34-36=-11/46, 35-36=-124/16, 36-37=-31/5, 8-37=-221/83, 7-37=-346/652, 9-37=-294/825, 10-21=0/1411

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-9-14 to 4-5-15, Interior (1) 4-5-15 to 10-1-12, Exterior(2R) 10-1-12 to 38-11-4, Interior (1) 38-11-4 to 47-10-3, Exterior(2E) 47-10-3 to 53-2-0 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 24-6-8 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 33 and 20. This connection is for uplift only and does not consider lateral forces.
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.

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

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903201
23120143-01	A04	Piggyback Base	3	1	Job Reference (optional)

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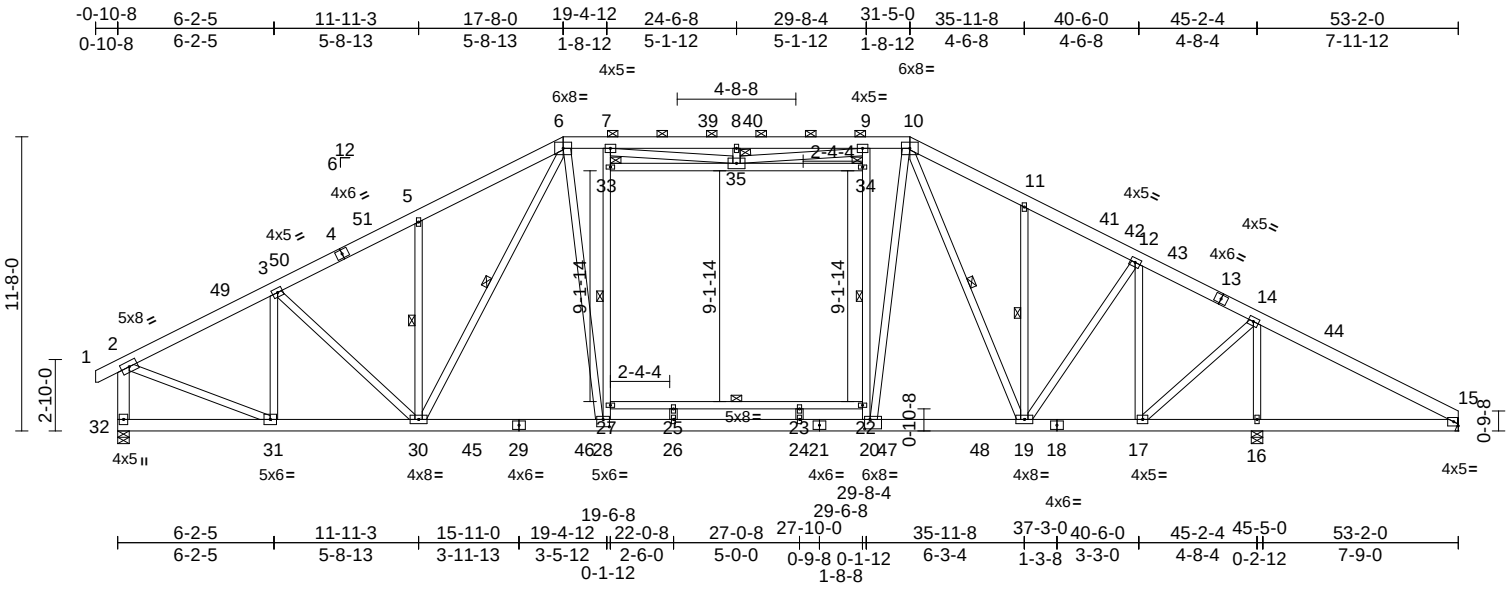

Scale = 1:91.4

Plate Offsets (X, Y): [20:0-2-8,0-4-8], [28:0-3-0,0-3-8]

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	0.63	Vert(LL)	-0.33	25-27	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.59	23-25	>911	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.09	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 500 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 18-21,21-29:2x6 SP 2400F 2.0E, 27-22:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 32-2:2x6 SP No.2, 2-31:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-10 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-1 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
6-0-0 oc bracing: 22-27
WEBS 1 Row at midpt 5-30, 6-30, 11-19, 10-19, 28-33, 20-34
JOINTS 1 Brace at Jt(s): 33, 34, 35

REACTIONS (size) 15= Mechanical, 16=0-5-8, 32=0-5-8
Max Horiz 32=-187 (LC 12)
Max Uplift 15=-195 (LC 14), 16=-302 (LC 15), 32=-99 (LC 14)
Max Grav 15=939 (LC 35), 16=2635 (LC 37), 32=2582 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-7=-2840/126, 7-8=-3210/337, 8-9=-3210/337, 9-10=-2817/126, 10-11=-2820/228, 11-12=-2803/135, 12-14=-2435/223, 14-15=-1543/447, 2-32=-2470/140, 1-2=0/28, 2-3=-2892/97, 3-5=-3271/136, 5-6=-3294/257
BOT CHORD 31-32=-113/225, 30-31=-114/2524, 28-30=0/2707, 26-28=0/2873, 24-26=0/2873, 20-24=0/2873, 19-20=0/2564, 17-19=-81/2143, 16-17=-334/1326, 15-16=-334/1326, 25-27=-76/34, 23-25=-76/34, 22-23=-76/34
WEBS 25-26=-209/0, 23-24=-245/0, 14-16=-2328/328, 2-31=-3/2621, 3-31=-806/99, 3-30=0/512, 5-30=-592/201, 6-30=-306/594, 14-17=-68/1854, 12-17=-1110/146, 12-19=-25/780, 11-19=-468/168, 10-19=-567/0, 27-28=-550/251, 27-33=-505/274, 7-33=-490/270, 20-22=-883/224, 22-34=-861/245, 9-34=-840/242, 6-28=0/1154, 33-35=-39/79, 34-35=-171/35, 8-35=-234/82, 7-35=-320/698, 9-35=-294/814, 10-20=0/1807

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-9-14 to 4-5-15, Interior (1) 4-5-15 to 10-1-12, Exterior(2R) 10-1-12 to 38-11-4, Interior (1) 38-11-4 to 47-10-3, Exterior(2E) 47-10-3 to 53-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) 200.0lb AC unit load placed on the bottom chord, 24-6-8 from left end, supported at two points, 5-0-0 apart.
7) Provide adequate drainage to prevent water ponding.
8) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
11) Refer to girder(s) for truss to truss connections.
12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 195 lb uplift at joint 15.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 32 and 16. This connection is for uplift only and does not consider lateral forces.

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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.
15) 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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903202
23120143-01	A05	Attic Girder	1	4	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:14 Page: 1

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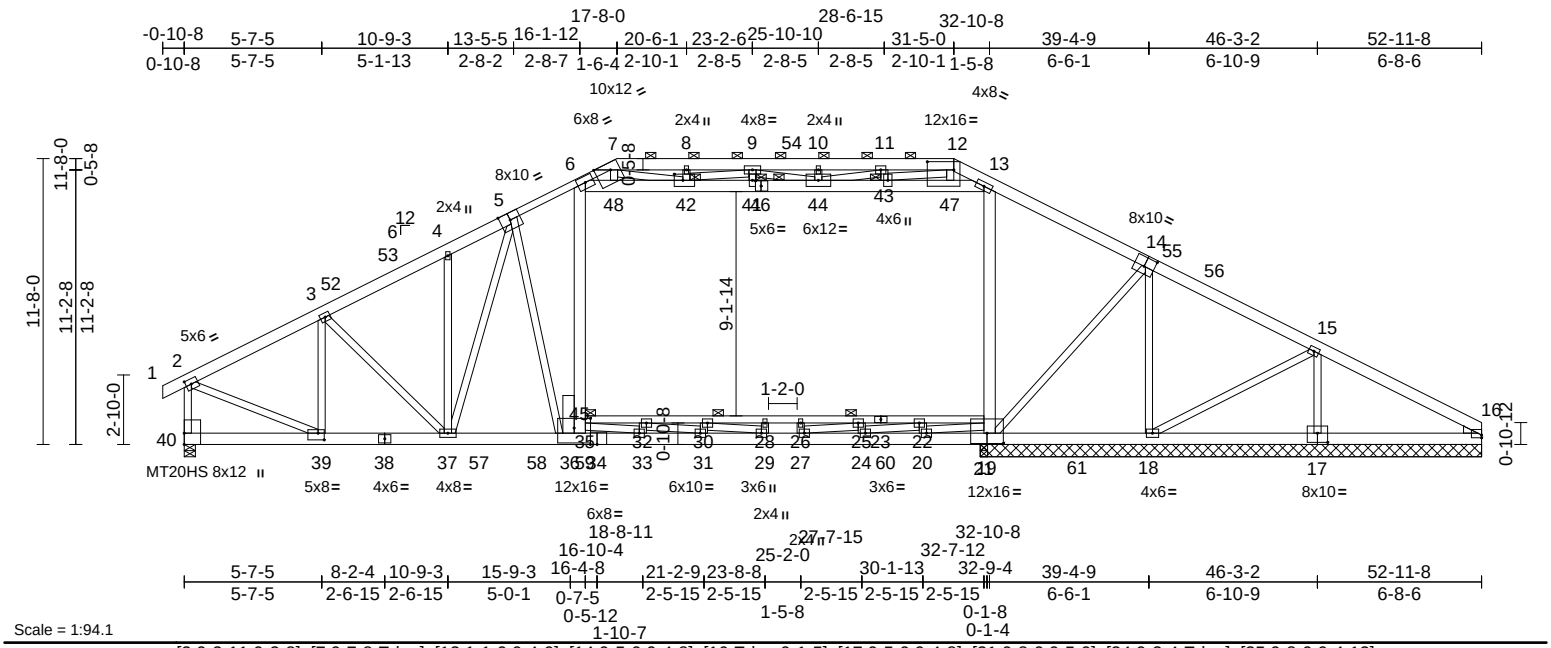

Scale = 1:94.1

Plate Offsets (X, Y): [2:0-2-11,0-2-8], [7:0-7-8,Edge], [12:1-1-0,0-4-0], [14:0-5-0,0-4-8], [16:Edge,0-1-5], [17:0-5-0,0-4-8], [21:0-8-0,0-5-0], [34:0-3-4,Edge], [35:0-8-0,0-4-12], [39:0-3-0,0-3-4], [42:0-4-4,0-3-0], [46:0-2-12,0-2-8]

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	0.98	Vert(LL)	-0.37	33-36	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.56	33-36	>703	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.97	Horz(CT)	0.11	16	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.18	21-35	>999	360		
BCDL	10.0										Weight: 2098 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 5-7:2x4 SP No.2

BOT CHORD 2x6 SP 2400F 2.0E *Except* 23-21,23-35:2x4 SP No.2, 38-40,17-16:2x6 SP No.2

WEBS 2x4 SP No.3 *Except* 6-36,13-19,45-36,46-6,46-13:2x6 SP No.2, 39-2:2x4 SP No.2

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 10-0-0 oc bracing: 21-35

JOINTS 1 Brace at Jt(s): 35, 41, 42, 43, 44

REACTIONS (size) 16=20-5-8, 17=20-5-8, 18=20-5-8, 19=20-5-8, 40=0-5-8, 49=20-5-8

Max Horiz 40=-181 (LC 10)

Max Uplift 16=-151 (LC 13), 17=-324 (LC 12), 18=-240 (LC 13), 19=-10327 (LC 46), 40=-693 (LC 12), 49=-151 (LC 13)

Max Grav 16=3016 (LC 46), 17=7173 (LC 23), 18=4174 (LC 46), 19=1030 (LC 12), 40=11884 (LC 46), 49=3016 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-3=-13807/798, 3-4=-17558/1046, 4-6=-18871/1132, 6-7=-6433/522, 7-8=-5352/647, 8-9=-5336/647, 9-10=-4443/719, 10-11=-4443/719, 11-12=-2508/499, 12-13=-3584/382, 13-15=-18319/1104, 15-16=-5618/331, 2-40=-11725/713

BOT CHORD 39-40=-122/292, 37-39=-750/12364, 36-37=-850/16344, 33-36=-714/14204, 31-33=-405/17353, 29-31=-14/18718, 27-29=0/19486, 24-27=-55/18148, 20-24=-375/14901, 18-20=-734/13134, 16-18=-243/4912, 32-35=-1101/0, 30-32=-2919/0, 28-30=-3783/0, 26-28=-3783/0, 25-26=-3783/0, 22-25=-2400/0, 21-22=-471/1856

WEBS 35-36=-615/7326, 6-35=-530/8519, 19-21=-665/7236, 13-21=-524/7570, 14-18=-8009/468, 15-17=-7038/424, 32-33=-853/0, 33-35=0/3471, 30-31=-612/0, 31-32=0/1907, 29-30=0/907, 20-22=-1495/0, 24-25=-683/0, 22-24=0/3569, 25-27=0/1452, 9-41=-35/825, 8-42=-9/586, 11-43=-2225/171, 10-44=-52/1209, 15-18=-392/7575, 20-21=0/2263, 14-19=-374/7115, 6-48=-11044/695, 42-48=-10190/645, 41-42=-10917/642, 41-44=-10917/642, 43-44=-16691/1010, 43-47=-13758/858, 13-47=-14153/879, 4-37=-759/157, 5-37=-2516/129, 3-39=-5294/376, 3-37=-242/4856, 2-39=-701/13207, 12-47=-145/2478, 9-42=-2105/238, 12-43=-2985/155, 28-29=-220/0, 26-27=-301/0, 5-36=-128/2019, 7-48=-122/2110, 7-42=-2411/115, 11-44=-231/2845, 9-44=-3355/207

NOTES

1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x6 - 2 rows staggered at 0-4-0 oc, Except member 36-45 2x6 - 3 rows staggered at 0-4-0 oc, member 13-19 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.

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Continued on page 2

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

4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) All plates are MT20 plates unless otherwise indicated.
10) All plates are 4x5 MT20 unless otherwise indicated.
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) Ceiling dead load (5.0 psf) on member(s). 6-48, 42-48, 41-42, 41-44, 43-44, 43-47, 13-47; Wall dead load (5.0psf) on member(s).6-35, 13-21
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 32-35, 30-32, 28-30, 26-28, 25-26, 22-25, 21-22
15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10327 lb uplift at joint 19.
16) N/A

17) N/A

18) 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.
19) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
20) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
21) N/A

22) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 608 lb down and 52 lb up at 28-7-12, and 9100 lb down and 774 lb up at 16-0-12 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.
23) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-2=-60, 2-7=-60, 7-12=-60, 12-16=-60, 40-49=-20, 21-35=-30, 6-48=-10, 42-48=-10, 41-42=-10, 41-46=-10, 44-46=-10, 43-44=-10, 43-47=-10, 13-47=-10
   Drag: 35-45=-10, 6-45=-10, 13-21=-10
   Concentrated Loads (lb)
   Vert: 36=-4881 (F), 60=-326 (F)

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903203
23120143-01	A06	Attic Girder	1	4	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:16 Page: 1
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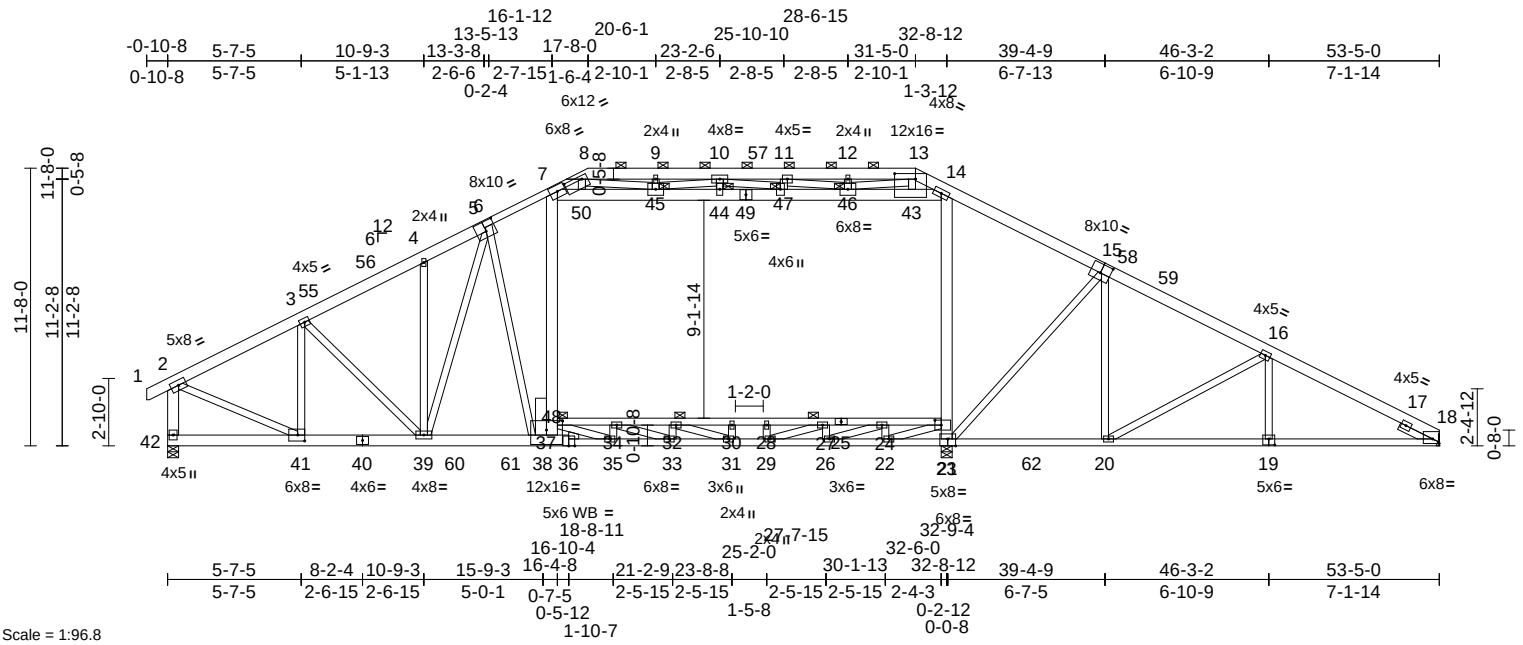

