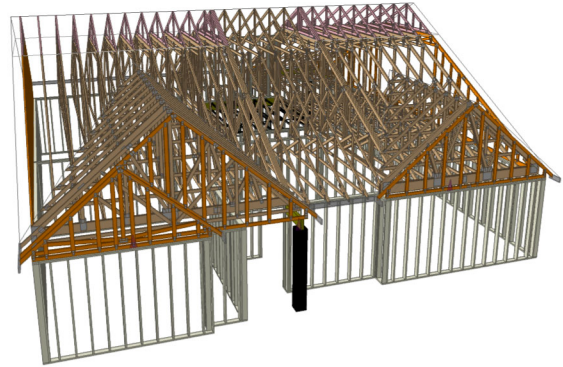




Carter Sanford Component Plant
298 Harvey Faulk Rd
Sanford, NC 27332

Phone #:919-775-1450

**Builder: David Weekly
Homes
Model: 927 Serenity
B326 "C"**



THE PLACEMENT PLAN NOTES:

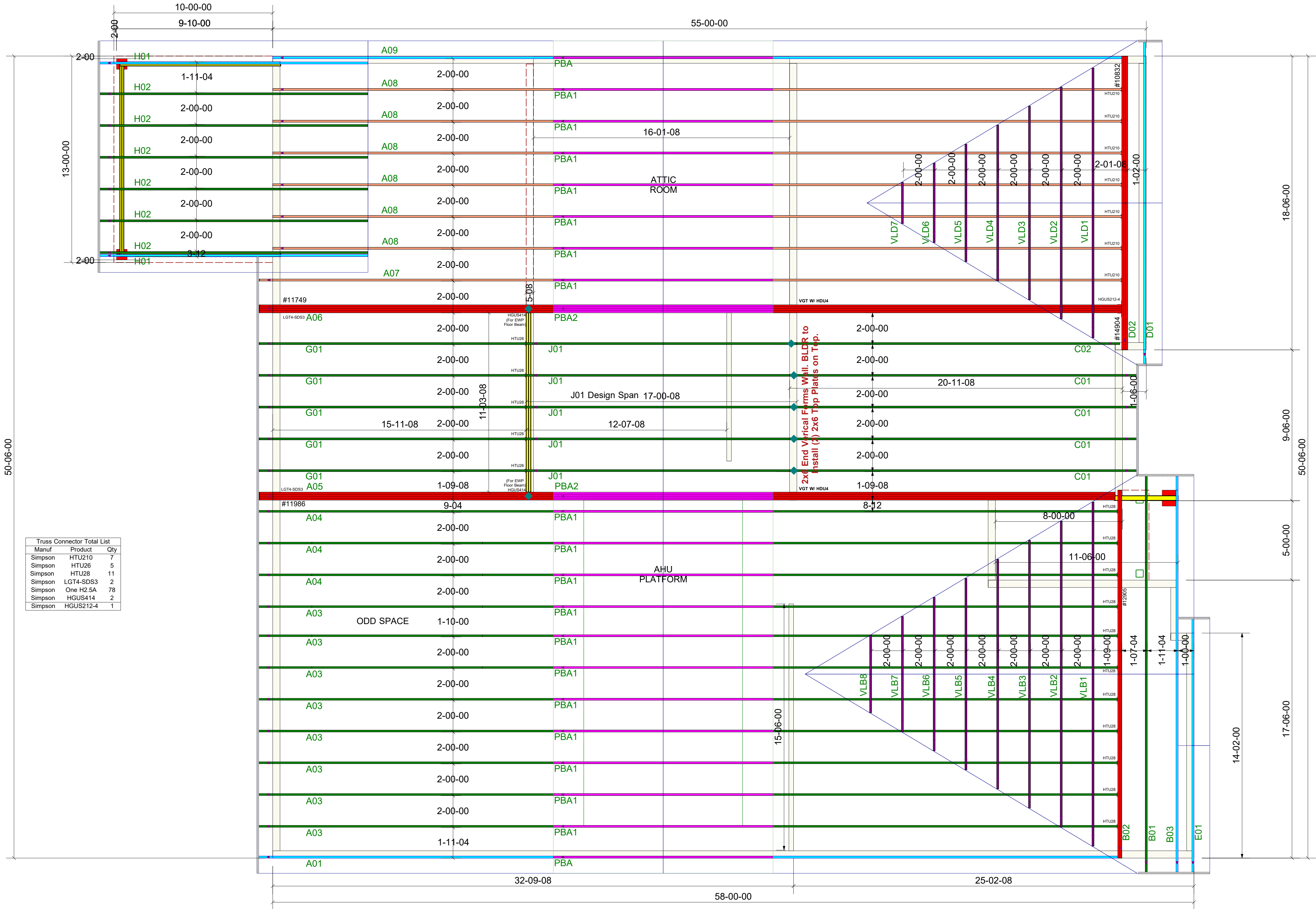
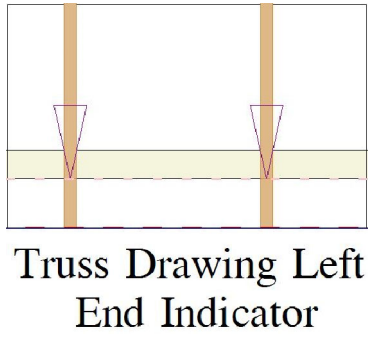
1. The Placement Plan is a diagram for truss installation. It is not an engineered drawing and has not been reviewed by an engineer. The Owner/Building Designer is responsible for obtaining an engineer's review if one is required by the local jurisdiction.
2. The responsibilities of the Owner, Contractor, Building Designer, Component Designer and Component Manufacturer shall be as set forth in ANSI/TPI 1. Capitalized terms shall be as defined in ANSI/TP 1 unless otherwise indicated.
3. Each Component is designed as an individual component utilizing information provided by others. The Owner/Building Designer is responsible for reviewing all Component Submittal Packages and individual Component Design Drawings for compliance with the Construction Documents and compatibility with the overall Building design.
4. Contractor will not proceed with component installation until the Owner/Building Designer has reviewed the Component Submittal Package. Questions on the suitability of any Component will be resolved by the Building Designer.
5. The Building Designer and Contractor are responsible for all temporary and permanent bracing.
6. The Placement Plan assumes the building is dimensionally correct, structurally sound, and in a suitable condition to support each Component during installation and thereafter, including but not limited to installation of all bearing points. Proper design and construction of all structural components, including foundations, headers, beams, walls and columns are the responsibility of the Owner, Building Designer and Contractor.
7. Do not cut, drill, or modify any Component without first consulting the Component Manufacturer or Building Designer. Damaged Components shall not be installed unless directed by the Building Designer or approved by the Component Manufacturer.
8. Components must be handled and installed following all applicable safety standards and best practices, including but not limited to BCSI, OSHA, TPI and local codes. Failure to properly handle, brace or otherwise install Component can result in serious injury or death.

Apprvd by: _____

Date: _____

General Notes: ** CUTTING OR DRILLING OF COMPONENTS SHOULD NOT BE DONE WITHOUT CONTACTING COMPONENT SUPPLIER FIRST. CUSTOMER TAKES FULL RESPONSIBILITY FOR COMPONENTS IF CUT BEFORE AUTHORIZATION. ** ALL BEARING POINTS MUST BE INSTALLED PRIOR TO SETTING ANY COMPONENTS.

** FRAMER MUST REFER TO PLANS WHILE SETTING COMPONENTS. ** DAMAGED COMPONENTS SHOULD NOT BE INSTALLED UNLESS TOLD TO BY THE COMPONENT PLANT. ** TRUSS TO TRUSS CONNECTIONS ARE TOE-NAILED, UNLESS NOTED OTHERWISE. ** GIRDERS MUST BE FULLY CONNECTED TOGETHER PRIOR TO ADDING ANY LOADS. ** DIMENSIONS ARE READ AS: FOOT-INCH-SIXTEENTH. ** All uplift connectors shown within these documents are recommendations only. Per ANS/ITPI 1, all uplift connectors are the responsibility of the bldg designer and or contractor.



Revisions	
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name
00/00/00	Name

THIS IS A TRUSS PLACEMENT DIAGRAM ONLY. These trusses are designed as individual components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer is responsible for temporary and permanent bracing of the roof and floor systems and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding the bracing, consult "Bracing of Wood Trusses" available from the Truss Plate Institute, 583 D'Onofrio Drive, Madison, WI 53179



David Weekley Homes

927 Serenity-Roof-B326 C CP GRH

ROOF PLACEMENT PLAN

Scale: NTS

Date: 9/30/2025

Designer: Nick Darr

Project Number: 25090087-01

Sheet Number:

1/1

** TRIANGULAR SYMBOL NEAR END OF TRUSS INDICATES LEFT END OF TRUSS AS SHOWN ON INDIVIDUAL TRUSS DRAWINGS. ** PLUMBING DROPS NOTED ARE IN THE APPROXIMATE LOCATIONS PER PLAN. BUILDER TO VERIFY LOCATIONS BEFORE SETTING TRUSSES. ** REFER TO FINAL TRUSS ENGINEERING SHEETS FOR PLY TO PLY CONNECTIONS.

RE: 25090087-01
927 Serenity-Roof-B326 C CP GRH

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: David Weekley Homes Project Name: 25090087-01
Lot/Block: 927 Model:
Address: 1232 Serenity Walk Parkway Subdivision: Serenity
City: Fuquay-Varina State: NC

General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2018/TPI2014 Design Program: MiTek 20/20 8.7
Wind Code: ASCE 7-16 Wind Speed: 130 mph
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 38 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I76436467	A01	9/22/2025	21	I76436487	PBA	9/22/2025
2	I76436468	A03	9/22/2025	22	I76436488	PBA1	9/22/2025
3	I76436469	A04	9/22/2025	23	I76436489	PBA2	9/22/2025
4	I76436470	A05	9/22/2025	24	I76436490	VLB1	9/22/2025
5	I76436471	A06	9/22/2025	25	I76436491	VLB2	9/22/2025
6	I76436472	A07	9/22/2025	26	I76436492	VLB3	9/22/2025
7	I76436473	A08	9/22/2025	27	I76436493	VLB4	9/22/2025
8	I76436474	A09	9/22/2025	28	I76436494	VLB5	9/22/2025
9	I76436475	B01	9/22/2025	29	I76436495	VLB6	9/22/2025
10	I76436476	B02	9/22/2025	30	I76436496	VLB7	9/22/2025
11	I76436477	B03	9/22/2025	31	I76436497	VLB8	9/22/2025
12	I76436478	C01	9/22/2025	32	I76436498	VLD1	9/22/2025
13	I76436479	C02	9/22/2025	33	I76436499	VLD2	9/22/2025
14	I76436480	D01	9/22/2025	34	I76436500	VLD3	9/22/2025
15	I76436481	D02	9/22/2025	35	I76436501	VLD4	9/22/2025
16	I76436482	E01	9/22/2025	36	I76436502	VLD5	9/22/2025
17	I76436483	G01	9/22/2025	37	I76436503	VLD6	9/22/2025
18	I76436484	H01	9/22/2025	38	I76436504	VLD7	9/22/2025
19	I76436485	H02	9/22/2025				
20	I76436486	J01	9/22/2025				

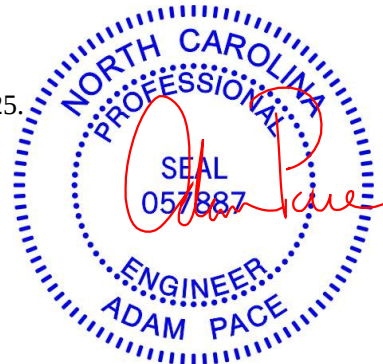
The truss drawing(s) referenced above have been prepared by
Truss Engineering Co. under my direct supervision
based on the parameters provided by Carter Components (Sanford, NC)).

Truss Design Engineer's Name: Pace, Adam

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

North Carolina COA: C-0844

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



September 22, 2025

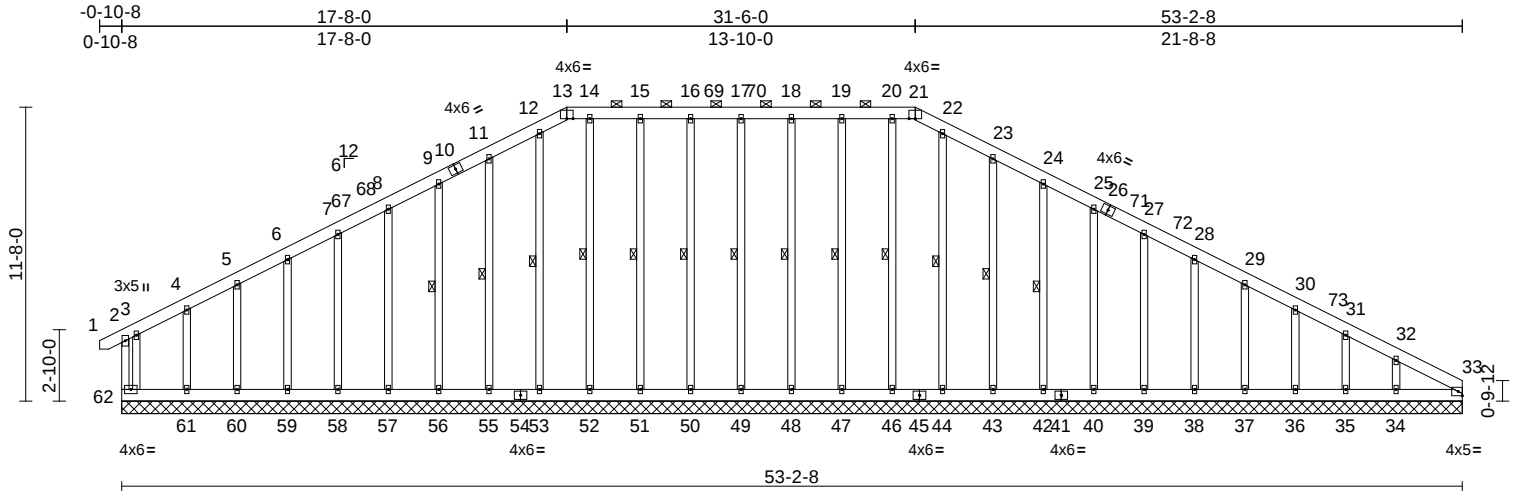
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436467
25090087-01	A01	Piggyback Base Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:02

