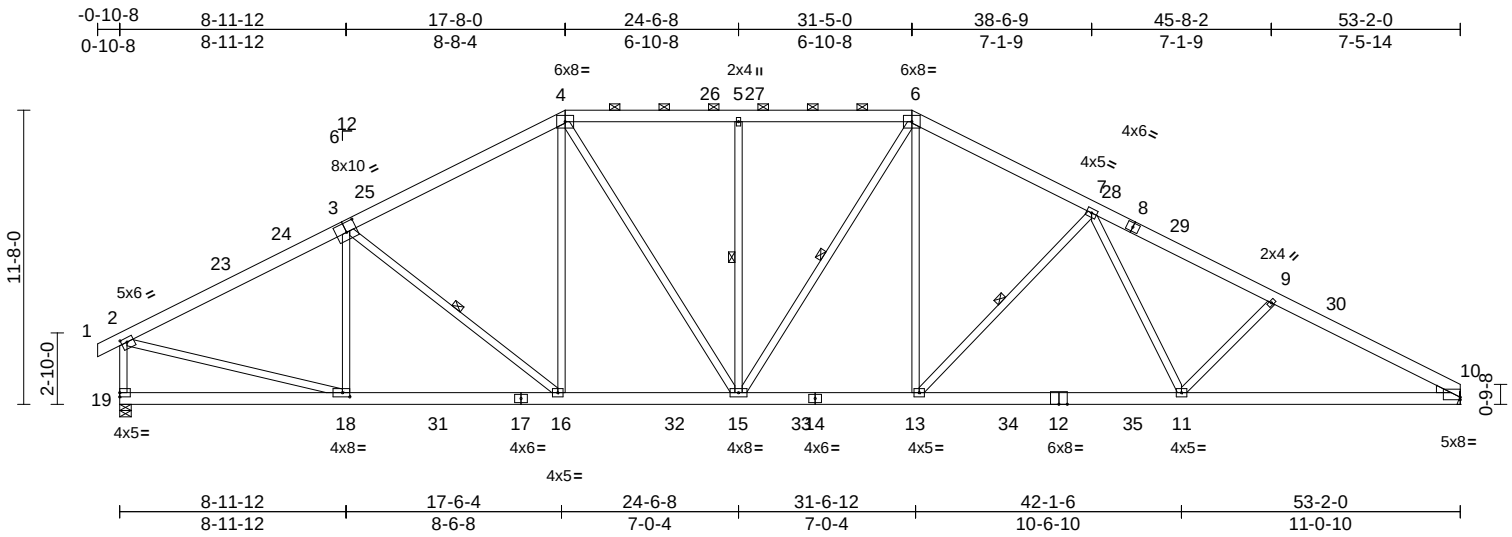
Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438500
23050096-01	A1	Piggyback Base	5	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:05 Page: 1
ID:mYsmbIxyYcArRj?LeVX2KyzRQmV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:91.4

Plate Offsets (X, Y): [2:0-2-12,0-2-0], [3:0-5-0,0-4-8], [10:Edge,0-1-3], [18:0-3-8,0-2-0]

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	0.87	Vert(LL)	-0.30	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.51	11-13	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.12	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 424 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 14-12,17-14:2x6 SP No.2
WEBS 2x4 SP No.2 *Except* 3-18,13-7,11-7,11-9,19-2:2x4 SP No.3
WEDGE Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-11-15 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-0 max.): 4-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 2-2-0 oc bracing: 11-13.
WEBS 1 Row at midpt 3-16, 5-15, 6-15, 7-13

REACTIONS (size) 10= Mechanical, 19=0-5-8
Max Horiz 19=-186 (LC 12)
Max Uplift 10=-229 (LC 15), 19=-217 (LC 14)
Max Grav 10=2417 (LC 45), 19=2489 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-4=-3171/454, 4-5=-2881/487, 5-6=-2881/487, 6-7=-3302/481, 7-9=-4195/470, 9-10=-4436/476, 2-19=-2347/332
BOT CHORD 18-19=-120/224, 16-18=-249/2758, 15-16=-106/2571, 13-15=-119/2822, 11-13=-245/3448, 10-11=-340/3872
WEBS 3-18=-476/167, 3-16=-406/182, 4-16=-24/548, 4-15=-152/710, 5-15=-689/196, 6-15=-218/345, 6-13=-87/1130, 7-13=-977/259, 7-11=-20/642, 9-11=-333/217, 2-18=-177/2763

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 4-5-5, Interior (1) 4-5-5 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) Provide adequate drainage to prevent water ponding.
7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
9) Refer to girder(s) for truss to truss connections.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 229 lb uplift at joint 10.
11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 19. 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.

LOAD CASE(S) Standard

May 19,2023

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438501
23050096-01	A1GE	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:08 Page: 1
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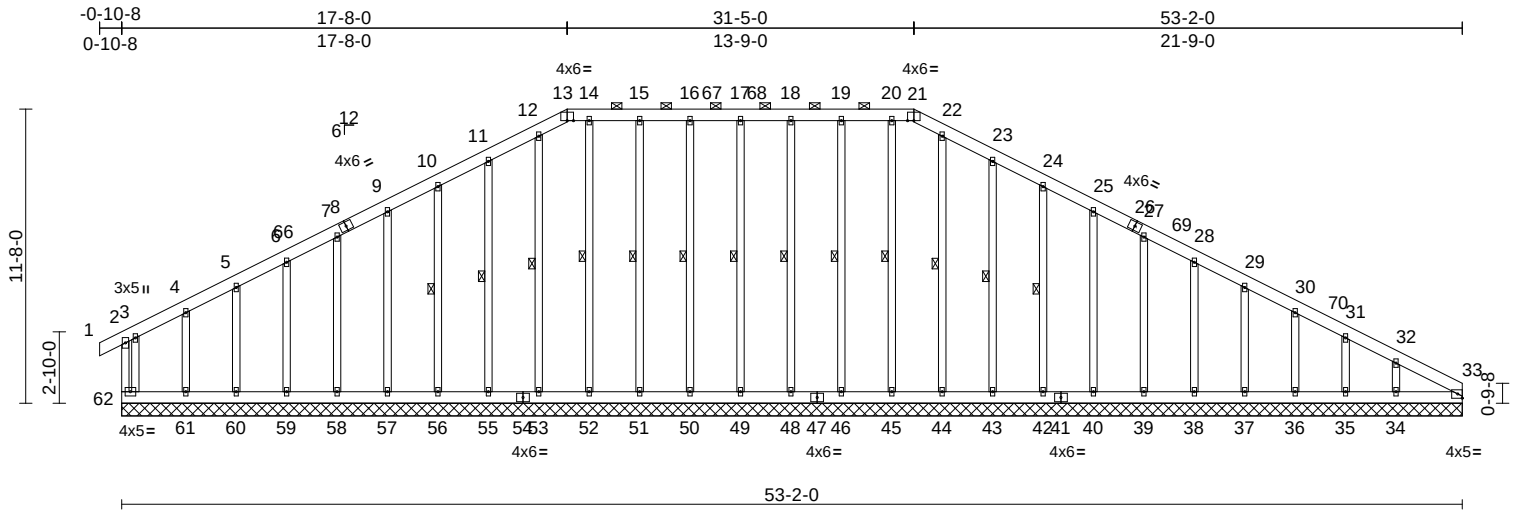

Scale = 1:91.4

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	0.17	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

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	1 Row at midpt 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

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=-115 (LC 14), 62=-34 (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=179 (LC 47), 62=177 (LC 1), 63=134 (LC 27)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-62=-136/271, 1-2=0/27, 2-3=-64/144, 3-4=-72/65, 4-5=-59/152, 5-6=-73/202, 6-7=-88/247, 7-9=-104/292, 9-10=-120/337, 10-11=-136/384, 11-12=-155/434, 12-13=-156/427, 13-14=-149/422, 14-15=-149/422, 15-16=-149/422, 16-17=-149/422, 17-18=-149/422, 18-19=-149/422, 19-20=-149/422, 20-21=-149/422, 21-22=-156/427, 22-23=-155/434, 23-24=-136/384, 24-25=-120/337, 25-27=-104/292, 27-28=-88/247, 28-29=-92/202, 29-30=-106/157, 30-31=-119/129, 31-32=-140/107, 32-33=-184/114

May 19,2023

Continued on page 2

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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=-180/61, 20-45=-152/14, 22-44=-171/10, 23-43=-191/89, 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=-113/104, 32-34=-149/151, 16-50=-178/62, 15-51=-180/61, 14-52=-152/8, 12-53=-174/0, 11-55=-195/89, 10-56=-193/81, 9-57=-193/77, 7-58=-192/77, 6-59=-148/77, 5-60=-122/87, 4-61=-119/177, 3-62=-179/99

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) -0-10-8 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) N/A
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	15 Serenity-Roof-B326 A
23050096-01	A1T	Piggyback Base	3	1	I58438502 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:09 Page: 1
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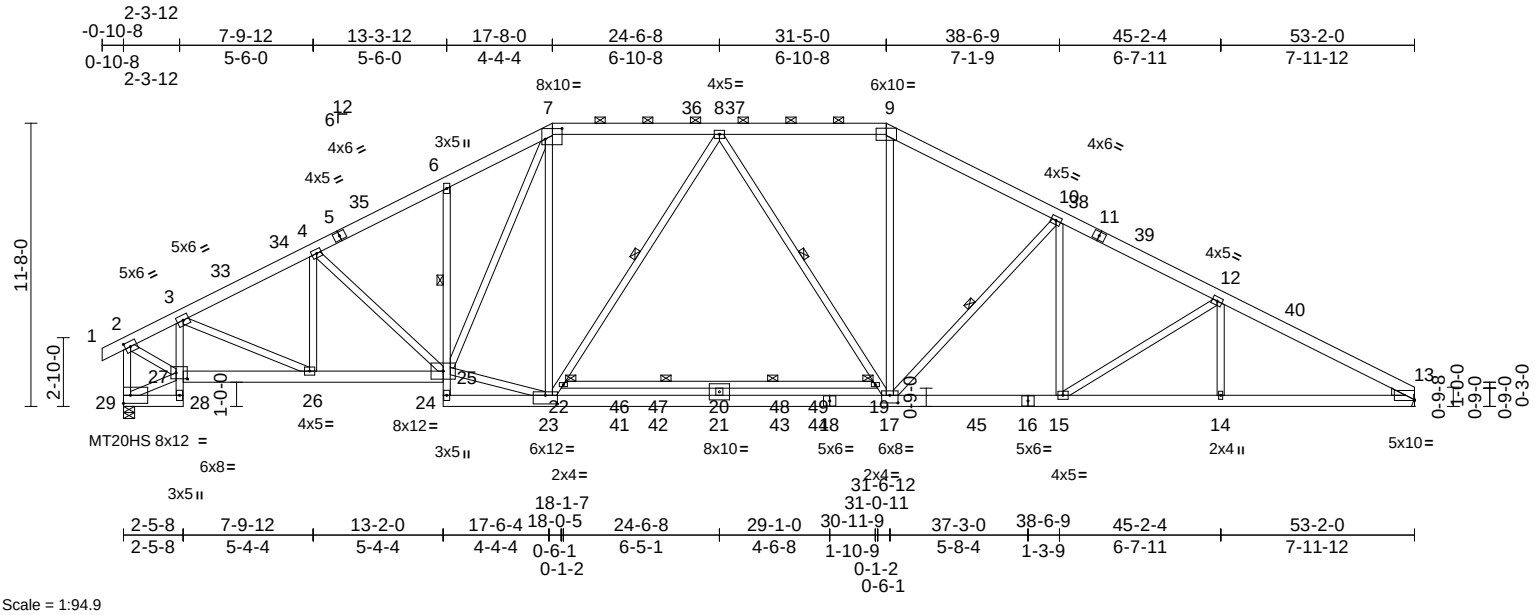

Scale = 1:94.9

Plate Offsets (X, Y): [2:0-2-11,0-2-8], [7:0-8-4,0-5-4], [13:Edge,0-0-7], [17:0-4-0,0-3-12], [23:0-6-0,0-4-4], [27:0-5-8,0-3-0]

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	0.64	Vert(LL)	-0.65	19-20	>982	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-1.25	19-20	>509	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.81	Horz(CT)	0.20	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 469 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 29-28,27-25:2x6 SP No.2, 28-3,6-24:2x4 SP No.3, 22-19:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 23-7,23-25,25-7,17-9,23-8,2-27,17-8:2x4 SP No.2
WEDGE Right: 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-7-4 oc purlins, except end verticals, and 2-0-0 oc purlins (3-7-9 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 6-25
6-0-0 oc bracing: 19-22
WEBS 1 Row at midpt 8-22, 8-19, 10-17

REACTIONS (size) 13= Mechanical, 29=0-5-8
Max Horiz 29=-186 (LC 12)
Max Uplift 13=-64 (LC 15), 29=-24 (LC 14)
Max Grav 13=2744 (LC 45), 29=2856 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-2688/92, 3-4=-4140/93, 4-6=-4183/106, 6-7=-4172/194, 7-8=-3268/106, 8-9=-3550/116, 9-10=-4121/81, 10-12=-4618/140, 12-13=-5100/109, 2-29=-2791/108
BOT CHORD 28-29=-18/62, 27-28=0/37, 3-27=-1359/41, 26-27=-131/2420, 25-26=-6/3654, 24-25=-322/0, 6-25=-491/160, 23-24=-74/131, 21-23=0/3567, 17-21=0/3567, 15-17=0/4093, 14-15=-9/4457, 13-14=-57/4457, 20-22=-62/0, 19-20=-62/0
WEBS 4-26=-357/47, 7-23=0/938, 23-25=0/3298, 7-25=-315/1132, 20-21=-384/0, 9-17=0/1475, 10-15=-102/319, 12-14=0/242, 4-25=-143/225, 3-26=0/1357, 22-23=-721/147, 8-22=-623/195, 27-29=-129/198, 2-27=-41/2782, 8-19=-273/306, 17-19=-338/235, 10-17=-911/320, 12-15=-470/164

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 4-5-5, Interior (1) 4-5-5 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 MT20 plates 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 64 lb uplift at joint 13.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 29. 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.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A
23050096-01	A2	Piggyback Base	1	1	I58438503 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:11 Page: 1
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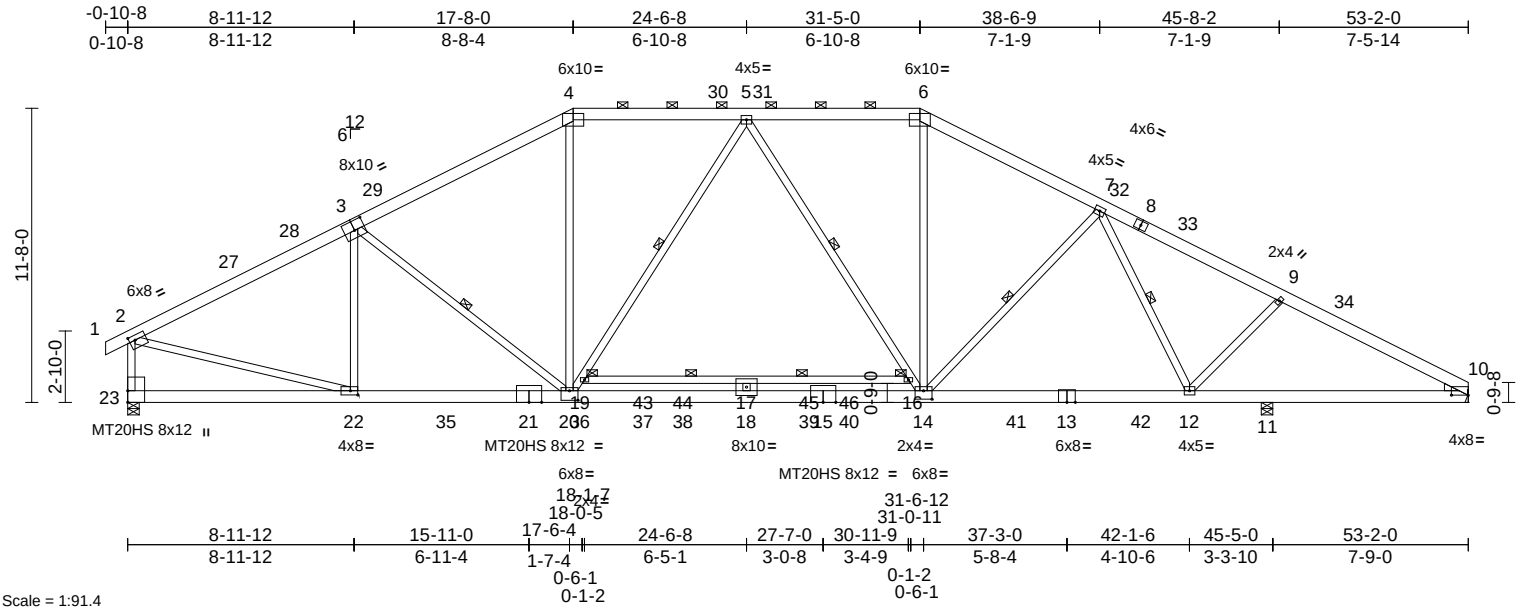

Scale = 1:91.4

Plate Offsets (X, Y): [2:0-2-12,0-2-4], [3:0-5-0,0-4-8], [10:0-8-0,0-0-1], [14:0-4-0,0-4-0], [20:0-4-0,0-4-8], [22:0-3-8,0-2-0]

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	0.98	Vert(LL)	-0.65	16-17	>832	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-1.24	16-17	>436	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.76	Horz(CT)	0.12	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 428 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SP No.2
BOT CHORD	2x6 SP 2400F 2.0E *Except* 16-19:2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 20-4,14-6,14-5,22-2,20-5,20-3:2x4 SP No.2
WEDGE	Right: 2x4 SP No.3

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-5-14 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-14 max.): 4-6.
BOT CHORD	Rigid ceiling directly applied or 9-4-10 oc bracing. Except: 6-0-0 oc bracing: 16-19
WEBS	1 Row at midpt 5-16, 5-19, 7-14, 7-12, 3-20

REACTIONS (size) 10= Mechanical, 11=0-5-8, 23=0-5-8
Max Horiz 23=-186 (LC 12)
Max Uplift 10=-124 (LC 15), 23=-40 (LC 14)
Max Grav 10=2084 (LC 45), 11=810 (LC 45), 23=2783 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/27, 2-4=-3652/132, 4-5=-3111/131, 5-6=-3263/144, 6-7=-3800/114, 7-9=-3773/234, 9-10=-3996/242, 2-23=-2610/163
BOT CHORD	22-23=-112/244, 20-22=-39/3097, 18-20=0/3346, 14-18=0/3346, 12-14=0/3483, 11-12=-133/3458, 10-11=-133/3458, 17-19=-64/0, 16-17=-64/0
WEBS	3-22=-634/33, 4-20=0/1211, 17-18=-382/0, 6-14=0/1341, 5-16=-339/212, 14-16=-406/147, 2-22=0/3098, 19-20=-611/148, 5-19=-538/198, 7-14=-543/349, 7-12=-395/0, 9-12=-287/225, 3-20=-259/418

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 4-5-5, Interior (1) 4-5-5 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 MT20 plates 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 124 lb uplift at joint 10.
13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 23. 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.