Plate Offsets (X, Y): [5:0-5-0,0-5-0], [8:0-9-4,0-1-12], [13:0-10-8,0-2-12], [15:0-5-0,0-4-8], [18:Edge,0-2-4], [19:0-3-0,0-3-0], [21:0-4-0,Edge], [23:0-3-4,0-2-8], [37:0-8-0,0-4-12], [41:0-3-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.49	35-38	>804	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.73	35-38	>532	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.21	18	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.24	23-37	>838	360		
BCDL	10.0										Weight: 2009 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 5-8:2x4 SP 2400F 2.0E
BOT CHORD 2x4 SP 2400F 2.0E *Except* 25-23,25-37:2x4 SP No.2, 40-42:2x6 SP No.2, 40-36:2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 42-2,7-38,48-38,49-7,49-14:2x6 SP No.2, 14-21:2x6 SP 2400F 2.0E, 41-2:2x4 SP No.2
OTHERS 2x4 SP No.3
SLIDER Right 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-10-15 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 8-13.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except:
10-0-0 oc bracing: 23-37
JOINTS 1 Brace at Jt(s): 37, 44, 45, 46, 47

REACTIONS (size) 18= Mechanical, 21=0-5-8, 42=0-5-8
Max Horiz 42=-184 (LC 10)
Max Uplift 18=-407 (LC 12), 21=-5346 (LC 45), 42=-671 (LC 12)
Max Grav 18=8868 (LC 46), 21=778 (LC 12), 42=11748 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/28, 2-3=-13440/761, 3-4=-17245/1003, 4-6=-18787/1093, 6-7=-18557/1088, 7-8=-6795/521, 8-9=-3060/520, 9-10=-3052/521, 10-11=-3686/695, 11-12=-1499/1776, 12-13=-1499/1776, 13-14=-4279/403, 14-16=-17885/1059, 16-18=-17673/875, 2-42=-11551/690
BOT CHORD 41-42=-127/434, 39-41=-709/12019, 38-39=-806/16069, 35-38=-784/13849, 33-35=-337/16866, 31-33=0/17863, 29-31=0/18038, 26-29=0/16338, 22-26=-211/13855, 20-22=-756/16053, 18-20=-718/15525, 34-37=-1157/0, 32-34=-2709/0, 30-32=-3125/0, 28-30=-3125/0, 27-28=-3125/0, 24-27=-1458/723, 23-24=-590/2368
WEBS 37-38=-690/7934, 7-37=-533/8793, 21-23=-707/6501, 14-23=-503/7222, 15-20=-203/194, 16-19=-10/165, 30-31=-160/10, 28-29=-381/0, 34-35=-848/0, 35-37=0/3509, 32-33=-482/0, 33-34=0/1645, 31-32=-94/441, 22-24=-1354/0, 26-27=-821/0, 24-26=0/2910, 27-29=0/1803, 13-43=-192/3352, 10-44=-123/2381, 9-45=-491/57, 12-46=-351/67, 11-47=0/150, 16-20=-133/748, 22-23=0/2778, 15-21=-653/214, 7-50=-9711/621, 45-50=-9334/598, 44-45=-10702/622, 44-47=-10628/617, 46-47=-15316/892, 43-46=-12562/763, 14-43=-13142/795, 5-39=-2558/130, 4-39=-582/164, 3-39=-235/4941, 3-41=-5343/364, 2-41=-653/12740, 8-45=-5641/303, 10-45=-4582/341, 10-47=-4771/280, 13-46=-5478/306, 11-46=-2964/283, 8-50=-137/2045, 6-38=-129/1480

NOTES
1) 4-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Web connected as follows: 2x6 - 2 rows staggered at 0-4-0 oc, Except member 38-48 2x6 - 3 rows staggered at 0-4-0 oc, member 14-21 2x6 - 2 rows staggered at 0-9-0 oc, 2x4 - 1 row at 0-9-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.

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

4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
8) Provide adequate drainage to prevent water ponding.
9) All plates are 3x5 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
12) Ceiling dead load (5.0 psf) on member(s). 7-50, 45-50, 44-45, 44-47, 46-47, 43-46, 14-43; Wall dead load (5.0psf) on member(s).7-37, 14-23
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 34-37, 32-34, 30-32, 28-30, 27-28, 24-27, 23-24
14) Refer to girder(s) for truss to truss connections.
15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 407 lb uplift at joint 18 and 5346 lb uplift at joint 21.
16) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 42. This connection is for uplift only and does not consider lateral forces.
17) 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.
18) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
19) This truss has large uplift reaction(s) from gravity load case(s). Proper connection is required to secure truss against upward movement at the bearings. Building designer must provide for uplift reactions indicated.
20) LGT4 Hurricane ties must have four studs in line below the truss.
21) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 9100 lb down and 774 lb up at 15-11-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
22) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

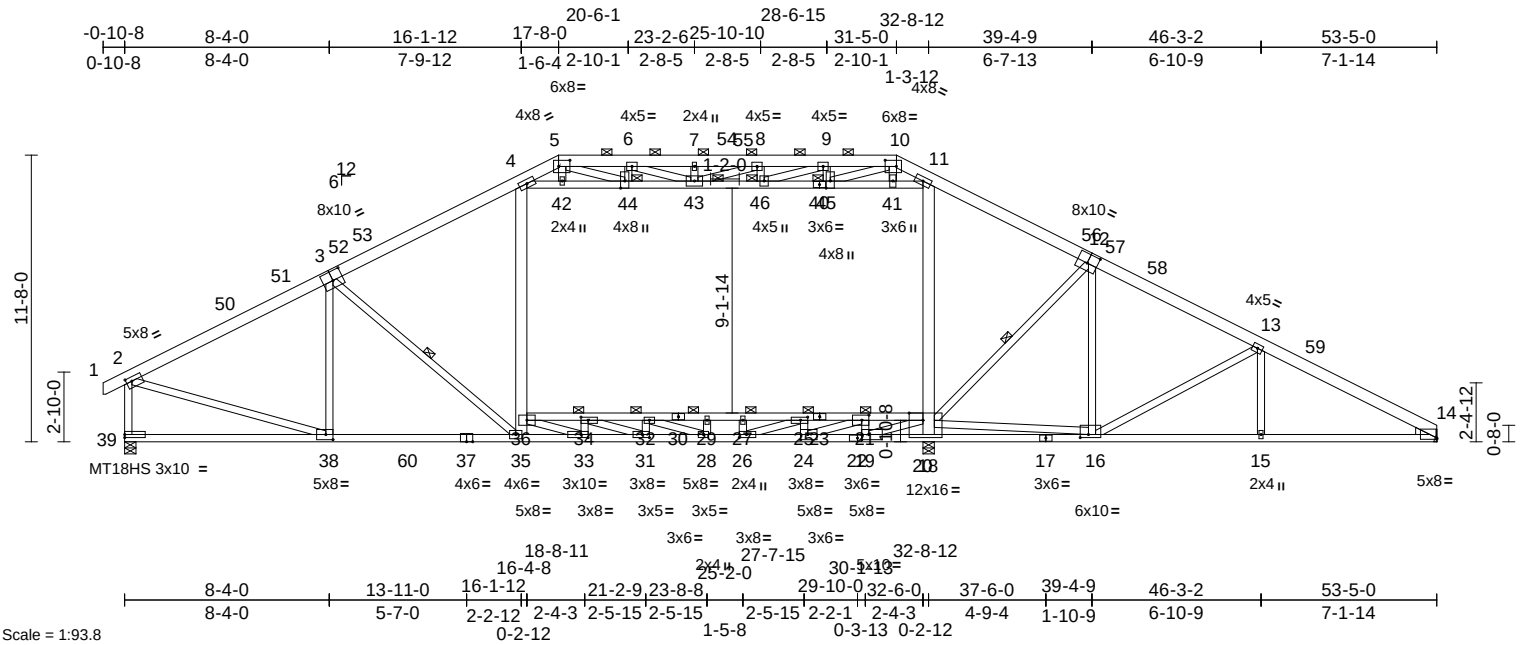
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
   Uniform Loads (lb/ft)
   Vert: 1-2=-60, 2-8=-60, 8-13=-60, 13-18=-60, 42-51=-20, 23-37=-30, 7-50=-10, 45-50=-10, 44-45=-10, 44-49=-10, 47-49=-10, 46-47=-10, 43-46=-10, 14-43=-10
   Drag: 37-48=-10, 7-48=-10, 14-23=-10
   Concentrated Loads (lb)
   Vert: 38=-4881 (F)

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903204
23120143-01	A07	Attic	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:18 Page: 1

ID:1d5INYb_SnpjqifH0e1reGzRBHO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:93.8

Plate Offsets (X, Y): [2:0-2-12,0-2-0], [3:0-5-0,0-4-8], [5:0-5-8,0-3-0], [10:0-5-8,0-3-0], [12:0-5-0,0-4-8], [14:Edge,0-0-11], [16:0-4-0,0-1-8], [19:0-3-8,0-2-8], [20:0-6-12,Edge], [21:0-3-8,0-2-8], [22:0-2-2,0-1-8], [24:0-3-8,0-2-8], [25:0-3-8,0-1-8], [26:0-3-8,0-1-8], [31:0-3-8,0-1-8], [33:0-3-8,0-1-8], [34:0-3-8,0-1-8], [38:0-3-8,0-2-8], [44:0-3-8,0-2-0], [45:0-3-8,0-2-0]

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	0.97	Vert(LL)	-0.48	29-32	>819	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.77	29-32	>506	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.14	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.35	20-36	>568	360		
BCDL	10.0										Weight: 453 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2

BOT CHORD 2x4 SP No.2 *Except* 14-17,37-22:2x4 SP 2400F 2.0E, 37-39:2x4 SP No.1

WEBS 2x4 SP No.3 *Except* 4-35,11-18:2x6 SP No.2, 40-11,38-2,40-4:2x4 SP No.2, 36-33,34-31,32-28,21-24,25-26,20-19,16-20: 2x4 SP No.1

WEDGE Right: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-14 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-13 max.): 5-10.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 35-38
2-4-13 oc bracing: 18-19
3-0-9 oc bracing: 16-18.
10-0-0 oc bracing: 20-36

WEBS 1 Row at midpt 3-35, 12-20

JOINTS 1 Brace at Jt(s): 43, 44, 45, 46

REACTIONS (size) 14= Mechanical, 18=0-5-8, 39=0-5-8
Max Horiz 39=-189 (LC 12)
Max Uplift 18=-62 (LC 15), 39=-30 (LC 14)
Max Grav 14=2299 (LC 46), 18=1776 (LC 38), 39=2998 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/26, 2-4=-3883/11, 4-5=-1900/104, 5-6=-2872/339, 6-7=-3491/494, 7-8=-3491/494, 8-9=-3499/484, 9-10=-2718/358, 10-11=-1709/127, 11-13=-3769/50, 13-14=-4287/33, 2-39=-2868/73

BOT CHORD 34-36=-1865/0, 32-34=-3331/0, 29-32=-3215/0, 27-29=-3215/0, 25-27=-3215/0, 21-25=-1305/739, 20-21=-42/2036, 38-39=-108/219, 35-38=-16/3320, 33-35=0/3214, 31-33=0/4818, 28-31=0/6229, 26-28=0/6113, 24-26=0/4203, 19-24=0/1393, 18-19=-2254/0, 16-18=-2068/0, 15-16=0/3733, 14-15=-55/3733

WEBS 3-38=-653/76, 35-36=-42/292, 4-36=0/1162, 18-20=-1417/167, 11-20=-32/1161, 12-16=-258/97, 13-15=0/244, 4-42=-2060/9, 42-44=-2000/10, 43-44=-1792/595, 43-46=-1704/1222, 45-46=-1911/441, 41-45=-2170/28, 11-41=-2301/28, 2-38=0/3374, 28-29=-102/37, 26-27=-394/0, 33-34=-833/0, 33-36=0/2241, 31-32=-320/36, 31-34=0/1554, 28-32=-407/60, 19-21=-1376/0, 24-25=-932/0, 21-24=0/2977, 25-26=0/2025, 10-41=0/529, 5-42=0/295, 7-43=-200/79, 6-44=-432/119, 9-45=-481/114, 10-45=-292/1458, 8-46=-245/65, 9-46=-139/830, 8-43=-158/110, 13-16=-518/208, 3-35=-148/350, 19-20=0/3892, 16-20=0/5036, 12-20=-587/316, 5-44=-297/1339, 6-43=-168/659

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-9-14 to 4-6-4, Interior (1) 4-6-4 to 10-1-6, Exterior(2R) 10-1-6 to 38-11-10, Interior (1) 38-11-10 to 48-0-14, Exterior(2E) 48-0-14 to 53-5-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) Provide adequate drainage to prevent water ponding.

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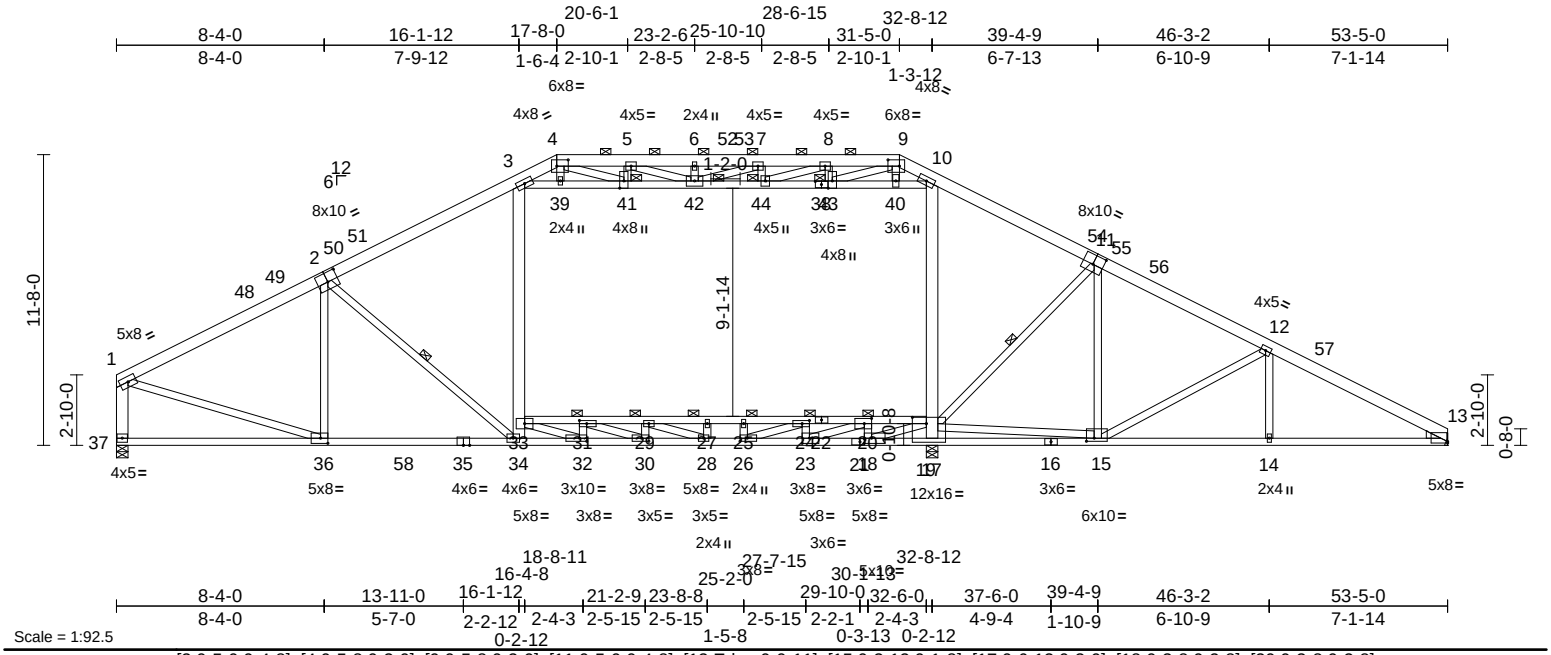
7) All plates are MT20 plates unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Ceiling dead load (5.0 psf) on member(s). 4-42, 42-44, 43-44, 43-46, 45-46, 41-45, 11-41; Wall dead load (5.0psf) on member(s).4-36, 11-20
11) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 34-36, 32-34, 29-32, 27-29, 25-27, 21-25, 20-21
12) Refer to girder(s) for truss to truss connections.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 39 and 18. This connection is for uplift only and does not consider lateral forces.
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.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903205
23120143-01	A08	Attic	6	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:21 Page: 1

ID:h5TFO2tlZyfWTvVspKto8_zRQij-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:92.5

[2:0-5-0,0-4-8], [4:0-5-8,0-3-0], [9:0-5-8,0-3-0], [11:0-5-0,0-4-8], [13:Edge,0-0-11], [15:0-3-12,0-1-8], [17:0-6-12,0-3-0], [18:0-3-8,0-2-8], [20:0-3-8,0-2-8], [21:0-2-2,0-1-8], [23:0-3-8,0-2-8], [24:0-3-8,0-1-8], [26:0-3-8,0-1-8], [30:0-3-8,0-1-8], [31:0-3-8,0-1-8], [32:0-3-8,0-1-8], [36:0-3-8,0-2-8], [38:0-2-15,0-1-8],
Plate Offsets (X, Y): [41:0-3-8,0-2-0], [43:0-3-8,0-2-0]

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	0.62	Vert(LL)	-0.47	27-29	>822	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.77	27-29	>509	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.14	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.35	19-33	>568	360		
BCDL	10.0										Weight: 453 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 37-35:2x4 SP No.1, 16-13,35-21:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 3-34,10-17,37-1:2x6 SP No.2, 38-10,36-1,38-3:2x4 SP No.2, 33-32,31-30,29-28,19-18,20-23,24-26,15-19: 2x4 SP No.1
WEDGE Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-11-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-14 max.): 4-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-5-1 oc bracing: 17-18
3-0-13 oc bracing: 15-17.
10-0-0 oc bracing: 19-33
WEBS 1 Row at midpt 2-34, 11-19
JOINTS 1 Brace at Jt(s): 41, 42, 43, 44