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(CT)	n/a	-	n/a	999	244/190
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: 546 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*
49-17,48-18,47-19,46-20,44-22,50-16,51-15,
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 (10-0-0 max.): 13-21.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc
bracing.
WEBS 1 Row at midpt 17-49, 18-48, 19-47,
20-46, 22-44, 23-43,
24-42, 16-50, 15-51,
14-52, 12-53, 11-55, 9-56

REACTIONS (size)
33=53-2-8, 34=53-2-8, 35=53-2-8,
36=53-2-8, 37=53-2-8, 38=53-2-8,
39=53-2-8, 40=53-2-8, 42=53-2-8,
43=53-2-8, 44=53-2-8, 46=53-2-8,
47=53-2-8, 48=53-2-8, 49=53-2-8,
50=53-2-8, 51=53-2-8, 52=53-2-8,
53=53-2-8, 55=53-2-8, 56=53-2-8,
57=53-2-8, 58=53-2-8, 59=53-2-8,
60=53-2-8, 61=53-2-8, 62=53-2-8
Max Horiz 62=186 (LC 12)
Max Uplift 34=67 (LC 14), 35=170 (LC 15),
36=15 (LC 14), 37=50 (LC 15),
38=42 (LC 15), 39=44 (LC 15),
40=43 (LC 15), 42=46 (LC 15),
43=50 (LC 15), 47=29 (LC 11),
48=28 (LC 15), 49=25 (LC 10),
50=29 (LC 14), 51=29 (LC 14),
55=51 (LC 14), 56=46 (LC 14),
57=43 (LC 14), 58=44 (LC 14),
59=46 (LC 14), 60=22 (LC 14),
61=137 (LC 14), 62=88 (LC 15)

Max Grav 34=413 (LC 25), 35=84 (LC 13),
36=196 (LC 41), 37=153 (LC 59),
38=174 (LC 45), 39=221 (LC 45),
40=230 (LC 45), 42=229 (LC 45),
43=230 (LC 45), 44=217 (LC 45),
46=199 (LC 40), 47=220 (LC 40),
48=217 (LC 40), 49=216 (LC 40),
50=217 (LC 40), 51=220 (LC 40),
52=199 (LC 40), 53=217 (LC 43),
55=234 (LC 43), 56=233 (LC 43),
57=233 (LC 43), 58=233 (LC 43),
59=199 (LC 43), 60=151 (LC 58),
61=255 (LC 51), 62=134 (LC 58)

FORCES (lb) - Maximum Compression/Maximum
Tension
TOP CHORD 2-62=243/191, 1-2=0/23, 2-3=100/92,
3-4=74/120, 4-5=49/116, 5-6=59/144,
6-7=75/167, 7-8=91/190, 8-9=107/213,
9-11=125/238, 11-12=145/279,
12-13=147/281, 13-14=140/279,
14-15=140/279, 15-16=140/279,
16-17=140/279, 17-18=140/279,
18-19=140/279, 19-20=140/279,
20-21=140/279, 21-22=147/281,
22-23=145/279, 23-24=125/254,
24-25=107/230, 25-27=91/206,
27-28=75/183, 28-29=60/160,
29-30=64/137, 30-31=72/112,
31-32=124/100, 32-33=134/115

BOT CHORD 61-62=80/149, 60-61=80/149,
59-60=80/149, 58-59=80/149,
57-58=80/149, 56-57=80/149,
55-56=80/149, 53-55=80/149,
52-53=80/149, 51-52=80/149,
50-51=80/149, 49-50=80/149,
48-49=80/149, 47-48=80/149,
46-47=80/149, 44-46=80/149,
43-44=80/149, 42-43=80/149,
40-42=80/149, 39-40=80/149,
38-39=80/149, 37-38=80/149,
36-37=80/149, 35-36=80/149,
34-35=80/149, 33-34=80/149



September 22, 2025

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH
25090087-01	A01	Piggyback Base Supported Gable	1	1	I76436467
			Job Reference (optional)		

WEBS 17-49=-176/49, 18-48=-177/52,
19-47=-180/53, 20-46=-159/6, 22-44=-177/2,
23-43=-190/74, 24-42=-189/70,
25-40=-190/67, 27-39=-181/68,
28-38=-132/68, 29-37=-125/68,
30-36=-138/59, 31-35=-67/120,
32-34=-241/58, 16-50=-177/53,
15-51=-180/53, 14-52=-159/1, 12-53=-177/0,
11-55=-194/75, 9-56=-193/70, 8-57=-193/67,
7-58=-194/68, 6-59=-157/69, 5-60=-116/53,
4-61=-185/153, 3-62=-225/261

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) -0-8-6 to 4-7-0, Interior (1) 4-7-0 to 10-1-11, Exterior(2R) 10-1-11 to 39-0-5, Interior (1) 39-0-5 to 47-10-10, Exterior(2E) 47-10-10 to 53-2-8 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) 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.

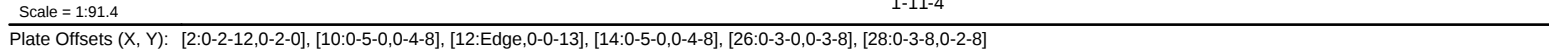
12) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.

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

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:03 Page: 1
ID:OFJF3IDTxFbWWzrBXohbzzRCTM-RfC?PsB70Hg3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



LUMBER		BOT CHORD	28-29=-120/230, 26-28=-87/2900, 24-26=-74/3065, 22-24=-74/3065, 18-22=-74/3065, 17-18=-74/3065, 15-17=-47/2883, 13-15=-101/3496, 12-13=-140/3993, 23-25=-74/35, 21-23=-74/35, 20-21=-74/35, 19-20=-74/35	6) Provide adequate drainage to prevent water ponding. 7) All plates are MT20 plates unless otherwise indicated. 8) All plates are 2x4 MT20 unless otherwise indicated. 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
TOP CHORD	2x6 SP No.2			
BOT CHORD	2x6 SP 2400F 2.0E *Except* 25-19:2x4 SP No.2			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.
WEBS	2x4 SP No.3 *Except* 28-2,6-26,8-17,17-9,14-9,26-5,28-5:2x4 SP No.2	WEBS	2-28=-127/3075, 25-26=-521/205, 25-30=-483/245, 6-30=-469/250, 17-19=-927/203, 19-31=-842/223, 8-31=-823/219, 9-17=-129/1185, 10-14=-910/320, 9-14=-168/879, 10-13=-221/767, 11-13=-332/232, 5-26=-36/1179, 3-28=-842/342, 5-28=-253/512, 21-22=-70/0, 30-32=-12/43, 31-32=-139/25, 7-32=-255/87, 6-32=-289/705, 8-32=-276/815, 23-24=-191/0, 18-20=-169/0	11) Refer to girder(s) for truss to truss connections. 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 12. 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 29 and 15. This connection is for uplift only and does not consider lateral forces.
WEDGE	Right: 2x4 SP No.3			
BRACING				
TOP CHORD	Structural wood sheathing directly applied or 3-0-6 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-0 max.): 5-9.			
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 23-25,21-23,20-21,19-20.			
WEBS	1 Row at midpt 26-30, 17-31, 9-17, 5-28			
JOINTS	1 Brace at Jt(s): 30			

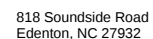
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
 Vasd=103mph; TCdL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-8-6 to 4-7-8, Interior (1) 4-7-8 to 10-1-11, Exterior(2R) 10-1-11 to 39-1-13, Interior (1) 39-1-13 to 47-10-10, Exterior(2E) 47-10-10 to 53-2-8 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber
 DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.

- 6) Provide adequate drainage to prevent water ponding.
- 7) All plates are MT20 plates unless otherwise indicated.
- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 11) Refer to girder(s) for truss to truss connections.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 12.
- 13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 29 and 15. 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 R502.1.1 and R802.10.2 and referenced standard ANSI/TPI 1



WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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



Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436468
25090087-01	A03	Piggyback Base	8	1	Job Reference (optional)	

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

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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818 Soundside Road
Edenton, NC 27932

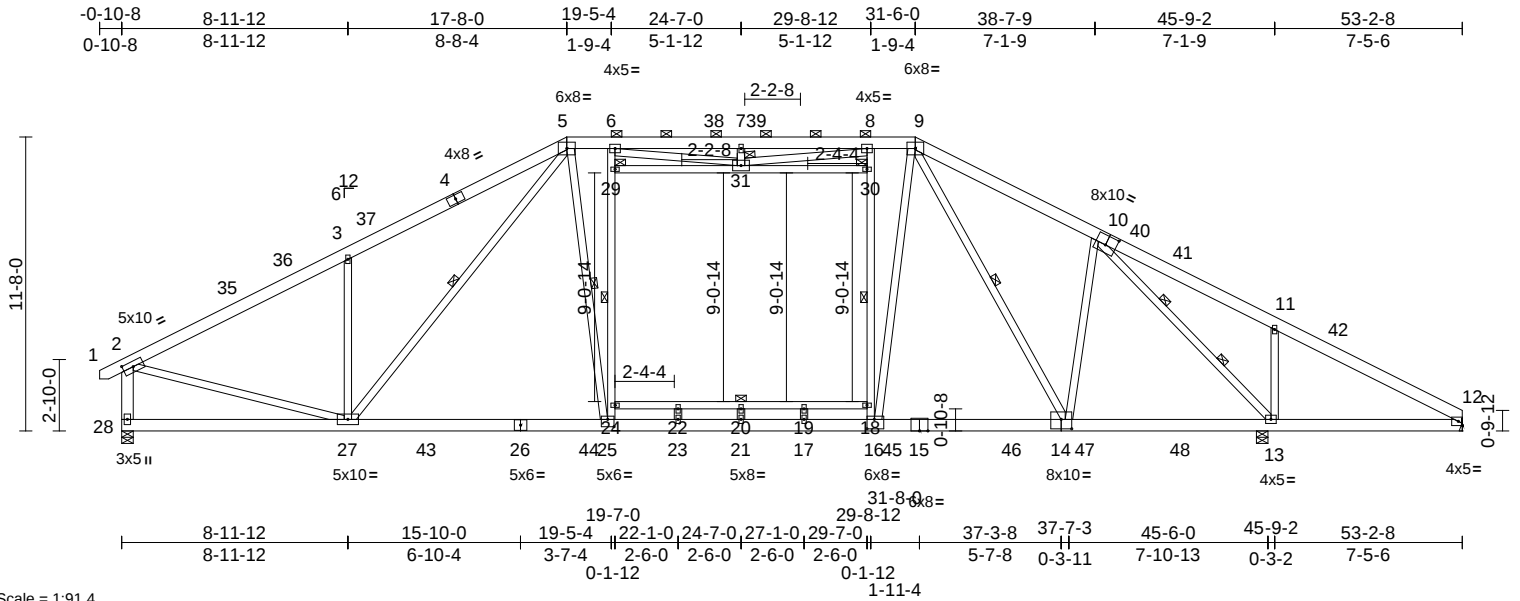
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436469
25090087-01	A04	Piggyback Base	3	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:04

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Scale = 1:91.4

Plate Offsets (X, Y): [2:0-4-14,0-2-8], [10:0-5-0,0-4-8], [14:0-5-0,0-4-8], [16:0-3-8,0-4-8], [25:0-3-0,0-3-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.70	Vert(LL)	-0.36	25-27	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.89	Vert(CT)	-0.54	22-24	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.09	12	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 471 lb FT = 20%											

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E *Except* 24-18:2x4 SP No.2, 14-12,15-14:2x6 SP No.2
WEBS 2x4 SP No.3 *Except* 28-2:2x6 SP No.2, 27-2,6-25,8-16,27-5,25-5,16-9,14-9,13-10:2x 4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-0 oc purlins, except end verticals, and 2-0-0 oc purlins (3-6-7 max.): 5-9.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 25-29, 16-30, 5-27, 5-25, 9-14
WEBS 2 Rows at 1/3 pts 10-13
JOINTS 1 Brace at Jt(s): 29, 30, 31

REACTIONS

(size) 12= Mechanical, 13=0-5-8, 28=0-5-8
Max Horiz 28=187 (LC 12)
Max Uplift 12=199 (LC 14), 13=-414 (LC 15), 28=187 (LC 14)
Max Grav 12=876 (LC 37), 13=2647 (LC 39), 28=2524 (LC 37)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/25, 2-3=-3470/240, 3-5=-3585/434, 5-6=-3020/294, 6-7=-3544/494, 7-8=-3544/494, 8-9=-2997/293, 9-11=-3120/512, 11-12=-1458/442, 2-28=-2579/244

BOT CHORD 27-28=-136/289, 25-27=-52/2779, 23-25=-26/2939, 21-23=-26/2939, 17-21=-26/2939, 16-17=-26/2939, 13-16=-118/2665, 12-13=-334/1258, 22-24=-71/37, 20-22=-71/37, 19-20=-71/37, 18-19=-71/37
WEBS 2-27=-91/2883, 24-25=-515/251, 24-29=-478/316, 6-29=-465/319, 16-18=-898/232, 18-30=-835/250, 8-30=-816/246, 3-27=-817/328, 5-27=-263/544, 5-25=-91/1106, 9-16=-85/1683, 9-14=-451/6, 10-14=0/661, 10-13=-2539/304, 11-13=-456/259, 20-21=-61/0, 29-31=-48/92, 30-31=-173/44, 7-31=-262/86, 6-31=-302/731, 8-31=-282/841, 22-23=-187/0, 17-19=-200/0

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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) -0-8-6 to 4-7-8, Interior (1) 4-7-8 to 10-1-11, Exterior(2R) 10-1-11 to 39-1-13, Interior (1) 39-1-13 to 47-10-10, Exterior(2E) 47-10-10 to 53-2-8 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
- 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
- Unbalanced snow loads have been considered for this design.
- 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.

- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 199 lb uplift at joint 12.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 28 and 13. This connection is for uplift only and does not consider lateral forces.
- 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



September 22,2025

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436469
25090087-01	A04	Piggyback Base	3	1	Job Reference (optional)	

LOAD CASE(S) Standard

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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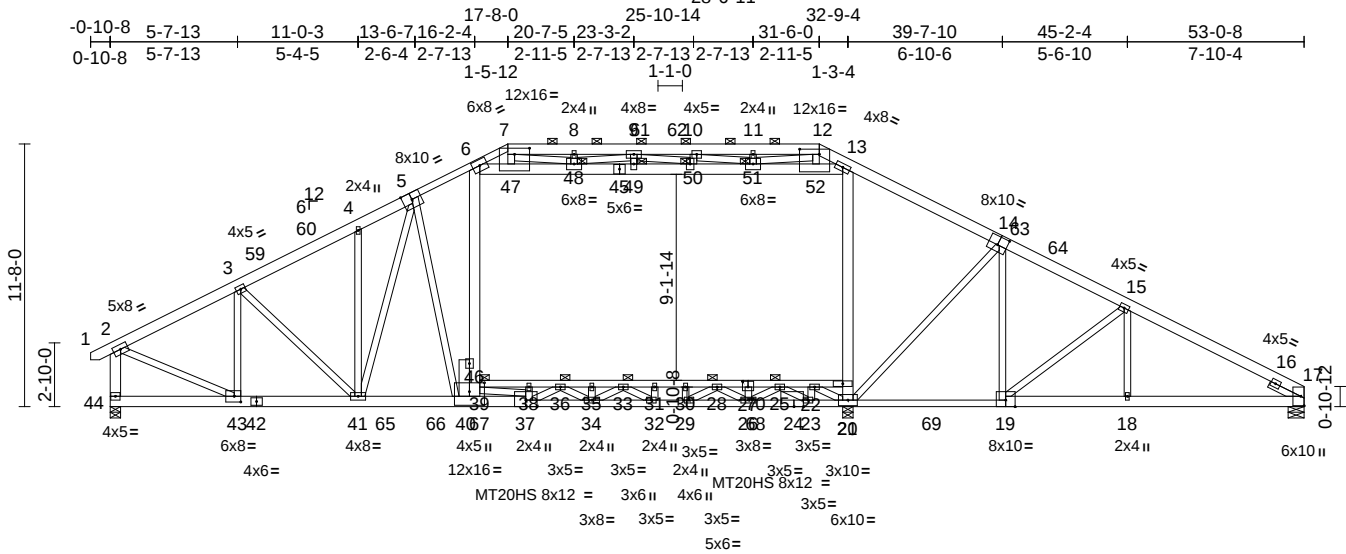
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436470
25090087-01	A05	Attic Girder	1	4	Job Reference (optional)	

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

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PROVIDE CONNECTION OF TRUSS TO BEARING PLATE AT JOINT 20 CAPABLE OF WITHSTANDING 4844 LBS UPLIFT REACTION DUE TO GRAVITY LOADING (5420 LBS NON-GRAVITY MAX.) APPLIED TO THE TRUSS. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO DESIGN THE CONNECTION OF THE TRUSS TO THE BEARING PLATE, PROVIDE AND DESIGN CONNECTION SYSTEM FOR A CONTINUOUS LOAD PATH FROM THE TRUSS TO THE FOUNDATION, AND DESIGN FOOTING/FOUNDATION TO RESIST SUCH UPLIFT. FAILURE TO DO SO WILL VOID THIS CONSTRUCTION.

Scale = 1:102.4

Plate Offsets (X, Y): [7:0-8-0,0-3-4], [12:0-10-8,0-2-12], [14:0-5-0,0-4-8], [24:0-5-0,0-4-8], [27:0-3-0,0-3-0], [40:0-8-0,0-4-12], [43:0-3-8,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.47	37-40	>831	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.76	Vert(CT)	-0.71	37-40	>552	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.89	Horz(CT)	0.20	17	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.23	21-39	>841	360		
BCDL	10.0											
Weight: 2048 lb FT = 20%												

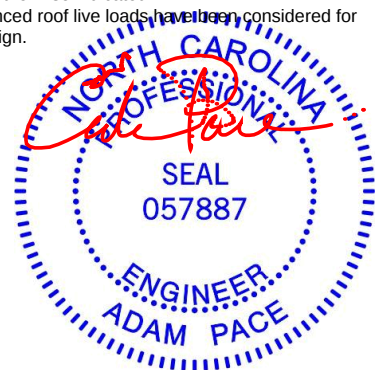
Weight: 2048 lb FT = 20%

LUMBER		
TOP CHORD	2x6 SP No.2 *Except* 5-7:2x4 SP 2400F 2.0E, 14-17:2x6 SP 2400F 2.0E	
BOT CHORD	2x4 SP 2400F 2.0E *Except* 42-37,19-17:2x6 SP 2400F 2.0E, 27-21:2x4 SP No.2, 42-44:2x6 SP No.2	
WEBS	2x4 SP No.3 *Except* 13-20:2x6 SP 2400F 2.0E, 6-45,44-2,40-46,40-6,45-13:2x6 SP No.2, 43-2:2x4 SP No.2	
SLIDER	Right 2x4 SP No.3 -- 1-6-0	
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.): 7-12.	
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.	
JOINTS	1 Brace at Jt(s): 48, 49, 50, 51, 39, 25, 36, 28, 33	
REACTIONS (size)		
	17=0-8-9, 20=0-5-8, 44=0-5-8	
	Max Horiz 44=188 (LC 10)	
	Max Uplift 17=452 (LC 12), 20=5420 (LC 45), 44=699 (LC 12)	
	Max Grav 17=9362 (LC 46), 20=787 (LC 12), 44=11926 (LC 46)	
FORCES (lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/24, 2-3=-13709/800, 3-4=-17633/1055, 4-6=-18898/1143, 6-7=-6029/488, 7-8=-3161/530, 8-9=-3158/529, 9-10=-3739/714, 10-11=-1732/1388, 11-12=-1732/1388, 12-13=-4707/432, 13-15=-18124/1119, 15-17=-17068/898, 2-44=-11731/718	

BOT CHORD		43-44=-126/442, 41-43=-752/12262, 40-41=-860/16348, 34-40=-669/17577, 32-34=0/18770, 29-32=0/19319, 26-29=0/18445, 23-26=-258/15848, 20-23=-477/13749, 18-20=-796/16054, 17-18=-728/14898, 38-39=-984/0, 36-38=-1073/0, 35-36=-3355/0, 33-35=-3355/0, 31-33=-3923/0, 30-31=-3923/0, 28-30=-3923/0, 25-28=-2701/0, 22-25=-363/2827, 21-22=-64/4104
WEBS		3-43=-5380/377, 3-41=-242/4997, 4-41=-711/163, 5-40=-135/1580, 20-21=-541/7239, 13-21=-528/7413, 6-47=-10957/709, 47-48=-10572/687, 48-49=-10887/657, 49-50=-10924/659, 50-51=-15823/958, 51-52=-12495/790, 13-52=-13137/827, 2-43=-691/12981, 39-40=-661/7366, 6-39=-545/8854, 7-47=-151/2356, 8-48=-479/64, 9-49=-132/2447, 10-50=-184/66, 11-51=-255/67, 12-52=-208/3474, 20-22=-1843/0, 37-39=0/3041, 22-23=0/520, 37-38=-548/0, 23-25=-2625/0, 36-37=-953/55, 25-26=0/2962, 34-36=0/1715, 26-27=-722/8, 34-35=-910/20, 26-28=-377/114, 33-34=-130/265, 28-29=0/1065, 32-33=0/653, 29-30=-529/0, 31-32=-274/6, 7-48=-4543/253, 9-48=-4481/357, 9-50=-5058/310, 10-51=-2517/281, 12-51=-5510/319, 14-19=-897/165, 15-19=-150/1539, 14-20=-330/601, 5-41=-2384/128, 15-18=-597/117

NOTES

- 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 0-7-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc, Except member 40-46 2x6 - 3 rows staggered at 0-4-0 oc, member 6-40 2x6 - 2 rows staggered at 0-4-0 oc.
Attach BC w/ 1/2" diam. bolts (ASTM A-307) in the center of the member w/washers at 4-0-0 oc.
- 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.
- Unbalanced roof live loads have been considered for this design.



September 22, 2025

Continued on page 2

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436470
25090087-01	A05	Attic Girder	1	4	Job Reference (optional)	

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

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Page: 2

- 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 2x4 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 12) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members, with BCDL = 10.0psf.
- 13) Ceiling dead load (5.0 psf) on member(s). 6-47, 47-48,
48-49, 49-50, 50-51, 51-52, 13-52; Wall dead load
(5.0psf) on member(s).13-21, 6-39
- 14) Bottom chord live load (40.0 psf) and additional bottom
chord dead load (5.0 psf) applied only to room. 38-39,
36-38, 35-36, 33-35, 31-33, 30-31, 28-30, 27-28, 25-27,
22-25, 21-22
- 15) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 5420 lb uplift at
joint 20.
- 16) LGT4-SDS3 Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 44. This connection is for uplift only and
does not consider lateral forces.
- 17) One H2.5A Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 17. This connection is for uplift only and
does not consider lateral forces.
- 18) This truss is designed in accordance with the 2018
International Residential Code sections R502.11.1 and
R802.10.2 and referenced standard ANSI/TPI 1.
- 19) Graphical purlin representation does not depict the size
or the orientation of the purlin along the top and/or
bottom chord.
- 20) This truss has large uplift reaction(s) from gravity load
case(s). Proper connection is required to secure truss
against upward movement at the bearings. Building
designer must provide for uplift reactions indicated.
- 21) LGT4 Hurricane ties must have four studs in line below
the truss.
- 22) Hanger(s) or other connection device(s) shall be
provided sufficient to support concentrated load(s) 608
lb down and 52 lb up at 28-8-4, and 9100 lb down and
774 lb up at 16-1-4 on bottom chord. The design/
selection of such connection device(s) is the
responsibility of others.
- 23) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate
Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-7=-60, 7-12=-60, 12-17=-60,
44-53=-20, 21-39=-30, 6-47=-10, 47-48=-10,
45-48=-10, 45-49=-10, 49-50=-10, 50-51=-10,
51-52=-10, 13-52=-10
Drag: 13-21=-10, 39-46=-10, 6-46=-10
Concentrated Loads (lb)
Vert: 40=-4881 (F), 68=-326 (F)

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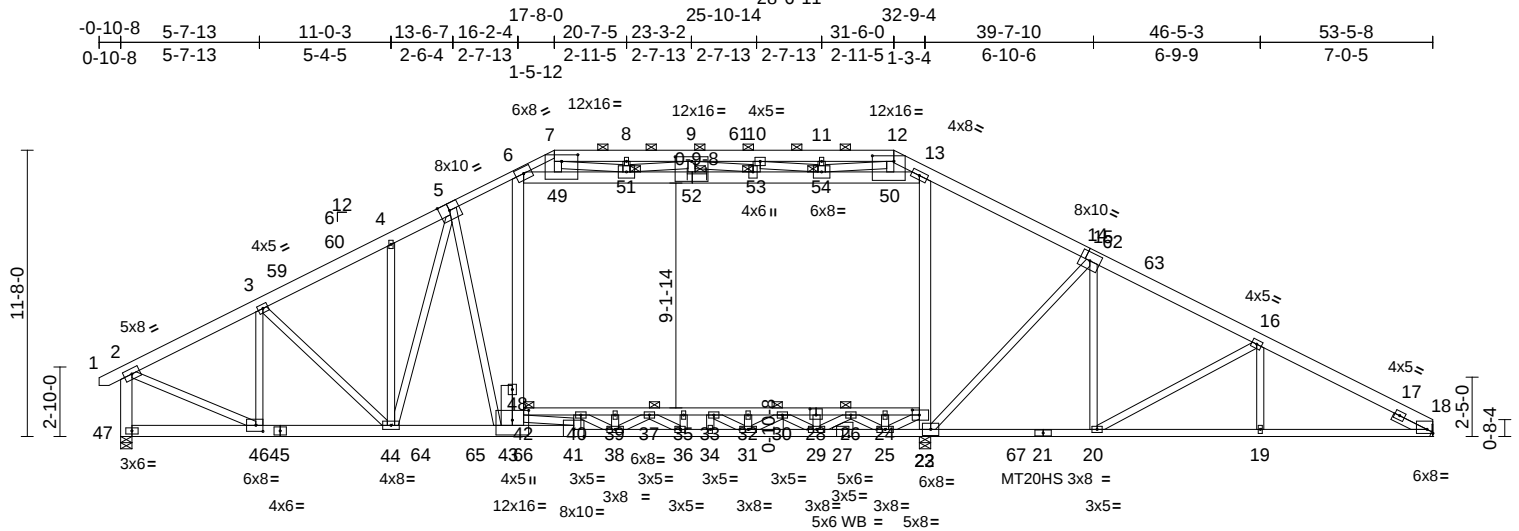
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436471
25090087-01	A06	Attic Girder	1	4	Job Reference (optional)	

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

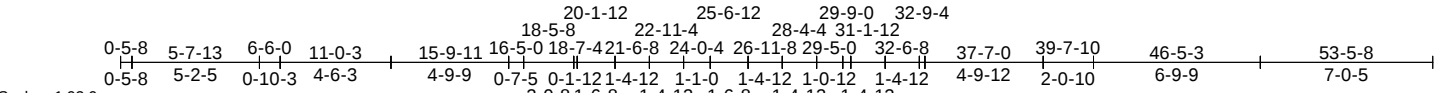
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PROVIDE CONNECTION OF TRUSS TO BEARING PLATE AT JOINT 22 CAPABLE OF WITHSTANDING 4789 LBS UPLIFT REACTION DUE TO GRAVITY LOADING (5383 LBS NON-GRAVITY MAX.) APPLIED TO THE TRUSS. IT IS THE RESPONSIBILITY OF THE PROJECT ARCHITECT/ENGINEER TO DESIGN THE CONNECTION OF THE TRUSS TO THE BEARING PLATE, PROVIDE AND DESIGN CONNECTION SYSTEM FOR A CONTINUOUS LOAD PATH FROM THE TRUSS TO THE FOUNDATION, AND DESIGN FOOTING/FOUNDATION TO RESIST SUCH UPLIFT. FAILURE TO DO SO WILL VOID THIS CONSTRUCTION.