LOAD CASE(S) Standard

May 19,2023

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Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	A2GR	Attic Girder	1	4	Job Reference (optional)	I58438504

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:12 Page: 1

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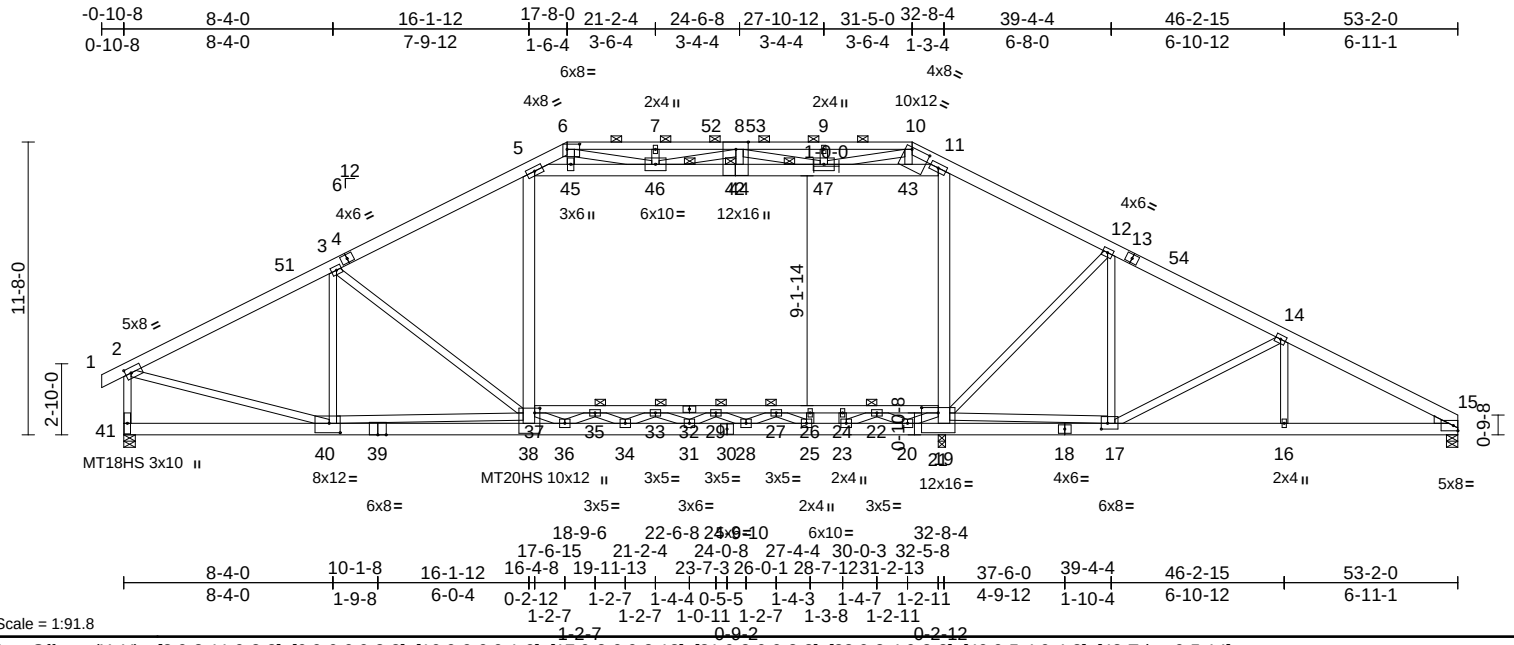

Scale = 1:91.8

Plate Offsets (X, Y): [2:0-2-11,0-2-8], [6:0-6-0,0-2-8], [10:0-9-0,0-1-0], [17:0-3-0,0-2-12], [21:0-8-0,0-2-8], [38:0-2-4,0-2-8], [40:0-5-4,0-4-8], [42:Edge,0-5-14]

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	0.77	Vert(LL)	-0.41	38-40	>957	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.63	38-40	>624	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.98	Horz(CT)	0.11	15	n/a	n/a	MT20HS	187/143
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	0.20	21-37	>966	360		
BCDL	10.0										Weight: 2022 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 6-10:2x4 SP No.2

BOT CHORD 2x6 SP 2400F 2.0E *Except* 37-32:2x4 SP No.2, 39-41:2x6 SP No.2, 32-21:2x4 SP No.1

WEBS 2x4 SP No.3 *Except* 5-38,11-19,42-11,42-5:2x6 SP No.2, 40-2,21-17:2x4 SP No.2

WEDGE Right: 2x4 SP No.3

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.): 6-10.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 19-20.

JOINTS 1 Brace at Jt(s): 44, 22, 35, 33, 29, 27, 46, 47

REACTIONS (size) 15=0-5-8, 19=0-3-8, 41=0-5-8
Max Horiz 41=-187 (LC 10)
Max Uplift 15=-487 (LC 12), 19=-4368 (LC 45), 41=-801 (LC 12)
Max Grav 15=8420 (LC 46), 19=730 (LC 12), 41=11643 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-3=-15926/1083, 3-5=-18710/1246, 5-6=-4813/431, 6-7=-4430/589, 7-8=-4430/589, 8-9=-4126/579, 9-10=-4126/579, 10-11=-4764/441, 11-12=-18311/1271, 12-14=-17079/1149, 14-15=-16640/1026, 2-41=-11588/842

BOT CHORD 35-37=-1421/326, 33-35=-547/65, 29-33=-790/1300, 27-29=-993/3233, 26-27=-972/7325, 24-26=-972/7325, 22-24=-972/7325, 21-22=-738/14507, 40-41=-122/280, 38-40=-1510/17949, 36-38=-1464/16559, 34-36=-912/17653, 31-34=-388/16407, 28-31=-61/14734, 25-28=0/11725, 23-25=0/9387, 20-23=-83/5677, 19-20=-615/268, 17-19=-513/2597, 16-17=-857/14697, 15-16=-857/14697

WEBS 3-40=-3516/290, 37-38=-622/8715, 5-37=-447/8037, 19-21=-658/5998, 11-21=-564/7508, 12-17=-1855/161, 14-16=-484/124, 5-45=-12501/833, 45-46=-12240/814, 44-46=-12032/611, 44-47=-12032/611, 43-47=-12905/896, 11-43=-13584/943, 2-40=-896/14649, 10-43=-202/2961, 8-44=-38/761, 14-17=-138/822, 6-45=-108/1500, 23-24=-1152/27, 25-26=0/224, 20-21=0/2876, 20-22=-4113/0, 22-23=0/4309, 36-37=0/1941, 35-36=-450/575, 34-35=-898/348, 33-34=-281/593, 31-33=-1074/225, 29-31=-166/933, 28-29=-1473/111, 27-28=-40/2129, 25-27=-2710/0, 17-21=-404/12845, 12-21=-157/1781, 7-46=-200/140, 6-46=-1311/501, 8-46=-1878/224, 9-47=-220/104, 10-47=-907/793, 8-47=-2150/252, 37-40=-3527/553, 3-37=-170/3015

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: 2x4 - 1 row at 0-5-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-4-0 oc, Except member 11-19 2x6 - 2 rows staggered 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

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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.
13) Ceiling dead load (5.0 psf) on member(s). 5-45, 45-46, 44-46, 44-47, 43-47, 11-43; Wall dead load (5.0psf) on member(s).5-37, 11-21
14) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 29-33, 27-29, 26-27, 24-26, 22-24, 21-22
15) Bearings are assumed to be: , Joint 15 SP 2400F 2.0E crushing capacity of 805 psi.
16) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4368 lb uplift at joint 19.
17) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 41. This connection is for uplift only and does not consider lateral forces.
18) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 15. This connection is for uplift only and does not consider lateral forces.
19) 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.
20) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
21) 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.
22) LGT4 Hurricane ties must have four studs in line below the truss.
23) 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 10004 lb down and 851 lb up at 16-0-3 on bottom chord. The design/ selection of such connection device(s) is the responsibility of others.
24) 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, 2-6=-60, 6-10=-60, 10-15=-60, 21-37=-30, 41-48=-20, 5-45=-10, 45-46=-10, 42-46=-10, 42-44=-10, 44-47=-10, 43-47=-10, 11-43=-10
   Drag: 5-37=-10, 11-21=-10
   Concentrated Loads (lb)
   Vert: 38=-5366 (F), 24=-326 (F)

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	A2T	Piggyback Base	2	1	Job Reference (optional)	I58438505

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:14 Page: 1
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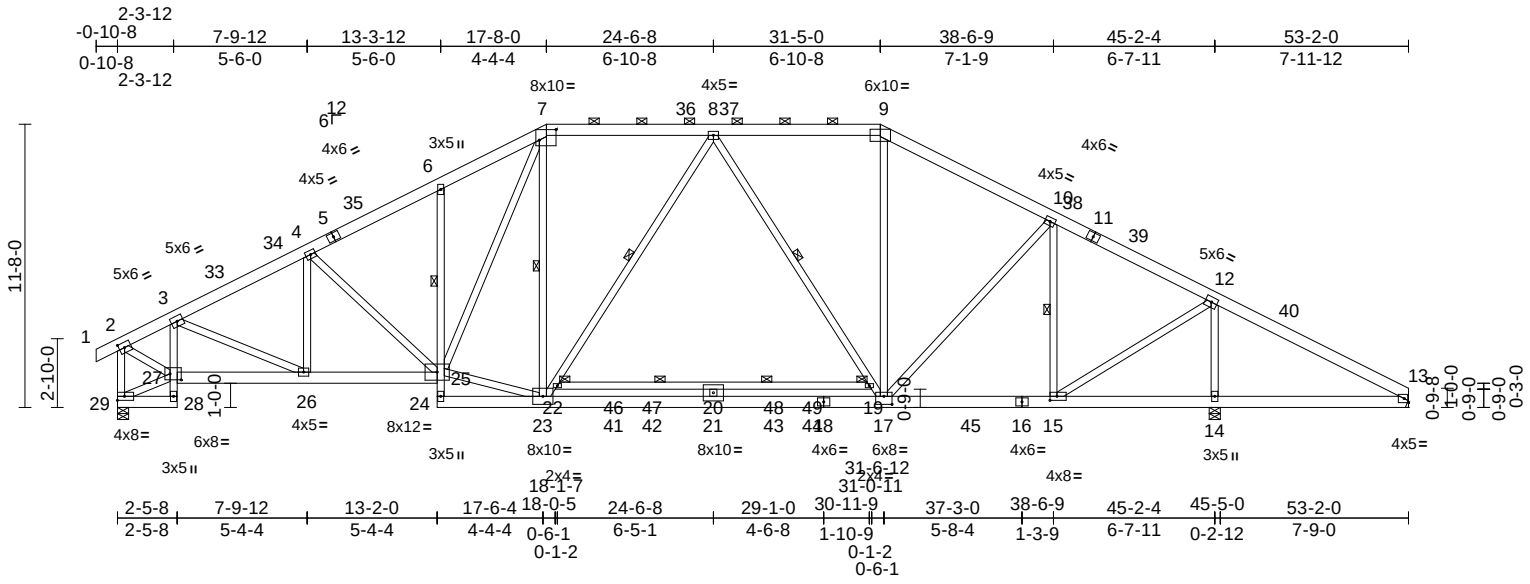

Scale = 1:94.9

Plate Offsets (X, Y): [2:0-2-11,0-2-8], [7:0-8-4,0-5-4], [15:0-3-8,0-2-0], [17:0-4-0,0-4-0], [27:0-5-8,0-3-0]

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	0.46	Vert(LL)	-0.58	20-22	>931	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-1.09	20-22	>496	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.11	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 468 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 29-28,27-25:2x6 SP No.2, 28-3,6-24:2x4 SP No.3, 22-19:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 23-25,25-7,23-7,23-8,17-8,17-9:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-10-14 oc purlins, except end verticals, and 2-0-0 oc purlins (4-3-11 max.): 7-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing. Except:
1 Row at midpt 6-25
6-0-0 oc bracing: 19-22
WEBS 1 Row at midpt 7-23, 8-22, 8-19, 10-15

REACTIONS (size) 13= Mechanical, 14=0-5-8, 29=0-5-8
Max Horiz 29=-186 (LC 12)
Max Uplift 13=-90 (LC 15), 29=-49 (LC 14)
Max Grav 13=242 (LC 43), 14=3029 (LC 45), 29=2400 (LC 45)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-2241/91, 3-4=-3398/90, 4-6=-3349/103, 6-7=-3339/192, 7-8=-2591/104, 8-9=-2287/112, 9-10=-2678/77, 10-12=-2064/132, 12-13=-115/322, 2-29=-2340/106
BOT CHORD 28-29=-19/53, 27-28=0/38, 3-27=-1111/40, 26-27=-152/2033, 25-26=-42/2991, 24-25=-327/0, 6-25=-492/160, 23-24=-77/87, 21-23=0/2637, 17-21=0/2637, 15-17=0/1775, 14-15=-236/25, 13-14=-236/92, 20-22=-71/0, 19-20=-71/0
WEBS 4-25=-219/166, 23-25=0/2651, 7-25=-319/1076, 7-23=-80/705, 22-23=-282/205, 8-22=-213/281, 20-21=-384/0, 8-19=-633/161, 17-19=-731/112, 9-17=0/840, 10-17=0/991, 10-15=-1274/0, 12-15=0/2287, 12-14=-2602/103, 4-26=-256/48, 3-26=0/1071, 27-29=-126/198, 2-27=-66/2315

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 4-5-5, Interior (1) 4-5-5 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) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
10) Refer to girder(s) for truss to truss connections.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 90 lb uplift at joint 13.
12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 29. 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.
14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438506
23050096-01	A3	Attic	6	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:16 Page: 1

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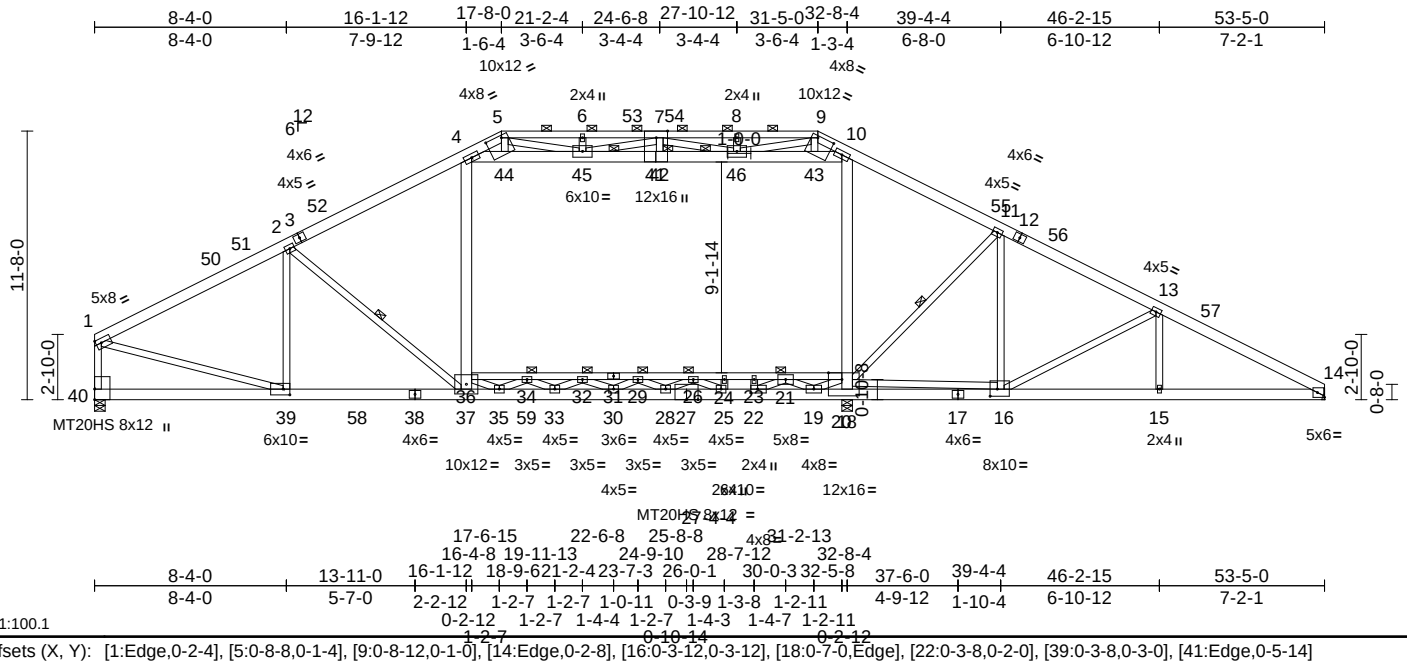

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Plate Offsets (X, Y): [1:Edge,0-2-4], [5:0-8-8,0-1-4], [9:0-8-12,0-1-0], [14:Edge,0-2-8], [16:0-3-12,0-3-12], [18:0-7-0,Edge], [22:0-3-8,0-2-0], [39:0-3-8,0-3-0], [41:Edge,0-5-14]

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	0.85	Vert(LL)	-0.39	29-32	>993	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.66	32-34	>594	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.12	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.27	20-36	>734	360		
BCDL	10.0										Weight: 493 lb	FT = 20%

LUMBER

TOP CHORD 2x6 SP No.2 *Except* 5-9:2x4 SP No.2

BOT CHORD 2x6 SP No.2 *Except* 36-31:2x4 SP No.2, 27-17,38-27:2x6 SP 2400F 2.0E, 31-20:2x4 SP No.1

WEBS 2x4 SP No.3 *Except* 4-37,10-18,41-10,41-4:2x6 SP No.2, 39-1,20-19,19-21,21-22,36-35,35-34,34-33,33-32,29-28,28-26,26-25:2x4 SP No.2, 20-16:2x4 SP No.1

BRACING

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

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 18-19
5-7-7 oc bracing: 16-18.

WEBS 1 Row at midpt 2-37, 11-20

JOINTS 1 Brace at Jt(s): 42, 21, 34, 32, 29, 26, 45, 46

REACTIONS (size) 14= Mechanical, 18=0-5-8, 40=0-5-8
Max Horiz 40=-191 (LC 12)
Max Uplift 18=-74 (LC 15), 40=-11 (LC 14)
Max Grav 14=2313 (LC 45), 18=1753 (LC 37), 40=2953 (LC 35)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-3833/6, 2-4=-3928/0, 4-5=-1725/147, 5-6=-2698/396, 6-7=-2698/396, 7-8=-2583/406, 8-9=-2583/406, 9-10=-1627/160, 10-11=-3724/41, 11-13=-3839/36, 13-14=-4399/37, 1-40=-2818/53

BOT CHORD 39-40=-101/222, 37-39=-14/3361, 35-37=0/3330, 33-35=0/5014, 30-33=0/6223, 28-30=0/6494, 25-28=0/5351, 22-25=0/3841, 19-22=0/1720, 18-19=-1996/0, 16-18=-1696/0, 15-16=0/3859, 14-15=-12/3859, 34-36=-774/0, 32-34=-2689/0, 29-32=-3453/0, 26-29=-3220/0, 24-26=-908/788, 23-24=-908/788, 21-23=-908/788, 20-21=0/3709

WEBS 2-39=-649/71, 2-37=-165/363, 36-37=0/436, 4-36=0/1173, 18-20=-933/245, 10-20=-31/1171, 11-16=-237/110, 13-16=-594/198, 13-15=0/258, 4-44=-2369/0, 44-45=-2302/0, 42-45=-1884/1247, 42-46=-1884/1247, 43-46=-2393/20, 10-43=-2544/23, 1-39=0/3415, 7-42=0/227, 9-43=-15/678, 5-44=-15/402, 22-23=-395/0, 24-25=0/135, 19-20=0/1706, 19-21=-2722/0, 21-22=0/2450, 35-36=0/1075, 34-35=-1447/0, 33-34=0/844, 32-33=-720/0, 30-32=-102/188, 29-30=-135/128, 28-29=-430/0, 26-28=0/960, 25-26=-1750/0, 16-20=0/4647, 11-20=-581/316, 6-45=-279/91, 5-45=-312/1227, 7-45=-950/129, 9-46=-318/1336, 8-46=-282/93, 7-46=-1007/137

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) 0-1-12 to 5-5-14, Interior (1) 5-5-14 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; 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) Provide adequate drainage to prevent water ponding.
6) All plates are MT20 plates unless otherwise indicated.
7) All plates are 4x5 MT20 unless otherwise indicated.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

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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). 4-44, 44-45, 42-45, 42-46, 43-46, 10-43; Wall dead load (5.0psf) on member(s).4-36, 10-20
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, 26-29, 24-26, 23-24, 21-23, 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) 40 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	15 Serenity-Roof-B326 A
23050096-01	A3GE	Attic Supported Gable	1	1	I58438507 Job Reference (optional)

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:19 Page: 1
ID:8kdnaNVfrXy7X5iJovJ26tzRBB2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