REACTIONS (size) 13= Mechanical, 17=0-5-8, 37=0-5-8
Max Horiz 37=-222 (LC 15)
Max Uplift 17=-64 (LC 15), 37=-11 (LC 14)
Max Grav 13=2293 (LC 45), 17=1772 (LC 37), 37=2946 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-3865/14, 3-4=-1893/107, 4-5=-2867/337, 5-6=-3488/492, 6-7=-3488/492, 7-8=-3496/482, 8-9=-2716/356, 9-10=-1707/124, 10-12=-3756/51, 12-13=-4274/39, 1-37=-2815/55
BOT CHORD 36-37=-107/246, 34-36=-17/3288, 32-34=0/3194, 30-32=0/4799, 28-30=0/6218, 26-28=0/6109, 23-26=0/4206, 18-23=0/1402, 17-18=-2240/0, 15-17=-2057/0, 14-15=0/3722, 13-14=-56/3722, 31-33=-1860/0, 29-31=-3333/0, 27-29=-3224/0, 25-27=-3224/0, 24-25=-3224/0, 20-24=-1321/723, 19-20=-42/2010
WEBS 2-36=-670/70, 2-34=-132/368, 33-34=-40/280, 3-33=0/1154, 17-19=-1413/169, 10-19=-33/1155, 11-15=-255/99, 12-15=-518/208, 12-14=0/244, 3-39=-2054/13, 39-41=-1994/13, 41-42=-1781/599, 42-44=-1691/1229, 43-44=-1896/449, 40-43=-2157/29, 10-40=-2287/29, 1-36=0/3331, 27-28=-104/36, 25-26=-393/0, 32-33=0/2241, 31-32=-836/0, 30-31=0/1561, 29-30=-322/34, 28-29=-400/61, 18-19=0/3886, 18-20=-1374/0, 20-23=0/2972, 23-24=-930/0, 24-26=0/2017, 4-39=0/295, 9-40=0/526, 4-41=-298/1341, 5-41=-433/119, 5-42=-167/660, 6-42=-200/79, 9-43=-292/1457, 8-43=-481/114, 8-44=-139/829, 7-44=-245/65, 7-42=-159/109, 15-19=0/5011, 11-19=-580/316

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 5-6-14, Interior (1) 5-6-14 to 10-1-6, Exterior(2R) 10-1-6 to 38-11-10, Interior (1) 38-11-10 to 48-0-14, Exterior(2E) 48-0-14 to 53-5-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) Provide adequate drainage to prevent water ponding.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

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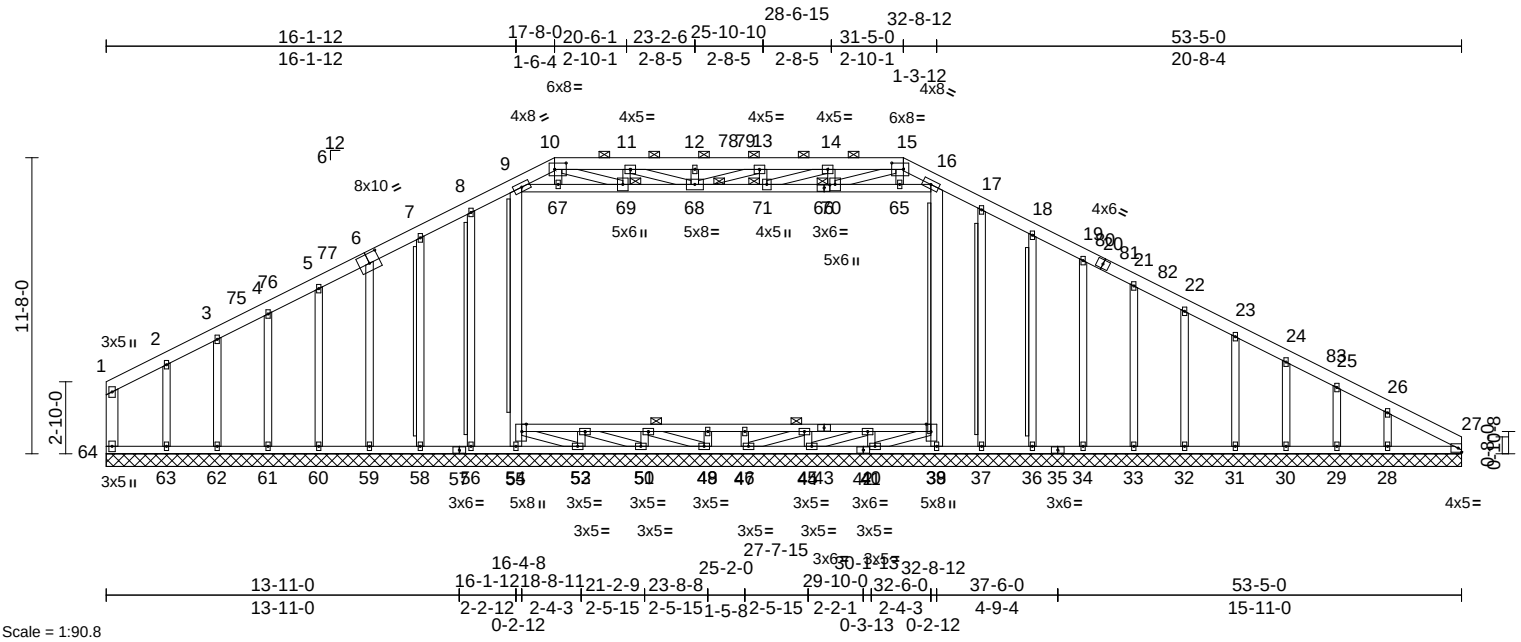
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) Ceiling dead load (5.0 psf) on member(s). 3-39, 39-41, 41-42, 42-44, 43-44, 40-43, 10-40; Wall dead load (5.0psf) on member(s).3-33, 10-19
9) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 31-33, 29-31, 27-29, 25-27, 24-25, 20-24, 19-20
10) Refer to girder(s) for truss to truss connections.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 37 and 17. This connection is for uplift only and does not consider lateral forces.
12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
14) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903206
23120143-01	A09	Attic Supported Gable	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:23 Page: 1
ID:8kdnaNVfrXy7X5iJovJ26tzRBB2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:90.8

Plate Offsets (X, Y): [6:0-5-0,0-4-8], [10:0-5-8,0-3-0], [15:0-5-8,0-3-0], [39:Edge,0-2-3], [54:Edge,0-2-2], [66:0-2-11,0-1-8]

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	0.43	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.62	Horiz(TL)	0.02	27	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 504 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2 *Except* 35-27,57-42:2x4 SP 2400F 2.0E, 57-64:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 9-55,16-38,64-1:2x6 SP No.2, 16-66,66-9:2x4 SP No.2
OTHERS 2x4 SP No.3 *Except* 0-0,0-0,0-0,0-0,0-0,0-0:2x4 SPF No.2(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-4 max.): 10-15.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
10-0-0 oc bracing: 39-54
WEBS T-Brace: 2x4 SPF No.2 - 9-54, 16-39, 17-37, 18-36, 8-56, 7-58
Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c.,with 3in minimum end distance. Brace must cover 90% of web length.
JOINTS 1 Brace at Jt(s): 68, 69, 70, 71

REACTIONS (size) 27=53-5-0, 28=53-5-0, 29=53-5-0, 30=53-5-0, 31=53-5-0, 32=53-5-0, 33=53-5-0, 34=53-5-0, 36=53-5-0, 37=53-5-0, 38=53-5-0, 41=53-5-0, 44=53-5-0, 47=53-5-0, 49=53-5-0, 51=53-5-0, 53=53-5-0, 55=53-5-0, 56=53-5-0, 58=53-5-0, 59=53-5-0, 60=53-5-0, 61=53-5-0, 62=53-5-0, 63=53-5-0, 64=53-5-0
Max Horiz 64=-222 (LC 15)
Max Uplift 28=-89 (LC 14), 29=-189 (LC 15), 30=-17 (LC 14), 31=-49 (LC 15), 32=-43 (LC 15), 33=-44 (LC 15), 34=-45 (LC 15), 36=-46 (LC 15), 37=-124 (LC 38), 38=-1 (LC 10), 56=-115 (LC 38), 58=-45 (LC 14), 59=-50 (LC 14), 60=-37 (LC 14), 61=-47 (LC 14), 62=-28 (LC 14), 63=-119 (LC 14), 64=-109 (LC 15)
Max Grav 28=538 (LC 24), 29=71 (LC 18), 30=215 (LC 6), 31=164 (LC 49), 32=177 (LC 37), 33=216 (LC 43), 34=234 (LC 43), 36=217 (LC 43), 37=142 (LC 49), 38=1161 (LC 38), 41=327 (LC 20), 44=301 (LC 20), 47=230 (LC 20), 49=231 (LC 20), 51=301 (LC 20), 53=330 (LC 20), 55=1134 (LC 38), 56=144 (LC 47), 58=228 (LC 41), 59=239 (LC 41), 60=223 (LC 41), 61=191 (LC 35), 62=164 (LC 56), 63=286 (LC 47), 64=100 (LC 50)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-53/118, 2-3=-37/99, 3-4=-52/127, 4-5=-70/149, 5-7=-107/211, 7-8=-122/250, 8-9=-105/267, 9-10=-926/239, 10-11=-2068/439, 11-12=-2800/569, 12-13=-2800/569, 13-14=-2724/564, 14-15=-1991/436, 15-16=-812/241, 16-17=-104/278, 17-18=-123/270, 18-19=-109/246, 19-21=-89/222, 21-22=-70/199, 22-23=-52/176, 23-24=-48/153, 24-25=-69/135, 25-26=-156/123, 26-27=-142/144, 1-64=-66/91
BOT CHORD 63-64=-79/168, 62-63=-79/168, 61-62=-79/168, 60-61=-79/168, 59-60=-79/168, 58-59=-79/168, 56-58=-79/168, 55-56=-79/168, 53-55=-85/183, 51-53=-63/129, 49-51=-57/117, 47-49=-68/129, 44-47=-58/112, 41-44=-64/115, 38-41=-80/140, 37-38=-78/164, 36-37=-78/164, 34-36=-78/164, 33-34=-78/164, 32-33=-78/164, 31-32=-78/164, 30-31=-78/164, 29-30=-78/164, 28-29=-78/164, 27-28=-78/164, 52-54=-16/38, 50-52=-21/50, 48-50=-14/38, 46-48=-14/38, 45-46=-14/38, 40-45=-22/54, 39-40=-19/51

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WEBS 54-55=-1090/1, 9-54=-1078/106, 38-39=-1116/28, 16-39=-1101/123, 48-49=-115/0, 46-47=-115/0, 52-53=-171/0, 53-54=-57/22, 50-51=-147/0, 51-52=-13/11, 49-50=-11/13, 40-41=-173/0, 44-45=-148/0, 40-44=-3/15, 45-47=-10/17, 15-65=-48/11, 9-67=-16/694, 67-69=-15/688, 68-69=-279/2058, 68-71=-412/2714, 70-71=-276/1982, 65-70=-11/565, 16-65=-13/579, 10-67=-15/15, 12-68=-256/65, 11-69=-470/113, 14-70=-483/114, 15-70=-281/1498, 13-71=-239/66, 14-71=-148/778, 13-68=-66/182, 39-41=-27/17, 10-69=-279/1447, 11-68=-145/779, 17-37=-86/159, 18-36=-176/71, 19-34=-194/69, 21-33=-177/67, 22-32=-128/68, 23-31=-118/69, 24-30=-144/52, 25-29=-31/163, 26-28=-346/91, 8-56=-87/150, 7-58=-187/70, 6-59=-199/74, 5-60=-183/61, 4-61=-145/69, 3-62=-120/62, 2-63=-168/118

LOAD CASE(S) Standard

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 5-6-14, Interior (1) 5-6-14 to 10-1-6, Exterior(2R) 10-1-6 to 38-11-10, Interior (1) 38-11-10 to 48-0-14, Exterior(2E) 48-0-14 to 53-5-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Provide adequate drainage to prevent water ponding.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
12) Ceiling dead load (5.0 psf) on member(s). 9-67, 67-69, 68-69, 68-71, 70-71, 65-70, 16-65; Wall dead load (5.0psf) on member(s).9-54, 16-39
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 109 lb uplift at joint 64, 1 lb uplift at joint 38, 124 lb uplift at joint 37, 46 lb uplift at joint 36, 45 lb uplift at joint 34, 44 lb uplift at joint 33, 43 lb uplift at joint 32, 49 lb uplift at joint 31, 17 lb uplift at joint 30, 189 lb uplift at joint 29, 89 lb uplift at joint 28, 115 lb uplift at joint 56, 45 lb uplift at joint 58, 50 lb uplift at joint 59, 37 lb uplift at joint 60, 47 lb uplift at joint 61, 28 lb uplift at joint 62 and 119 lb uplift at joint 63.
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.
15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
16) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.
17) Attic room checked for L/360 deflection.

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903207
23120143-01	B01	Common Structural Gable	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:26 Page: 1
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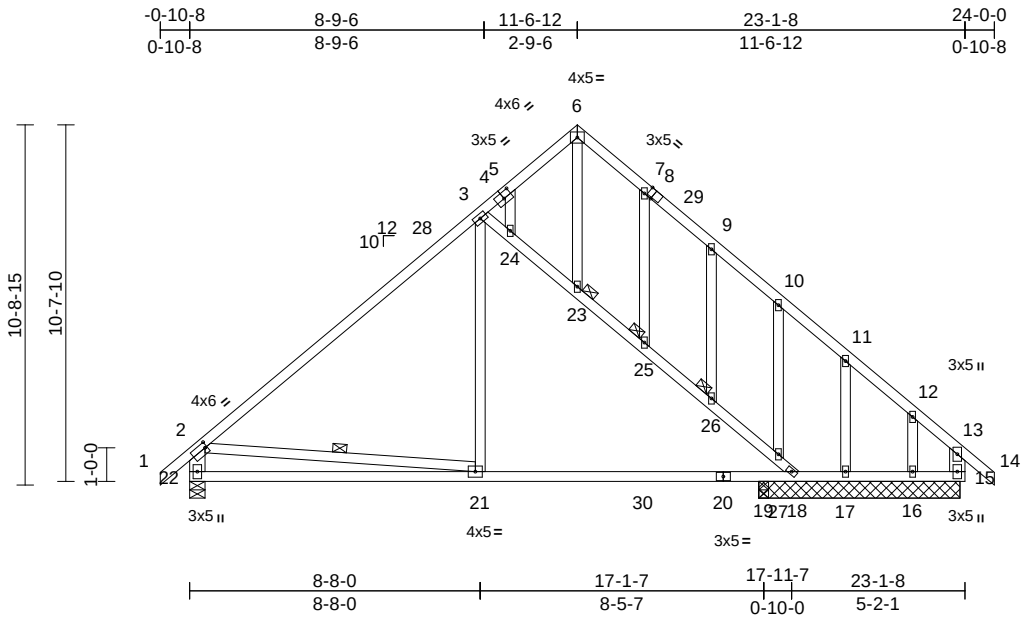


Scale = 1:68.7

Plate Offsets (X, Y): [2:0-0-12,0-2-0], [4:0-3-0,0-2-4], [8:0-2-0,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	0.83	Vert(LL)	-0.14	19-21	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.73	Vert(CT)	-0.22	21-22	>935	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.02	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 165 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x6 SP No.2 *Except* 3-21,2-21:2x4 SP No.3, 3-18:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-8-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-0-15 oc bracing.
WEBS 1 Row at midpt 2-21
JOINTS 1 Brace at Jt(s): 23, 25, 26

REACTIONS (size) 15=6-0-0, 16=6-0-0, 17=6-0-0, 18=6-0-0, 19=0-3-8, 22=0-5-8
Max Horiz 22=-273 (LC 12)
Max Uplift 16=-216 (LC 15), 17=-55 (LC 15), 18=-298 (LC 14), 22=-46 (LC 14)
Max Grav 15=570 (LC 22), 16=82 (LC 13), 17=289 (LC 25), 18=368 (LC 1), 19=539 (LC 23), 22=890 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/42, 2-3=-882/78, 3-5=-395/167, 5-6=-353/167, 6-7=-341/123, 7-9=-367/53, 9-10=-474/47, 10-11=-367/1, 11-12=-340/44, 12-13=-454/70, 13-14=0/42, 2-22=-782/115, 13-15=-461/37
BOT CHORD 21-22=-408/730, 19-21=-45/672, 18-19=-45/672, 17-18=-32/262, 16-17=-32/262, 15-16=-32/262
WEBS 3-21=0/425, 3-24=-726/270, 23-24=-630/199, 23-25=-618/192, 25-26=-653/214, 26-27=-644/210, 18-27=-740/268, 6-23=-110/195, 5-24=-110/149, 7-25=-164/82, 9-26=-11/26, 10-27=-286/189, 11-17=-166/108, 12-16=-73/148, 2-21=-181/416

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-6-12, Exterior(2R) 8-6-12 to 14-6-12, Interior (1) 14-6-12 to 21-0-0, Exterior(2E) 21-0-0 to 24-0-0 zone; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
12) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

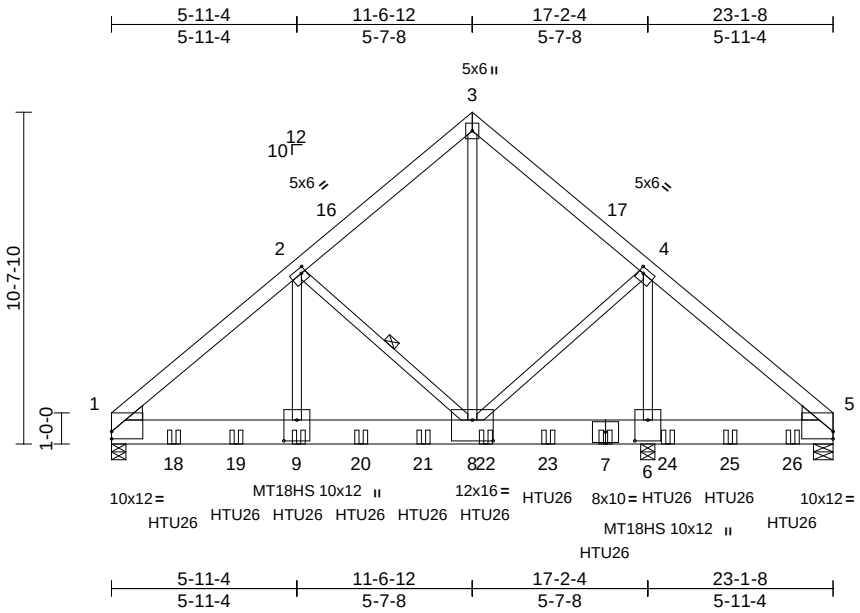
January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	B02	Common Girder	1	**2**	I62903208 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:26 Page: 1