Scale = 1:93.9

Plate Offsets (X, Y): [7:0-8-0,0-3-4], [9:0-8-0,0-2-4], [12:0-10-8,0-2-12], [18:Edge,0-2-0], [23:0-3-8,0-2-8], [28:0-3-0,0-3-0], [43:0-8-0,0-4-12], [46:0-3-8,0-3-0]

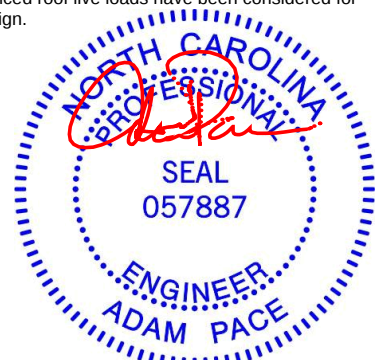
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	-0.49	41-43	>800	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.73	-0.74	41-43	>530	180	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.21	18	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.24	23-42	>809	360	
BCDL	10.0										
Weight: 2020 lb FT = 20%											

NUMBER		
TOP CHORD	2x6 SP No.2 *Except* 5-7:2x4 SP 2400F 2.0E	
BOT CHORD	2x4 SP 2400F 2.0E *Except* 47-45:2x6 SP No.2, 42-28-23:2x4 SP No.2, 45-41:2x6 SP 2400F 2.0E	
WEBS	2x4 SP No.3 *Except* 6-43,6-52,47-2,43-48,52-13:2x6 SP No.2, 13-22:2x6 SP 2400F 2.0E, 46-2:2x4 SP No.2	
OTHERS	2x4 SP No.3	
SLIDER	Right 2x4 SP No.3 -- 1-6-0	
BRACING		
TOP CHORD	Structural wood sheathing directly applied or 4-4-5 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-12.	
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.	
JOINTS	1 Brace at Jt(s): 42, 51, 52, 53, 54, 26, 30, 37	
REACTIONS	(size) 18= Mechanical, 22=0-5-8, 47=0-5-8 Max Horiz 47=-190 (LC 10) Max Uplift 18=-421 (LC 12), 22=-5383 (LC 45), 47=-683 (LC 12) Max Grav 18=8904 (LC 46), 22=793 (LC 12), 47=11748 (LC 46)	
FORCES	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/24, 2-3=-13498/782, 3-4=-17368/1033, 4-6=-18572/1120, 6-7=-6007/480, 7-8=-3098/528, 8-9=-3095/527, 9-10=-3730/713, 10-11=-1716/1437, 11-12=-1716/1437, 12-13=-4562/424, 13-15=-17758/1088, 15-16=-17909/1006, 16-18=-17623/896, 2-47=-11551/702	

BOT CHORD	46-47=-124/440, 44-46=-731/12075, 43-44=-832/16083, 38-43=-686/16693, 36-38=0/17735, 34-36=0/18049, 31-34=0/18049, 29-31=0/16737, 25-29=-154/14351, 22-25=-775/12144, 20-22=-780/16080, 19-20=-737/15458, 18-19=-737/15458, 40-42=-790/31, 39-40=-2303/0, 37-39=-2303/0, 35-37=-3084/0, 33-35=-3084/0, 32-33=-2967/0, 30-32=-2967/0, 26-30=-1186/728, 24-26=-366/3070, 23-24=-366/3070
WEBS	3-46=-5311/373, 3-44=-238/4930, 4-44=-697/163, 5-43=-124/1464, 42-43=-614/7199, 6-42=-531/8734, 22-23=-712/6597, 13-23=-513/7232, 6-49=-10641/684, 49-51=-10263/662, 51-53=-11084/660, 53-54=-15528/928, 50-54=-12362/771, 13-50=-12999/808, 2-46=-673/12779, 7-49=-147/2360, 12-50=-204/3452, 7-51=-4776/262, 8-51=-469/63, 9-51=-4230/346, 9-52=-120/2270, 9-53=-4656/281, 10-53=-108/93, 10-54=-2535/279, 11-54=-269/67, 12-54=-5373/307, 23-25=0/1635, 24-25=-569/0, 25-26=-1727/0, 26-29=0/2288, 38-40=0/1572, 28-29=-733/20, 38-39=-499/9, 29-30=-799/0, 37-38=-363/251, 30-31=0/1377, 36-37=0/559, 31-32=-542/0, 35-36=-323/0, 31-33=-172/5, 33-34=-22/125, 41-42=0/2662, 40-41=-885/0, 15-22=-629/212, 15-20=-254/167, 16-20=-135/835, 16-19=-34/151, 5-44=-2270/112

NOTES

- 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 - 2 rows staggered at 0-4-0 oc, Except member 43-48 2x6 - 3 rows staggered at 0-4-0 oc, member 13-22 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.
- 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.
- Unbalanced roof live loads have been considered for this design.



September 22, 2025

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WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436471
25090087-01	A06	Attic Girder	1	4	Job Reference (optional)	

- 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); ls=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 2x4 MT20 unless otherwise indicated.
- 11) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 12) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members, with BCDL = 10.0psf.
- 13) Ceiling dead load (5.0 psf) on member(s). 6-49, 49-51,
51-52, 52-53, 53-54, 50-54, 13-50; Wall dead load
(5.0psf) on member(s).6-42, 13-23
- 14) Bottom chord live load (40.0 psf) and additional bottom
chord dead load (5.0 psf) applied only to room. 40-42,
39-40, 37-39, 35-37, 33-35, 32-33, 30-32, 28-30, 26-28,
24-26, 23-24
- 15) Refer to girder(s) for truss to truss connections.
- 16) Bearing at joint(s) 47 considers parallel to grain value
using ANSI/TPI 1 angle to grain formula. Building
designer should verify capacity of bearing surface.
- 17) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 5383 lb uplift at
joint 22 and 421 lb uplift at joint 18.
- 18) LGT4-SDS3 Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 47. 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) 9100
lb down and 774 lb up at 16-1-4 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, 2-7=-60, 7-12=-60, 12-18=-60,
47-55=-20, 23-42=-30, 6-49=-10, 49-51=-10,
51-52=-10, 52-53=-10, 53-54=-10, 50-54=-10,
13-50=-10
Drag: 42-48=-10, 6-48=-10, 13-23=-10
Concentrated Loads (lb)
Vert: 43=-4881 (F)

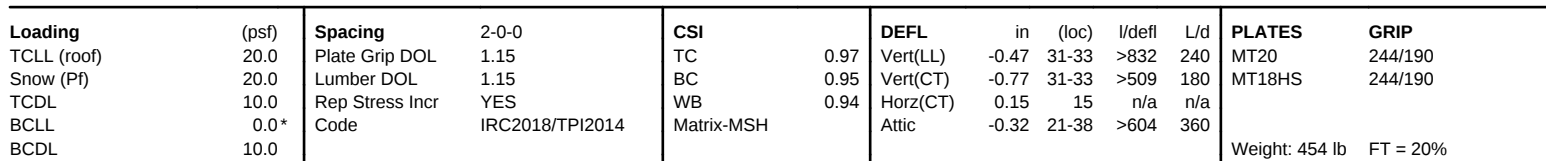
 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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818 Soundside Road
Edenton, NC 27932

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ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH
25090087-01	A07	Attic	1	1	I76436472
Job Reference (optional)					

- 8) All plates are 2x4 MT20 unless otherwise indicated.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 11) Ceiling dead load (5.0 psf) on member(s). 5-43, 43-45, 45-46, 46-47, 47-48, 44-48, 12-44; Wall dead load (5.0psf) on member(s).5-38, 12-21
- 12) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 37-38, 35-37, 34-35, 32-34, 30-32, 29-30, 27-29, 26-27, 24-26, 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) 42 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

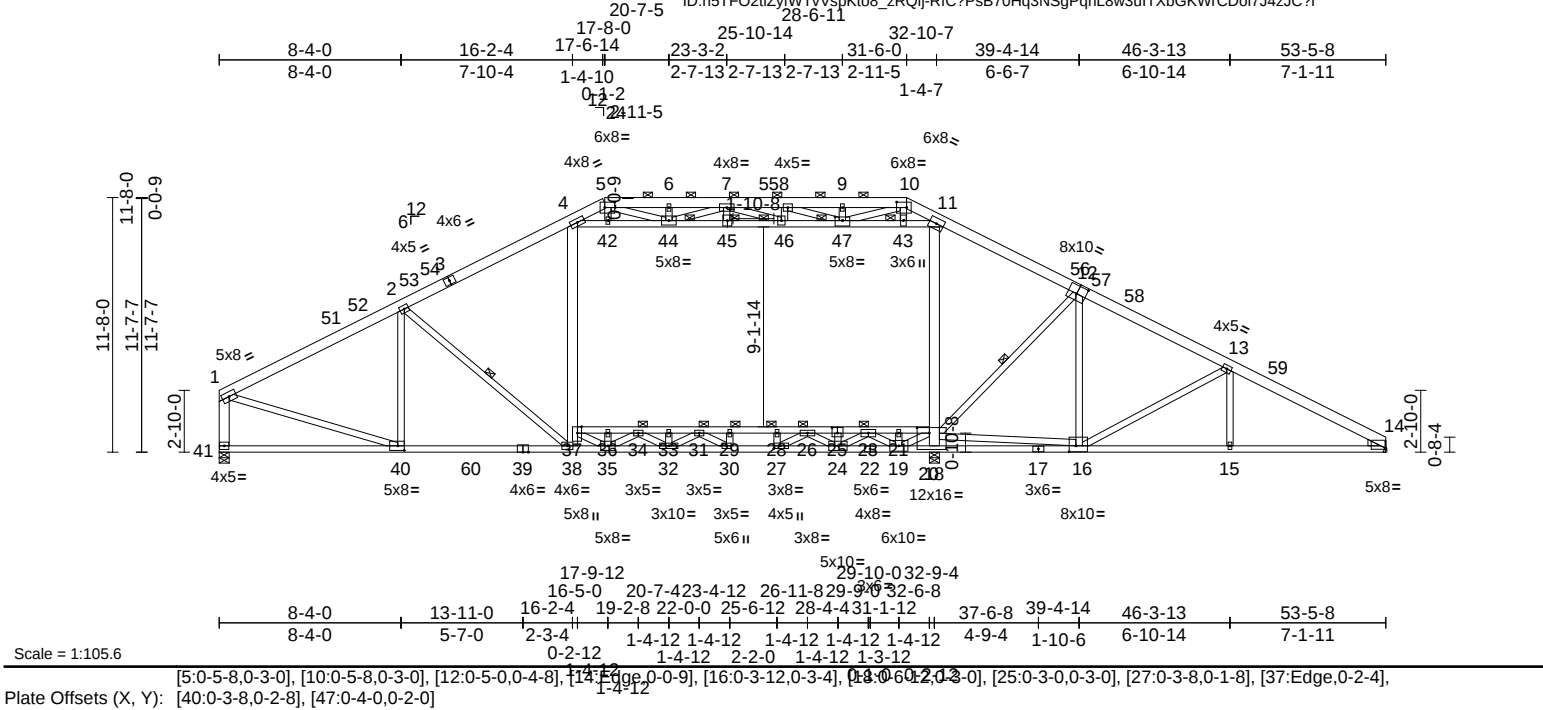
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436473
25090087-01	A08	Attic	6	1	Job Reference (optional)	

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

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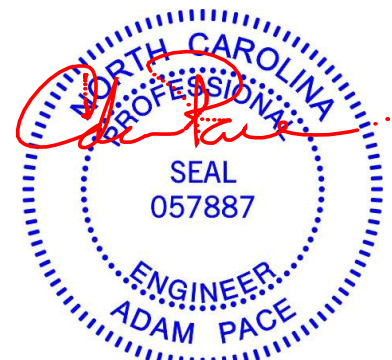


Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.66	Vert(LL)	-0.47	30-32	>836	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.95	Vert(CT)	-0.76	30-32	>512	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.93	Horz(CT)	0.15	14	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.32	20-37	>605	360		
BCDL	10.0											
											Weight: 453 lb	FT = 20%