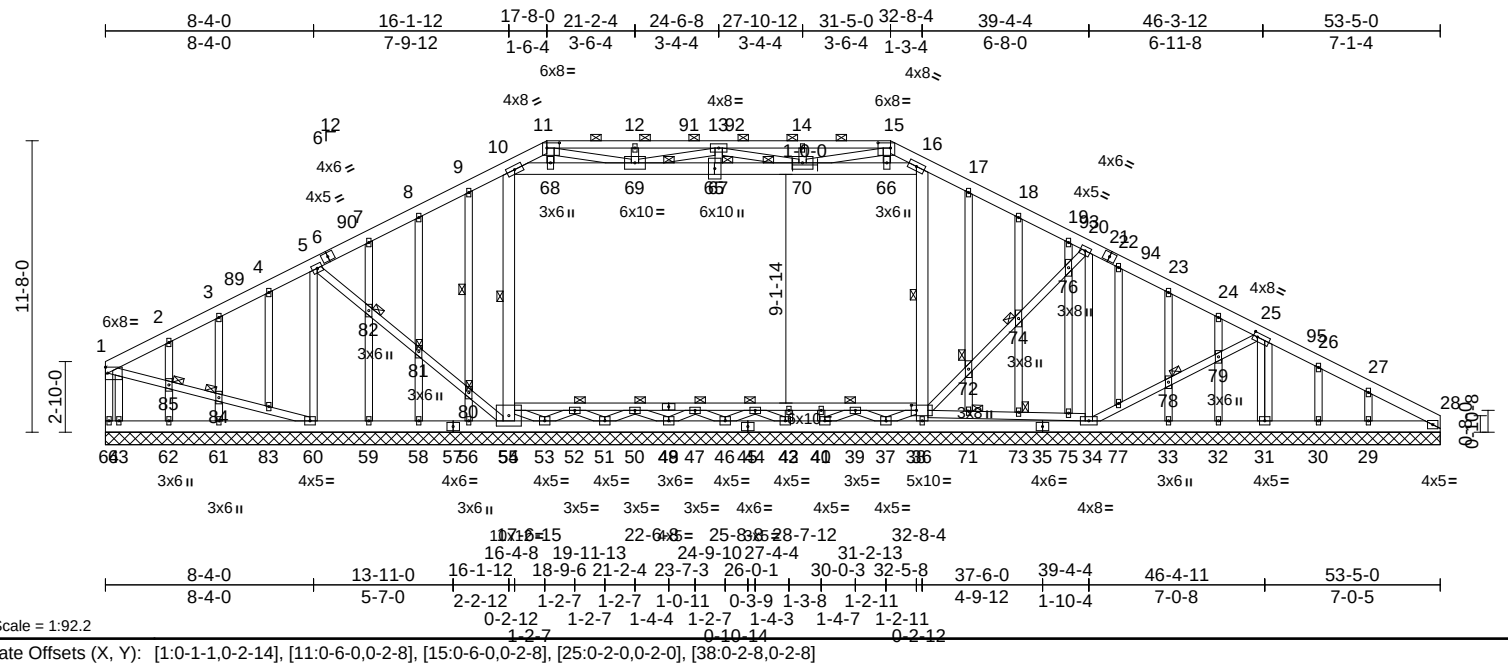

Plate Offsets (X, Y): [1:0-1-1,0-2-14], [11:0-6-0,0-2-8], [15:0-6-0,0-2-8], [25:0-2-0,0-2-0], [38:0-2-8,0-2-8]

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	0.42	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.13	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.61	Horiz(TL)	0.01	86	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 615 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 11-15:2x4 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 54-49:2x4 SP No.2, 35-45,45-57:2x6 SP 2400F 2.0E, 49-38:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 10-55,16-36,65-16,65-10:2x6 SP No.2
OTHERS 2x4 SP No.3

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (3-7-4 max.): 11-15.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 10-54, 16-38, 9-80
JOINTS 1 Brace at Jt(s): 67, 39, 52, 50, 47, 44, 69, 70, 71, 72, 73, 74, 78, 80, 81, 82, 84, 85

REACTIONS (size) 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, 40=53-5-0, 43=53-5-0, 46=53-5-0, 48=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, 86=53-5-0
Max Horiz 64=-224 (LC 15)
Max Uplift 29=-75 (LC 15), 30=-8 (LC 15), 32=-34 (LC 15), 33=-24 (LC 15), 34=-134 (LC 15), 37=-25 (LC 15), 55=-49 (LC 14), 56=-130 (LC 38), 58=-45 (LC 14), 59=-41 (LC 14), 60=-17 (LC 14), 61=-60 (LC 14), 62=-60 (LC 14), 64=-72 (LC 15)
Max Grav 28=159 (LC 22), 29=247 (LC 49), 30=187 (LC 6), 31=247 (LC 22), 32=161 (LC 49), 33=206 (LC 22), 34=685 (LC 43), 36=884 (LC 44), 37=175 (LC 37), 40=275 (LC 20), 43=222 (LC 20), 46=287 (LC 20), 48=285 (LC 20), 51=321 (LC 20), 53=228 (LC 20), 55=895 (LC 38), 56=119 (LC 47), 58=217 (LC 41), 59=227 (LC 41), 60=332 (LC 41), 61=289 (LC 41), 62=138 (LC 39), 63=99 (LC 7), 64=141 (LC 21), 86=159 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-196/61, 2-3=-194/79, 3-4=-223/107, 4-5=-183/119, 5-7=-313/139, 7-8=-319/161, 8-9=-297/184, 9-10=-192/191, 10-11=-1127/219, 11-12=-2282/442, 12-13=-2282/442, 13-14=-2247/441, 14-15=-2247/441, 15-16=-1081/220, 16-17=-262/179, 17-18=-306/178, 18-19=-326/156, 19-20=-337/142, 20-22=-262/97, 22-23=-288/90, 23-24=-273/75, 24-25=-274/63, 25-26=-159/48, 26-27=-158/29, 27-28=-154/18
BOT CHORD 63-64=-112/221, 62-63=-111/218, 61-62=-111/218, 60-61=-111/218, 59-60=-30/236, 58-59=-30/236, 56-58=-30/236, 55-56=-30/236, 53-55=-6/304, 51-53=0/312, 48-51=0/271, 46-48=0/273, 43-46=0/264, 40-43=-8/198, 37-40=0/307, 36-37=-7/421, 34-36=-14/230, 33-34=-1/150, 32-33=-1/150, 31-32=-1/150, 30-31=0/144, 29-30=0/144, 28-29=0/144, 52-54=0/88, 50-52=0/126, 47-50=0/127, 44-47=0/127, 42-44=0/110, 41-42=0/110, 39-41=0/110, 38-39=-16/83

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WEBS 5-60=-288/32, 54-55=-957/41, 10-54=-979/140, 36-38=-730/36, 16-38=-868/151, 20-34=-521/113, 25-31=-205/11, 10-68=-47/585, 68-69=-51/616, 67-69=-458/2719, 67-70=-458/2719, 66-70=-53/572, 16-66=-48/538, 1-85=-41/181, 84-85=-39/176, 83-84=-40/178, 60-83=-40/180, 15-66=-49/162, 13-67=-8/120, 34-77=-17/142, 77-78=-14/140, 78-79=-14/134, 25-79=-14/139, 5-82=-17/143, 81-82=-17/142, 80-81=-16/141, 55-80=-17/144, 11-68=-26/185, 40-41=-62/0, 42-43=-74/0, 37-38=-250/52, 37-39=-129/0, 39-40=-145/0, 53-54=-96/0, 52-53=-148/0, 51-52=-169/0, 50-51=-131/0, 48-50=-123/0, 47-48=-139/0, 46-47=-128/0, 44-46=-118/0, 43-44=-97/0, 38-71=-92/80, 71-73=-91/79, 73-75=-92/80, 34-75=-103/85, 38-72=0/76, 72-74=0/80, 74-76=0/102, 20-76=0/87, 12-69=-302/89, 11-69=-275/1451, 13-69=-765/149, 14-70=-299/89, 15-70=-274/1462, 13-70=-783/166, 1-64=-155/63, 17-72=-24/35, 71-72=-14/28, 18-74=-67/28, 73-74=-33/16, 19-76=-25/7, 75-76=-31/18, 22-77=-15/16, 23-78=-144/60, 33-78=-179/40, 24-79=-105/55, 32-79=-101/61, 26-30=-147/38, 27-29=-154/85, 9-80=-82/172, 56-80=-82/167, 8-81=-177/70, 58-81=-175/70, 7-82=-193/59, 59-82=-194/61, 4-83=-23/18, 3-84=-194/92, 61-84=-223/100, 2-85=-127/73, 62-85=-108/78, 1-63=-41/16

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) 0-3-1 to 5-7-2, Interior (1) 5-7-2 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) 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). 10-68, 68-69, 67-69, 67-70, 66-70, 16-66; Wall dead load (5.0psf) on member(s).10-54, 16-38, 33-78, 26-30
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 64, 17 lb uplift at joint 60, 49 lb uplift at joint 55, 134 lb uplift at joint 34, 25 lb uplift at joint 37, 24 lb uplift at joint 33, 34 lb uplift at joint 32, 8 lb uplift at joint 30, 75 lb uplift at joint 29, 130 lb uplift at joint 56, 45 lb uplift at joint 58, 41 lb uplift at joint 59, 60 lb uplift at joint 61 and 60 lb uplift at joint 62.
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	15 Serenity-Roof-B326 A	
23050096-01	A4	Attic	1	1	Job Reference (optional)	I58438508

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:23 Page: 1
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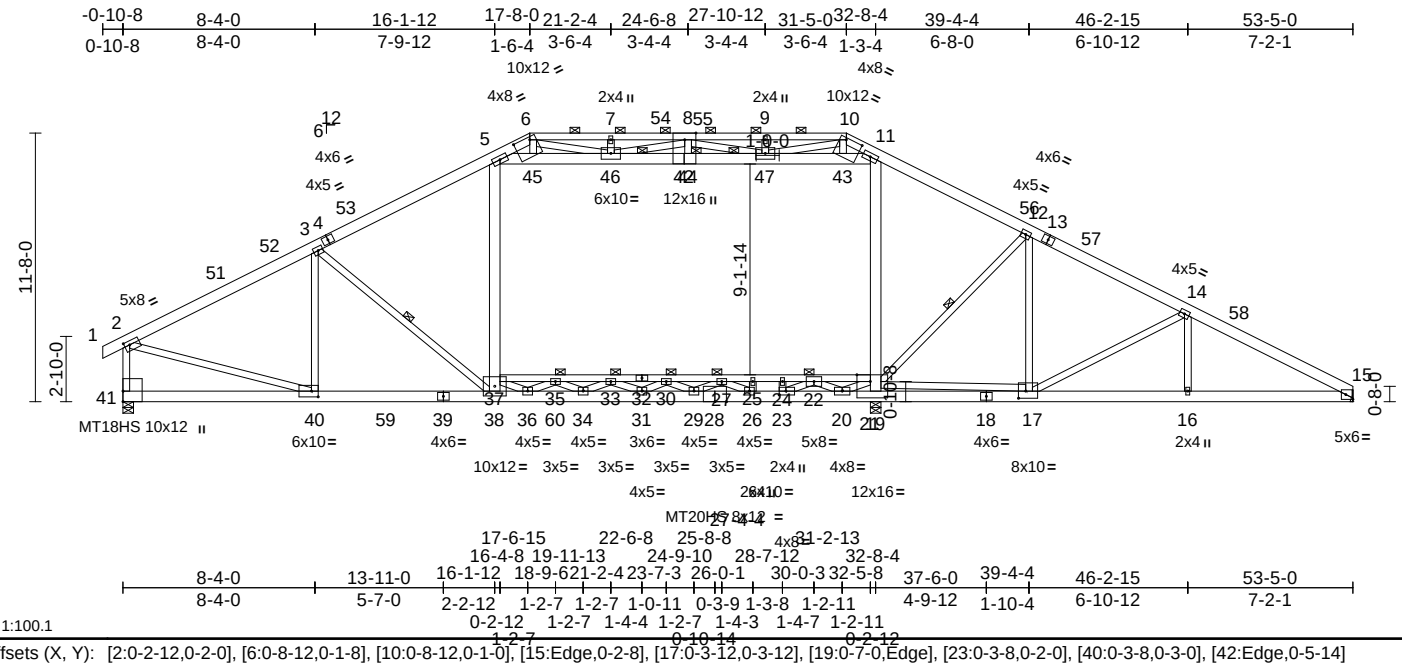

Scale = 1:100.1

Plate Offsets (X, Y): [2:0-2-12,0-2-0], [6:0-8-12,0-1-8], [10:0-8-12,0-1-0], [15:Edge,0-2-8], [17:0-3-12,0-3-12], [19:0-7-0,Edge], [23:0-3-8,0-2-0], [40:0-3-8,0-3-0], [42:Edge,0-5-14]

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	0.96	Vert(LL)	-0.39	30-33	>993	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.90	Vert(CT)	-0.66	33-35	>594	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.86	Horz(CT)	0.12	15	n/a	n/a	MT20HS	187/143
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.27	21-37	>734	360		
BCDL	10.0										Weight: 495 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 6-10:2x4 SP No.2
BOT CHORD 2x6 SP No.2 *Except* 37-32:2x4 SP No.2, 18-28,28-39:2x6 SP 2400F 2.0E, 32-21:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 5-38,11-19,42-11,42-5:2x6 SP No.2, 40-2,21-20,20-22,22-23,37-36,36-35,35-34,34-33,30-29,29-27,27-26:2x4 SP No.2, 21-17:2x4 SP No.1

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-0-7 oc purlins, except end verticals, and 2-0-0 oc purlins (3-3-9 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-20
5-7-7 oc bracing: 17-19.
WEBS 1 Row at midpt 3-38, 12-21
JOINTS 1 Brace at Jt(s): 44, 22, 35, 33, 30, 27, 46, 47

REACTIONS (size) 15= Mechanical, 19=0-5-8, 41=0-5-8
Max Horiz 41=-188 (LC 12)
Max Uplift 19=-74 (LC 15), 41=-30 (LC 14)
Max Grav 15=2313 (LC 46), 19=1760 (LC 38), 41=3005 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-3=-3830/11, 3-5=-3926/0, 5-6=-1722/147, 6-7=-2696/396, 7-8=-2696/396, 8-9=-2582/406, 9-10=-2582/406, 10-11=-1626/160, 11-12=-3722/44, 12-14=-3837/37, 14-15=-4398/37, 2-41=-2869/73
BOT CHORD 40-41=-112/225, 38-40=-16/3355, 36-38=0/3329, 34-36=0/5013, 31-34=0/6223, 29-31=0/6493, 26-29=0/5351, 23-26=0/3841, 20-23=0/1720, 19-20=-1996/0, 17-19=-1696/0, 16-17=0/3858, 15-16=-13/3858, 35-37=-774/0, 33-35=-2689/0, 30-33=-3453/0, 27-30=-3220/0, 25-27=-909/787, 24-25=-909/787, 22-24=-909/787, 21-22=0/3708
WEBS 3-40=-645/67, 37-38=0/434, 5-37=0/1171, 19-21=-941/244, 11-21=-34/1171, 12-17=-237/110, 14-16=0/258, 5-45=-2373/0, 45-46=-2305/0, 44-46=-1885/1246, 44-47=-1885/1246, 43-47=-2392/22, 11-43=-2543/25, 2-40=0/3399, 10-43=-15/678, 8-44=0/227, 14-17=-594/198, 3-38=-159/366, 6-45=-16/403, 23-24=-395/0, 25-26=0/135, 20-21=0/1706, 20-22=-2722/0, 22-23=0/2450, 36-37=0/1075, 35-36=-1447/0, 34-35=0/845, 33-34=-721/0, 31-33=-102/188, 30-31=-136/127, 29-30=-430/0, 27-29=0/960, 26-27=-1750/0, 17-21=0/4646, 12-21=-590/316, 7-46=-279/91, 6-46=-312/1228, 8-46=-951/130, 9-47=-282/93, 10-47=-317/1336, 8-47=-1006/137

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 4-5-10, Interior (1) 4-5-10 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.
7) All plates are MT20 plates unless otherwise indicated.
8) All plates are 4x5 MT20 unless otherwise indicated.

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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) Ceiling dead load (5.0 psf) on member(s). 5-45, 45-46, 44-46, 44-47, 43-47, 11-43; Wall dead load (5.0psf) on member(s).5-37, 11-21
12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 27-30, 25-27, 24-25, 22-24, 21-22
13) Refer to girder(s) for truss to truss connections.
14) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 41 and 19. This connection is for uplift only and does not consider lateral forces.
15) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
17) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	A4GR	Attic Girder	1	4	Job Reference (optional)	I58438509

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:25 Page: 1
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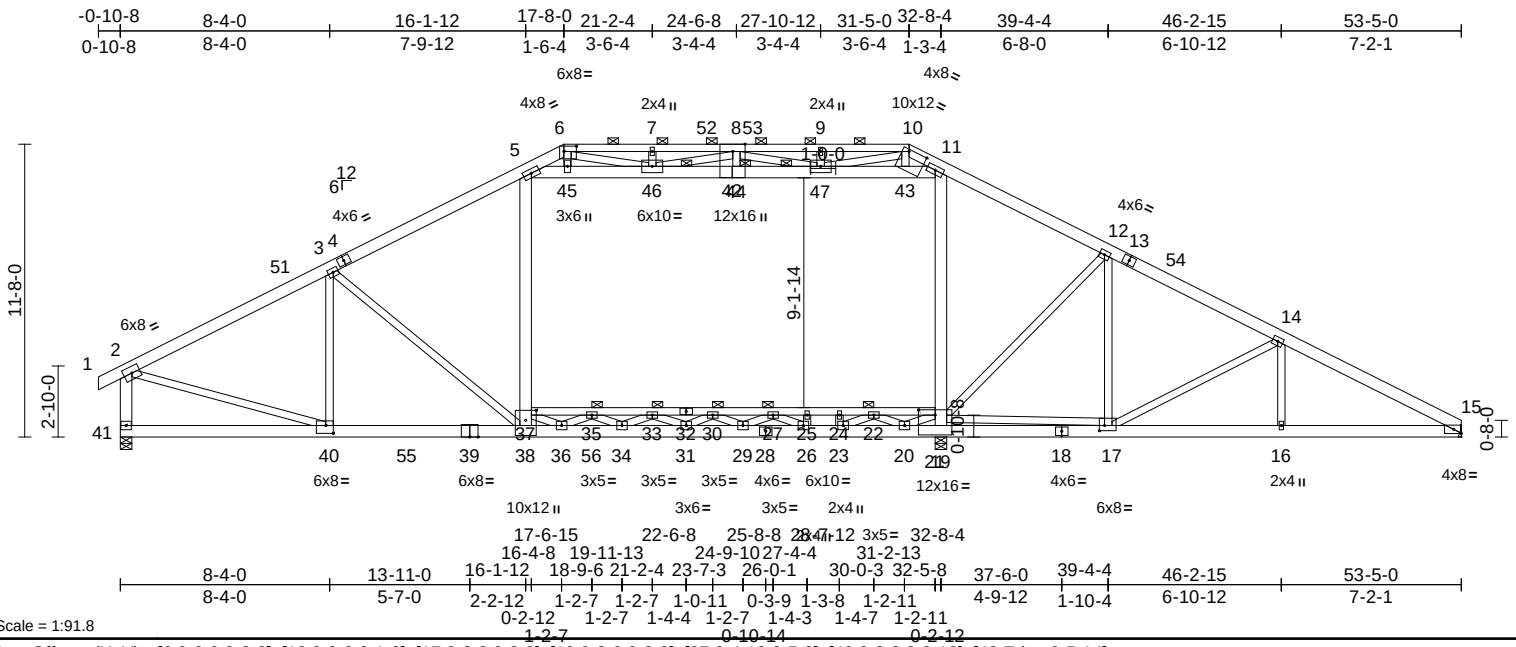