ID:iFFKd9_s5HOVK9vBFwqTAGzRAMn-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:73.9

Plate Offsets (X, Y): [1:Edge,0-2-13], [2:0-1-12,0-2-0], [4:0-1-12,0-2-0], [5:Edge,0-2-13], [6:0-8-0,0-5-0], [8:0-8-0,0-8-0], [9:0-8-0,0-5-0]

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	0.31	Vert(LL)	-0.09	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.16	8-9	>999	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.77	Horz(CT)	0.02	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 429 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SP No.2
BOT CHORD	2x10 SP 2400F 2.0E
WEBS	2x4 SP No.2
WEDGE	Left: 2x6 SP No.2 Right: 2x6 SP No.2

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-13 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS	1 Row at midpt 2-8

REACTIONS (size) 1=0-5-8, 5=0-7-8, 6=0-5-8
Max Horiz 1=226 (LC 9)
Max Uplift 5=-509 (LC 13)
Max Grav 1=8855 (LC 5), 5=658 (LC 19), 6=12905 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-9851/0, 2-3=-5016/0, 3-4=-5021/0, 4-5=-83/414
BOT CHORD	1-9=0/7514, 8-9=0/7514, 6-8=-300/0, 5-6=-300/5
WEBS	2-9=0/6308, 2-8=-5110/0, 3-8=0/5959, 4-8=0/5533, 4-6=-7349/0

NOTES

1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 3 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-5-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) Unbalanced roof live loads have been considered for this design.
4) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) All plates are MT20 plates unless otherwise indicated.
8) The Fabrication Tolerance at joint 9 = 16%, joint 6 = 16%
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) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
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 HTU26 (20-10d Girder, 11-10dx1 1/2 Truss) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 15-10-0 to connect truss(es) to back face of bottom chord.
14) Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 17-10-0 from the left end to 21-10-0 to connect truss(es) to back face of bottom chord.
15) 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: 1-3=-60, 3-5=-60, 10-13=-20
Concentrated Loads (lb)
Vert: 7=-1910 (B), 9=-1910 (B), 18=-1910 (B), 19=-1910 (B), 20=-1910 (B), 21=-1910 (B), 22=-1910 (B), 23=-1910 (B), 24=-884 (B), 25=-884 (B), 26=-884 (B)

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903209
23120143-01	C01	Half Hip	4	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:27 Page: 1
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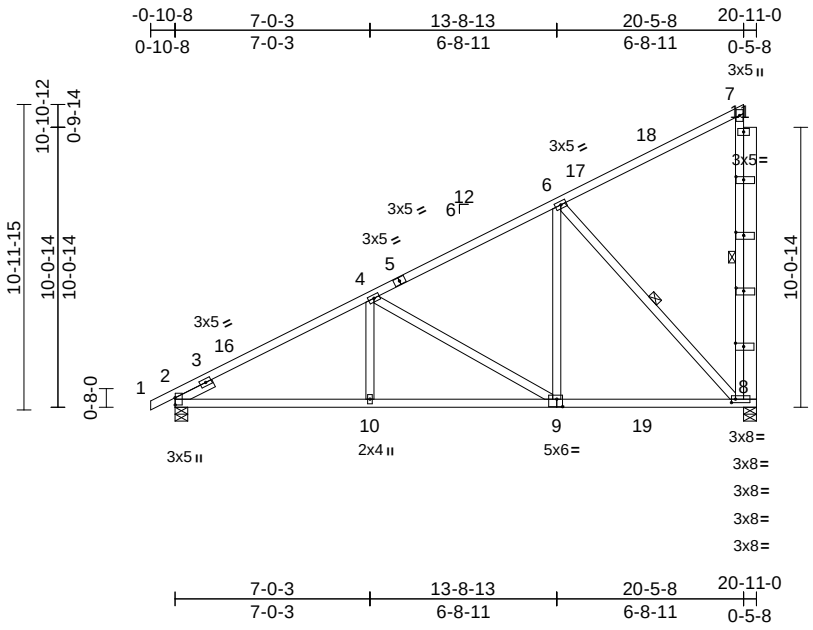

Scale = 1:82.9

Plate Offsets (X, Y): [2:0-3-1,0-0-1], [8:0-1-12,0-1-8], [8:0-3-8,0-1-7], [8:0-3-4,0-1-5], [8:0-3-6,0-1-6], [8:0-3-5,0-1-6], [9:0-2-8,0-3-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.08	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.68	Vert(CT)	-0.13	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.67	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 148 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 7-8:2x4 SP No.2, 11-8:2x6 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-8

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=386 (LC 14)
Max Uplift 2=-48 (LC 14), 8=-343 (LC 14)
Max Grav 2=948 (LC 5), 8=1731 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-1361/28, 4-6=-813/0, 6-7=-164/105, 7-8=-271/93
BOT CHORD 2-10=-397/1163, 8-10=-317/1163
WEBS 4-10=0/264, 4-9=-588/185, 6-9=0/584, 6-8=-953/226

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 17-3-12, Exterior(2E) 17-3-12 to 20-3-12 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8 and 2. This connection is for uplift only and does not consider lateral forces.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 747 lb down and 128 lb up at 20-5-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-7=-60, 8-12=-20
Concentrated Loads (lb)
Vert: 8=-747

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903210
23120143-01	C02	Half Hip	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:27 Page: 1

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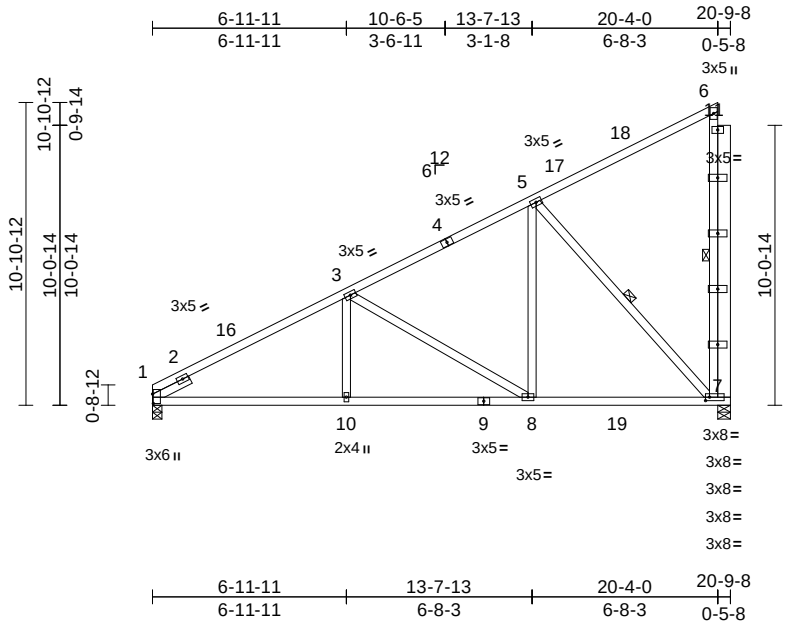

Scale = 1:82.9

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

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	0.80	Vert(LL)	-0.08	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.13	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 146 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 6-7:2x4 SP No.2, 11-7:2x6 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-7-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-7, 5-7

REACTIONS (size) 1=0-4-0, 7=0-5-8
Max Horiz 1=370 (LC 14)
Max Uplift 1=-29 (LC 14), 7=-343 (LC 14)
Max Grav 1=896 (LC 5), 7=1717 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1330/28, 3-5=-798/0, 5-6=-159/102, 6-7=-265/95
BOT CHORD 1-10=-408/1133, 8-10=-316/1133, 7-8=-156/655
WEBS 3-10=0/258, 3-8=-570/185, 5-8=-2/579, 5-7=-940/226

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 17-2-4, Exterior(2E) 17-2-4 to 20-2-4 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) All plates are 3x5 MT20 unless otherwise indicated.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7 and 1. This connection is for uplift only and does not consider lateral forces.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
9) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 747 lb down and 129 lb up at 20-8-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-60, 7-12=-20
Concentrated Loads (lb)
Vert: 7=-747

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903211
23120143-01	D01	Common Supported Gable	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:28 Page: 1

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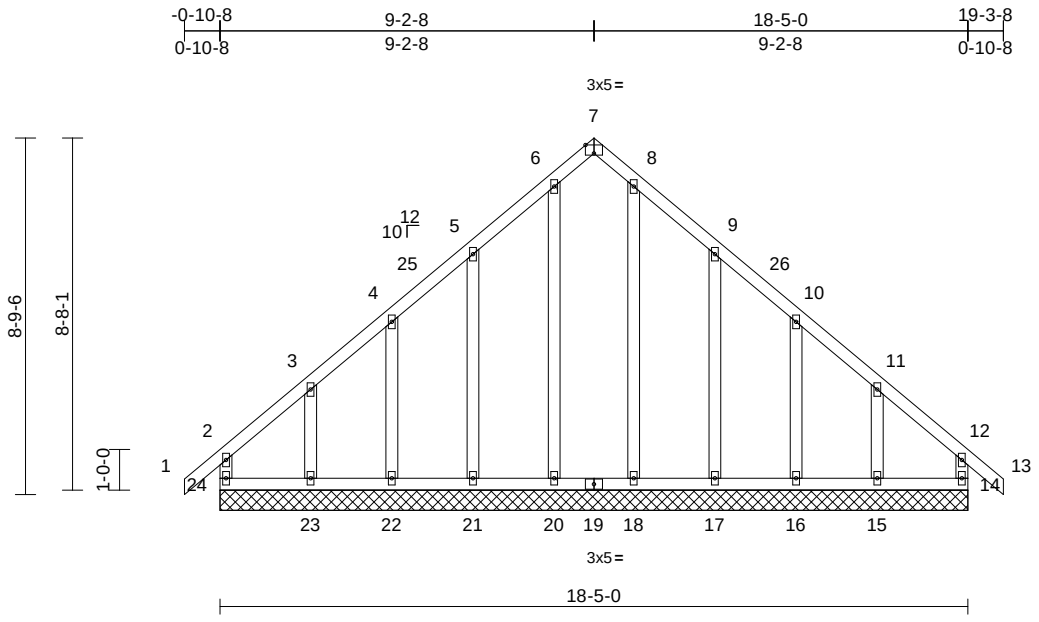


Scale = 1:56.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 126 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) 14=18-5-0, 15=18-5-0, 16=18-5-0, 17=18-5-0, 18=18-5-0, 20=18-5-0, 21=18-5-0, 22=18-5-0, 23=18-5-0, 24=18-5-0

Max Horiz 24=224 (LC 13)

Max Uplift 14=-50 (LC 11), 15=-163 (LC 15), 16=-47 (LC 15), 17=-116 (LC 15), 21=-114 (LC 14), 22=-47 (LC 14), 23=-168 (LC 14), 24=-69 (LC 10)

Max Grav 14=189 (LC 28), 15=219 (LC 25), 16=173 (LC 22), 17=253 (LC 22), 18=225 (LC 22), 20=225 (LC 21), 21=253 (LC 21), 22=173 (LC 21), 23=226 (LC 24), 24=204 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-24=-167/63, 1-2=0/39, 2-3=-165/140, 3-4=-104/90, 4-5=-92/115, 5-6=-114/233, 6-7=-91/169, 7-8=-91/169, 8-9=-114/233, 9-10=-77/115, 10-11=-89/71, 11-12=-153/116, 12-13=0/39, 12-14=-154/47

BOT CHORD 23-24=-106/187, 22-23=-106/187, 21-22=-106/187, 20-21=-106/187, 18-20=-106/187, 17-18=-106/187, 16-17=-106/187, 15-16=-106/187, 14-15=-106/187

WEBS 6-20=-185/8, 8-18=-185/6, 5-21=-213/162, 4-22=-133/94, 3-23=-159/159, 9-17=-213/162, 10-16=-133/92, 11-15=-155/167

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-2-12, Exterior (2N) 2-2-12 to 6-2-8, Corner(3R) 6-2-8 to 12-2-4, Exterior(2N) 12-2-4 to 16-2-4, Corner(3E) 16-2-4 to 19-3-8 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); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 69 lb uplift at joint 24, 50 lb uplift at joint 14, 114 lb uplift at joint 21, 47 lb uplift at joint 22, 168 lb uplift at joint 23, 116 lb uplift at joint 17, 47 lb uplift at joint 16 and 163 lb uplift at joint 15.
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

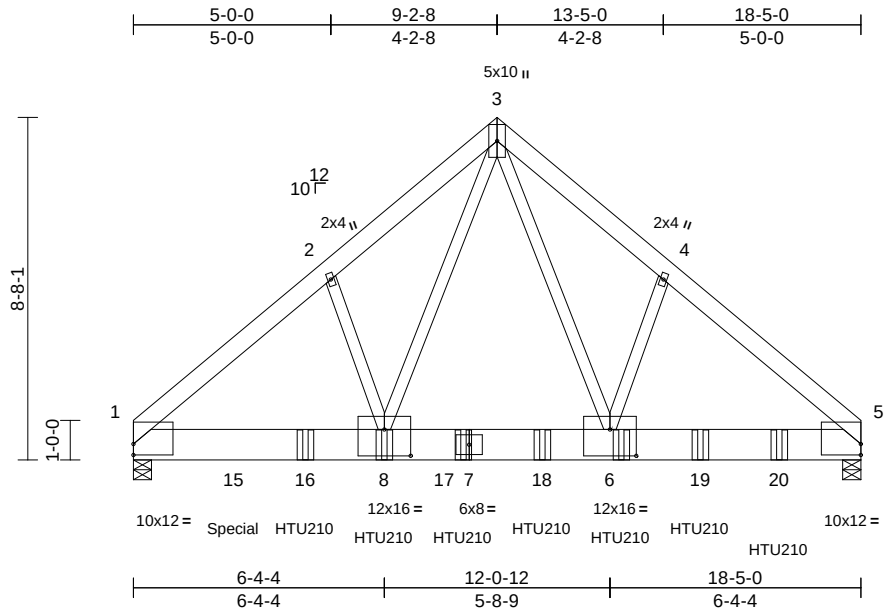
January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	D02	Common Girder	1	3	I62903212 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:28 ID:ahvaep5BsMWascBuTkn6buzRAib-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:58.3

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

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	0.36	Vert(LL)	-0.10	8-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.71	Vert(CT)	-0.17	8-14	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.88	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 497 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x10 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 8-3,6-3:2x4 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=0-5-8, 5=0-5-8
Max Horiz 1=180 (LC 11)
Max Grav 1=14904 (LC 21), 5=10832 (LC 6)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 3-4=-12415/0, 4-5=-12577/0, 1-2=-14250/0, 2-3=-14155/0
BOT CHORD 1-8=0/10914, 6-8=0/7243, 5-6=0/9539
WEBS 2-8=-203/298, 3-8=0/10778, 3-6=0/6817, 4-6=-113/298

NOTES
1) 3-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected with Simpson SDS 1/4 x 4-1/2 screws as follows: 2x10 - 3 rows staggered at 0-4-0 oc.
Web chords connected with 10d (0.131"x3") nails 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=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
5) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
6) Unbalanced snow loads have been considered for this design.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
10) Use Simpson Strong-Tie HTU210 (32-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 4-4-4 from the left end to 16-4-4 to connect truss(es) to back face of bottom chord.
11) Fill all nail holes where hanger is in contact with lumber.
12) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8833 lb down and 522 lb up at 2-6-8 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 3-5=-60, 1-3=-60, 9-12=-20
Concentrated Loads (lb)
Vert: 7=-1900 (B), 8=-1900 (B), 6=-1900 (B), 15=-5487 (B), 16=-1904 (B), 18=-1900 (B), 19=-1900 (B), 20=-1900 (B)

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903213
23120143-01	E01	Common Supported Gable	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:29 Page: 1
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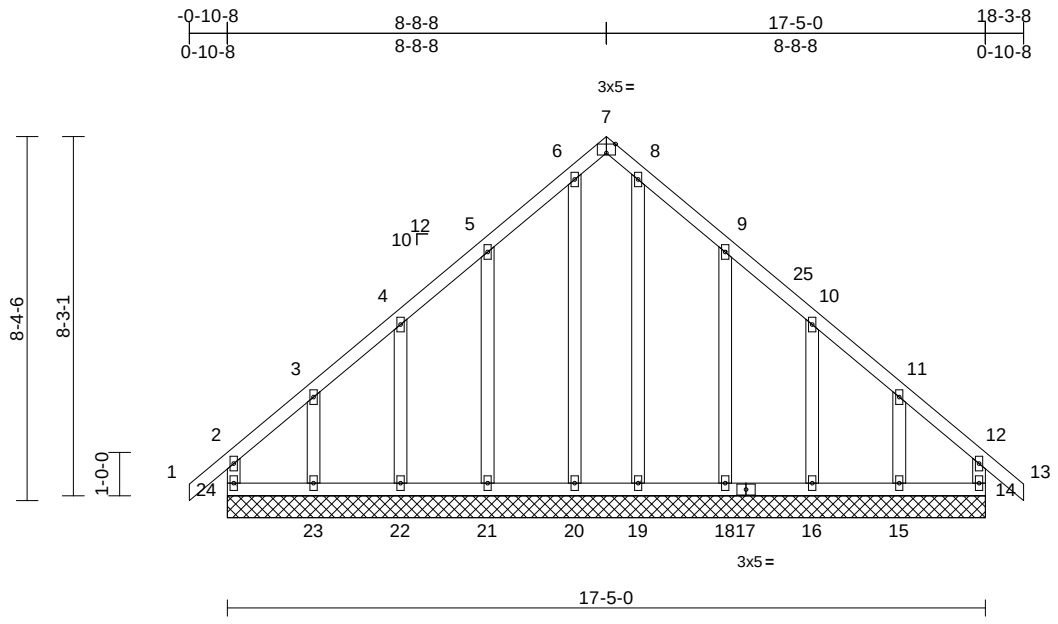