LUMBER		BOT CHORD	40-41=104/246, 38-40=0/3385, 35-38=0/3320, 32-35=0/5160, 30-32=0/6293, 27-30=0/6093, 24-27=0/4802, 19-24=0/1826, 18-19=2291/0, 16-18=2098/0, 15-16=0/4026, 14-15=64/4026, 36-37=1129/0, 34-36=1129/0, 33-34=3123/0, 31-33=3123/0, 29-31=3183/0, 28-29=3183/0, 26-28=3183/0, 23-26=704/942, 21-23=0/3270, 20-21=0/3270	2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 5-6-14, Interior (1) 5-6-14 to 10-1-4, Exterior(2R) 10-1-4 to 39-0-12, Interior (1) 39-0-12 to 48-1-6, Exterior(2E) 48-1-6 to 53-5-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
WEBS	2x6 SP No.2 2x4 SP No.1 *Except* 37-25,22-17:2x4 SP No.2, 17-14,39-22:2x4 SP 2400F 2.0E 2x4 SP No.3 *Except* 4-38,11-18,41-1:2x6 SP No.2, 4-45,40-1,19-20,35-37,19-23,35-34,24-23,32-34,24-26,32-31,27-26,30-31,45-11:2x4 SP No.2, 20-16:2x4 SP No.1 Right: 2x4 SP No.3	WEBS	2-40=705/62, 2-38=131/400, 37-38=45/325, 4-37=0/1181, 18-20=1397/105, 11-20=46/1135, 12-20=570/324, 12-16=271/93, 13-16=555/210, 13-15=0/243, 4-42=1878/67, 42-44=1804/66, 44-46=1587/1326, 46-47=1783/1225, 43-47=2448/0, 11-43=2544/0, 1-40=0/3450, 5-42=0/324, 10-43=0/447, 5-44=341/1085, 6-44=46/157, 7-44=845/121, 7-45=0/60, 7-46=279/3, 8-46=0/129, 8-47=919/115, 9-47=170/78, 10-47=314/1436, 19-20=0/2696, 35-37=0/1556, 19-21=351/0, 35-36=230/0, 19-23=2163/0, 34-35=1298/0, 23-24=0/2102, 32-34=0/1056, 24-25=319/0, 32-33=185/0, 24-26=1402/0, 31-32=307/178, 26-27=0/1523, 30-31=356/12, 27-28=531/0, 29-30=2/94, 16-20=0/5300	3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: 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 2x4 MT20 unless otherwise indicated. 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
WEDGE				
BRACING				
TOP CHORD	Structural wood sheathing directly applied or 2-9-12 oc purlins, except end verticals, and 2-0-0 oc purlins (3-9-9 max.): 5-10.			
BOT CHORD	Rigid ceiling directly applied or 2-6-0 oc bracing.			
WEBS	1 Row at midpt 2-38, 12-20, 11-47			
JOINTS	1 Brace at Jt(s): 44, 45, 46, 47, 23, 34, 26, 31			
REACTIONS	(size) 14= Mechanical, 18=0-5-8, 41=0-5-8 Max Horiz 41=222 (LC 15) Max Grav 14=2293 (LC 47), 18=1786 (LC 39), 41=2957 (LC 37)			
FORCES	(lb) - Maximum Compression/Maximum Tension			
TOP CHORD	1-2=-3909/0, 2-4=-4057/0, 4-5=-2341/100, 5-6=-3002/359, 6-7=-2993/361, 7-8=-3600/503, 8-9=-2737/395, 9-10=-2737/395, 10-11=-1774/149, 11-13=-4089/46, 13-14=-4643/46, 1-41=-2957/19			

NOTES

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



September 22, 2025

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH
25090087-01	A08	Attic	6	1	I76436473
					Job Reference (optional)

- 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) Ceiling dead load (5.0 psf) on member(s). 4-42, 42-44, 44-45, 45-46, 46-47, 43-47, 11-43; Wall dead load (5.0psf) on member(s).4-37, 11-20
- 10) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 36-37, 34-36, 33-34, 31-33, 29-31, 28-29, 26-28, 25-26, 23-25, 21-23, 20-21
- 11) Refer to girder(s) for truss to truss connections.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 14) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard

 **WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436474
25090087-01	A09	Attic Supported Gable	1	1	Job Reference (optional)	

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

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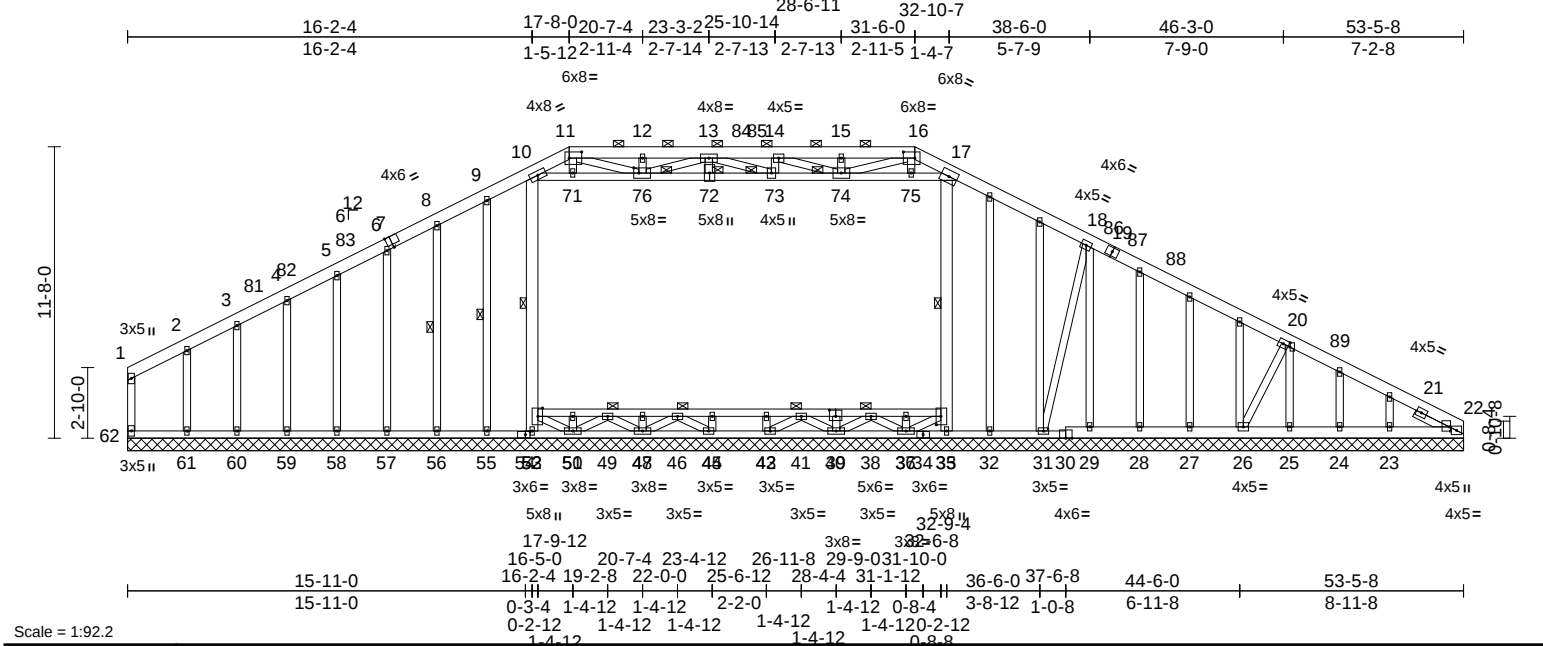


Plate Offsets (X, Y): [7:0-2-6,Edge], [11:0-6-0,0-3-0], [16:0-5-8,0-3-0], [22:0-2-2,0-0-8], [35:0-4-0,0-2-4], [40:0-3-0,0-3-0], [52:0-4-0,0-2-4], [54:0-2-4,0-1-8], [68:0-2-0,0-0-4], [76:0-2-8,0-2-8]

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	0.45	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	0.67	Horiz(TL)	0.01	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 534 lb											FT = 20%	

LUMBER		Max Grav	22=302 (LC 45), 23=197 (LC 41), 24=55 (LC 15), 25=83 (LC 7), 26=420 (LC 45), 27=85 (LC 7), 28=80 (LC 7), 29=77 (LC 7), 31=570 (LC 45), 32=83 (LC 7), 33=948 (LC 40), 37=206 (LC 7), 39=229 (LC 7), 42=194 (LC 7), 45=194 (LC 7), 47=228 (LC 7), 50=205 (LC 7), 53=1126 (LC 40), 55=124 (LC 51), 56=223 (LC 43), 57=239 (LC 43), 58=231 (LC 43), 59=184 (LC 43), 60=164 (LC 21), 61=172 (LC 41), 62=119 (LC 21)	BOT CHORD	61-62=-99/214, 60-61=-99/214, 59-60=-99/214, 58-59=-99/214, 57-58=-99/214, 56-57=-99/214, 55-56=-99/214, 53-55=-99/214, 50-53=-105/212, 47-50=-57/139, 45-47=-39/111, 42-45=-56/106, 39-42=-39/111, 37-39=-56/139, 33-37=-88/202, 32-33=-92/211, 31-32=-92/211, 29-31=-97/212, 28-29=-97/210, 27-28=-97/210, 26-27=-97/210, 25-26=-138/327, 24-25=-138/327, 23-24=-138/327, 22-23=-138/327, 51-52=-12/75, 49-51=-12/75, 48-49=-36/103, 46-48=-36/103, 44-46=-43/107, 43-44=-43/107, 41-43=-43/107, 38-41=-37/104, 36-38=-11/61, 35-36=-11/61
OTHERS		17-9-12, 16-5-0, 20-7-4, 23-4-12, 26-11-8, 29-9-0, 31-1-12, 16-2-4, 19-2-8, 22-0-0, 25-6-12, 28-4-4, 31-1-12, 0-3-4, 1-4-12, 1-4-12, 2-2-0, 1-4-12, 0-8-4, 3-8-12, 1-0-8, 44-6-0, 6-11-8, 53-5-8, 8-11-8, 0-2-12, 1-4-12, 1-4-12, 1-4-12, 1-4-12, 1-4-12, 1-4-12, 0-8-8, 0-8-8	FORCES		(lb) - Maximum Compression/Maximum Tension
SLIDER		Right 2x4 SP No.3 -- 1-6-0	TOP CHORD		1-62=-86/27, 1-2=-60/31, 2-3=-61/67, 3-4=-72/104, 4-5=-84/139, 5-6=-97/180, 6-8=-117/222, 8-9=-132/263, 9-10=-112/288, 10-11=-911/238, 11-12=-2174/452, 12-13=-2174/452, 13-14=-2874/593, 14-15=-2224/461, 15-16=-2224/461, 16-17=-994/233, 17-18=-195/310, 18-20=-276/259, 20-22=-414/214
BRACING			REACTIONS		(size)
TOP CHORD		Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins (4-0-12 max.): 11-16.	22=53-5-8, 23=53-5-8, 24=53-5-8, 25=53-5-8, 26=53-5-8, 27=53-5-8, 28=53-5-8, 29=53-5-8, 31=53-5-8, 32=53-5-8, 33=53-5-8, 37=53-5-8, 39=53-5-8, 42=53-5-8, 45=53-5-8, 47=53-5-8, 50=53-5-8, 53=53-5-8, 55=53-5-8, 56=53-5-8, 57=53-5-8, 58=53-5-8, 59=53-5-8, 60=53-5-8, 61=53-5-8, 62=53-5-8		
BOT CHORD		Rigid ceiling directly applied or 10-0-0 oc bracing, Except: 6-0-0 oc bracing: 42-45.	Max Horiz		62=-221 (LC 15)
WEBS		1 Row at midpt 10-52, 17-35, 9-55, 8-56	Max Uplift		22=-84 (LC 14), 23=-63 (LC 15), 24=-16 (LC 41), 26=-183 (LC 15), 31=-198 (LC 15), 33=-28 (LC 10), 53=-19 (LC 10), 55=-131 (LC 40), 56=-48 (LC 14), 57=-45 (LC 14), 58=-43 (LC 14), 59=-44 (LC 14), 60=-38 (LC 14), 61=-73 (LC 14), 62=-16 (LC 15)
JOINTS		1 Brace at Jt(s): 49, 46, 41, 38, 72, 73, 74, 76			



September 22, 2025

Continued on page 2

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH
25090087-01	A09	Attic Supported Gable	1	1	Job Reference (optional)

I76436474

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:07

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ID:8kdnANVfrXy7X5iJovJ26tzRBB2-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?r

WEBS 52-53=-1097/36, 10-52=-1109/113,
33-35=-922/44, 17-35=-941/125,
10-71=-41/650, 71-76=-39/643,
73-76=-451/2775, 73-74=-460/2847,
74-75=-63/753, 17-75=-66/765,
9-55=-85/171, 8-56=-183/72, 6-57=-199/69,
5-58=-191/68, 4-59=-144/68, 3-60=-126/64,
2-61=-139/91, 50-51=-75/0, 47-48=-66/0,
44-45=-79/0, 50-52=-72/17, 49-50=-50/29,
47-49=-38/3, 46-47=-44/0, 45-46=-36/0,
42-43=-80/0, 39-40=-66/0, 36-37=-74/0,
41-42=-36/0, 39-41=-43/0, 38-39=-41/0,
37-38=-44/29, 35-37=-74/9, 11-71=-20/19,
13-72=-1/26, 14-73=-30/47, 15-74=-232/65,
16-75=-43/20, 16-74=-284/1519,
14-74=-692/141, 13-73=-70/171,
13-76=-673/146, 11-76=-296/1582,
12-76=-257/67, 18-31=-550/221,
20-26=-437/232

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 10-1-4, Exterior(2R) 10-1-4 to 39-0-12, Interior (1)
39-0-12 to 48-1-6, Exterior(2E) 48-1-6 to 53-5-8 zone;C-
C for members and forces & MWFRS for reactions
shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss
only. For studs exposed to wind (normal to the face),
see Standard Industry Gable End Details as applicable,
or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15
Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate
DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9;
Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this
design.
- 6) Provide adequate drainage to prevent water ponding.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom
chord live load nonconcurrent with any other live loads.
- 11) * This truss has been designed for a live load of 20.0psf
on the bottom chord in all areas where a rectangle
3-06-00 tall by 2-00-00 wide will fit between the bottom
chord and any other members.
- 12) Ceiling dead load (5.0 psf) on member(s). 10-71, 71-76,
72-76, 72-73, 73-74, 74-75, 17-75; Wall dead load
(5.0psf) on member(s).10-52, 17-35
- 13) Provide mechanical connection (by others) of truss to
bearing plate capable of withstanding 16 lb uplift at joint
62, 84 lb uplift at joint 22, 19 lb uplift at joint 53, 28 lb
uplift at joint 33, 198 lb uplift at joint 31, 183 lb uplift at
joint 26, 16 lb uplift at joint 24, 63 lb uplift at joint 23, 131
lb uplift at joint 55, 48 lb uplift at joint 56, 45 lb uplift at
joint 57, 43 lb uplift at joint 58, 44 lb uplift at joint 59, 38
lb uplift at joint 60, 73 lb uplift at joint 61 and 84 lb uplift
at joint 22.
- 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