Plate Offsets (X, Y): [6:0-6-0,0-2-8], [10:0-9-0,0-1-0], [17:0-2-8,0-2-8], [19:0-8-0,0-2-8], [37:0-4-12,0-5-0], [40:0-3-8,0-3-12], [42:Edge,0-5-14]

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	0.77	Vert(LL)	-0.40	38-40	>967	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.61	38-40	>642	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.92	Horz(CT)	0.10	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.20	21-37	>987	360		
BCDL	10.0										Weight: 1988 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2 *Except* 6-10:2x4 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 37-32:2x4 SP No.2, 39-41:2x6 SP No.2, 32-21:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 41-2,5-38,11-19,42-11,42-5:2x6 SP No.2, 40-2:2x4 SP No.1, 21-17:2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-10.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 19-20.
JOINTS 1 Brace at Jt(s): 44, 22, 35, 33, 30, 27, 46, 47

REACTIONS (size) 15= Mechanical, 19=0-5-8, 41=0-5-8
Max Horiz 41=-189 (LC 10)
Max Uplift 15=-522 (LC 12), 19=-4548 (LC 45), 41=-832 (LC 12)
Max Grav 15=8746 (LC 46), 19=831 (LC 12), 41=12198 (LC 46)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/30, 2-3=-16650/1131, 3-5=-19441/1334, 5-6=-4814/433, 6-7=-4415/587, 7-8=-4415/587, 8-9=-4173/586, 9-10=-4173/586, 10-11=-4884/456, 11-12=-18854/1350, 12-14=-17866/1248, 14-15=-17912/1142, 2-41=-12061/877
BOT CHORD 40-41=-138/410, 38-40=-1014/14912, 36-38=-1200/18263, 34-36=-697/18903, 31-34=-198/17557, 29-31=0/15575, 26-29=0/11995, 23-26=0/9184, 20-23=-87/5680, 19-20=-487/835, 17-19=-689/3267, 16-17=-961/15893, 15-16=-961/15893, 35-37=-2134/36, 33-35=-1708/0, 30-33=-1005/1211, 27-30=-1202/3084, 25-27=-1128/8019, 24-25=-1128/8019, 22-24=-1128/8019, 21-22=-699/14744
WEBS 3-40=-3880/337, 37-38=-573/7505, 5-37=-480/8325, 19-21=-734/6286, 11-21=-591/7755, 12-17=-1532/140, 14-16=-135/118, 5-45=-13023/908, 45-46=-12751/886, 44-46=-12467/672, 44-47=-12467/672, 43-47=-13270/947, 11-43=-13967/997, 2-40=-916/15167, 10-43=-213/3037, 8-44=-40/779, 14-17=-262/299, 3-38=-227/3401, 6-45=-117/1557, 23-24=-689/0, 25-26=0/298, 20-21=0/2483, 20-22=-3926/0, 22-23=0/4054, 36-37=0/1335, 35-36=-441/640, 34-35=-904/338, 33-34=-258/706, 31-33=-1258/201, 30-31=-149/1121, 29-30=-1744/94, 27-29=-13/2541, 26-27=-3260/0, 17-21=-305/12831, 12-21=-138/1518, 7-46=-201/142, 6-46=-1311/526, 8-46=-1954/233, 9-47=-220/108, 10-47=-981/766, 8-47=-2156/252

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: 2x4 - 1 row at 0-9-0 oc, 2x6 - 3 rows staggered at 0-5-0 oc, Except member 11-19 2x6 - 2 rows staggered 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
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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 4x5 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). 5-45, 45-46, 44-46, 44-47, 43-47, 11-43; Wall dead load (5.0psf) on member(s).5-37, 11-21
13) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 35-37, 33-35, 30-33, 27-30, 25-27, 24-25, 22-24, 21-22
14) Refer to girder(s) for truss to truss connections.
15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 522 lb uplift at joint 15 and 4548 lb uplift at joint 19.
16) LGT4-SDS3 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 41. 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) 10250 lb down and 872 lb up at 16-1-12 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, 2-6=-60, 6-10=-60, 10-15=-60, 41-48=-20, 21-37=-30, 5-45=-10, 45-46=-10, 42-46=-10, 42-44=-10, 44-47=-10, 43-47=-10, 11-43=-10
   Drag: 5-37=-10, 11-21=-10
   Concentrated Loads (lb)
   Vert: 38=-5498 (F)

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438510
23050096-01	B1GE	Common Structural Gable	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:27 Page: 1

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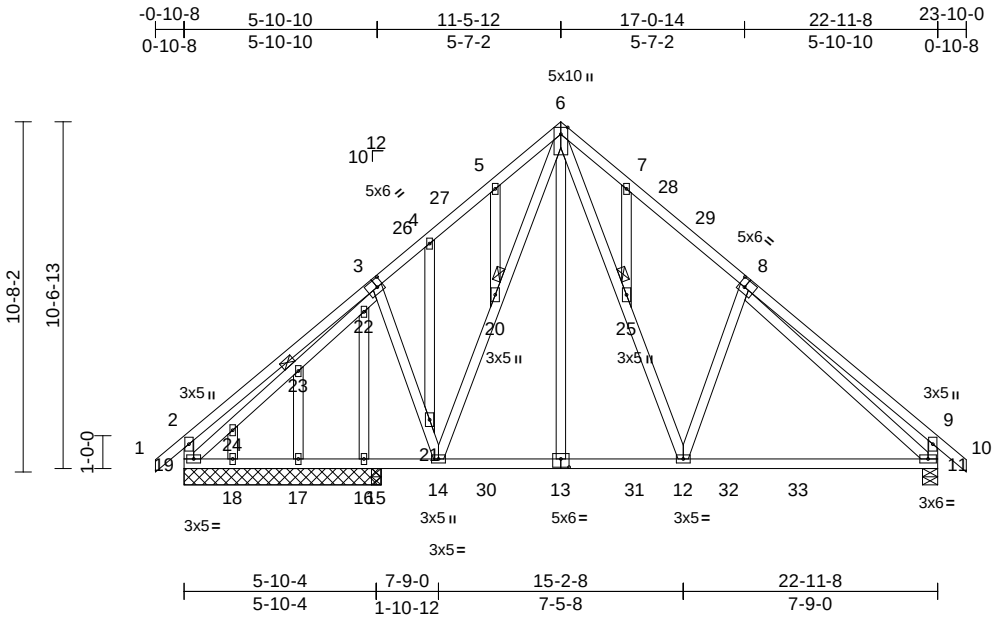

Scale = 1:70.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.45	Vert(LL)	-0.12	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.21	11-12	>967	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.02	11	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 201 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 12-6,14-6:2x4 SP No.2
OTHERS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-9-13 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS 1 Brace at Jt(s): 20, 23, 25

REACTIONS (size) 11=0-5-8, 15=0-3-8, 16=6-0-0, 17=6-0-0, 18=6-0-0, 19=6-0-0
Max Horiz 19=265 (LC 13)
Max Uplift 11=-96 (LC 15), 15=-54 (LC 14), 17=-2 (LC 12), 18=-21 (LC 14), 19=-106 (LC 14)
Max Grav 11=953 (LC 6), 15=219 (LC 24), 16=436 (LC 25), 17=58 (LC 7), 18=103 (LC 24), 19=523 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/39, 2-4=-597/238, 4-5=-620/264, 5-6=-545/297, 6-7=-756/262, 7-9=-908/231, 9-10=0/39, 2-19=-350/226, 9-11=-507/218
BOT CHORD 18-19=-125/476, 17-18=-125/476, 16-17=-125/476, 15-16=-125/476, 14-15=-125/476, 12-14=-10/506, 11-12=-3/686
WEBS 6-25=-180/560, 12-25=-157/565, 8-12=-267/246, 14-20=-207/92, 6-20=-244/122, 3-21=-2/294, 14-21=-44/277, 19-24=-370/21, 23-24=-372/17, 22-23=-352/33, 3-22=-778/0, 8-11=-588/0, 6-13=0/163, 5-20=-63/38, 4-21=-182/56, 16-22=-537/14, 17-23=-26/61, 18-24=-12/8, 7-25=-60/34

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 8-3-6, Exterior(2R) 8-3-6 to 14-3-6, Interior (1) 14-3-6 to 20-10-0, Exterior(2E) 20-10-0 to 23-10-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
7) All plates are 2x4 MT20 unless otherwise indicated.
8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
9) Gable studs spaced at 2-0-0 oc.
10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
12) N/A
13) N/A
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

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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	B1GR	Common Girder	1	2	Job Reference (optional)	I58438511

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:28 Page: 1
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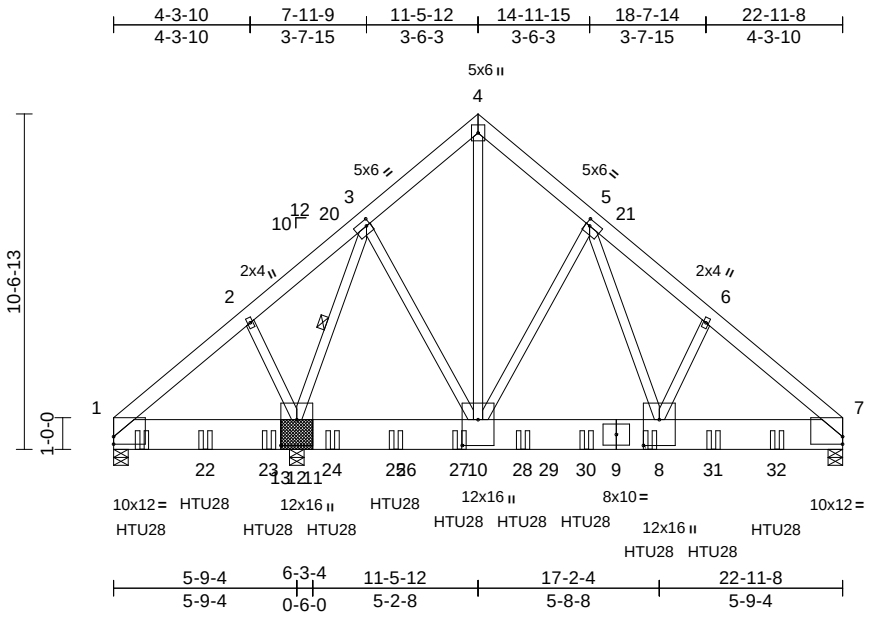

Scale = 1:72.6

Plate Offsets (X, Y): [1:Edge,0-2-13], [3:0-1-8,0-2-4], [5:0-1-8,0-2-4], [7:Edge,0-2-13], [8:0-9-12,0-6-0], [10:0-9-12,0-6-0], [12:0-9-12,0-6-0]

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	0.34	Vert(LL)	-0.10	8-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.18	8-10	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.83	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 509 lb	FT = 20%

LUMBER
TOP CHORD 2x6 SP No.2
BOT CHORD 2x12 SP 2400F 2.0E
WEBS 2x4 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-6-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 1-12.
WEBS 1 Row at midpt 3-12

REACTIONS (size) 1=0-5-8, 7=0-5-8, 12=(0-5-8 + bearing block), (req. 0-5-10)
Max Horiz 1=225 (LC 11)
Max Uplift 1=-332 (LC 8), 7=-841 (LC 13), 12=-1035 (LC 12)
Max Grav 1=4173 (LC 22), 7=9663 (LC 6), 12=13659 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-135/166, 2-3=-82/180, 3-4=-5604/515, 4-5=-5658/495, 5-6=-10570/982, 6-7=-10664/911
BOT CHORD 1-12=-179/217, 10-12=-194/2301, 8-10=-400/6077, 7-8=-632/8129
WEBS 4-10=-565/6784, 2-12=-367/175, 3-12=-7979/621, 3-10=-326/4530, 5-10=-3833/566, 5-8=-758/6672, 6-8=-134/177

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: 2x12 - 4 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
3) 2x12 SP 2400F 2.0E bearing block 12" long at jt. 12 attached to each face with 6 rows of 10d (0.131"x3") nails spaced 3" o.c. 24 Total fasteners per block. Bearing is assumed to be SP 2400F 2.0E.
4) Unbalanced roof live loads have been considered for this design.
5) 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
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) 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) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1, 7, and 12. This connection is for uplift only and does not consider lateral forces.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
12) Use Simpson Strong-Tie HTU28 (26-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 0-10-12 from the left end to 20-10-12 to connect truss(es) to front face of bottom chord.
13) Fill all nail holes where hanger is in contact with lumber.
14) LGT2 Hurricane ties must have two studs in line below the truss.
15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 3059 lb down and 254 lb up at 0-0-0 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: 1-4=-60, 4-7=-60, 14-17=-20
Concentrated Loads (lb)

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Vert: 8=-2152 (F), 14=-1953, 16=-1821 (F), 22=-222 (F), 23=-222 (F), 24=-2365 (F), 25=-2365 (F), 27=-2365 (F), 28=-2152 (F), 30=-2152 (F), 31=-2152 (F), 32=-2152 (F)

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	C1	Monopitch	4	1	Job Reference (optional)	I58438512

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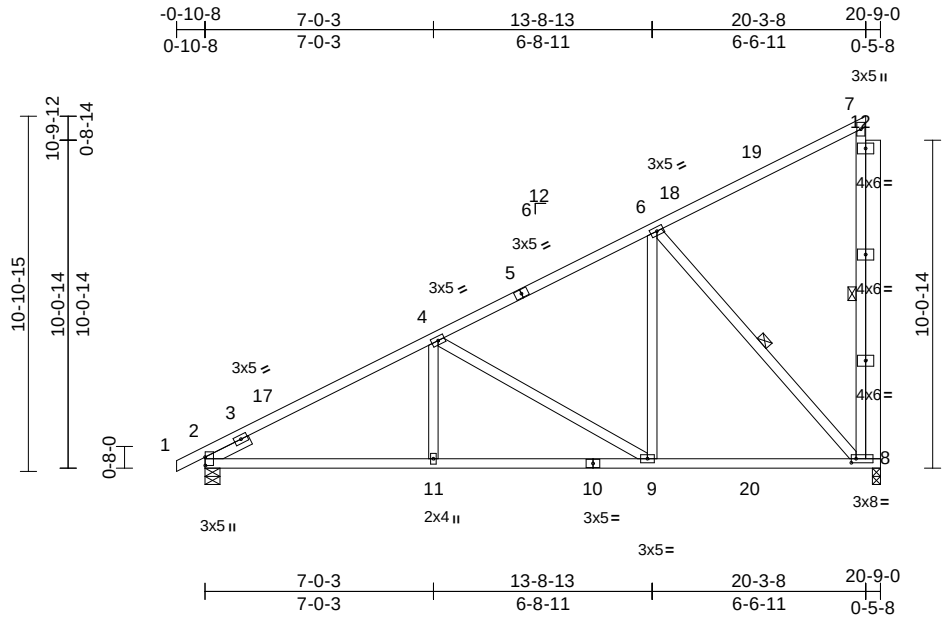

Scale = 1:70.8

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

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	0.78	Vert(LL)	-0.07	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.12	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 147 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-8 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=0-3-0
Max Horiz 2=394 (LC 13)
Max Uplift 2=-96 (LC 14), 8=-178 (LC 14)
Max Grav 2=940 (LC 5), 8=1018 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-1347/171, 4-6=-817/157, 6-7=-219/141, 7-8=-263/80
BOT CHORD 2-11=-297/1150, 9-11=-212/1150, 8-9=-110/651
WEBS 4-11=0/265, 4-9=-593/177, 6-9=-3/582, 6-8=-942/223

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 17-1-12, Exterior(2E) 17-1-12 to 20-1-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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) All plates are 3x5 MT20 unless otherwise indicated.
6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
8) 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.
9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

ENGINEERING BY TRENCO
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	C2	Monopitch	1	1	Job Reference (optional)	I58438513

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:29 Page: 1

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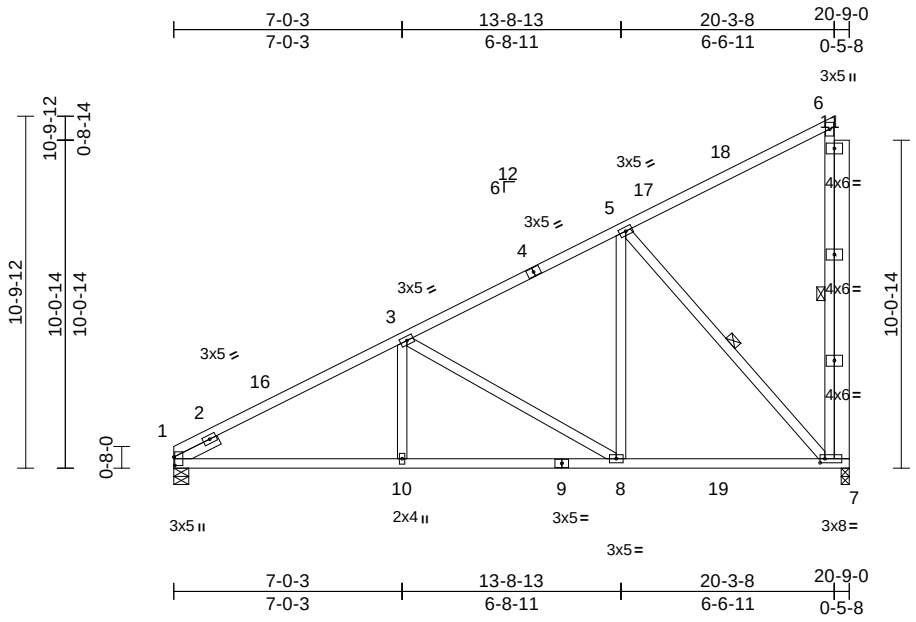

Scale = 1:70.8

Plate Offsets (X, Y): [1:0-3-1,0-0-5], [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	0.77	Vert(LL)	-0.07	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.12	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	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
OTHERS	2x6 SP No.2
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-6 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=0-5-8, 7=0-3-0
Max Horiz 1=386 (LC 13)
Max Uplift 1=-78 (LC 14), 7=-178 (LC 14)
Max Grav 1=894 (LC 5), 7=1012 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-3=-1348/176, 3-5=-818/158, 5-6=-219/141, 6-7=-259/80
BOT CHORD	1-10=-302/1153, 8-10=-213/1153, 7-8=-110/648
WEBS	3-10=0/266, 3-8=-597/179, 5-8=-4/583, 5-7=-937/224

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 17-1-12, Exterior(2E) 17-1-12 to 20-1-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	C3	Jack-Closed	1	1	Job Reference (optional)	I58438514

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:30 Page: 1
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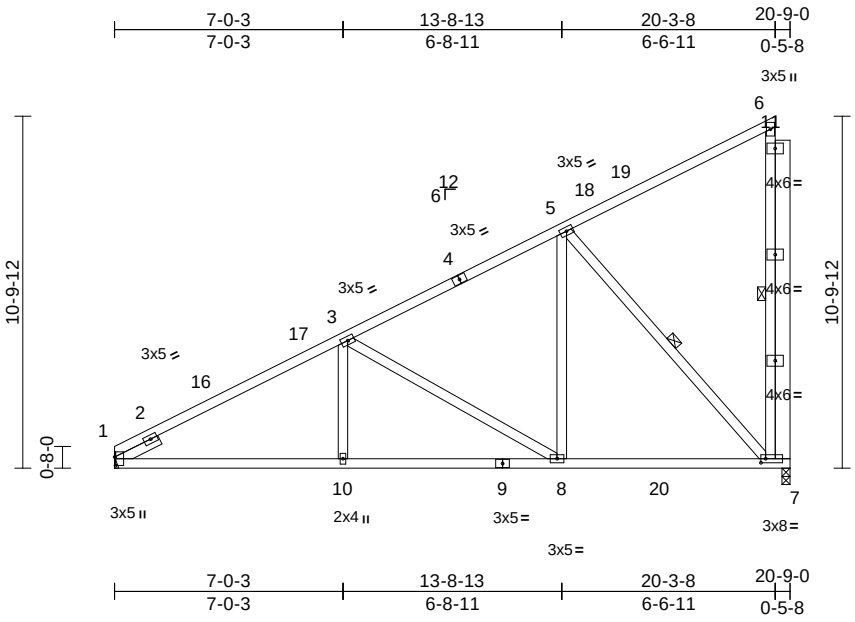