Scale = 1:52.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 120 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) 14=17-5-0, 15=17-5-0, 16=17-5-0, 18=17-5-0, 19=17-5-0, 20=17-5-0, 21=17-5-0, 22=17-5-0, 23=17-5-0, 24=17-5-0
Max Horiz 24=-214 (LC 12)
Max Uplift 14=-60 (LC 11), 15=-146 (LC 15), 16=-56 (LC 15), 18=-105 (LC 15), 21=-104 (LC 14), 22=-55 (LC 14), 23=-151 (LC 14), 24=-83 (LC 10)
Max Grav 14=173 (LC 24), 15=206 (LC 25), 16=183 (LC 22), 18=262 (LC 22), 19=201 (LC 22), 20=165 (LC 27), 21=182 (LC 24), 22=163 (LC 24), 23=215 (LC 24), 24=192 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 12-14=-141/53, 7-8=-89/185, 8-9=-119/262, 9-10=-65/150, 10-11=-78/76, 11-12=-124/112, 12-13=0/39, 1-2=0/39, 2-3=-149/138, 3-4=-98/97, 4-5=-82/150, 5-6=-119/262, 6-7=-88/185, 2-24=-156/72
BOT CHORD 23-24=-102/158, 22-23=-102/158, 21-22=-102/158, 20-21=-102/158, 19-20=-102/158, 18-19=-102/158, 16-18=-102/158, 15-16=-102/158, 14-15=-102/158
WEBS 6-20=-132/14, 8-19=-168/14, 5-21=-139/153, 4-22=-129/106, 3-23=-149/142, 9-18=-220/153, 10-16=-143/104, 11-15=-145/151

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 1-11-12, Exterior (2N) 1-11-12 to 5-8-8, Corner(3R) 5-8-8 to 11-5-4, Exterior(2N) 11-5-4 to 15-3-8, Corner(3E) 15-3-8 to 18-3-8 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); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 14, 83 lb uplift at joint 24, 104 lb uplift at joint 21, 55 lb uplift at joint 22, 151 lb uplift at joint 23, 105 lb uplift at joint 18, 56 lb uplift at joint 16 and 146 lb uplift at joint 15.
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

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903214
23120143-01	G01	Monopitch	5	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:29 Page: 1
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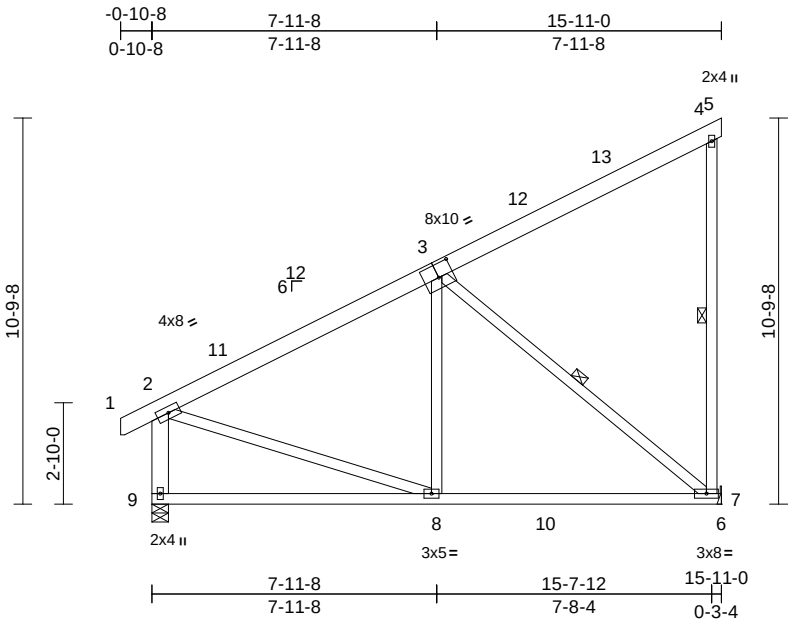


Scale = 1:64.4

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

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	0.49	Vert(LL)	-0.12	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.20	7-8	>909	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	-0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 123 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 9-2:2x6 SP No.2

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

REACTIONS (size) 7= Mechanical, 9=0-5-8
Max Horiz 9=271 (LC 14)
Max Uplift 7=-219 (LC 14)
Max Grav 7=824 (LC 5), 9=750 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 4-7=-321/119, 2-9=-643/88, 1-2=0/28, 2-4=-674/91, 4-5=-12/0
BOT CHORD 8-9=-323/217, 7-8=-198/540, 6-7=0/0
WEBS 3-8=0/310, 3-7=-686/257, 2-8=0/486

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-9-14 to 2-2-2, Interior (1) 2-2-2 to 12-11-0, Exterior(2E) 12-11-0 to 15-11-0 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
7) Refer to girder(s) for truss to truss connections.
8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 219 lb uplift at joint 7.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

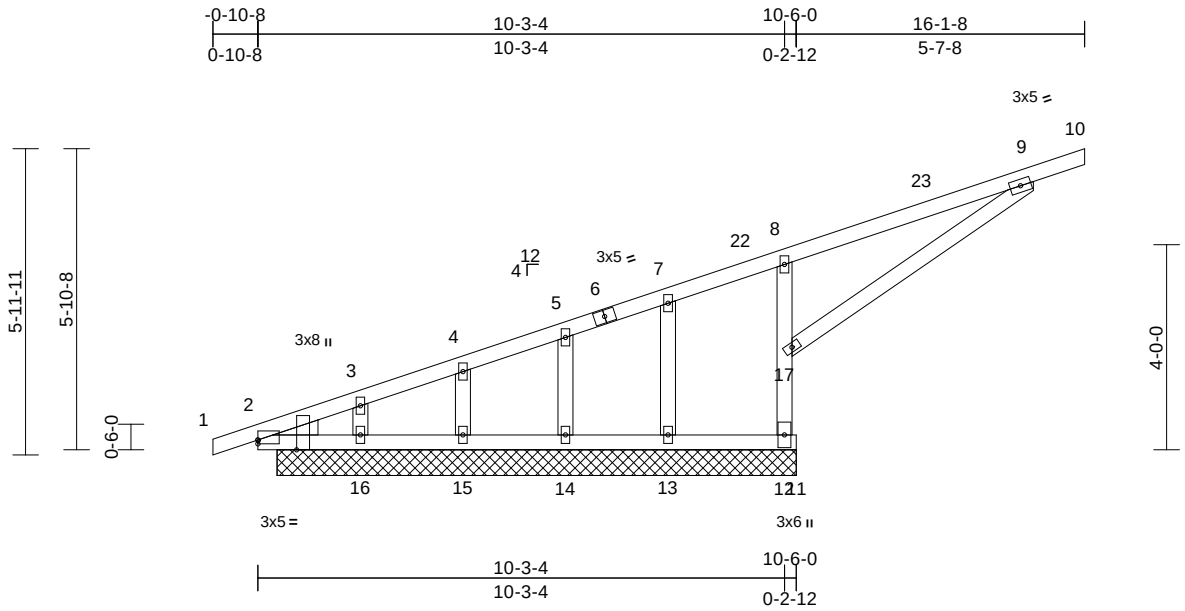
January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903215
23120143-01	H01	Monopitch Supported Gable	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:30 Page: 1

ID:kX6Xm09JsM8Rk_RkgNonK3zRRGV-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:44.9

Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,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	0.75	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.69	Horz(CT)	-0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 67 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP 2400F 2.0E *Except* 17-9:2x4 SP No.3
OTHERS	2x4 SP No.3
WEDGE	Left: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing, Except: 10-0-0 oc bracing: 11-12.

REACTIONS (size) 2=10-1-8, 12=10-1-8, 13=10-1-8, 14=10-1-8, 15=10-1-8, 16=10-1-8, 21=10-1-8
Max Horiz 2=210 (LC 10), 21=210 (LC 10)
Max Uplift 2=-3 (LC 14), 12=-264 (LC 14), 13=-11 (LC 21), 14=-26 (LC 10), 15=-155 (LC 14), 21=-3 (LC 14)
Max Grav 2=1 (LC 21), 12=893 (LC 21), 13=98 (LC 7), 14=202 (LC 21), 15=171 (LC 21), 16=253 (LC 1), 21=1 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/17, 2-3=-535/377, 3-4=-531/378, 4-5=-474/378, 5-7=-435/359, 7-8=-437/432, 8-9=-579/743, 9-10=-29/0
BOT CHORD	2-16=-339/244, 15-16=-339/244, 14-15=-339/244, 13-14=-339/244, 12-13=-339/244, 11-12=0/0
WEBS	12-17=-870/552, 8-17=-396/210, 9-17=-810/584, 3-16=-153/3, 4-15=-120/154, 5-14=-167/99, 7-13=-29/60

NOTES

1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-0-0, Interior (1) 2-0-0 to 13-1-8, Exterior(2E) 13-1-8 to 16-1-8 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
2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
6) All plates are 2x4 MT20 unless otherwise indicated.
7) Gable studs spaced at 2-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 3 lb uplift at joint 2, 264 lb uplift at joint 12, 155 lb uplift at joint 15, 26 lb uplift at joint 14, 11 lb uplift at joint 13 and 3 lb uplift at joint 2.
11) Non Standard bearing condition. Review required.
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

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903216
23120143-01	H02	Monopitch	6	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:30 Page: 1
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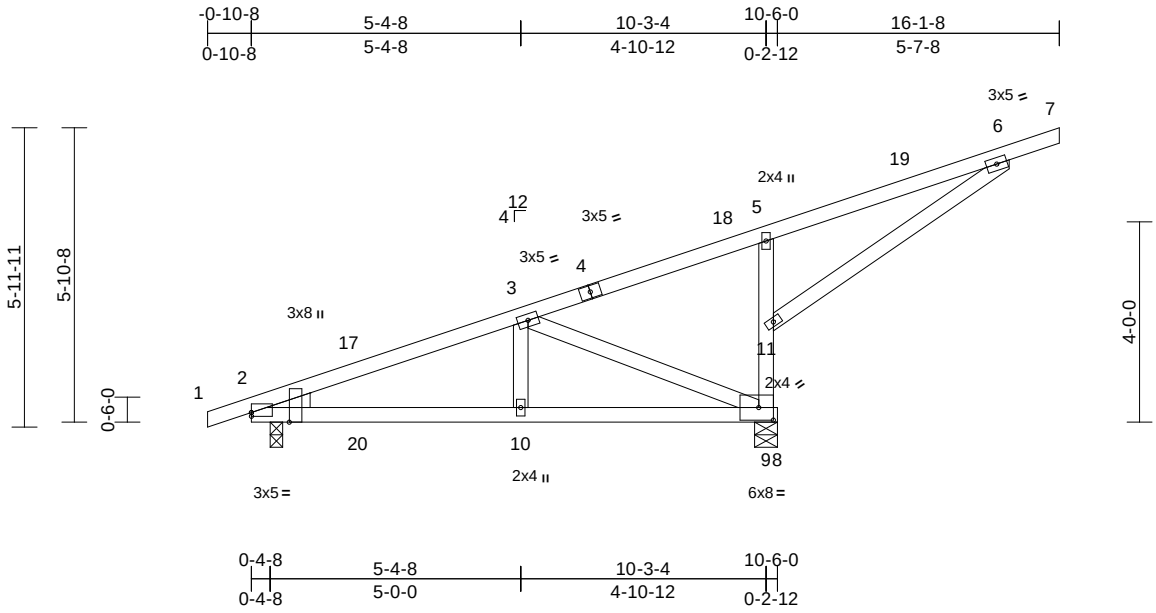

Scale = 1:46

Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [9:0-3-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	0.04	9-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.04	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.71	Horz(CT)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 67 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 5-9:2x4 SP 2400F 2.0E
WEDGE Left: 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 8-5-13 oc bracing.

REACTIONS (size) 2=0-3-0, 9=0-5-8
Max Horiz 2=210 (LC 10)
Max Uplift 2=-99 (LC 10), 9=-379 (LC 10)
Max Grav 2=379 (LC 1), 9=1090 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-368/225, 3-5=-447/428, 5-6=-594/757, 6-7=-29/0
BOT CHORD 2-10=-447/338, 9-10=-447/338, 8-9=0/0
WEBS 9-11=-840/532, 5-11=-358/182, 3-10=-315/219, 3-9=-563/753, 6-11=-825/599

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 13-1-8, Exterior(2E) 13-1-8 to 16-1-8 zone; cantilever left exposed ; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9 and 2. This connection is for uplift only and does not consider lateral forces.
8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	J01	Common	5	1	I62903217 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:31 Page: 1
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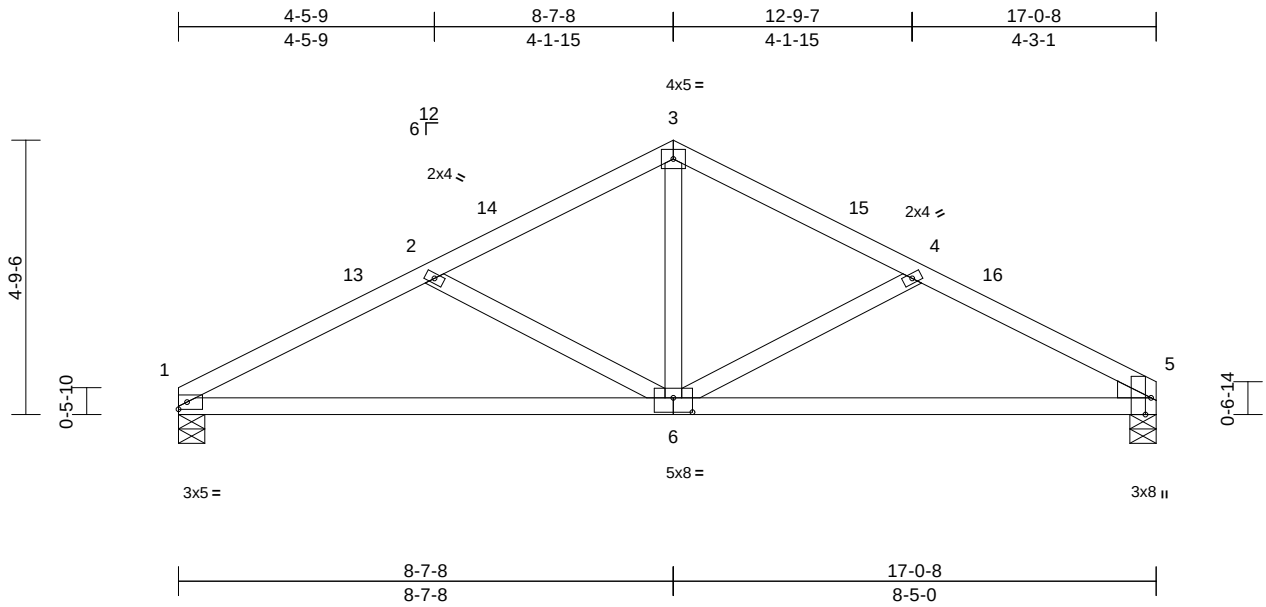

Scale = 1:40.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	-0.09	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.19	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 75 lb	FT = 20%

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

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

REACTIONS (size) 1=0-5-8, 5=0-5-8
Max Horiz 1=71 (LC 14)
Max Uplift 1=-66 (LC 14), 5=-64 (LC 15)
Max Grav 1=747 (LC 20), 5=746 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-1263/310, 2-3=-883/233, 3-4=-875/232, 4-5=-1219/301
BOT CHORD 1-5=-223/1092
WEBS 3-6=-53/478, 4-6=-407/160, 2-6=-445/175

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-7-8, Exterior(2R) 5-7-8 to 11-7-8, Interior (1) 11-7-8 to 14-0-8, Exterior(2E) 14-0-8 to 17-0-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
4) Unbalanced snow loads have been considered for this design.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) Bearings are assumed to be: , Joint 5 User Defined crushing capacity of 425 psi.
8) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 5. This connection is for uplift only and does not consider lateral forces.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903218
23120143-01	PBA	Piggyback	2	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:31 Page: 1
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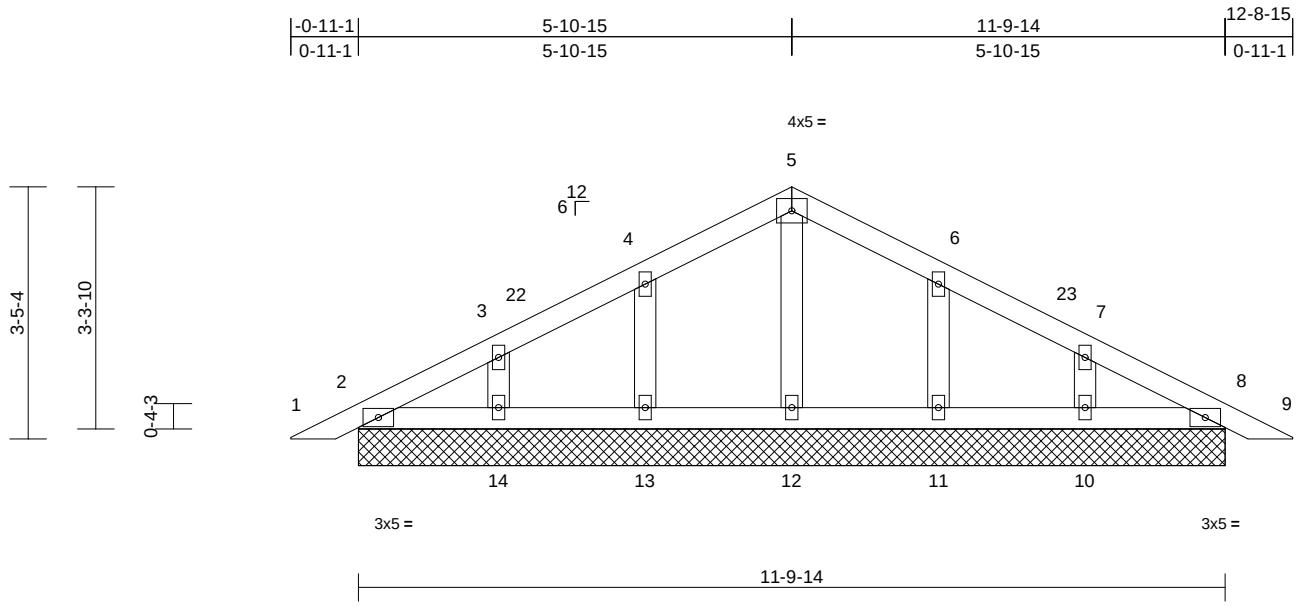