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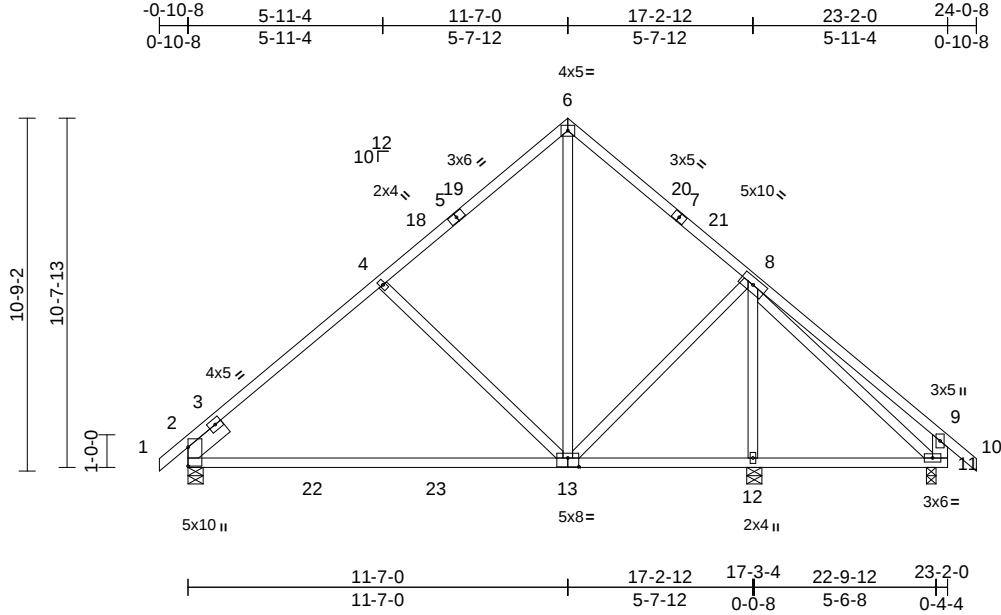
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436475
25090087-01	B01	Common	1	1	Job Reference (optional)	

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

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Scale = 1:70.3

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

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	0.65	Vert(LL)	-0.47	13-16	>443	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.76	13-16	>273	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.07	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 145 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x4 SP No.1
 WEBS 2x4 SP No.3 *Except* 11-9:2x6 SP No.2
 SLIDER Left 2x6 SP No.2 -- 1-6-0

BRACING

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

REACTIONS (size) 2=0-5-8, 11=0-3-8, 12=0-5-8
 Max Horiz 2=265 (LC 13)
 Max Uplift 2=-72 (LC 14), 11=-22 (LC 14), 12=-89 (LC 15)
 Max Grav 2=927 (LC 25), 11=568 (LC 39), 12=774 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/34, 2-4=-1146/138, 4-6=-779/163, 6-8=-773/173, 8-9=-386/248, 9-10=0/42, 9-11=-410/225
 BOT CHORD 2-12=-254/780, 11-12=0/336
 WEBS 8-11=-256/41, 6-13=-83/537, 8-13=-16/360, 8-12=-684/136, 4-13=-394/238

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 8-7-0, Exterior(2R) 8-7-0 to 14-7-0, Interior (1) 14-7-0 to 21-0-8, Exterior(2E) 21-0-8 to 24-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; porch right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2, 11, and 12. This connection is for uplift only and does not consider lateral forces.
- 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



September 22, 2025

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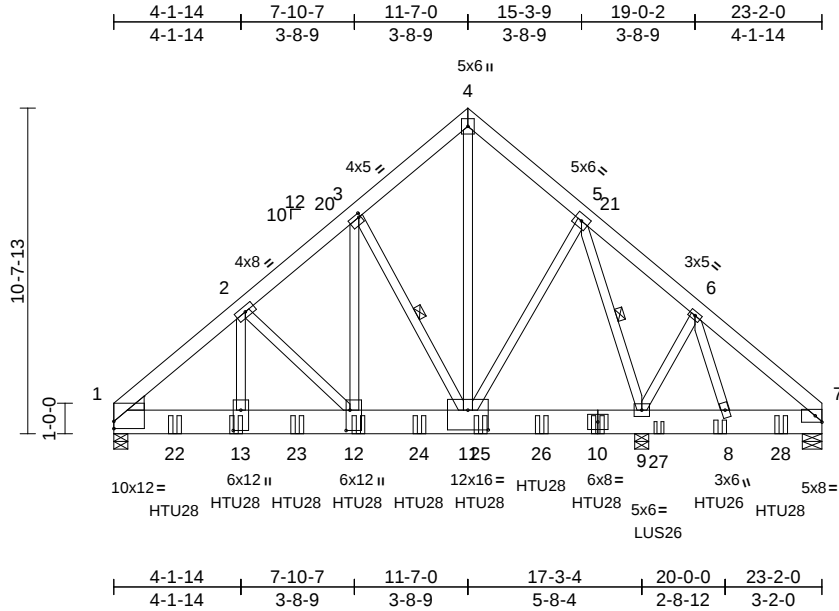
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436476
25090087-01	B02	Common Girder	1	2	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:09

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Scale = 1:75.4

Plate Offsets (X, Y): [1:Edge,0-2-13], [3:0-0-12,0-1-8], [11:0-8-0,0-7-12], [12:0-8-0,0-1-8], [13:0-8-0,0-3-0]

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	0.33	Vert(LL)	-0.10	12-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.17	12-13	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.75	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 482 lb FT = 20%	

LUMBER

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

BRACING

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

WEBS 1 Row at midpt 3-11, 5-9

REACTIONS

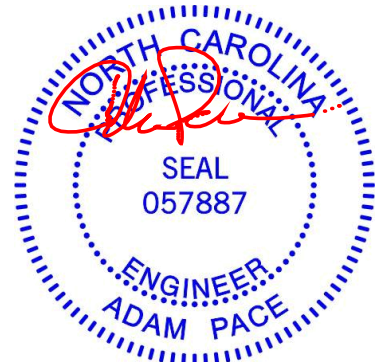
(size) 1=0-5-8, 7=0-7-12, 9=0-5-8
Max Horiz 1=-227 (LC 35)
Max Uplift 1=-288 (LC 12), 7=-190 (LC 12), 9=-863 (LC 13)
Max Grav 1=9134 (LC 5), 7=639 (LC 19), 9=12950 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-10863/356, 2-3=-8108/309, 3-4=-5131/267, 4-5=-5078/283, 5-6=-64/179, 6-7=-150/560
BOT CHORD 1-13=-347/8235, 12-13=-347/8235, 11-12=-219/6214, 9-11=-48/1902, 8-9=-182/82, 7-8=-355/52
WEBS 2-13=-94/3732, 2-12=-2894/219, 3-12=-220/5944, 3-11=-4828/324, 4-11=-266/6114, 5-11=-155/4320, 5-9=-7328/323, 6-9=-249/300, 6-8=-627/6

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected as follows: 2x10 - 3 rows staggered at 0-4-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc, Except member 2-13 2x4 - 1 row at 0-3-0 oc, member 3-12 2x4 - 1 row at 0-6-0 oc.
- 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.
- Unbalanced roof live loads have been considered for this design.
- 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
- 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
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 7. This connection is for uplift only and does not consider lateral forces.
- LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.
- 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.
- Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 15-10-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss) or equivalent at 17-10-0 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU26 (10-16d Girder, 14-10dx1 1/2 Truss) or equivalent at 19-10-0 from the left end to connect truss(es) to back face of bottom chord.



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Continued on page 2

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Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436476
25090087-01	B02	Common Girder	1	2	Job Reference (optional)	

- 15) Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss) or equivalent at 21-10-0 from the left end to connect truss(es) to back face of bottom chord.
- 16) Fill all nail holes where hanger is in contact with lumber.
- 17) LGT2 Hurricane ties must have two studs in line below the truss.

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)
- Vert: 10=-1890 (B), 13=-1890 (B), 12=-1890 (B), 8=-828 (B), 22=-1890 (B), 23=-1890 (B), 24=-1890 (B), 25=-1890 (B), 26=-1890 (B), 27=-828 (B), 28=-828 (B)

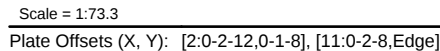
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Edenton, NC 27932

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:09 Page: 1
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WEBS		WEBS	9-10=61/32, 12-13=22/46, 7-8=106/63, 4-5=33/5, 17-28=101/94, 18-27=237/218, 19-26=87/72, 20-25=93/47, 3-31=0/250, 15-29=452/110, 14-15=229/0, 2-31=92/286, 15-31=124/332	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.
TOP CHORD	2x4 SP No.2			
BOT CHORD	2x4 SP No.2			
WEBS	2x4 SP No.3			
OTHERS	2x4 SP No.3			
BRACING		NOTES		
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	1) Unbalanced roof live loads have been considered for this design.		
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 8-7-0, Corner(3R) 8-7-0 to 14-7-0, Exterior(2N) 14-7-0 to 21-0-8, Corner(3E) 21-0-8 to 24-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed; porch right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60		13) H10A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 24. This connection is for uplift only and does not consider lateral forces.
WEBS	1 Row at midpt 14-29	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.		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.
JOINTS	1 Brace at Jt(s): 10	4) TCLK: 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		15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
REACTIONS	(size) 24=0-3-8, 27=3-9-8, 28=3-9-8, 29=3-9-8, 32=0-5-8 Max Horiz 32=262 (LC 12) Max Uplift 24=3 (LC 11), 27=298 (LC 15), 28=58 (LC 7), 29=49 (LC 14), 32=30 (LC 14) Max Grav 24=361 (LC 22), 27=380 (LC 26), 28=37 (LC 22), 29=552 (LC 25), 32=716 (LC 21)	5) Unbalanced snow loads have been considered for this design.		
FORCES	(lb) - Maximum Compression/Maximum Tension	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.		LOAD CASE(S) Standard
TOP CHORD	2-32=655/141, 1-2=0/38, 2-3=718/76, 3-4=273/82, 4-8=275/99, 8-9=203/148, 9-11=119/114, 11-13=140/114, 13-14=202/110, 14-17=174/113, 17-18=199/46, 18-19=171/62, 19-20=240/66, 20-21=267/74, 21-22=0/38, 21-23=224/19, 3-5=406/160, 5-7=408/159, 7-10=459/195, 10-12=443/177, 12-15=438/171	7) All plates are 2x4 MT20 unless otherwise indicated.		
BOT CHORD	31-32=297/479, 29-31=82/245, 28-29=91/271, 27-28=91/271, 26-27=91/271, 25-26=91/271, 24-25=91/271, 23-24=91/271	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.		



September 22, 2025

 WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

WARNING – Verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE MIT-17-19 (Rev. 1/2/2025) BEFORE USE.

Design valid for use only with MiTeK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Components Association (www.sbcacomponents.com)

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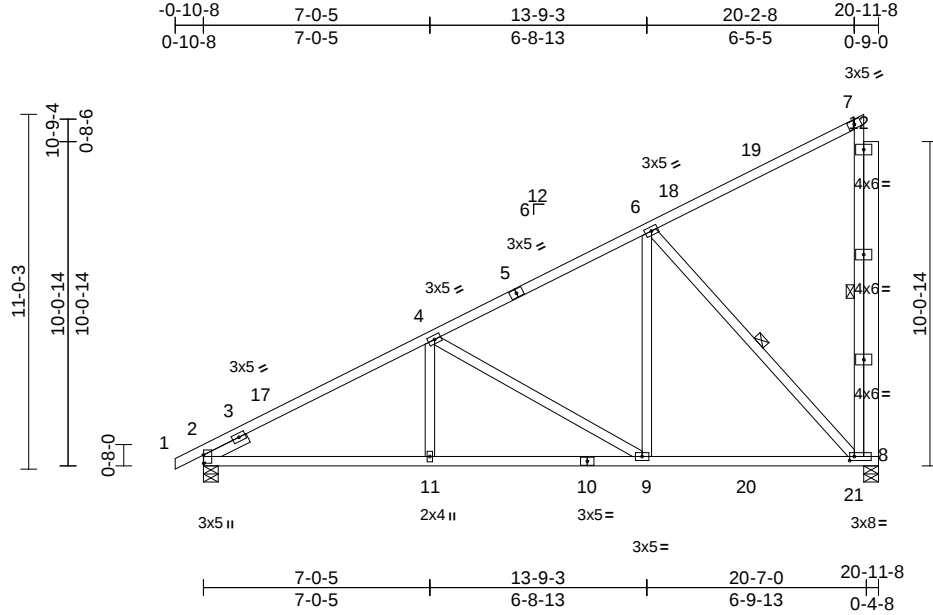
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436478
25090087-01	C01	Half Hip	4	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:71.5

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	0.83	Vert(LL)	-0.08	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.14	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 148 lb	FT = 20%

LUMBER

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

BRACING

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

WEBS 1 Row at midpt 7-8, 6-8

REACTIONS	(size) 2=0-5-8, 8=0-5-8
	Max Horiz 2=387 (LC 14)
	Max Uplift 2=-49 (LC 14), 8=-342 (LC 14)
	Max Grav 2=954 (LC 5), 8=1731 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-4=-1437/30, 4-6=-824/0, 6-7=-166/102, 7-8=-270/93

BOT CHORD 2-11=-399/1321, 9-11=-320/1321, 8-9=-159/721

WEBS 4-11=0/263, 4-9=-691/185, 6-9=0/637, 6-8=-1026/227

NOTES

- 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 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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

- Unbalanced snow loads have been considered for this design.
- 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.
- All plates are 3x5 MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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.
- 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.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 128 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-7=-60, 8-13=-20
Concentrated Loads (lb)
Vert: 8=-747