Scale = 1:70.8

Plate Offsets (X, Y): [1:0-3-1,0-0-5], [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	0.77	Vert(LL)	-0.07	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.60	Vert(CT)	-0.12	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.68	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
OTHERS 2x6 SP No.2
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-9-6 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= Mechanical, 7=0-3-0
Max Horiz 1=386 (LC 13)
Max Uplift 1=-38 (LC 14), 7=-81 (LC 11)
Max Grav 1=894 (LC 5), 7=1012 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1348/123, 3-5=-818/131, 5-6=-219/140, 6-7=-259/80
BOT CHORD 1-10=-302/1153, 8-10=-158/1153, 7-8=-110/648
WEBS 3-10=0/266, 3-8=-597/124, 5-8=0/583, 5-7=-937/144

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 15-10-13, Exterior(2R) 15-10-13 to 20-1-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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) All bearings are assumed to be User Defined crushing capacity of 425 psi.
8) Refer to girder(s) for truss to truss connections.
9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 1.
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	D1GE	Common Supported Gable	1	1	Job Reference (optional)	I58438515

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:30 Page: 1
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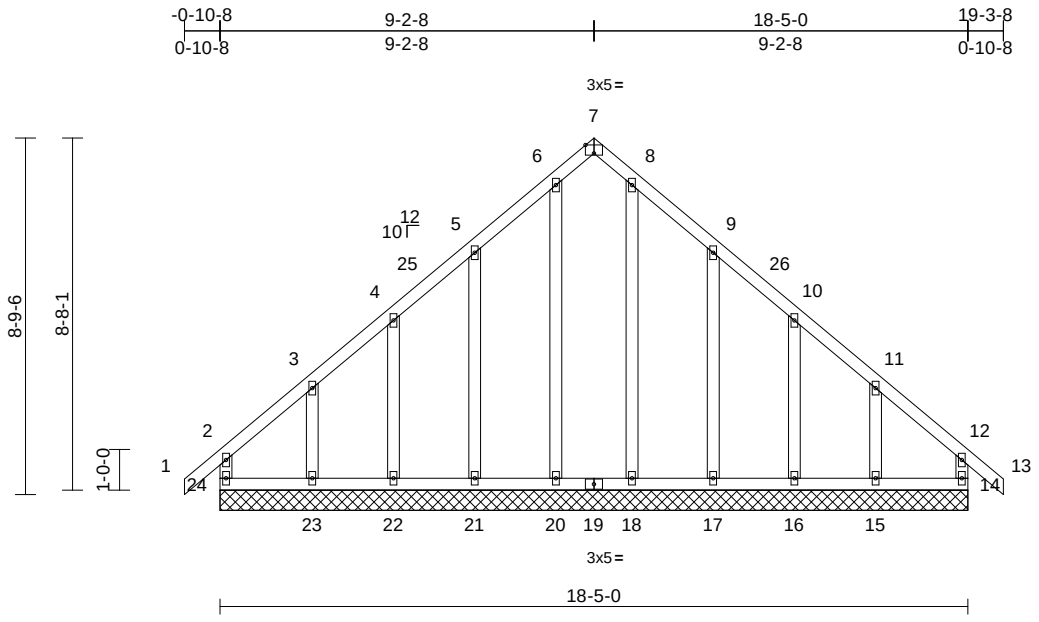

Scale = 1:56.8

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	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	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=-51 (LC 11), 15=-161 (LC 15), 16=-48 (LC 15), 17=-115 (LC 15), 21=-113 (LC 14), 22=-47 (LC 14), 23=-165 (LC 14), 24=-70 (LC 10)
Max Grav 14=188 (LC 28), 15=221 (LC 25), 16=173 (LC 22), 17=255 (LC 22), 18=220 (LC 22), 20=220 (LC 21), 21=255 (LC 21), 22=173 (LC 21), 23=228 (LC 24), 24=204 (LC 25)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-24=-167/64, 1-2=0/39, 2-3=-160/139, 3-4=-104/92, 4-5=-91/131, 5-6=-132/248, 6-7=-99/177, 7-8=-99/177, 8-9=-132/248, 9-10=-76/131, 10-11=-89/73, 11-12=-146/116, 12-13=0/39, 12-14=-154/48
BOT CHORD 23-24=-105/169, 22-23=-105/169, 21-22=-105/169, 20-21=-105/169, 18-20=-105/169, 17-18=-105/169, 16-17=-105/169, 15-16=-105/169, 14-15=-105/169
WEBS 6-20=-182/14, 8-18=-182/14, 5-21=-215/162, 4-22=-134/92, 3-23=-161/164, 9-17=-215/162, 10-16=-134/92, 11-15=-157/164

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-3-4, Exterior(2N) 2-3-4 to 6-2-8, Corner(3R) 6-2-8 to 12-1-12, Exterior(2N) 12-1-12 to 16-1-12, Corner(3E) 16-1-12 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 70 lb uplift at joint 24, 51 lb uplift at joint 14, 113 lb uplift at joint 21, 47 lb uplift at joint 22, 165 lb uplift at joint 23, 115 lb uplift at joint 17, 48 lb uplift at joint 16 and 161 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	D1GR	Common Girder	1	3	Job Reference (optional)	I58438516

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

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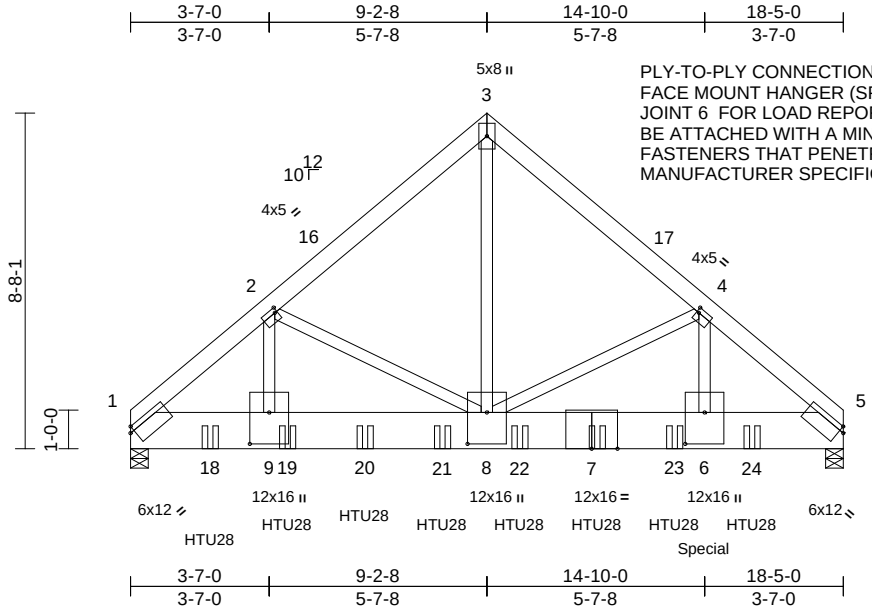

PLY-TO-PLY CONNECTION REQUIRES THAT AN APPROVED FACE MOUNT HANGER (SPECIFIED BY OTHERS) IS REQUIRED AT JOINT 6 FOR LOAD REPORTED IN NOTES. FACE MOUNT HANGER SHALL BE ATTACHED WITH A MINIMUM OF 0.25"x 4.5" SCREWS OR OTHER FASTENERS THAT PENETRATES ALL PLIES, PER HANGER MANUFACTURER SPECIFICATIONS.

Scale = 1:59.5

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

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	0.45	Vert(LL)	-0.10	6-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.41	Vert(CT)	-0.17	6-8	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.03	5	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 2x12 SP 2400F 2.0E
WEBS 2x4 SP No.2 *Except* 8-3:2x4 SP No.1, 2-8,4-8:2x4 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=0-5-8, 5=0-5-8
Max Horiz 1=-180 (LC 10)
Max Grav 1=11402 (LC 5), 5=15008 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-14037/0, 2-3=-11369/0, 3-4=-11356/0, 4-5=-18724/0
BOT CHORD 1-9=0/10670, 8-9=0/10670, 6-8=0/14249, 5-6=0/14249
WEBS 3-8=0/13969, 4-6=0/8263, 2-9=0/2808, 2-8=-2269/0, 4-8=-6711/164

NOTES
1) N/A

2) 3-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x12 - 6 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 2 rows staggered at 0-4-0 oc.

3) 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.

4) Unbalanced roof live loads have been considered for this design.

5) 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

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

11) Use Simpson Strong-Tie HTU28 (26-10d Girder, 14-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 16-0-12 to connect truss(es) to front face of bottom chord.

12) Fill all nail holes where hanger is in contact with lumber.

13) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8726 lb down and 630 lb up at 14-10-0 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: 1-3=-60, 3-5=-60, 10-13=-20
Concentrated Loads (lb)
Vert: 7=-1916 (F), 6=-5454 (F), 18=-1916 (F), 19=-1916 (F), 20=-1916 (F), 21=-1916 (F), 22=-1916 (F), 23=-1916 (F), 24=-818 (F)

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438517
23050096-01	E1GE	Common Supported Gable	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:31 Page: 1

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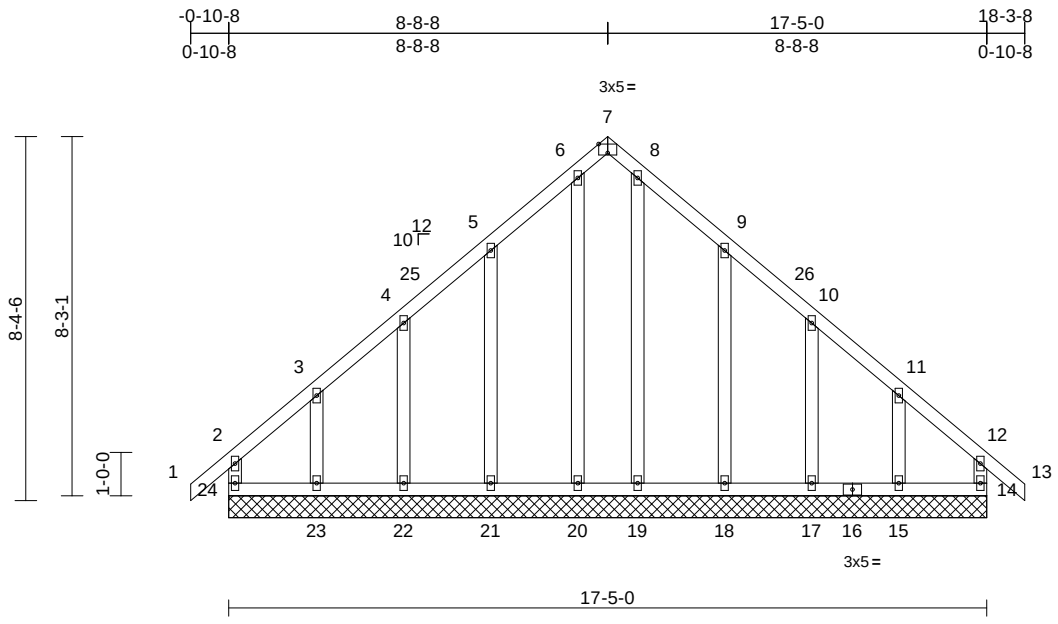

Scale = 1:52.9

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	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 121 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, 17=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=-143 (LC 15), 17=-57 (LC 15), 18=-103 (LC 15), 21=-102 (LC 14), 22=-56 (LC 14), 23=-149 (LC 14), 24=-83 (LC 10)

Max Grav 14=174 (LC 24), 15=208 (LC 29), 17=184 (LC 22), 18=263 (LC 22), 19=197 (LC 22), 20=197 (LC 21), 21=263 (LC 21), 22=184 (LC 21), 23=217 (LC 28), 24=192 (LC 29)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-24=-156/73, 1-2=0/39, 2-3=-146/137, 3-4=-98/98, 4-5=-82/166, 5-6=-137/277, 6-7=-98/193, 7-8=-98/193, 8-9=-137/277, 9-10=-82/166, 10-11=-77/84, 11-12=-122/111, 12-13=0/39, 12-14=-141/58
BOT CHORD	23-24=-101/140, 22-23=-101/140, 21-22=-101/140, 20-21=-101/140, 19-20=-101/140, 18-19=-101/140, 17-18=-101/140, 15-17=-101/140, 14-15=-101/140
WEBS	6-20=-164/22, 8-19=-164/22, 5-21=-222/151, 4-22=-144/105, 3-23=-151/148, 9-18=-222/151, 10-17=-144/105, 11-15=-147/148

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 2-0-4, Exterior(2N) 2-0-4 to 5-8-8, Corner(3R) 5-8-8 to 11-8-8, Exterior(2N) 11-8-8 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 83 lb uplift at joint 24, 60 lb uplift at joint 14, 102 lb uplift at joint 21, 56 lb uplift at joint 22, 149 lb uplift at joint 23, 103 lb uplift at joint 18, 57 lb uplift at joint 17 and 143 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438518
23050096-01	F1	Common	6	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:32 Page: 1

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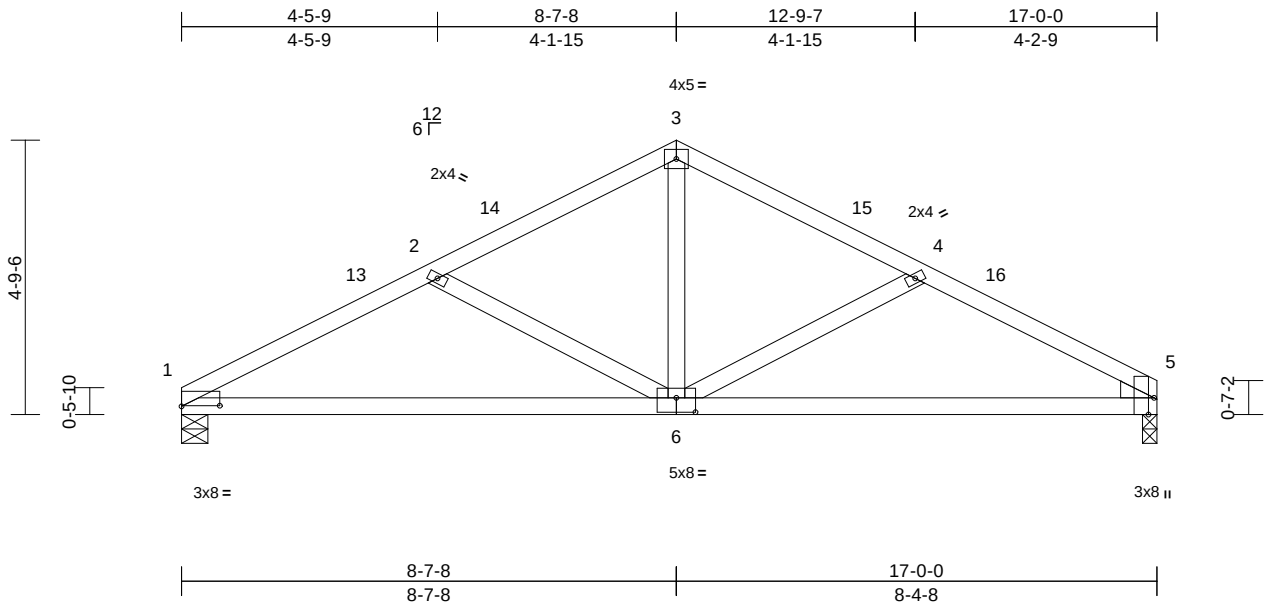

Scale = 1:40.2

Plate Offsets (X, Y): [1:0-8-0,0-0-2], [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	0.38	Vert(LL)	-0.09	6-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	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 5-1-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 5=0-3-0
Max Horiz 1=71 (LC 14)
Max Uplift 1=-66 (LC 14), 5=-64 (LC 15)
Max Grav 1=745 (LC 20), 5=745 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-1260/310, 2-3=-879/232, 3-4=-871/231, 4-5=-1209/300
BOT CHORD	1-5=-223/1089
WEBS	3-6=-52/475, 4-6=-399/159, 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 14-0-0, Exterior(2E) 14-0-0 to 17-0-0 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 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) 1 and 5. 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438519
23050096-01	G1	Monopitch	6	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:32 Page: 1

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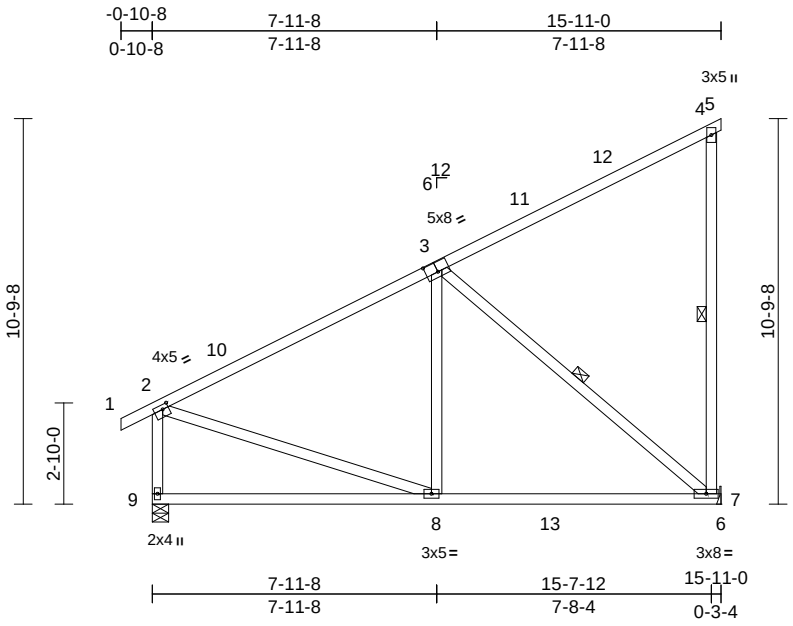

Scale = 1:64.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.94	Vert(LL)	-0.12	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.20	7-8	>931	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: 106 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1 *Except* 1-3:2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 4-7:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 9-1-3 oc bracing.
WEBS 1 Row at midpt 4-7, 3-7

REACTIONS (size) 7= Mechanical, 9=0-5-8
Max Horiz 9=272 (LC 14)
Max Uplift 7=-221 (LC 14)
Max Grav 7=829 (LC 5), 9=752 (LC 5)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/27, 2-4=-671/119, 4-5=-12/0, 4-7=-328/122, 2-9=-643/73
BOT CHORD 8-9=-407/211, 7-8=-210/535, 6-7=0/0
WEBS 3-8=0/312, 3-7=-675/269, 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) -0-10-8 to 2-1-8, Interior (1) 2-1-8 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 221 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	H1	Monopitch	6	1	Job Reference (optional)	I58438520

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

Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:33 Page: 1
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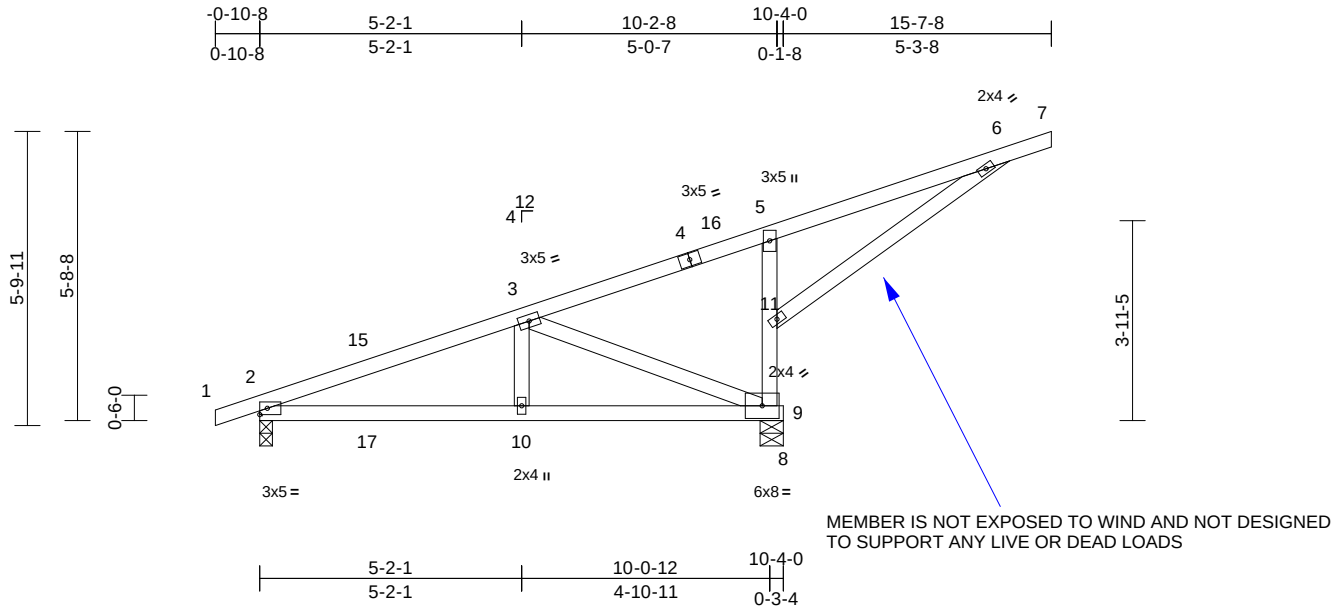

Scale = 1:45.5

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	0.85	Vert(LL)	0.05	10-14	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.05	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 64 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
Except:
4-10-0 oc bracing: 9-11
BOT CHORD Rigid ceiling directly applied or 7-8-0 oc bracing.