Scale = 1:31.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 52 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=11-9-14, 8=11-9-14, 10=11-9-14, 11=11-9-14, 12=11-9-14, 13=11-9-14, 14=11-9-14, 15=11-9-14, 19=11-9-14
Max Horiz 2=52 (LC 18), 15=52 (LC 18)
Max Uplift 2=-9 (LC 15), 8=-11 (LC 15), 10=-45 (LC 15), 11=-47 (LC 15), 13=-47 (LC 14), 14=-45 (LC 14), 15=-9 (LC 15), 19=-11 (LC 15)
Max Grav 2=123 (LC 21), 8=123 (LC 22), 10=237 (LC 22), 11=244 (LC 22), 12=143 (LC 21), 13=244 (LC 21), 14=237 (LC 21), 15=123 (LC 21), 19=123 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-46/33, 3-4=-56/49, 4-5=-63/116, 5-6=-63/116, 6-7=-56/49, 7-8=-29/25, 8-9=0/17
BOT CHORD 2-14=-9/67, 13-14=-9/67, 12-13=-9/67, 11-12=-9/67, 10-11=-9/67, 8-10=-9/67
WEBS 5-12=-102/0, 4-13=-208/125, 3-14=-181/113, 6-11=-208/125, 7-10=-181/113

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) 0-4-3 to 3-4-3, Exterior(2N) 3-4-3 to 3-10-8, Corner(3R) 3-10-8 to 9-10-8, Exterior (2N) 9-10-8 to 10-4-13, Corner(3E) 10-4-13 to 13-4-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Gable requires continuous bottom chord bearing.
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
12) N/A
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903219
23120143-01	PBA1	Piggyback	18	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:32 Page: 1
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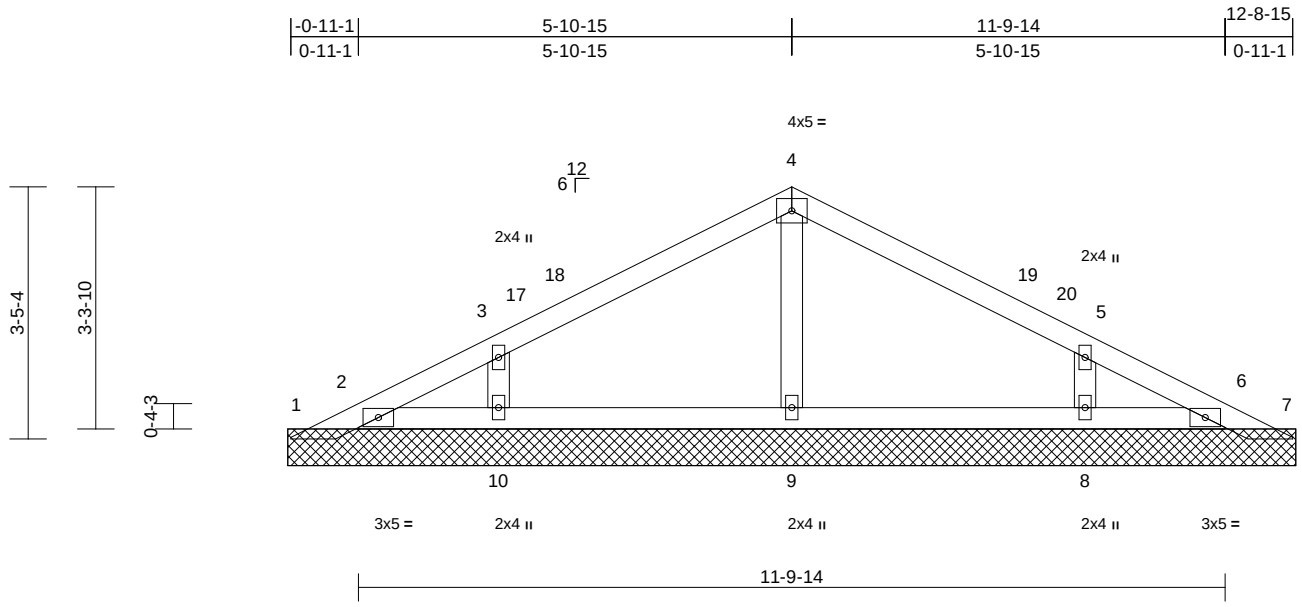

Scale = 1:31.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.29	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 47 lb	FT = 20%

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

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

REACTIONS (size) 1=13-9-0, 2=13-9-0, 6=13-9-0, 7=13-9-0, 8=13-9-0, 9=13-9-0, 10=13-9-0, 11=13-9-0, 14=13-9-0
Max Horiz 1=52 (LC 14)
Max Uplift 1=-25 (LC 15), 7=-12 (LC 15), 8=-92 (LC 15), 10=-91 (LC 14)
Max Grav 1=47 (LC 21), 2=65 (LC 1), 6=52 (LC 1), 7=49 (LC 22), 8=439 (LC 22), 9=299 (LC 21), 10=440 (LC 21), 11=65 (LC 1), 14=52 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-56/65, 2-3=-54/49, 3-4=-124/93, 4-5=-124/93, 5-6=-35/49, 6-7=-20/16
BOT CHORD 2-10=-8/44, 9-10=-8/44, 8-9=-8/44, 6-8=-8/44
WEBS 4-9=-213/93, 3-10=-386/207, 5-8=-386/207

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-10-8, Exterior(2R) 3-10-8 to 9-10-8, Interior (1) 9-10-8 to 10-4-13, Exterior(2E) 10-4-13 to 13-4-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 1 and 12 lb uplift at joint 7.
11) N/A
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) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	PBA2	Piggyback	2	4	I62903220 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:32 Page: 1
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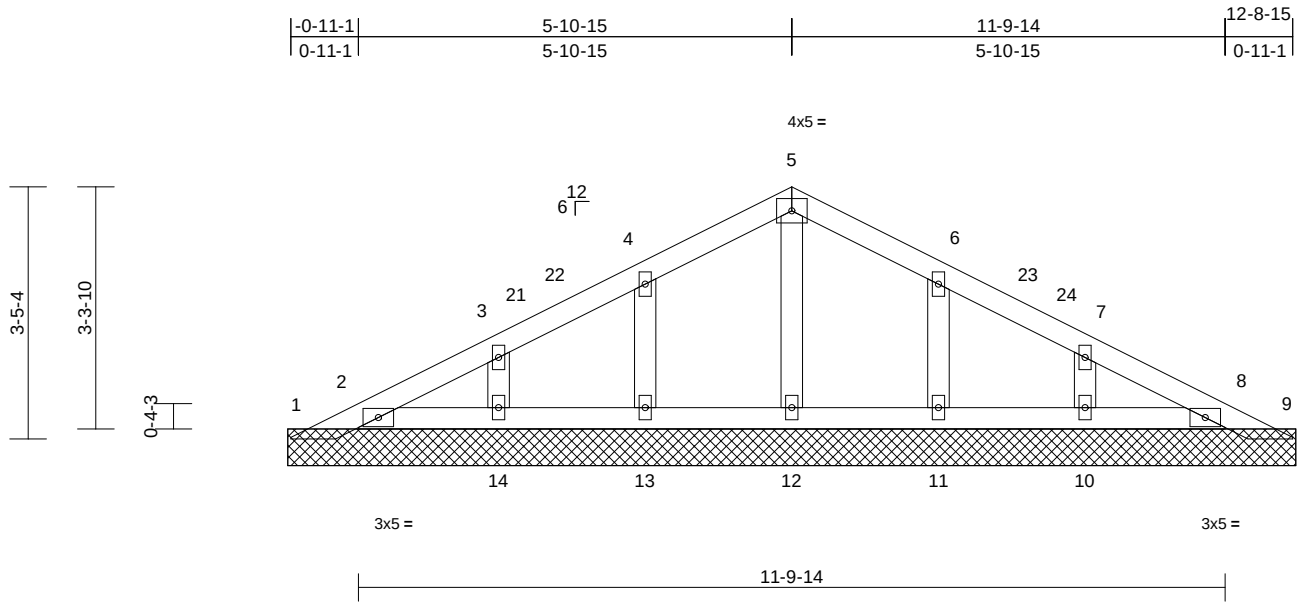

Scale = 1:31.4

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.01	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.01	Horiz(TL)	0.00	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 207 lb	FT = 20%

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

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

REACTIONS (size) 1=13-9-0, 2=13-9-0, 8=13-9-0, 9=13-9-0, 10=13-9-0, 11=13-9-0, 12=13-9-0, 13=13-9-0, 14=13-9-0, 15=13-9-0, 18=13-9-0
Max Horiz 1=52 (LC 14)
Max Uplift 1=-25 (LC 15), 2=-14 (LC 14), 8=-7 (LC 15), 9=-2 (LC 22), 10=-45 (LC 15), 11=-47 (LC 15), 13=-48 (LC 14), 14=-44 (LC 14), 15=-14 (LC 14), 18=-7 (LC 15)
Max Grav 1=24 (LC 18), 2=154 (LC 21), 8=142 (LC 22), 9=4 (LC 1), 10=233 (LC 22), 11=245 (LC 22), 12=144 (LC 21), 13=244 (LC 21), 14=234 (LC 21), 15=154 (LC 21), 18=142 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-56/69, 2-3=-48/32, 3-4=-55/50, 4-5=-62/105, 5-6=-62/105, 6-7=-55/40, 7-8=-29/26, 8-9=0/24
BOT CHORD 2-14=-15/54, 13-14=-15/54, 12-13=-15/54, 11-12=-15/54, 10-11=-15/54, 8-10=-15/54
WEBS 5-12=-103/0, 4-13=-208/121, 3-14=-181/90, 6-11=-208/121, 7-10=-180/91

NOTES

1) 4-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected with 10d (0.131"x3") nails 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=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 to 3-4-3, Interior (1) 3-4-3 to 3-10-8, Exterior(2R) 3-10-8 to 9-10-8, Interior (1) 9-10-8 to 10-4-13, Exterior(2E) 10-4-13 to 13-4-13 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
5) 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.
6) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
7) Unbalanced snow loads have been considered for this design.
8) All plates are 2x4 MT20 unless otherwise indicated.
9) Gable requires continuous bottom chord bearing.
10) Gable studs spaced at 2-0-0 oc.
11) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 2, 7 lb uplift at joint 8, 25 lb uplift at joint 1, 2 lb uplift at joint 9, 48 lb uplift at joint 13, 44 lb uplift at joint 14, 47 lb uplift at joint 11, 45 lb uplift at joint 10, 14 lb uplift at joint 2 and 7 lb uplift at joint 8.
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.
15) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903221
23120143-01	VLB1	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:33 Page: 1
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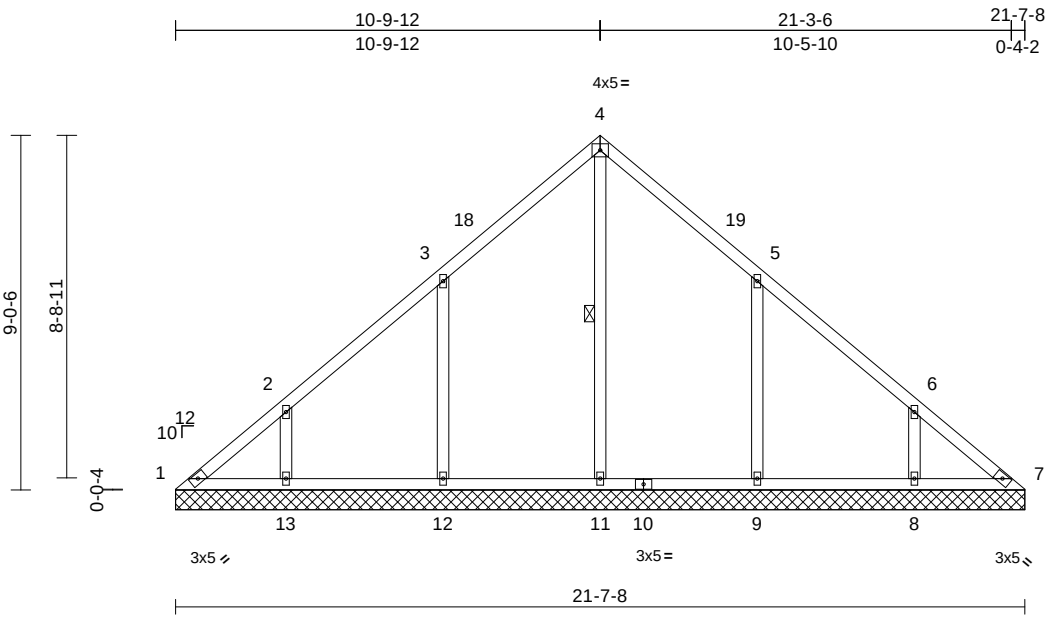

Scale = 1:58.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 106 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.
WEBS 1 Row at midpt 4-11

REACTIONS (size) 1=21-7-8, 7=21-7-8, 8=21-7-8, 9=21-7-8, 11=21-7-8, 12=21-7-8, 13=21-7-8
Max Horiz 1=208 (LC 13)
Max Uplift 1=-49 (LC 10), 7=-1 (LC 11), 8=-115 (LC 15), 9=-174 (LC 15), 12=-173 (LC 14), 13=-120 (LC 14)
Max Grav 1=149 (LC 24), 7=118 (LC 30), 8=365 (LC 24), 9=473 (LC 6), 11=417 (LC 26), 12=473 (LC 5), 13=370 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-211/175, 2-3=-164/132, 3-4=-187/184, 4-5=-187/157, 5-6=-115/83, 6-7=-166/107
BOT CHORD 1-13=-79/161, 12-13=-79/161, 11-12=-79/161, 9-11=-79/161, 8-9=-79/161, 7-8=-79/161
WEBS 4-11=-210/4, 3-12=-376/222, 2-13=-235/163, 5-9=-376/222, 6-8=-233/161

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 2-10-1, Interior (1) 2-10-1 to 7-10-1, Exterior(2R) 7-10-1 to 13-10-1, Interior (1) 13-10-1 to 18-7-13, Exterior(2E) 18-7-13 to 21-7-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 1 lb uplift at joint 7, 173 lb uplift at joint 12, 120 lb uplift at joint 13, 174 lb uplift at joint 9 and 115 lb uplift at joint 8.
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

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLB2	Valley	1	1	I62903222 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:33 Page: 1
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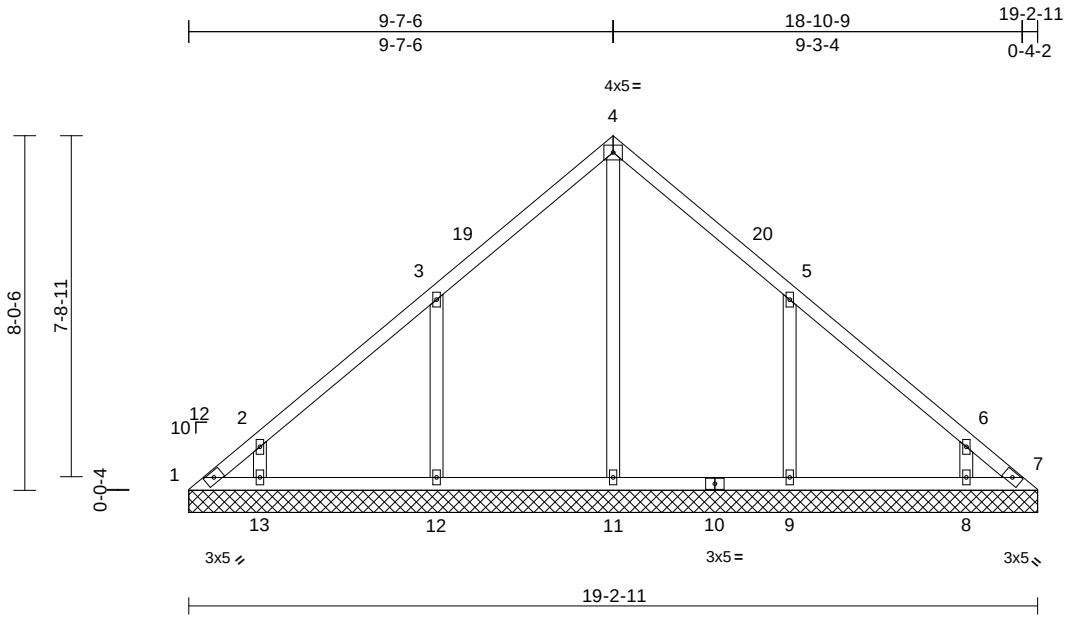

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.29	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 90 lb	FT = 20%

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

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

REACTIONS (size) 1=19-2-11, 7=19-2-11, 8=19-2-11, 9=19-2-11, 11=19-2-11, 12=19-2-11, 13=19-2-11, 18=19-2-11
Max Horiz 1=184 (LC 11)
Max Uplift 1=-96 (LC 10), 8=-53 (LC 15), 9=-193 (LC 15), 12=-174 (LC 14), 13=-102 (LC 14)
Max Grav 1=124 (LC 13), 7=0 (LC 13), 8=304 (LC 28), 9=477 (LC 24), 11=463 (LC 26), 12=480 (LC 5), 13=317 (LC 23), 18=0 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-218/205, 2-3=-217/187, 3-4=-189/267, 4-5=-178/241, 5-6=-107/66, 6-7=-72/43
BOT CHORD 1-13=-45/64, 12-13=-18/55, 11-12=-18/55, 9-11=-18/55, 8-9=-18/55, 7-8=-18/55
WEBS 4-11=-256/59, 3-12=-379/222, 2-13=-222/173, 5-9=-376/229, 6-8=-217/154

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 6-7-10, Exterior(2R) 6-7-10 to 12-7-10, Interior (1) 12-7-10 to 16-3-0, Exterior(2E) 16-3-0 to 19-3-0 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) All plates are 2x4 MT20 unless otherwise indicated.
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, with BCDL = 10.0psf.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 1, 174 lb uplift at joint 12, 102 lb uplift at joint 13, 193 lb uplift at joint 9 and 53 lb uplift at joint 8.
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

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLB3	Valley	1	1	I62903223 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:34 Page: 1