September 22, 2025

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

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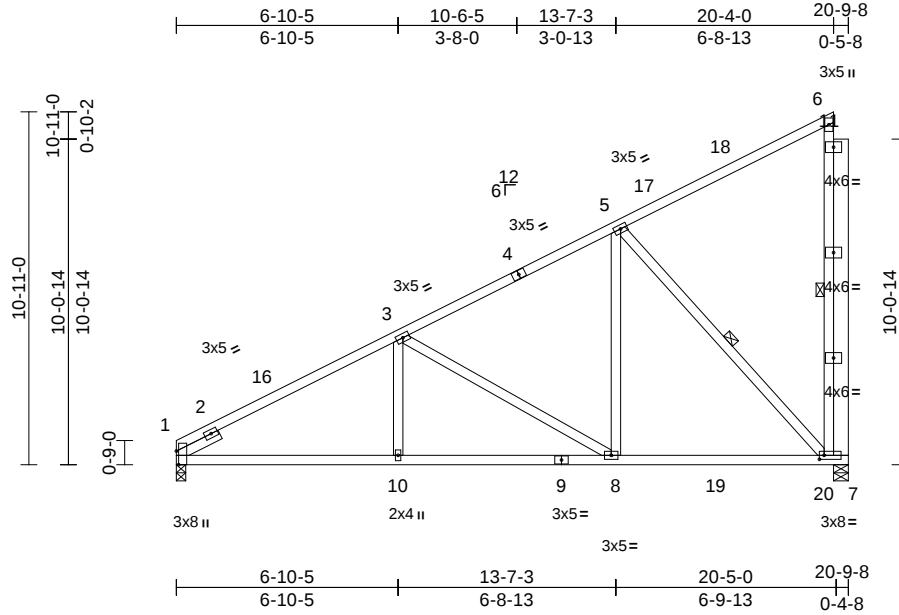
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436479
25090087-01	C02	Half Hip	1	1	Job Reference (optional)	

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

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Scale = 1:71.3

Plate Offsets (X, Y): [1:0-5-1,Edge], [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	0.82	Vert(LL)	-0.08	7-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.63	Vert(CT)	-0.14	7-8	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.75	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 4-7-1 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=0-3-8, 7=0-5-8
Max Horiz	1=370 (LC 14)
Max Uplift	1=-30 (LC 14), 7=-342 (LC 14)
Max Grav	1=900 (LC 5), 7=1714 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-3=-1401/30, 3-5=-812/0, 5-6=-162/100, 6-7=-265/93
BOT CHORD	1-10=-405/1286, 8-10=-319/1286, 7-8=-159/716
WEBS	3-10=0/254, 3-8=-658/185, 5-8=0/624, 5-7=-1018/227

NOTES

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-0 to 3-2-0, Interior (1) 3-2-0 to 17-4-4, Exterior(2E) 17-4-4 to 20-4-4 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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.
- 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.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 752 lb down and 129 lb up at 20-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

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



September 22, 2025

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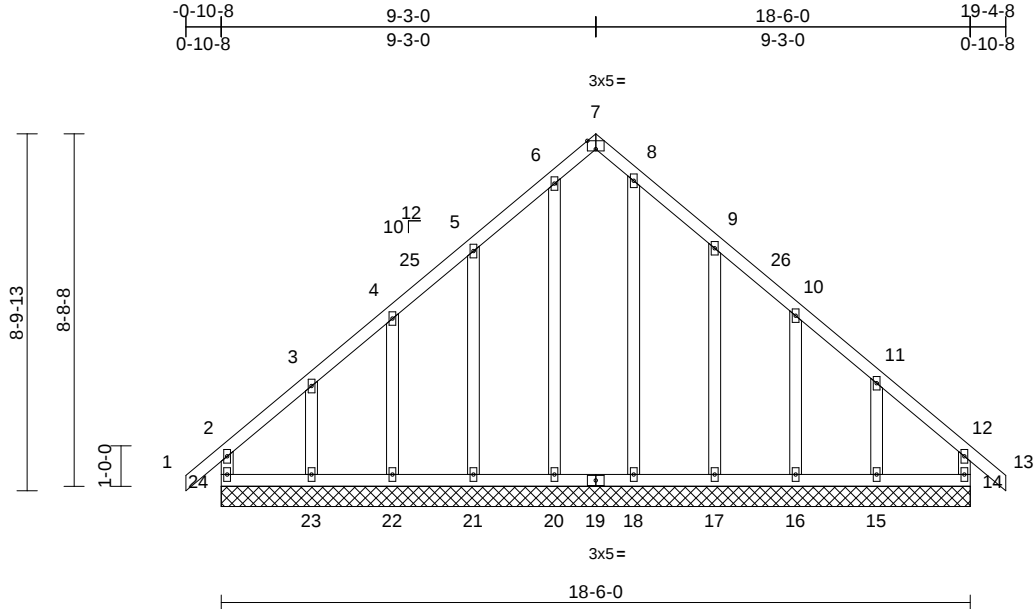
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436480
25090087-01	D01	Common Supported Gable	1	1	Job Reference (optional)	

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

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Scale = 1:56.9

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
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999	244/190
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: 127 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=18-6-0, 15=18-6-0, 16=18-6-0, 17=18-6-0, 18=18-6-0, 20=18-6-0, 21=18-6-0, 22=18-6-0, 23=18-6-0, 24=18-6-0
Max Horiz 24=225 (LC 12)
Max Uplift 14=48 (LC 11), 15=163 (LC 15), 16=46 (LC 15), 17=117 (LC 15), 21=114 (LC 14), 22=47 (LC 14), 23=168 (LC 14), 24=71 (LC 10)
Max Grav 14=190 (LC 30), 15=223 (LC 26), 16=173 (LC 22), 17=255 (LC 22), 18=222 (LC 22), 20=227 (LC 21), 21=252 (LC 21), 22=172 (LC 21), 23=226 (LC 25), 24=206 (LC 26)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-24=-168/64, 1-2=0/39, 2-3=-165/141, 3-4=-106/91, 4-5=-93/111, 5-6=-117/176, 6-7=-96/129, 7-8=-93/122, 8-9=-119/167, 9-10=-76/102, 10-11=-89/71, 11-12=-151/116, 12-13=0/39, 12-14=-155/46
BOT CHORD 23-24=-105/143, 22-23=-105/143, 21-22=-105/143, 20-21=-105/143, 18-20=-105/143, 17-18=-105/143, 16-17=-105/143, 15-16=-105/143, 14-15=-105/143

WEBS
6-20=-187/8, 8-18=-183/11, 5-21=-212/135, 4-22=-142/82, 3-23=-172/152, 9-17=-214/138, 10-16=-142/81, 11-15=-170/151

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 2-2-12, Interior (1) 2-2-12 to 6-2-12, Exterior(2R) 6-2-12 to 12-2-4, Interior (1) 12-2-4 to 16-2-4, Exterior(2E) 16-2-4 to 19-4-8 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- 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.

LOAD CASE(S) Standard



September 22,2025

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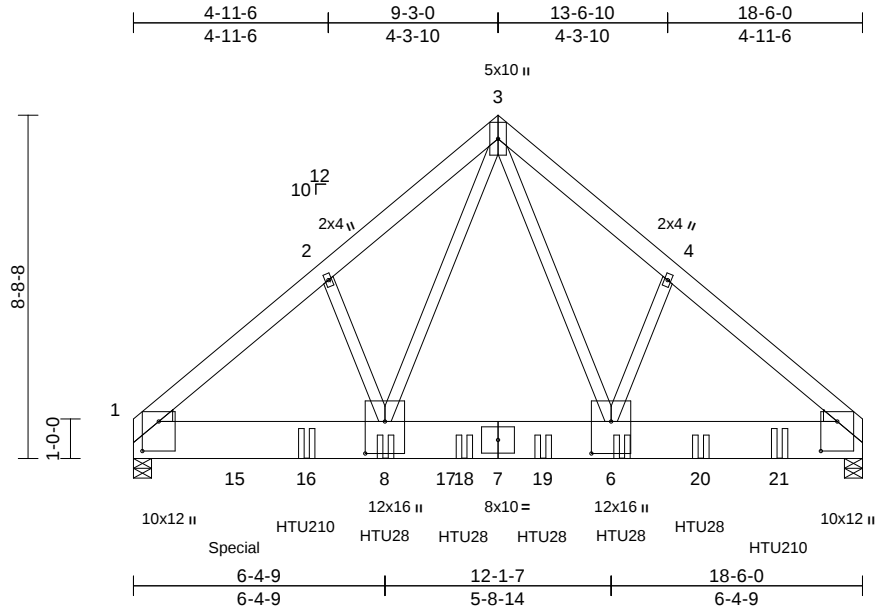
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436481
25090087-01	D02	Common Girder	1	3	Job Reference (optional)	

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

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Scale = 1:58.5

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

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	0.37	Vert(LL)	-0.09	8-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.52	Vert(CT)	-0.15	8-11	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.87	Horz(CT)	0.02	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 546 lb	FT = 20%

LUMBER

TOP CHORD	2x6 SP No.2
BOT CHORD	2x12 SP 2400F 2.0E
WEBS	2x4 SP No.2 *Except* 8-2,6-4:2x4 SP No.3
WEDGE	Left: 2x4 SP No.3 Right: 2x4 SP No.3

BRACING

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

REACTIONS

(size)	1=0-5-8, 5=0-5-8
Max Horiz	1=181 (LC 11)
Max Grav	1=14963 (LC 21), 5=10831 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-14218/0, 2-3=-14152/0, 3-4=-12497/0, 4-5=-12624/0
BOT CHORD	1-8=0/10921, 6-8=0/7222, 5-6=0/9610
WEBS	3-8=0/10693, 2-8=-243/269, 3-6=0/6972, 4-6=-157/266

NOTES

- 3-ply truss to be connected together as follows:
Top chords connected with 10d (0.131"x3") nails as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Bottom chords connected with Simpson SDS 1/4 x 4-1/2 screws as follows: 2x12 - 3 rows staggered at 0-4-0 oc.
Web chords connected with 10d (0.131"x3") nails as follows: 2x4 - 1 row at 0-9-0 oc.
- 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.
- Unbalanced roof live loads have been considered for this design.

- 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
- 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
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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.
- Use Simpson Strong-Tie HTU210 (20-16d Girder, 32-10dx1 1/2 Truss) or equivalent spaced at 12-0-0 oc max. starting at 4-4-12 from the left end to 16-4-12 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU28 (20-16d Girder, 26-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 6-4-12 from the left end to 14-4-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 8869 lb down and 536 lb up at 2-7-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-5=-60, 9-12=-20
Concentrated Loads (lb)
Vert: 8=-1893 (B), 6=-1893 (B), 15=-5509 (B), 16=-1897 (B), 18=-1893 (B), 19=-1893 (B), 20=-1893 (B), 21=-1893 (B)



September 22,2025

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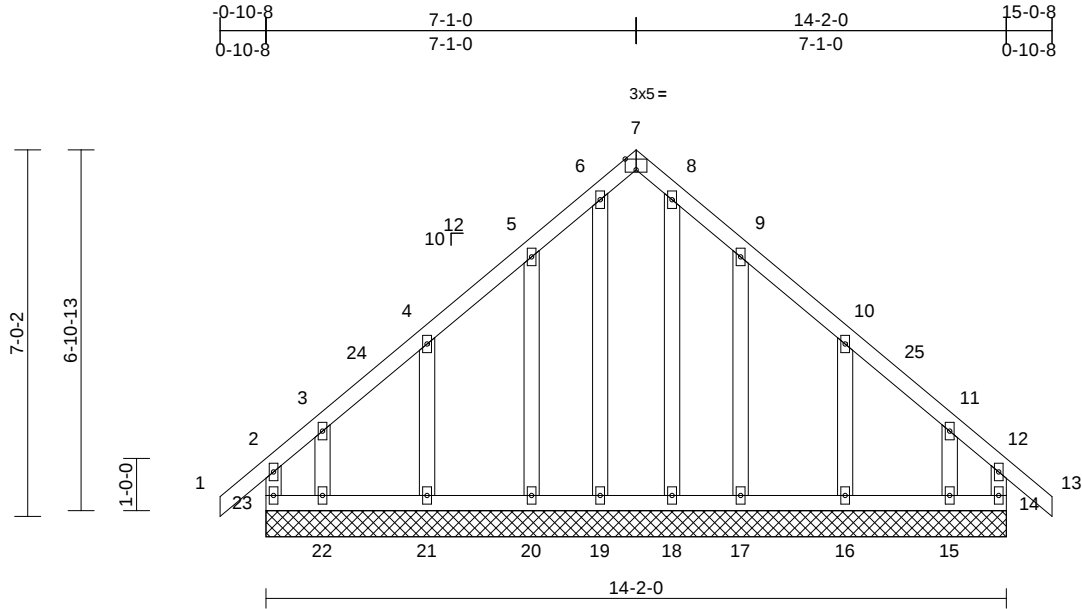
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436482
25090087-01	E01	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:10

Page: 1

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Scale = 1:44.1

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

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	14	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
										Weight: 98 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=14-2-0, 15=14-2-0, 16=14-2-0, 17=14-2-0, 18=14-2-0, 19=14-2-0, 20=14-2-0, 21=14-2-0, 22=14-2-0, 23=14-2-0
	Max Horiz	23=177 (LC 13)
	Max Uplift	14=77 (LC 11), 15=142 (LC 15), 16=70 (LC 15), 17=85 (LC 15), 20=84 (LC 14), 21=70 (LC 14), 22=149 (LC 14), 23=103 (LC 10)
	Max Grav	14=152 (LC 25), 15=162 (LC 26), 16=216 (LC 22), 17=212 (LC 22), 18=139 (LC 22), 19=139 (LC 21), 20=212 (LC 21), 21=216 (LC 21), 22=174 (LC 12), 23=174 (LC 31)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	2-23=-136/76, 1-2=0/38, 2-3=-135/122, 3-4=-83/89, 4-5=-69/136, 5-6=-94/234, 6-7=-71/159, 7-8=-71/159, 8-9=-94/234, 9-10=-68/136, 10-11=-65/74, 11-12=-120/97, 12-13=0/38, 12-14=-120/57
BOT CHORD	22-23=-86/155, 21-22=-86/155, 20-21=-86/155, 19-20=-86/155, 18-19=-86/155, 17-18=-86/155, 16-17=-86/155, 15-16=-86/155, 14-15=-86/155