REACTIONS (size) 2=0-3-0, 9=0-5-8
Max Horiz 2=170 (LC 10)
Max Uplift 2=-100 (LC 10), 9=-365 (LC 10)
Max Grav 2=365 (LC 1), 9=1064 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-428/406, 3-5=-321/423, 5-6=-432/729, 6-7=-25/0, 9-11=-824/432, 5-11=-362/180
BOT CHORD 2-10=-540/377, 9-10=-540/377, 8-9=0/0
WEBS 3-10=-337/227, 3-9=-632/809, 6-11=-790/431

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 15-7-8 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
3) Unbalanced snow loads have been considered for this design.
4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
7) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 9. 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	H1GE	Monopitch Supported Gable	2	1	Job Reference (optional)	I58438521

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:33 Page: 1
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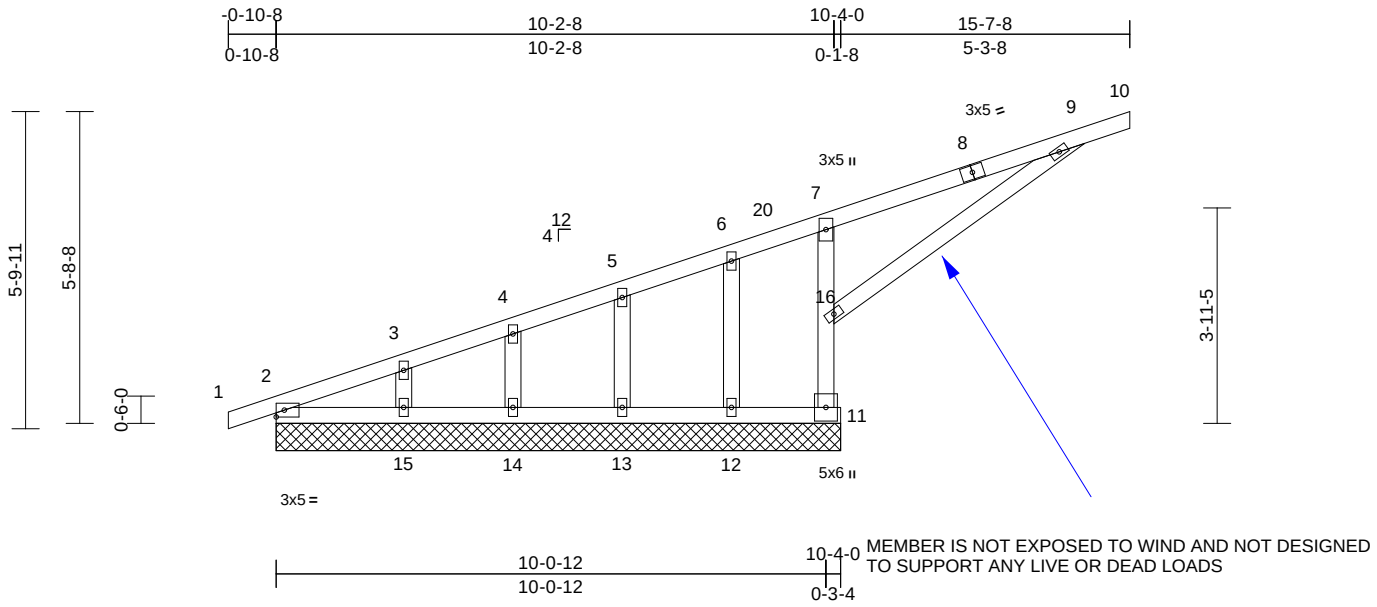

MEMBER IS NOT EXPOSED TO WIND AND NOT DESIGNED TO SUPPORT ANY LIVE OR DEAD LOADS

Scale = 1:42.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.44	Horz(CT)	-0.01	11	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 65 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.1 *Except* 16-9:2x4 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.
Except:
4-11-0 oc bracing: 11-16
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 2=10-4-0, 11=10-4-0, 12=10-4-0, 13=10-4-0, 14=10-4-0, 15=10-4-0, 17=10-4-0
Max Horiz 2=170 (LC 10), 17=170 (LC 10)
Max Uplift 2=-5 (LC 21), 11=-245 (LC 14), 13=-46 (LC 14), 14=-20 (LC 10), 15=-78 (LC 14), 17=-5 (LC 21)
Max Grav 2=87 (LC 14), 11=823 (LC 21), 12=83 (LC 7), 13=190 (LC 21), 14=140 (LC 1), 15=232 (LC 21), 17=87 (LC 14)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-628/372, 3-4=-564/360, 4-5=-522/368, 5-6=-457/345, 6-7=-486/444, 7-9=-614/712, 9-10=-25/0, 11-16=-918/719, 7-16=-467/356
BOT CHORD 2-15=-327/314, 14-15=-327/314, 13-14=-327/314, 12-13=-327/314, 11-12=-327/314
WEBS 6-12=-115/168, 5-13=-178/183, 4-14=-103/108, 3-15=-158/181, 9-16=-772/621

NOTES
1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-4-0, Exterior(2N) 2-4-0 to 15-7-8 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 requires continuous bottom chord bearing.
8) Gable studs spaced at 2-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 2, 245 lb uplift at joint 11, 46 lb uplift at joint 13, 20 lb uplift at joint 14, 78 lb uplift at joint 15 and 5 lb uplift at joint 2.
12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 17.
13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	PB1	Piggyback	18	1	Job Reference (optional)	I58438522

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:33 Page: 1
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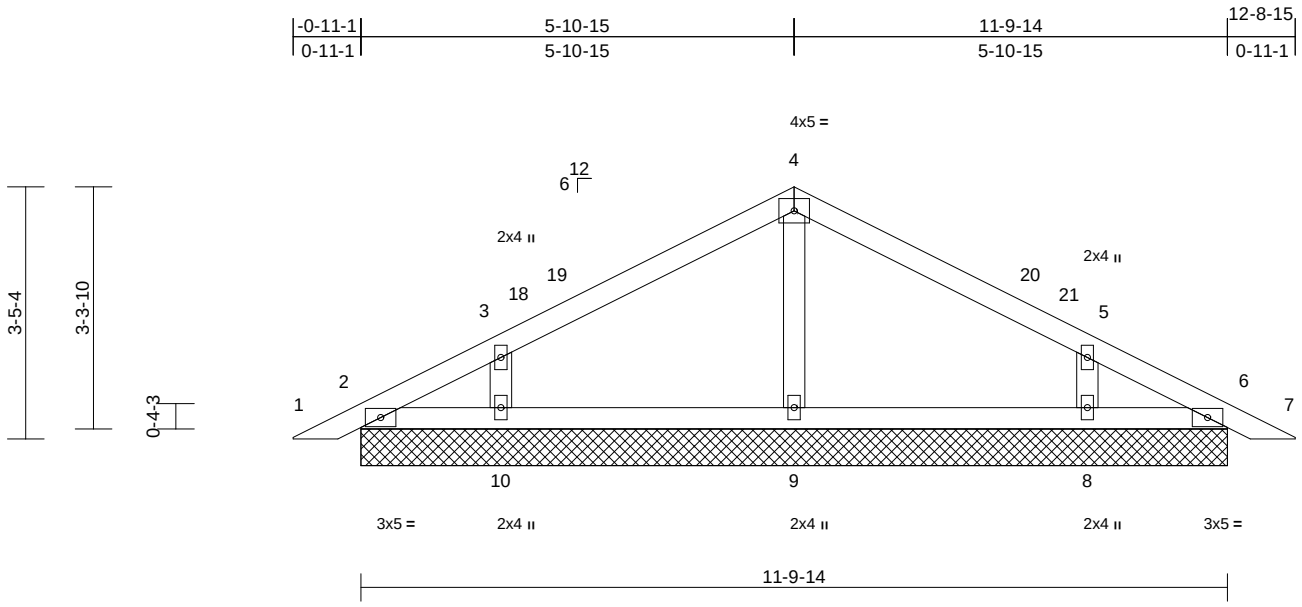


Scale = 1:31.4

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	0.28	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	0.07	Horz(CT)	0.00	15	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) 2=11-9-14, 6=11-9-14, 8=11-9-14, 9=11-9-14, 10=11-9-14, 11=11-9-14, 15=11-9-14
Max Horiz 2=52 (LC 18), 11=52 (LC 18)
Max Uplift 2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14), 11=-11 (LC 15), 15=-4 (LC 11)
Max Grav 2=84 (LC 1), 6=84 (LC 1), 8=422 (LC 22), 9=301 (LC 21), 10=422 (LC 21), 11=84 (LC 1), 15=84 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-54/45, 3-4=-124/95, 4-5=-124/95, 5-6=-33/45, 6-7=0/17
BOT CHORD 2-10=-7/46, 9-10=-2/46, 8-9=-2/46, 6-8=-7/46
WEBS 4-9=-214/92, 3-10=-378/201, 5-8=-378/201

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-4-3 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) 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) Gable requires continuous bottom chord bearing.
8) Gable studs spaced at 4-0-0 oc.
9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
11) 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

May 19,2023

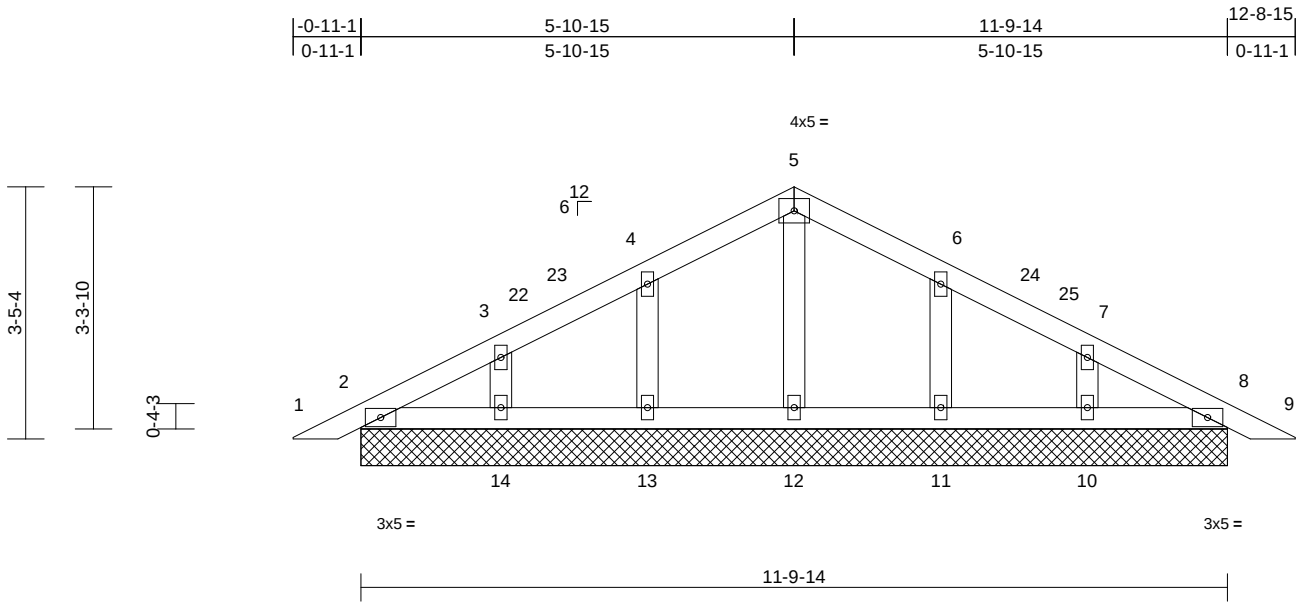
ENGINEERING BY TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	PB1GE	Piggyback	2	1	Job Reference (optional)	I58438523

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

Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:34 ID:RPY8AW_GFKIcY3mFoYebvHzRQqK-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	0.08	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=-56/48, 4-5=-63/107, 5-6=-63/107, 6-7=-56/41, 7-8=-29/25, 8-9=0/17
BOT CHORD 2-14=-9/58, 13-14=-9/58, 12-13=-9/58, 11-12=-9/58, 10-11=-9/58, 8-10=-9/58
WEBS 5-12=-102/0, 4-13=-208/122, 3-14=-181/88, 6-11=-208/122, 7-10=-181/88

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) 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	PB1GR	Piggyback	2	4	Job Reference (optional)	I58438524

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:34 Page: 1
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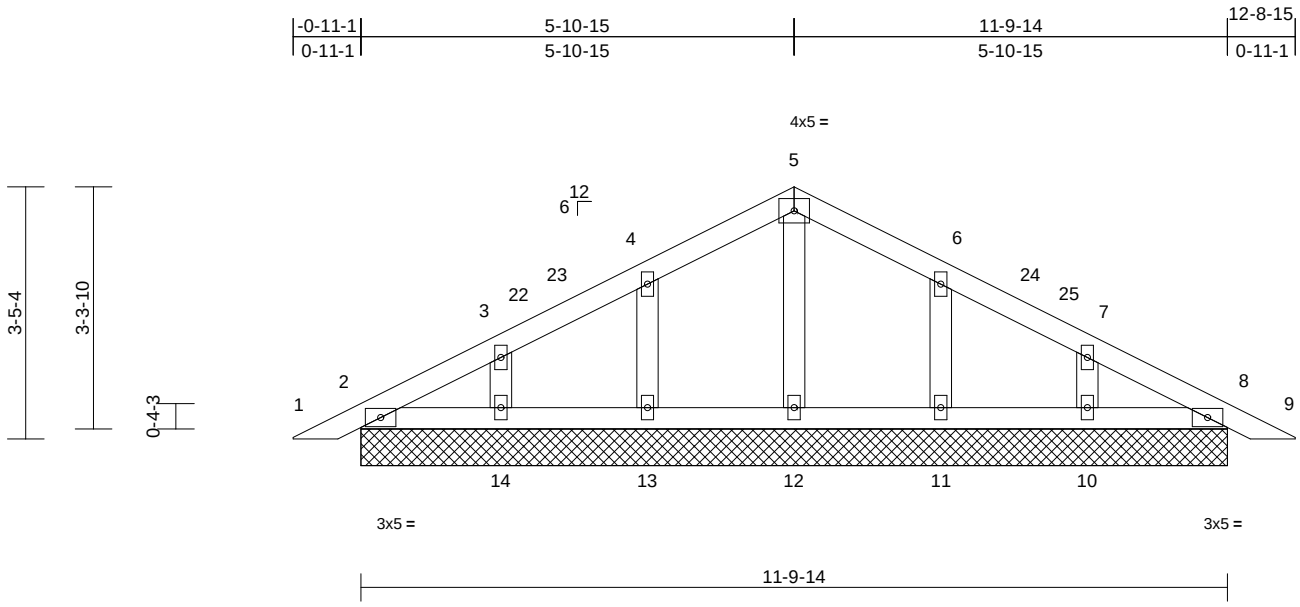

Scale = 1:31.4

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(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.01	Horz(CT)	0.00	8	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) 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=-12 (LC 15), 10=-45 (LC 15), 11=-47 (LC 15), 13=-47 (LC 14), 14=-45 (LC 14), 15=-9 (LC 15), 19=-12 (LC 15)
Max Grav 2=122 (LC 21), 8=122 (LC 22), 10=237 (LC 22), 11=244 (LC 22), 12=144 (LC 21), 13=244 (LC 21), 14=237 (LC 21), 15=122 (LC 21), 19=122 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-45/33, 3-4=-55/49, 4-5=-63/107, 5-6=-63/107, 6-7=-55/42, 7-8=-35/26, 8-9=0/17
BOT CHORD 2-14=-9/58, 13-14=-9/58, 12-13=-9/58, 11-12=-9/58, 10-11=-9/58, 8-10=-9/58
WEBS 5-12=-102/0, 4-13=-207/122, 3-14=-182/89, 6-11=-207/122, 7-10=-182/89

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) 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.
9) All plates are 2x4 MT20 unless otherwise indicated.
10) Gable requires continuous bottom chord bearing.
11) Gable studs spaced at 2-0-0 oc.
12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
13) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
14) N/A
15) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
16) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438525
23050096-01	V1	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:35 Page: 1

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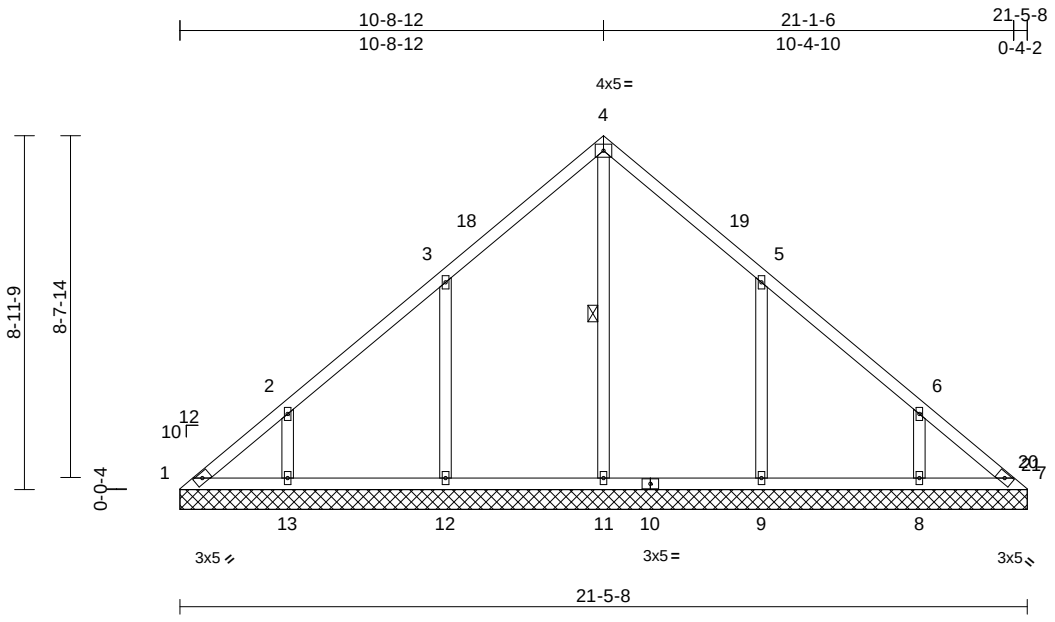

Scale = 1:58.4

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	0.31	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: 105 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-11