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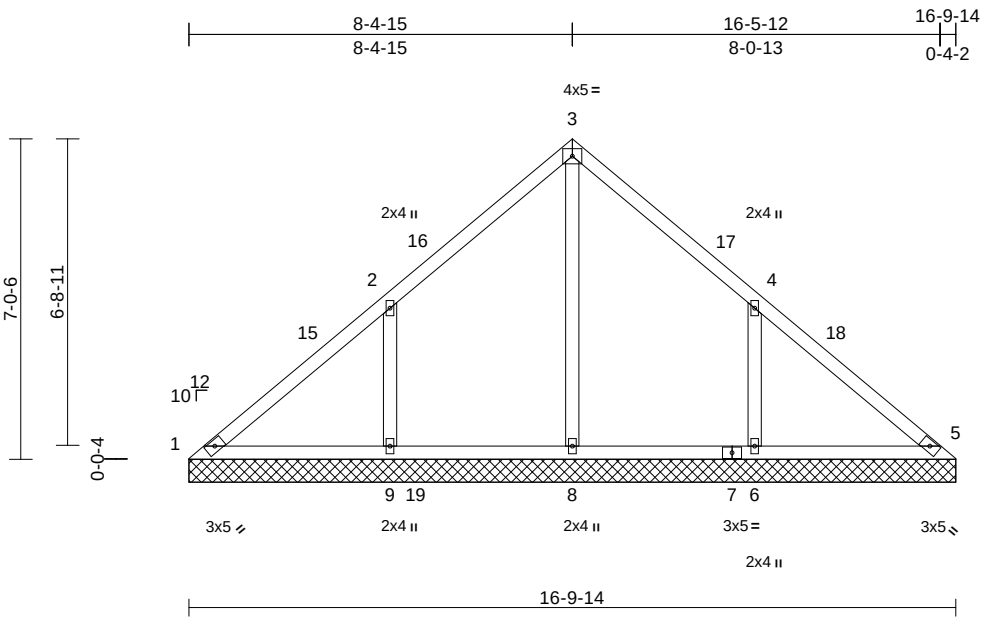

Scale = 1:50.5

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	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
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=16-9-14, 5=16-9-14, 6=16-9-14, 8=16-9-14, 9=16-9-14, 14=16-9-14
Max Horiz 1=160 (LC 11)
Max Uplift 1=-58 (LC 10), 6=-183 (LC 15), 9=-188 (LC 14)
Max Grav 1=82 (LC 33), 5=1 (LC 24), 6=511 (LC 6), 8=654 (LC 23), 9=511 (LC 5), 14=1 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-105/370, 2-3=-25/319, 3-4=-2/298, 4-5=-139/290
BOT CHORD 1-9=-180/76, 8-9=-180/74, 6-8=-180/74, 5-6=-180/74
WEBS 3-8=-471/0, 2-9=-392/221, 4-6=-392/219

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-5-4, Exterior(2R) 5-5-4 to 11-5-4, Interior (1) 11-5-4 to 13-10-3, Exterior(2E) 13-10-3 to 16-10-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1, 188 lb uplift at joint 9 and 183 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903224
23120143-01	VLB4	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:34 Page: 1
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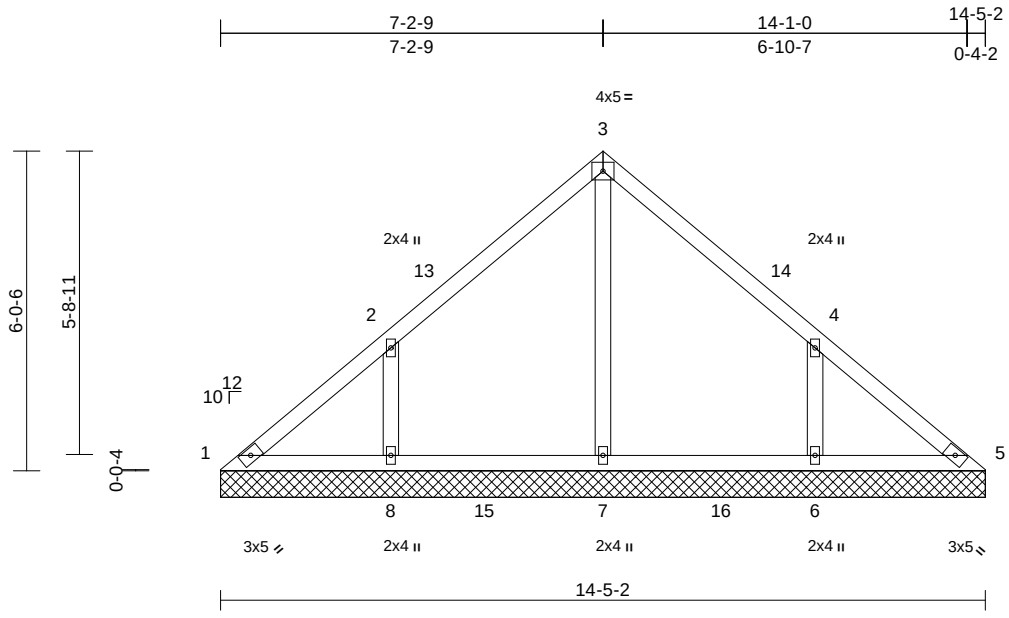

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 62 lb	FT = 20%

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

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

REACTIONS (size) 1=14-5-2, 5=14-5-2, 6=14-5-2, 7=14-5-2, 8=14-5-2
Max Horiz 1=-137 (LC 10)
Max Uplift 1=-24 (LC 10), 6=-154 (LC 15), 8=-157 (LC 14)
Max Grav 1=124 (LC 24), 5=99 (LC 23), 6=454 (LC 21), 7=403 (LC 23), 8=454 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-152/141, 2-3=-176/118, 3-4=-176/112, 4-5=-121/106
BOT CHORD 1-8=-59/126, 7-8=-59/100, 6-7=-59/100, 5-6=-59/100
WEBS 3-7=-224/0, 2-8=-375/196, 4-6=-375/195

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-2-14, Interior (1) 3-2-14 to 4-2-14, Exterior(2R) 4-2-14 to 10-2-14, Interior (1) 10-2-14 to 11-2-14, Exterior(2E) 11-2-14 to 14-5-6 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 157 lb uplift at joint 8 and 154 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903225
23120143-01	VLB5	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:35 Page: 1
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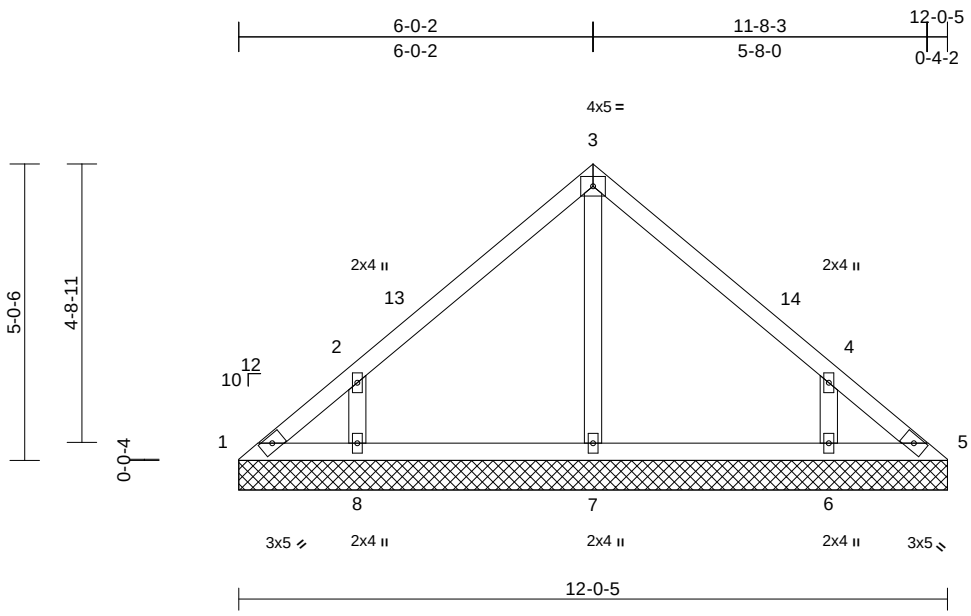

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 50 lb	FT = 20%

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

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

REACTIONS (size) 1=12-0-5, 5=12-0-5, 6=12-0-5, 7=12-0-5, 8=12-0-5
Max Horiz 1=-114 (LC 10)
Max Uplift 1=-34 (LC 10), 5=-6 (LC 11), 6=-136 (LC 15), 8=-139 (LC 14)
Max Grav 1=91 (LC 24), 5=70 (LC 23), 6=434 (LC 21), 7=260 (LC 20), 8=434 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-114/101, 2-3=-218/115, 3-4=-218/115, 4-5=-88/63
BOT CHORD 1-8=-32/75, 7-8=-31/73, 6-7=-31/73, 5-6=-31/73
WEBS 3-7=-172/0, 2-8=-401/220, 4-6=-401/220

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 9-0-10, Exterior(2E) 9-0-10 to 12-0-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 1, 6 lb uplift at joint 5, 139 lb uplift at joint 8 and 136 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLB6	Valley	1	1	I62903226 Job Reference (optional)

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

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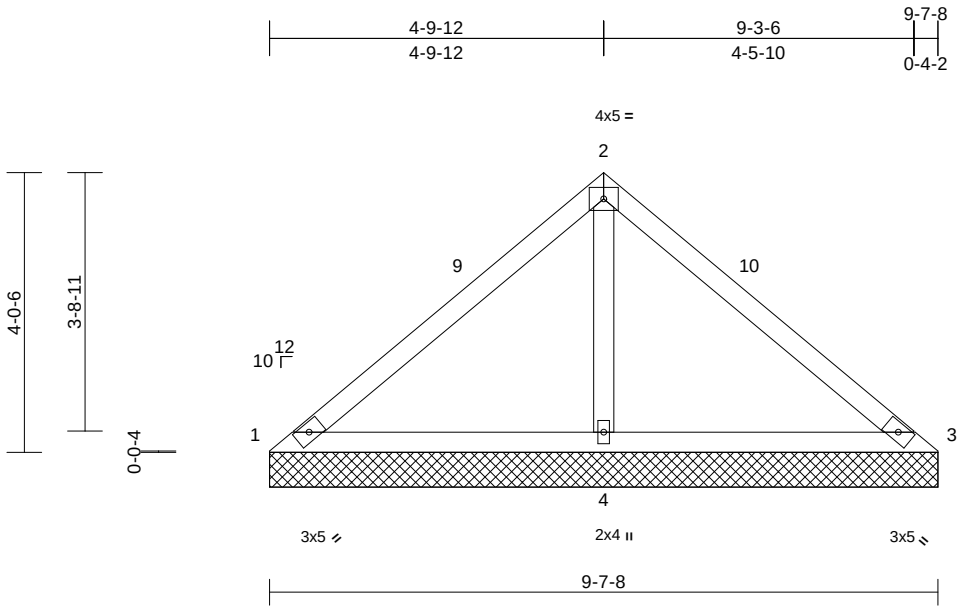

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 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 9-7-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-7-8, 3=9-7-8, 4=9-7-8
Max Horiz 1=90 (LC 11)
Max Uplift 1=-49 (LC 21), 3=-49 (LC 20), 4=-108 (LC 14)
Max Grav 1=95 (LC 20), 3=95 (LC 21), 4=772 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-115/373, 2-3=-115/373
BOT CHORD 1-4=-214/172, 3-4=-214/172
WEBS 2-4=-595/271

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-7-13, Exterior(2E) 6-7-13 to 9-7-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 49 lb uplift at joint 3 and 108 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

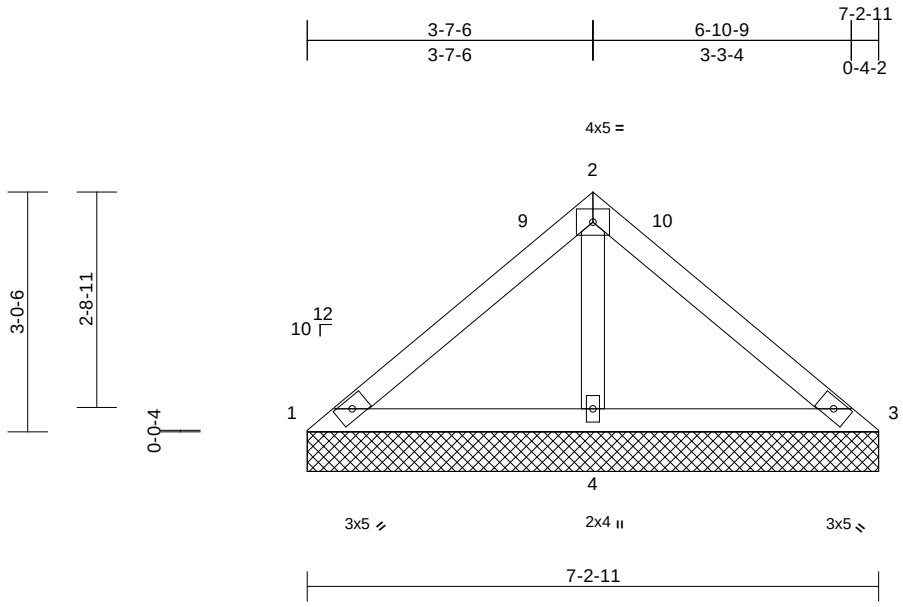
LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903227
23120143-01	VLB7	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:35 Page: 1
ID:vFTOYoza1WjXT9L6tv8uVZzRQre-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.1

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 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 7-2-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-2-11, 3=7-2-11, 4=7-2-11
Max Horiz 1=67 (LC 11)
Max Uplift 1=-17 (LC 21), 3=-17 (LC 20), 4=-73 (LC 14)
Max Grav 1=105 (LC 20), 3=105 (LC 21), 4=531 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-88/228, 2-3=-88/228
BOT CHORD 1-4=-160/151, 3-4=-160/151
WEBS 2-4=-378/199

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=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-3-0, Exterior(2E) 4-3-0 to 7-3-0 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) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 1, 17 lb uplift at joint 3 and 73 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

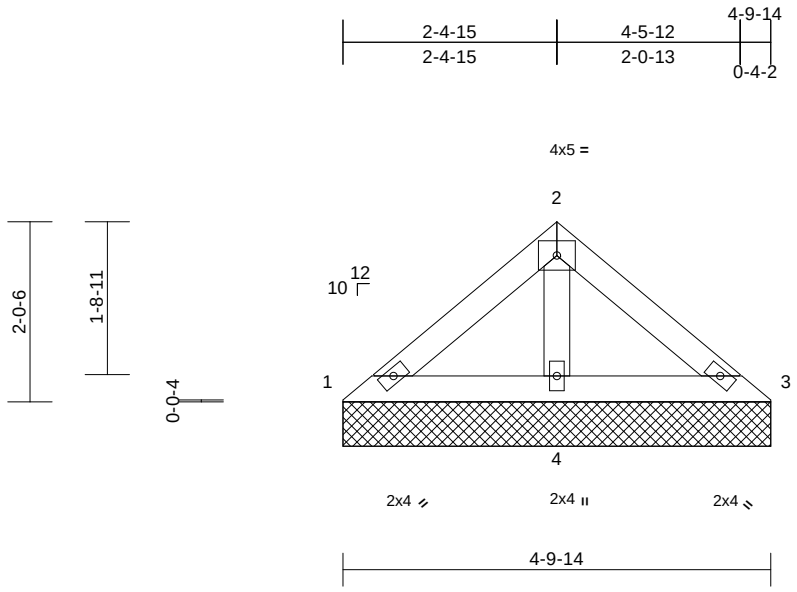
January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903228
23120143-01	VLB8	Valley	1	1	Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:36 ID:vFTOYoza1WjXT9L6tv8uVZzRQre-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26

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	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 17 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 4-9-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-9-14, 3=4-9-14, 4=4-9-14
Max Horiz 1=43 (LC 13)
Max Uplift 3=-7 (LC 15), 4=-33 (LC 14)
Max Grav 1=88 (LC 20), 3=88 (LC 21), 4=293 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-80/102, 2-3=-80/102
BOT CHORD 1-4=-79/87, 3-4=-79/87
WEBS 2-4=-180/95

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 33 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLD1	Valley	1	1	I62903229 Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:36 Page: 1

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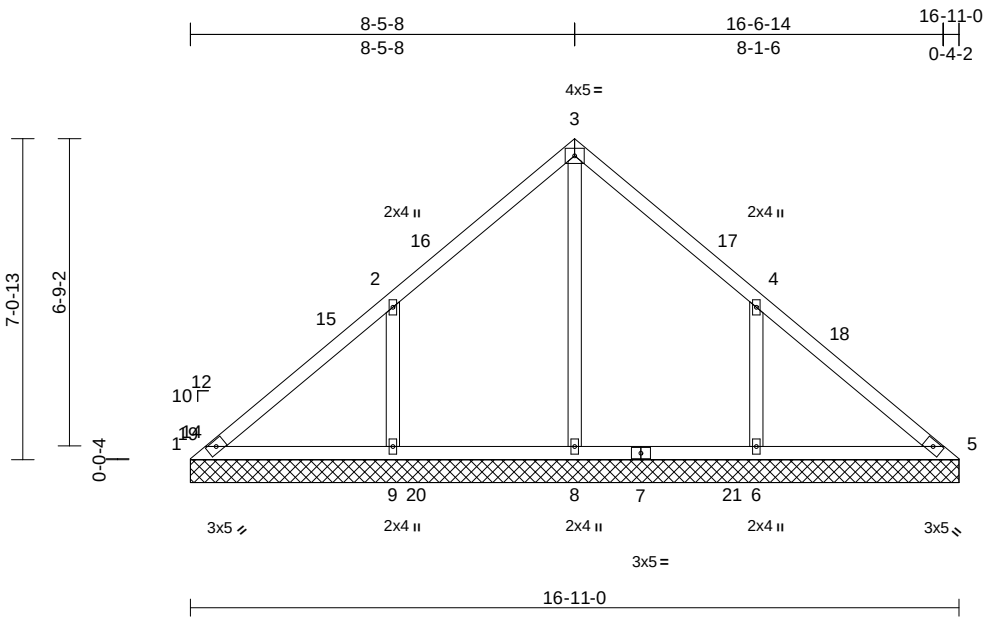


Scale = 1:50.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 76 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 1=16-11-0, 5=16-11-0, 6=16-11-0, 8=16-11-0, 9=16-11-0
Max Horiz 1=-161 (LC 10)
Max Uplift 1=-27 (LC 10), 6=-183 (LC 15), 9=-185 (LC 14)
Max Grav 1=109 (LC 24), 5=107 (LC 21), 6=521 (LC 24), 8=495 (LC 23), 9=523 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-142/251, 2-3=-110/190, 3-4=-109/170, 4-5=-120/210
BOT CHORD 1-9=-120/137, 8-9=-120/137, 6-8=-120/137, 5-6=-120/137
WEBS 3-8=-310/0, 2-9=-396/220, 4-6=-396/219

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-4-13, Interior (1) 3-4-13 to 5-5-13, Exterior(2R) 5-5-13 to 11-5-13, Interior (1) 11-5-13 to 13-11-5, Exterior(2E) 13-11-5 to 16-11-5 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); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 1, 185 lb uplift at joint 9 and 183 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

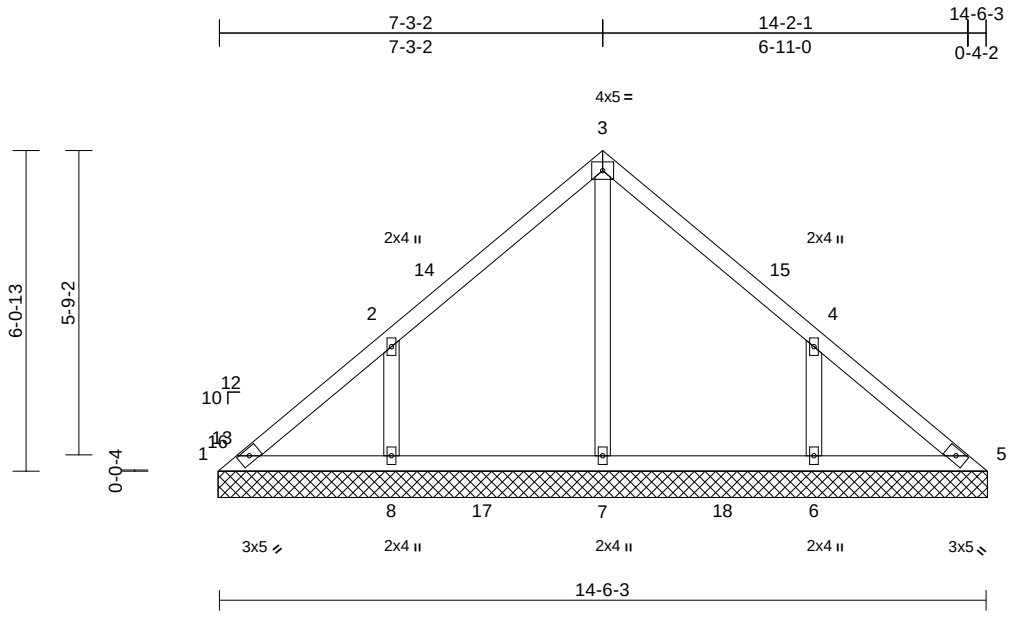
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLD2	Valley	1	1	I62903230 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:36 ID:Th_ZgqfOm8nUgyqbk?jKoVzRQuc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



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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	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 63 lb	FT = 20%

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

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

REACTIONS (size) 1=14-6-13, 5=14-6-13, 6=14-6-13, 7=14-6-13, 8=14-6-13
Max Horiz 1=-137 (LC 10)
Max Uplift 1=-29 (LC 10), 6=-155 (LC 15), 8=-156 (LC 14)
Max Grav 1=107 (LC 24), 5=99 (LC 23), 6=457 (LC 21), 7=409 (LC 23), 8=455 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-142/146, 2-3=-173/122, 3-4=-172/112, 4-5=-123/111
BOT CHORD 1-8=-62/119, 7-8=-62/101, 6-7=-62/101, 5-6=-62/101
WEBS 3-7=-229/0, 2-8=-374/196, 4-6=-375/195

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-3-6, Interior (1) 3-3-6 to 4-3-6, Exterior(2R) 4-3-6 to 10-3-6, Interior (1) 10-3-6 to 11-3-6, Exterior(2E) 11-3-6 to 14-6-13 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 1, 156 lb uplift at joint 8 and 155 lb uplift at joint 6.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 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

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903231
23120143-01	VLD3	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:37 Page: 1
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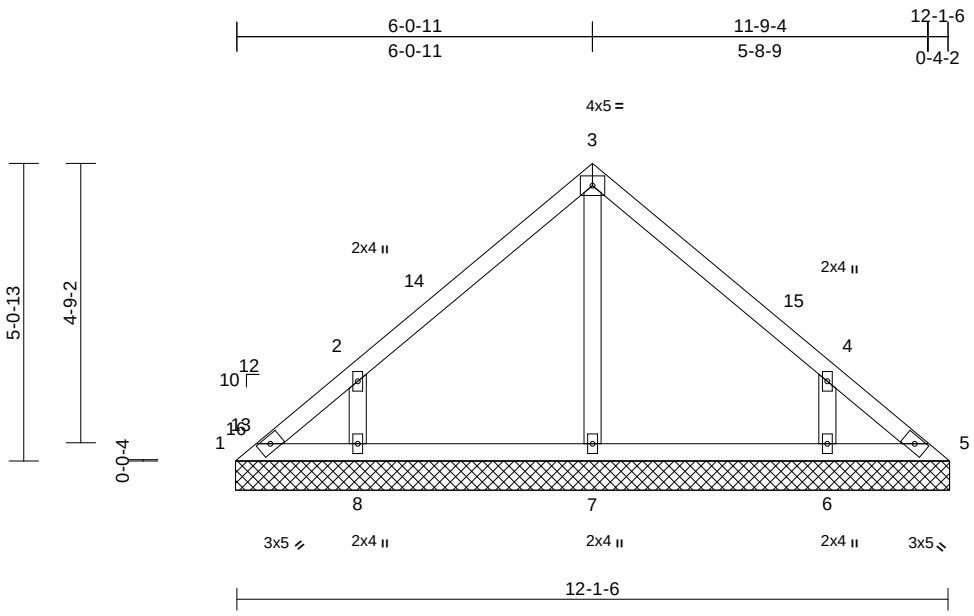


Scale = 1:39.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 50 lb	FT = 20%

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

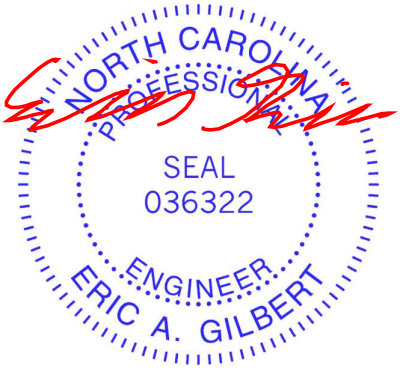
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=12-2-0, 5=12-2-0, 6=12-2-0, 7=12-2-0, 8=12-2-0
Max Horiz 1=-114 (LC 10)
Max Uplift 1=-37 (LC 10), 5=-4 (LC 11), 6=-136 (LC 15), 8=-137 (LC 14)
Max Grav 1=78 (LC 24), 5=73 (LC 23), 6=435 (LC 21), 7=260 (LC 21), 8=432 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-113/100, 2-3=-217/117, 3-4=-217/117, 4-5=-92/63
BOT CHORD 1-8=-32/74, 7-8=-32/73, 6-7=-32/73, 5-6=-32/73
WEBS 3-7=-173/0, 2-8=-397/213, 4-6=-398/218

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-4-13, Exterior (2R) 3-4-13 to 9-2-0, Exterior(2E) 9-2-0 to 12-2-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 1, 4 lb uplift at joint 5, 137 lb uplift at joint 8 and 136 lb uplift at joint 6.
11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 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



January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLD4	Valley	1	1	I62903232 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:37

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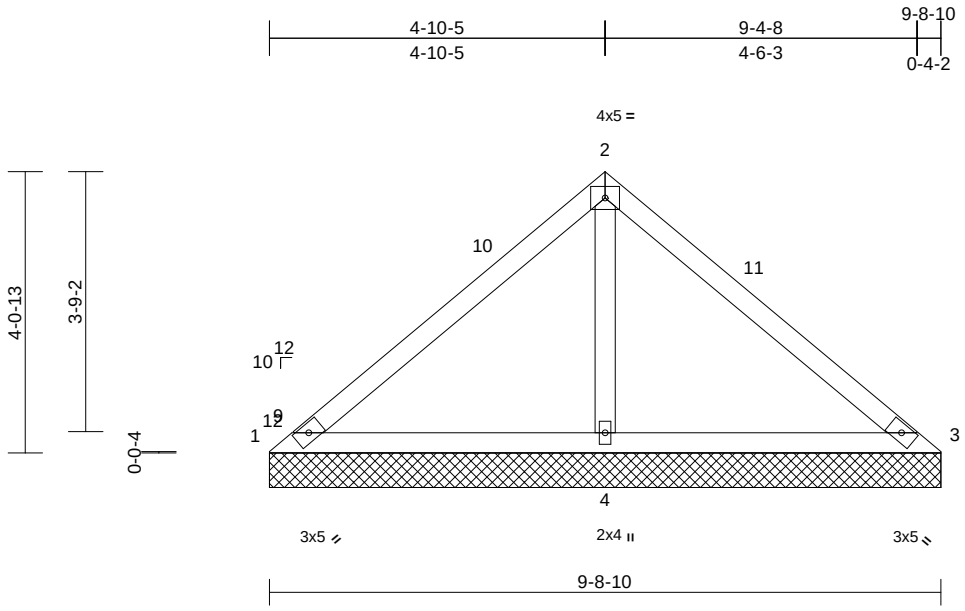

Scale = 1:33.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 37 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 9-8-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-8-10, 3=9-8-10, 4=9-8-10
Max Horiz 1=-90 (LC 10)
Max Uplift 1=-60 (LC 21), 3=-50 (LC 20), 4=-108 (LC 14)
Max Grav 1=74 (LC 20), 3=94 (LC 21), 4=780 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-113/377, 2-3=-114/374
BOT CHORD 1-4=-216/172, 3-4=-216/172
WEBS 2-4=-602/269

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-4-13, Exterior (2R) 3-4-13 to 6-8-14, Exterior(2E) 6-8-14 to 9-8-14 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 1, 50 lb uplift at joint 3 and 108 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR I62903233
23120143-01	VLD5	Valley	1	1	Job Reference (optional)

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:38 Page: 1
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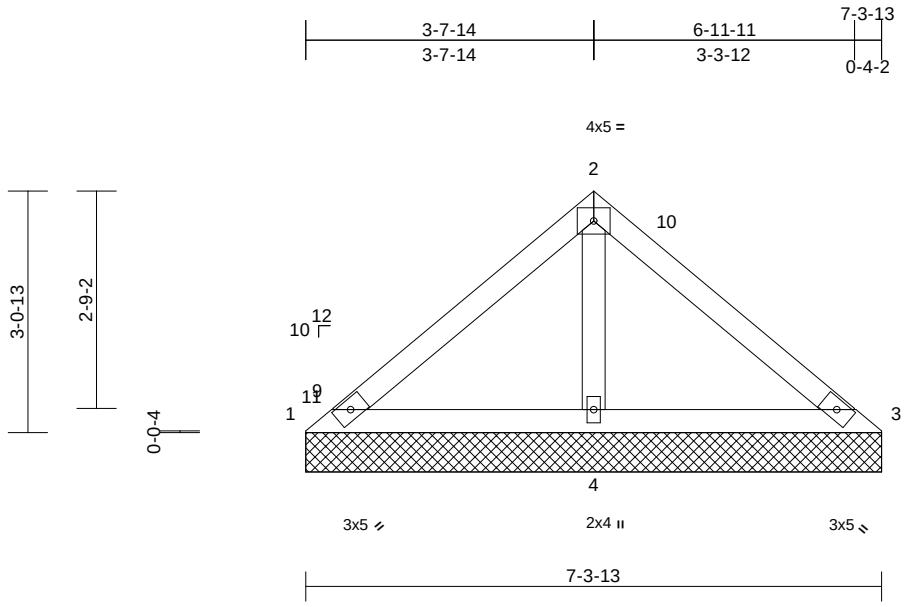

Scale = 1:29.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 27 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 7-3-13 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-3-13, 3=7-3-13, 4=7-3-13
Max Horiz 1=-67 (LC 10)
Max Uplift 1=-28 (LC 21), 3=-16 (LC 20), 4=-73 (LC 14)
Max Grav 1=72 (LC 20), 3=103 (LC 21), 4=535 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-86/230, 2-3=-90/229
BOT CHORD 1-4=-162/153, 3-4=-162/153
WEBS 2-4=-382/196

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-13 to 3-8-3, Exterior(2R) 3-8-3 to 4-4-2, Exterior(2E) 4-4-2 to 7-4-2 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 1, 16 lb uplift at joint 3 and 73 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLD6	Valley	1	1	I62903234 Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:38 ID:CgVkHRtdMZAuzhaXm9_U1OzRQqT-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

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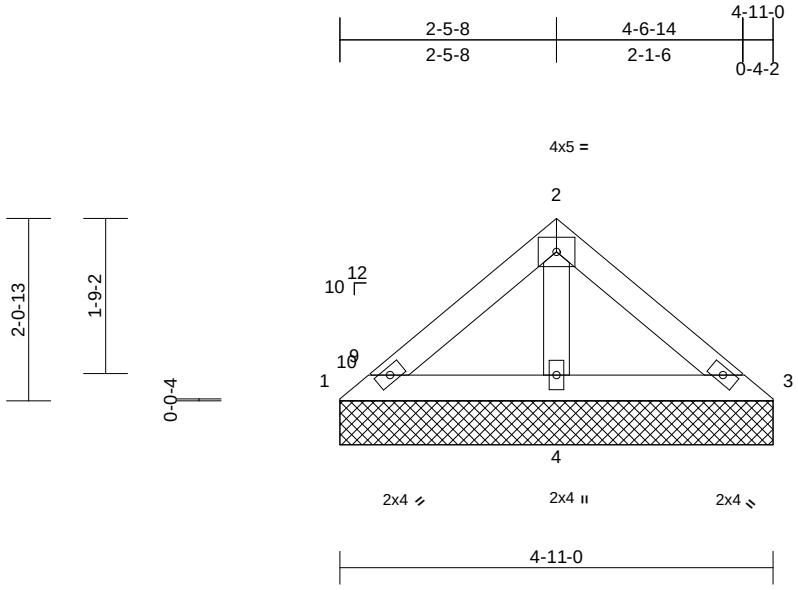

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 18 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-11-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-11-0, 3=4-11-0, 4=4-11-0
Max Horiz 1=-44 (LC 10)
Max Uplift 3=-7 (LC 15), 4=-31 (LC 14)
Max Grav 1=59 (LC 20), 3=87 (LC 21), 4=294 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-62/102, 2-3=-80/103
BOT CHORD 1-4=-80/88, 3-4=-80/88
WEBS 2-4=-182/97

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 31 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

January 9,2024

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

Job	Truss	Truss Type	Qty	Ply	127 Serenity-Roof-B326 A GLH COP 4BR
23120143-01	VLD7	Valley	1	1	I62903235
					Job Reference (optional)

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

Run: 8.63 S Nov 1 2023 Print: 8.630 S Nov 1 2023 MiTek Industries, Inc. Mon Jan 08 09:18:38

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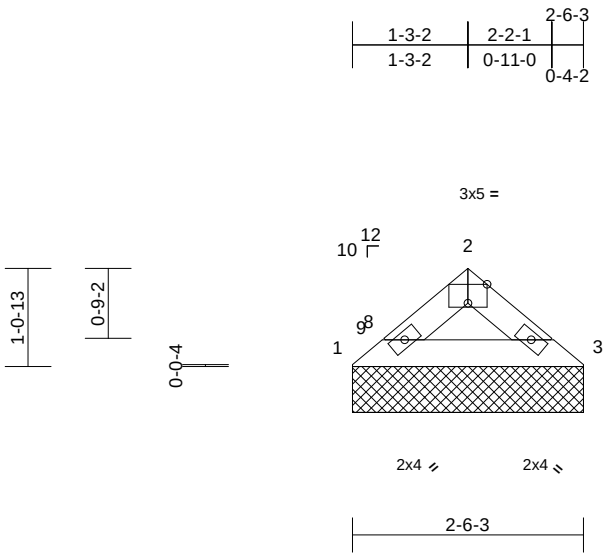


Scale = 1:25.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.04	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 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 2-6-3 oc purlins.

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

REACTIONS (size) 1=2-6-3, 3=2-6-3

Max Horiz 1=-20 (LC 10)

Max Uplift 1=-1 (LC 15), 3=-8 (LC 15)

Max Grav 1=85 (LC 20), 3=109 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-117/54, 2-3=-132/58

BOT CHORD 1-3=-31/95

NOTES

1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) Gable requires continuous bottom chord bearing.
7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 1 and 8 lb uplift at joint 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

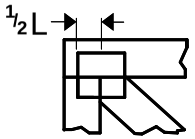
LOAD CASE(S) Standard

January 9,2024

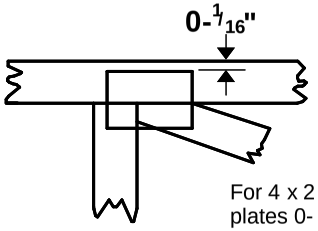
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

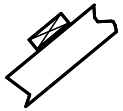
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

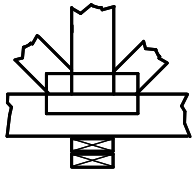
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

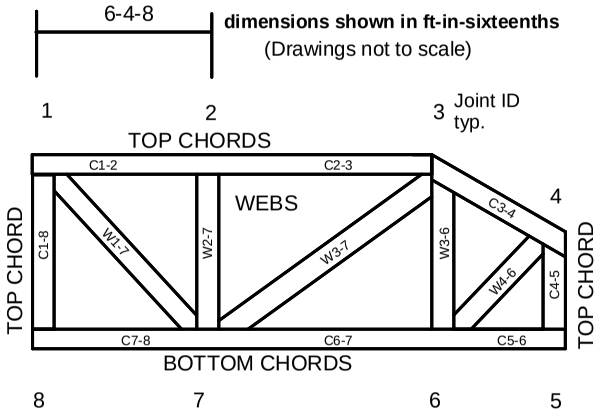


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

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.