REACTIONS (size) 1=21-5-8, 7=21-5-8, 8=21-5-8, 9=21-5-8, 11=21-5-8, 12=21-5-8, 13=21-5-8
Max Horiz 1=205 (LC 11)
Max Uplift 1=-49 (LC 10), 7=-7 (LC 13), 8=-112 (LC 15), 9=-174 (LC 15), 12=-173 (LC 14), 13=-118 (LC 14)
Max Grav 1=146 (LC 24), 7=107 (LC 26), 8=358 (LC 24), 9=474 (LC 6), 11=411 (LC 26), 12=474 (LC 5), 13=365 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-212/172, 2-3=-166/130, 3-4=-190/180, 4-5=-190/153, 5-6=-118/80, 6-7=-168/106
BOT CHORD 1-13=-75/153, 12-13=-75/153, 11-12=-75/153, 9-11=-75/153, 8-9=-75/153, 7-8=-75/153
WEBS 4-11=-205/3, 3-12=-376/222, 2-13=-233/162, 5-9=-376/222, 6-8=-230/160

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 2-9-1, Interior (1) 2-9-1 to 7-9-1, Exterior(2R) 7-9-1 to 13-9-1, Interior (1) 13-9-1 to 18-1-4, Exterior(2E) 18-1-4 to 21-1-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) 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, 7 lb uplift at joint 7, 173 lb uplift at joint 12, 118 lb uplift at joint 13, 174 lb uplift at joint 9 and 112 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438526
23050096-01	V2	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:35 Page: 1
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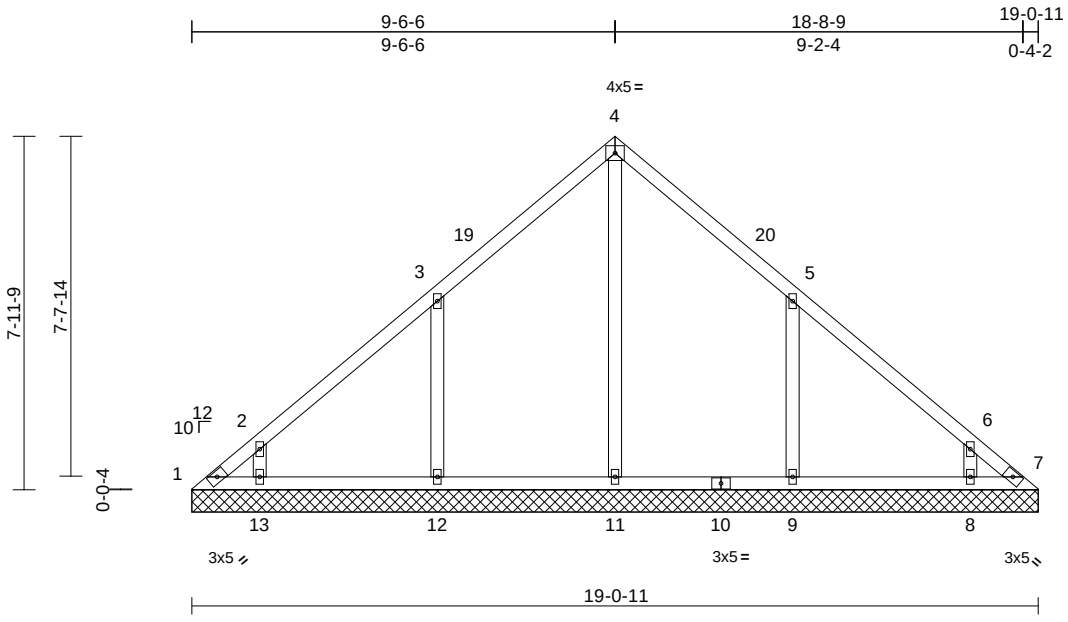

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 89 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=19-0-11, 7=19-0-11, 8=19-0-11, 9=19-0-11, 11=19-0-11, 12=19-0-11, 13=19-0-11, 18=19-0-11
Max Horiz 1=182 (LC 11)
Max Uplift 1=-96 (LC 12), 8=-48 (LC 15), 9=-194 (LC 15), 12=-174 (LC 14), 13=-101 (LC 14)
Max Grav 1=122 (LC 11), 7=0 (LC 13), 8=298 (LC 24), 9=478 (LC 24), 11=450 (LC 26), 12=480 (LC 5), 13=318 (LC 23), 18=0 (LC 13)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-219/200, 2-3=-223/182, 3-4=-195/261, 4-5=-183/235, 5-6=-115/61, 6-7=-79/40
BOT CHORD 1-13=-46/66, 12-13=-16/61, 11-12=-16/61, 9-11=-16/61, 8-9=-16/61, 7-8=-16/61
WEBS 4-11=-243/61, 3-12=-379/221, 2-13=-225/177, 5-9=-377/229, 6-8=-218/157

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 6-6-10, Exterior(2R) 6-6-10 to 12-6-10, Interior (1) 12-6-10 to 15-8-7, Exterior(2E) 15-8-7 to 18-8-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) 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, 101 lb uplift at joint 13, 194 lb uplift at joint 9 and 48 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V3	Valley	1	1	Job Reference (optional)	I58438527

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

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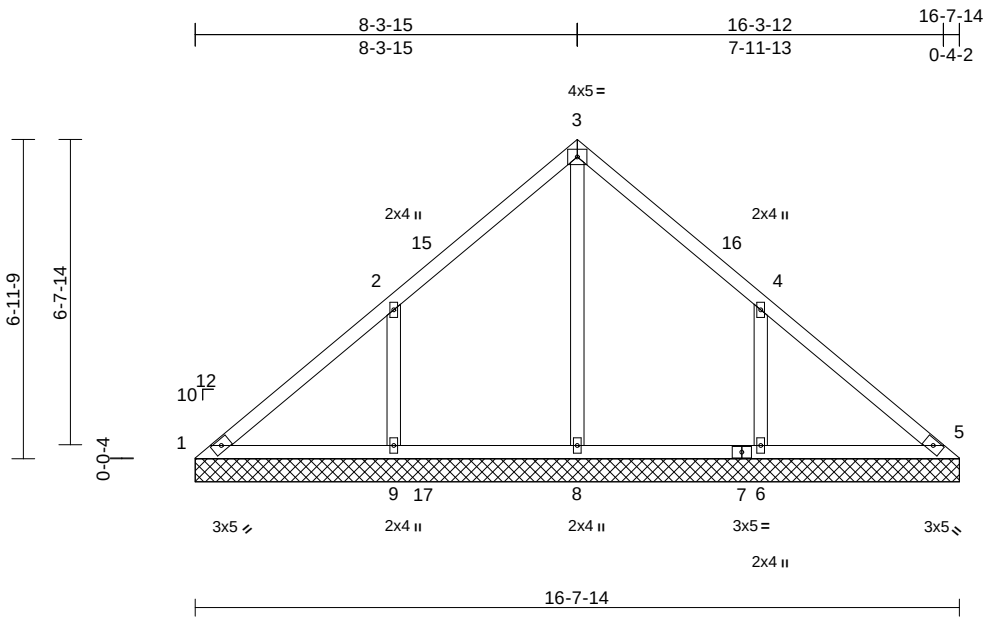

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 74 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=16-7-14, 5=16-7-14, 6=16-7-14, 8=16-7-14, 9=16-7-14, 14=16-7-14
Max Horiz 1=159 (LC 11)
Max Uplift 1=-58 (LC 10), 6=-181 (LC 15), 9=-186 (LC 14)
Max Grav 1=81 (LC 33), 5=1 (LC 24), 6=507 (LC 6), 8=649 (LC 23), 9=505 (LC 5), 14=1 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-105/363, 2-3=-28/314, 3-4=-4/293, 4-5=-132/283
BOT CHORD 1-9=-175/74, 8-9=-175/72, 6-8=-175/72, 5-6=-175/72
WEBS 3-8=-464/0, 2-9=-390/218, 4-6=-390/217

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 5-4-4, Exterior(2R) 5-4-4 to 11-4-4, Interior (1) 11-4-4 to 13-3-11, Exterior(2E) 13-3-11 to 16-3-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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, 186 lb uplift at joint 9 and 181 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V4	Valley	1	1	Job Reference (optional)	I58438528

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:36 Page: 1
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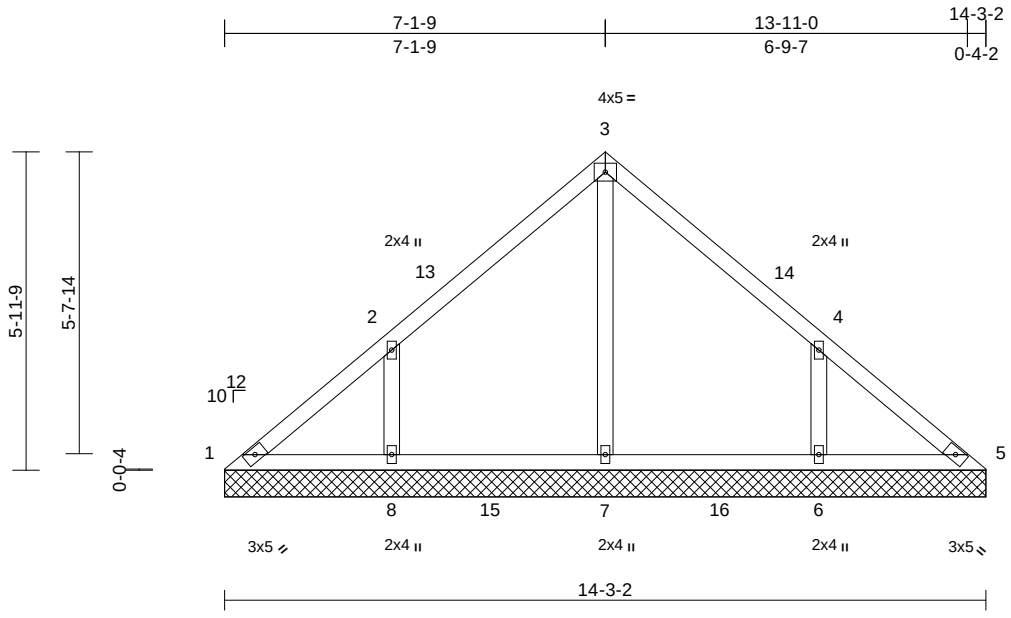

Scale = 1:43.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.34	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=14-3-2, 5=14-3-2, 6=14-3-2, 7=14-3-2, 8=14-3-2
Max Horiz 1=-136 (LC 10)
Max Uplift 1=-24 (LC 10), 6=-153 (LC 15), 8=-156 (LC 14)
Max Grav 1=122 (LC 24), 5=98 (LC 23), 6=452 (LC 21), 7=397 (LC 23), 8=452 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-151/135, 2-3=-180/118, 3-4=-180/112, 4-5=-121/100
BOT CHORD 1-8=-57/124, 7-8=-57/98, 6-7=-57/98, 5-6=-57/98
WEBS 3-7=-219/0, 2-8=-374/195, 4-6=-374/194

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 3-1-14, Interior (1) 3-1-14 to 4-1-14, Exterior(2R) 4-1-14 to 10-1-14, Interior (1) 10-1-14 to 11-1-14, Exterior(2E) 11-1-14 to 14-3-6 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, 156 lb uplift at joint 8 and 153 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438529
23050096-01	V5	Valley	1	1	Job Reference (optional)	

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:36 Page: 1
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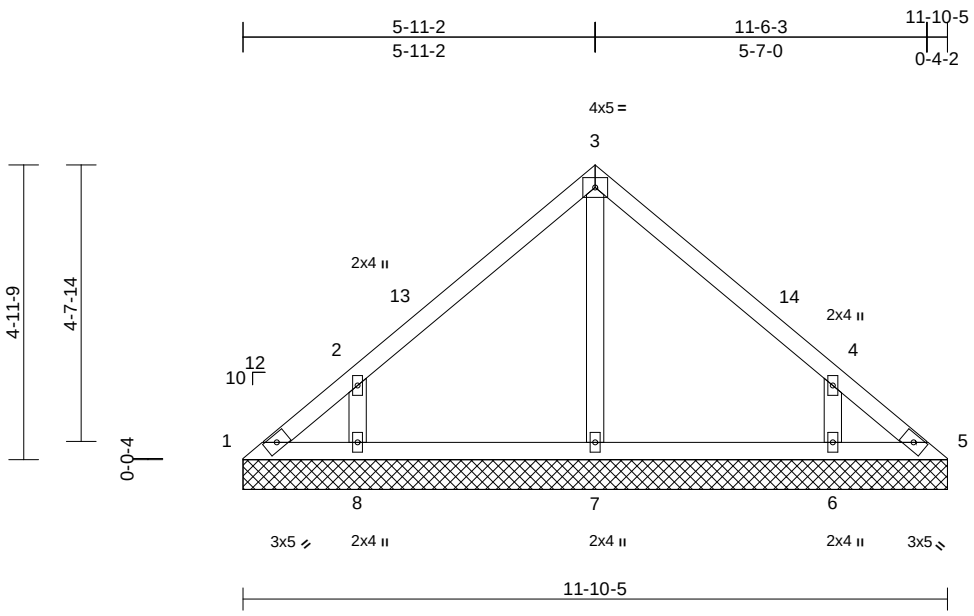

Scale = 1:38.8

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	0.31	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: 49 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=11-10-5, 5=11-10-5, 6=11-10-5, 7=11-10-5, 8=11-10-5
Max Horiz 1=112 (LC 13)
Max Uplift 1=-35 (LC 10), 5=-7 (LC 11), 6=-135 (LC 15), 8=-139 (LC 14)
Max Grav 1=88 (LC 24), 5=67 (LC 23), 6=435 (LC 21), 7=257 (LC 20), 8=435 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-115/100, 2-3=-220/115, 3-4=-220/115, 4-5=-90/63
BOT CHORD 1-8=-32/73, 7-8=-29/73, 6-7=-29/73, 5-6=-29/73
WEBS 3-7=-170/0, 2-8=-407/225, 4-6=-407/225

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 8-10-10, Exterior(2E) 8-10-10 to 11-10-10 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 35 lb uplift at joint 1, 7 lb uplift at joint 5, 139 lb uplift at joint 8 and 135 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438530
23050096-01	V6	Valley	1	1	Job Reference (optional)	

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

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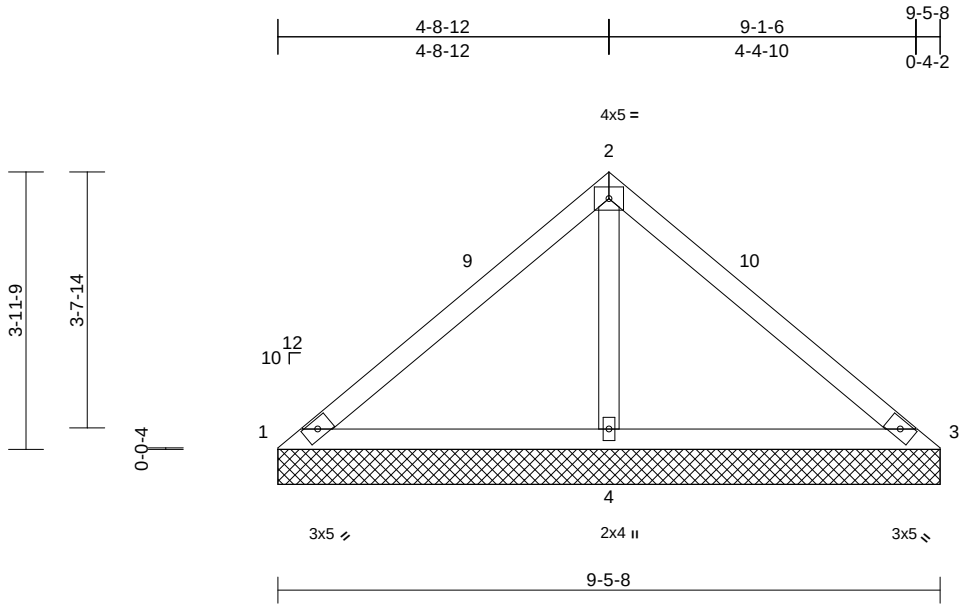

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.41	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 36 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 9-5-8 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=9-5-8, 3=9-5-8, 4=9-5-8
Max Horiz 1=-89 (LC 10)
Max Uplift 1=-45 (LC 21), 3=-45 (LC 20), 4=-105 (LC 14)
Max Grav 1=96 (LC 20), 3=96 (LC 21), 4=751 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-111/360, 2-3=-111/360
BOT CHORD 1-4=-207/169, 3-4=-207/169
WEBS 2-4=-577/265

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 6-5-13, Exterior(2E) 6-5-13 to 9-5-13 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 45 lb uplift at joint 1, 45 lb uplift at joint 3 and 105 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V7	Valley	1	1	Job Reference (optional)	I58438531

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

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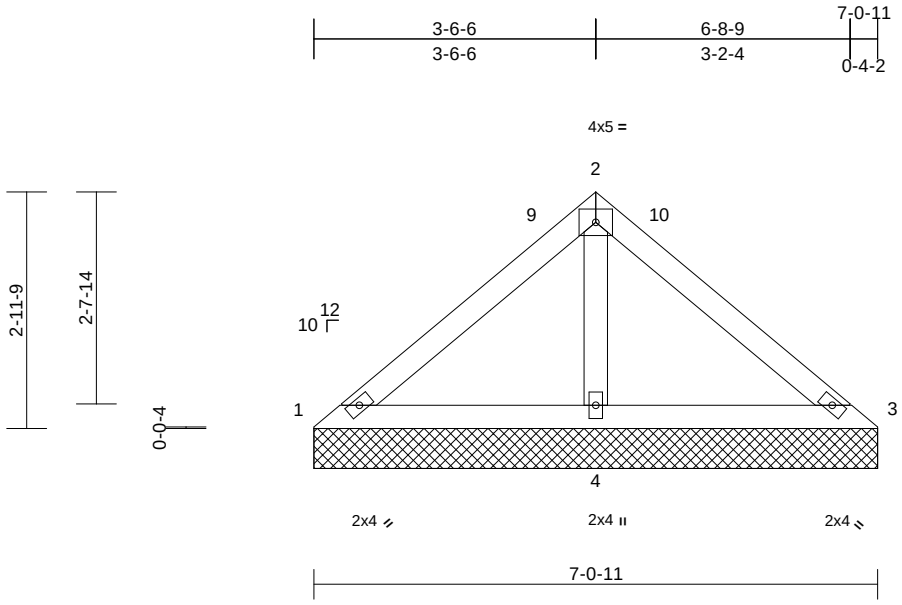

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.25	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 26 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 7-0-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-0-11, 3=7-0-11, 4=7-0-11
Max Horiz 1=65 (LC 11)
Max Uplift 1=-14 (LC 21), 3=-14 (LC 20), 4=-70 (LC 14)
Max Grav 1=104 (LC 20), 3=104 (LC 21), 4=512 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-86/218, 2-3=-86/218
BOT CHORD 1-4=-154/147, 3-4=-154/147
WEBS 2-4=-362/192

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 4-1-0, Exterior(2E) 4-1-0 to 7-1-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
5) Unbalanced snow loads have been considered for this design.
6) 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 14 lb uplift at joint 1, 14 lb uplift at joint 3 and 70 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

NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438532
23050096-01	V8	Valley	1	1	Job Reference (optional)	

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

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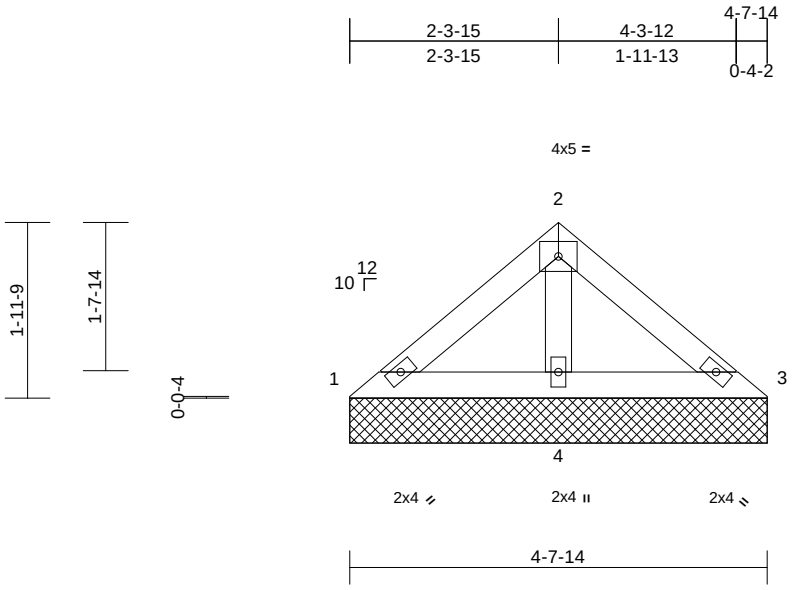

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	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 4-7-14 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=4-7-14, 3=4-7-14, 4=4-7-14
Max Horiz 1=42 (LC 11)
Max Uplift 3=-7 (LC 15), 4=-31 (LC 14)
Max Grav 1=86 (LC 20), 3=86 (LC 21), 4=279 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-79/95, 2-3=-79/95
BOT CHORD 1-4=-74/82, 3-4=-74/82
WEBS 2-4=-169/88

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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V11	Valley	1	1	Job Reference (optional)	I58438533

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:38 Page: 1

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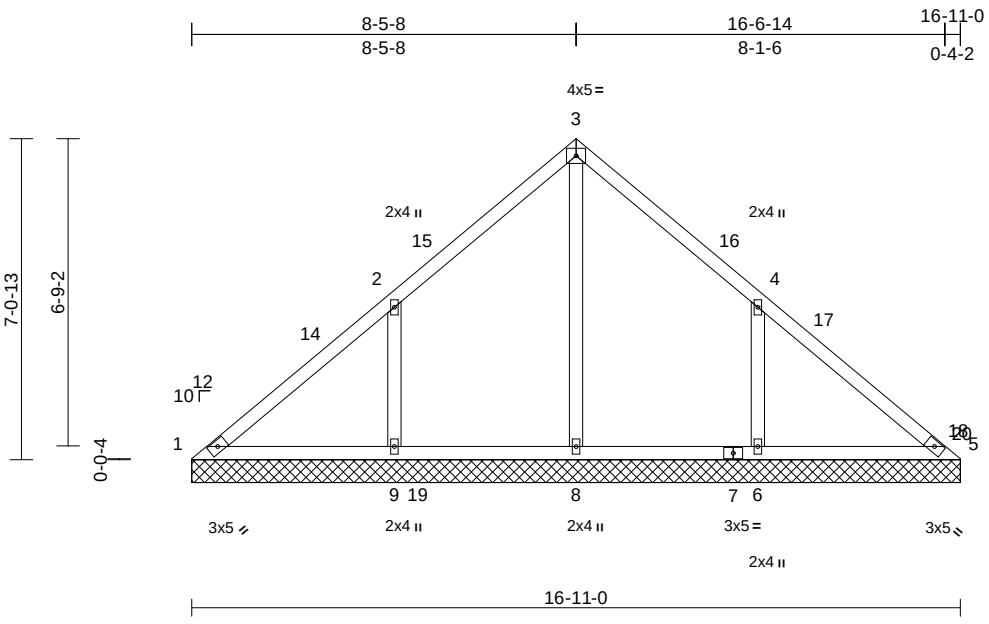

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	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 11)
Max Uplift 1=-21 (LC 10), 6=-183 (LC 15), 9=-186 (LC 14)
Max Grav 1=123 (LC 28), 5=86 (LC 21), 6=520 (LC 6), 8=495 (LC 23), 9=524 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-146/252, 2-3=-109/188, 3-4=-110/168, 4-5=-111/210
BOT CHORD 1-9=-117/132, 8-9=-117/130, 6-8=-117/130, 5-6=-117/130
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) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-5-13, Exterior(2R) 5-5-13 to 11-5-13, Interior (1) 11-5-13 to 13-6-12, Exterior(2E) 13-6-12 to 16-6-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) 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 21 lb uplift at joint 1, 186 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V12	Valley	1	1	Job Reference (optional)	I58438534

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:38 Page: 1
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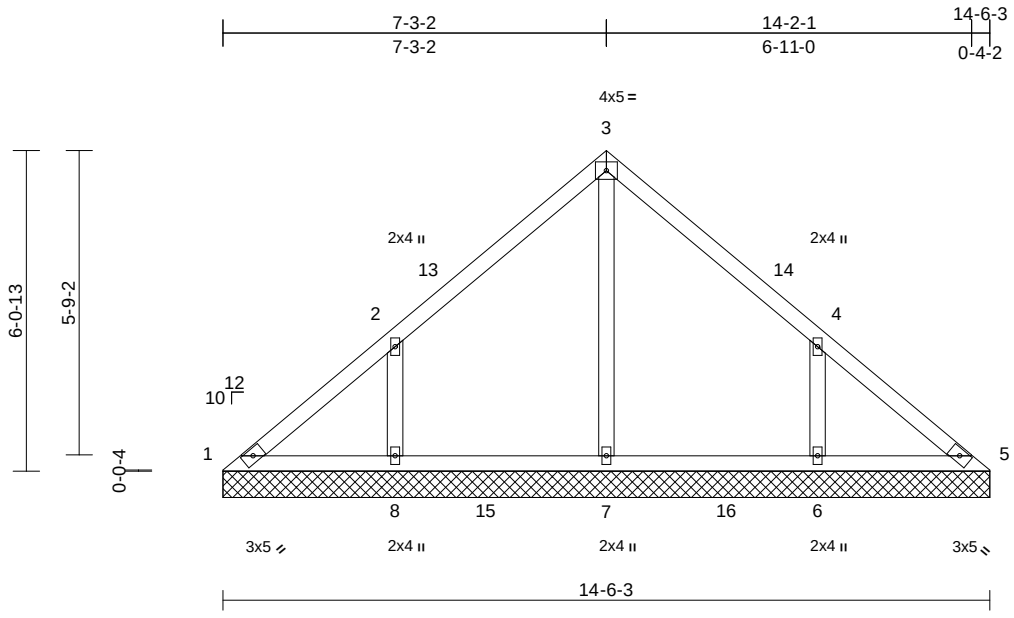

Scale = 1:43.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	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: 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=14-6-3, 5=14-6-3, 6=14-6-3, 7=14-6-3, 8=14-6-3
Max Horiz 1=138 (LC 13)
Max Uplift 1=-24 (LC 10), 6=-155 (LC 15), 8=-158 (LC 14)
Max Grav 1=124 (LC 24), 5=99 (LC 23), 6=456 (LC 21), 7=406 (LC 23), 8=456 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-153/144, 2-3=-174/120, 3-4=-174/111, 4-5=-121/109
BOT CHORD 1-8=-61/127, 7-8=-61/101, 6-7=-61/101, 5-6=-61/101
WEBS 3-7=-226/0, 2-8=-375/197, 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 3-3-6, 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 14-6-8 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) 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, 158 lb uplift at joint 8 and 155 lb uplift at joint 6.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V13	Valley	1	1	Job Reference (optional)	I58438535

Carter Components (Sanford), Sanford, NC - 27332, Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:38 Page: 1
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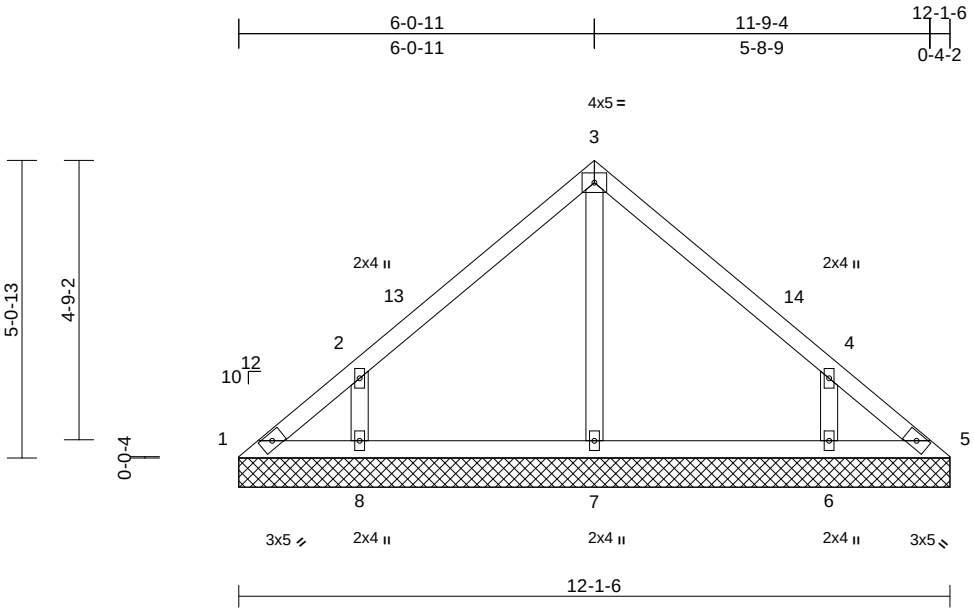

Scale = 1:39.3

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=12-1-6, 5=12-1-6, 6=12-1-6, 7=12-1-6, 8=12-1-6
Max Horiz 1=-115 (LC 10)
Max Uplift 1=-33 (LC 10), 5=-5 (LC 11), 6=-136 (LC 15), 8=-140 (LC 14)
Max Grav 1=93 (LC 24), 5=72 (LC 23), 6=434 (LC 21), 7=261 (LC 21), 8=434 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-116/101, 2-3=-217/116, 3-4=-217/116, 4-5=-90/63
BOT CHORD 1-8=-32/78, 7-8=-31/73, 6-7=-31/73, 5-6=-31/73
WEBS 3-7=-173/0, 2-8=-398/218, 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) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 9-1-11, Exterior(2E) 9-1-11 to 12-1-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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 33 lb uplift at joint 1, 5 lb uplift at joint 5, 140 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

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438536
23050096-01	V14	Valley	1	1	Job Reference (optional)	

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

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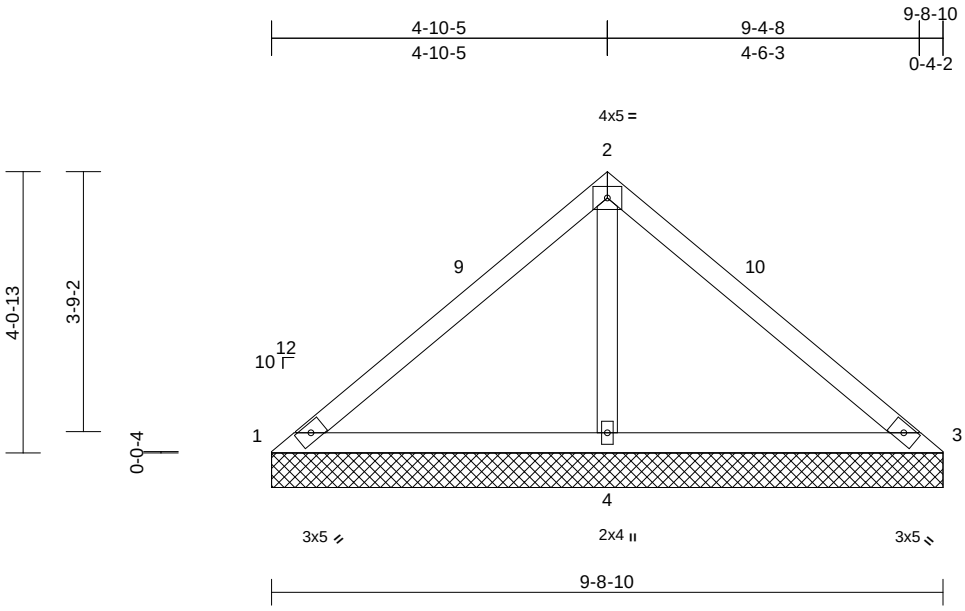

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	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=-91 (LC 10)
Max Uplift 1=-51 (LC 21), 3=-51 (LC 20), 4=-110 (LC 14)
Max Grav 1=95 (LC 20), 3=95 (LC 21), 4=784 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-117/380, 2-3=-117/380
BOT CHORD 1-4=-217/174, 3-4=-217/174
WEBS 2-4=-605/274

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 6-8-14, 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 51 lb uplift at joint 1, 51 lb uplift at joint 3 and 110 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V15	Valley	1	1	Job Reference (optional)	I58438537

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

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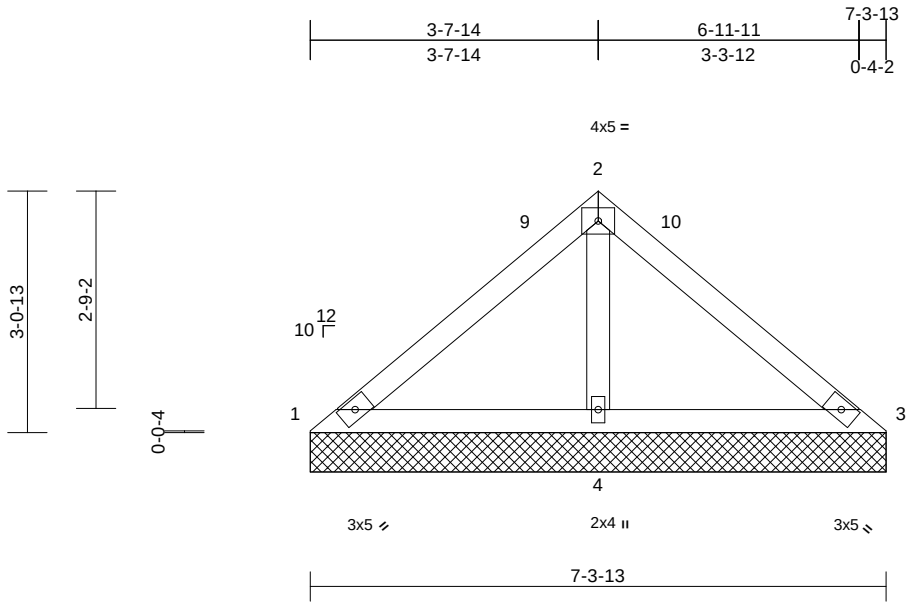

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	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=-68 (LC 12)
Max Uplift 1=-19 (LC 21), 3=-19 (LC 20), 4=-75 (LC 14)
Max Grav 1=105 (LC 20), 3=105 (LC 21), 4=541 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-91/234, 2-3=-91/234
BOT CHORD 1-4=-164/154, 3-4=-164/154
WEBS 2-4=-387/203

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 4-4-2, 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 19 lb uplift at joint 1, 19 lb uplift at joint 3 and 75 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	I58438538
23050096-01	V16	Valley	1	1	Job Reference (optional)	

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

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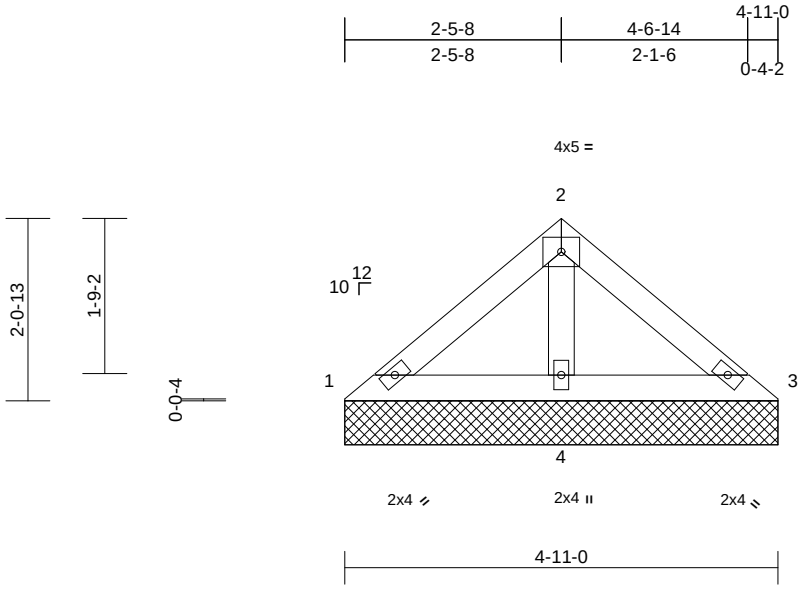

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 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=-34 (LC 14)
Max Grav 1=89 (LC 20), 3=89 (LC 21), 4=301 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-81/106, 2-3=-81/106
BOT CHORD 1-4=-82/90, 3-4=-82/90
WEBS 2-4=-187/100

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C 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 34 lb uplift at joint 4.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

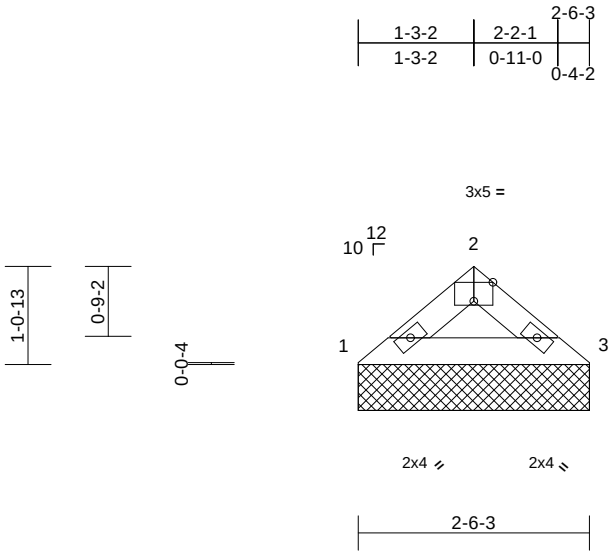
May 19,2023

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

Job	Truss	Truss Type	Qty	Ply	15 Serenity-Roof-B326 A	
23050096-01	V17	Valley	1	1	Job Reference (optional)	I58438539

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

Run: 8.81 S 8.53 Mar 9 2023 Print: 8.530 S Mar 9 2023 MiTek Industries, Inc. Thu May 18 12:50:40 Page: 1
ID:CgVkHRtdMZAuzhaXm9_U1OzRQqT-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



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	0.05	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=21 (LC 11)
Max Uplift 1=-9 (LC 14), 3=-9 (LC 15)
Max Grav 1=114 (LC 20), 3=114 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-137/62, 2-3=-137/62
BOT CHORD 1-3=-33/99

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 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 9 lb uplift at joint 1 and 9 lb uplift at joint 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 19,2023

ENGINEERING BY TRENCO
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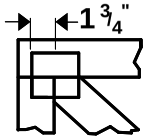
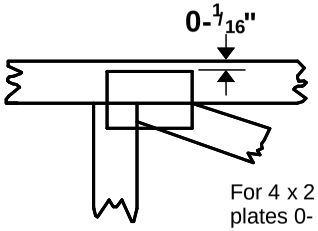
Symbols

PLATE LOCATION AND ORIENTATION



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



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

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

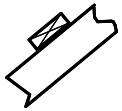
*** Plate location details available in MiTek 20/20 software or upon request.**

PLATE SIZE

4 x 4

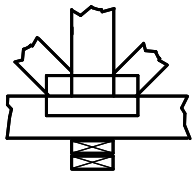
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

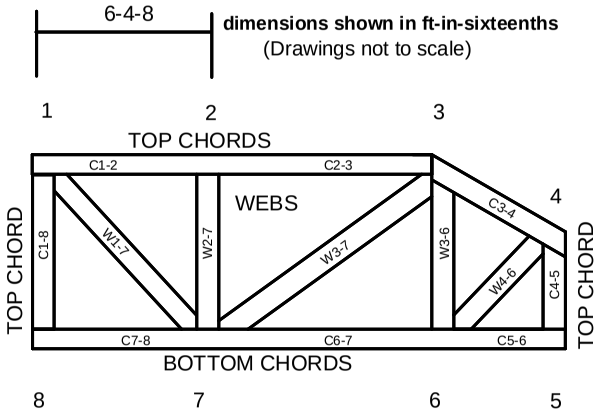


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

PRODUCT CODE APPROVALS

ICC-ES Reports:

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

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

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

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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