WEBS

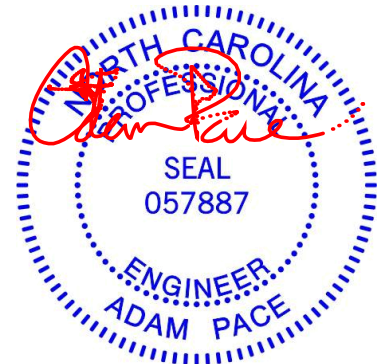
6-19=-126/12, 8-18=-126/12, 5-20=-180/138, 4-21=-174/136, 3-22=-126/126, 9-17=-180/138, 10-16=-174/135, 11-15=-117/139

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 4-1-0, Corner(3R) 4-1-0 to 10-1-0, Exterior(2N) 10-1-0 to 12-0-8, Corner(3E) 12-0-8 to 15-0-8 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2'-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 23, 77 lb uplift at joint 14, 84 lb uplift at joint 20, 70 lb uplift at joint 21, 149 lb uplift at joint 22, 85 lb uplift at joint 17, 70 lb uplift at joint 16 and 142 lb uplift at joint 15.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



September 22, 2025

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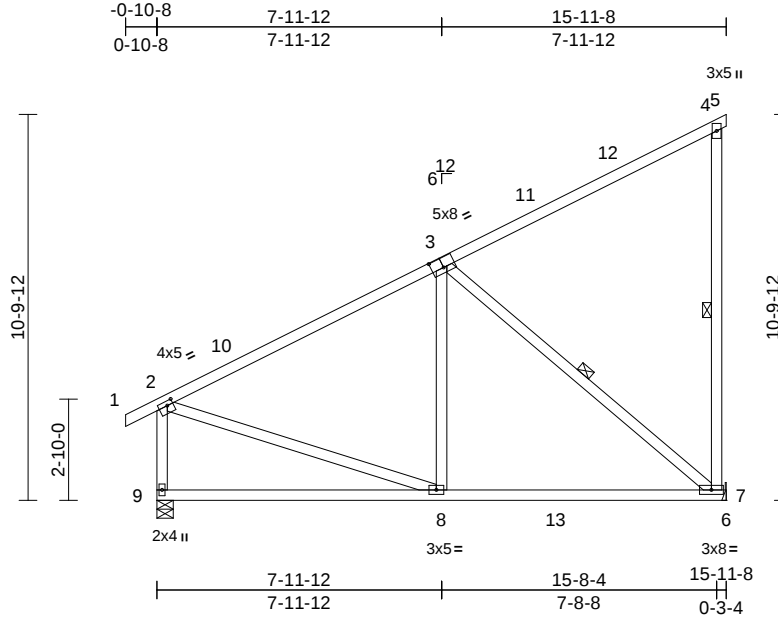
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436483
25090087-01	G01	Monopitch	5	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:10

Page: 1

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Scale = 1:64.6

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	0.95	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	>923	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.39	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 10-0-0 oc bracing.
WEBS 1 Row at midpt 4-7, 3-7

REACTIONS

(size) 7= Mechanical, 9=0-5-8
Max Horiz 9=273 (LC 14)
Max Uplift 7=-221 (LC 14)
Max Grav 7=831 (LC 5), 9=754 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/27, 2-4=-677/119, 4-5=-12/0, 4-7=-328/122, 2-9=-655/84

BOT CHORD 8-9=-334/218, 7-8=-195/603, 6-7=0/0

WEBS 3-8=0/313, 3-7=-768/250, 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 12-11-8, Exterior(2E) 12-11-8 to 15-11-8 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



September 22, 2025

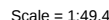
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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NOTES

- 12) N/A

- 13) Non Standard bearing condition. Review required.
- 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



September 22, 2025



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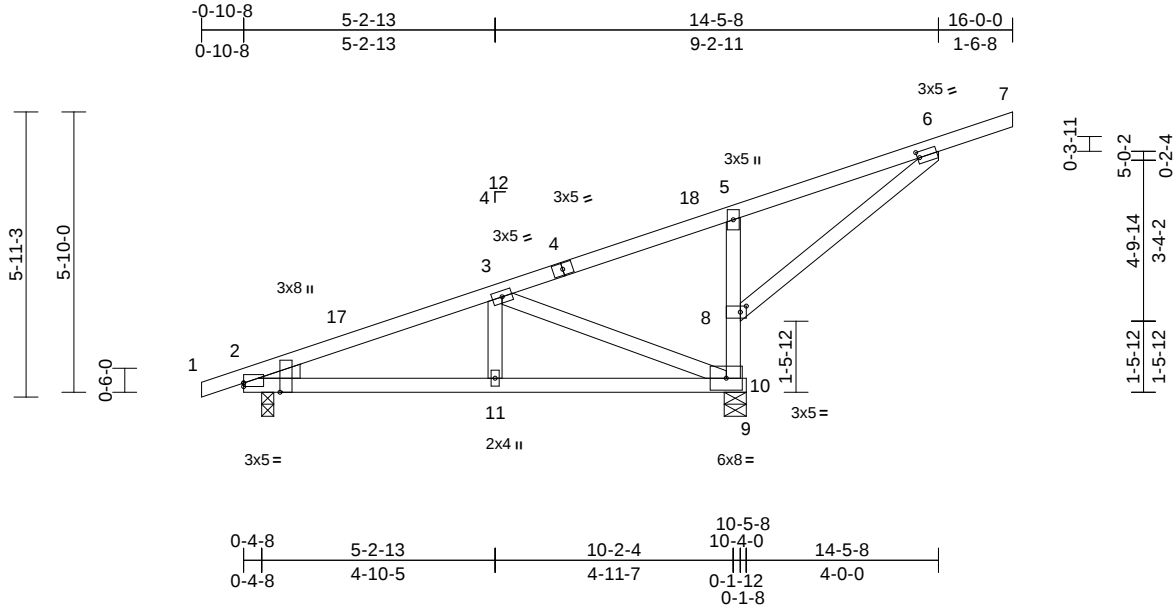
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436485
25090087-01	H02	Monopitch	6	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Thu Sep 18 13:49:05
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Page: 1



Scale = 1:47.9

Plate Offsets (X, Y): [2:Edge,0-0-14], [2:0-2-5,Edge], [6:0-0-8,0-1-8], [8:0-1-8,0-1-8]

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	0.79	Vert(LL)	0.03	10-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	Vert(CT)	-0.05	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 66 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2 *Except* 5-10:2x4 SP No.1
WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
Except:
4-7-0 oc bracing: 8-10
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
5-11-5 oc bracing: 6-8.

REACTIONS

(lb/size) 2=358/0-3-0, 10=948/0-5-8
Max Horiz 2=209 (LC 11)
Max Uplift 2=-111 (LC 10), 10=-309 (LC 10)
Max Grav 2=358 (LC 1), 10=1186 (LC 21)

FORCES

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.
TOP CHORD 2-17=-325/83, 3-17=-297/29, 3-4=-513/430,
4-18=-497/501, 5-18=-496/521,
5-6=-548/744, 8-10=-947/558, 5-8=-325/177
BOT CHORD 2-11=-212/302, 10-11=-212/302,
6-8=-900/551
WEBS 3-10=-627/485

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 16-0-0 zone; cantilever left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 309 lb uplift at joint 10 and 111 lb uplift at joint 2.
- 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



September 22,2025

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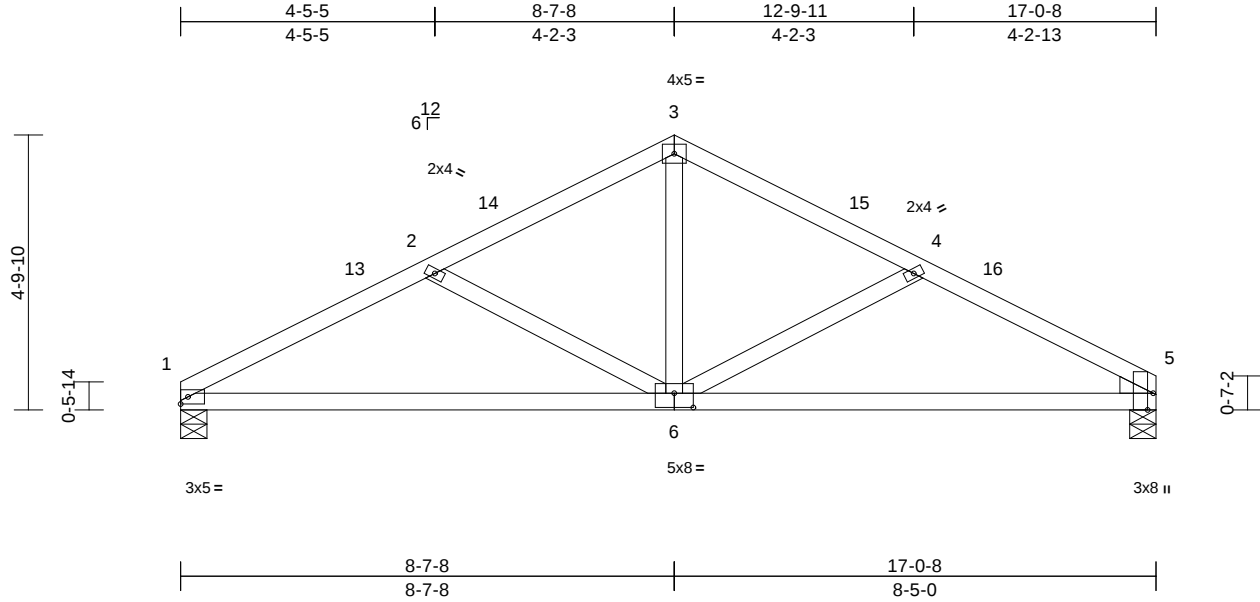
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436486
25090087-01	J01	Common	5	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:10
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Page: 1



Scale = 1:40.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	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 5-1-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

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

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-1256/309, 2-3=-879/232, 3-4=-871/231, 4-5=-1211/300
BOT CHORD 1-5=-221/1083
WEBS 3-6=-51/474, 4-6=-401/159, 2-6=-439/174

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 5-7-8, Exterior(2R) 5-7-8 to 11-7-8, Interior (1) 11-7-8 to 14-0-8, Exterior(2E) 14-0-8 to 17-0-8 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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
- Unbalanced snow loads have been considered for this design.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Bearings are assumed to be: , Joint 5 SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5. This connection is for uplift only and does not consider lateral forces.
- 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



September 22,2025

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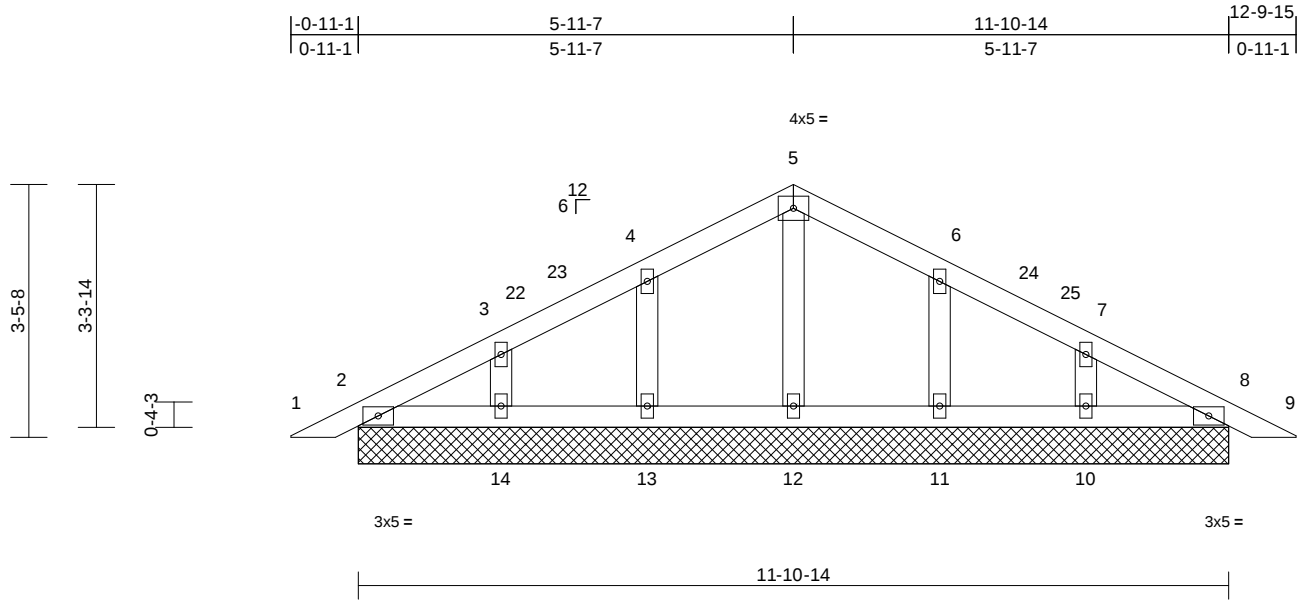
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436487
25090087-01	PBA	Piggyback	2	1	Job Reference (optional)	

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

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Scale = 1:31.5

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	0.08	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	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=11-10-14, 8=11-10-14, 10=11-10-14, 11=11-10-14, 12=11-10-14, 13=11-10-14, 14=11-10-14
Max Horiz	2=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=-46 (LC 14)
Max Grav	2=125 (LC 21), 8=125 (LC 22), 10=240 (LC 22), 11=243 (LC 22), 12=143 (LC 22), 13=243 (LC 21), 14=240 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-46/33, 3-4=-56/49, 4-5=-64/107, 5-6=-64/107, 6-7=-56/42, 7-8=-30/26, 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=-207/121, 3-14=-183/88, 6-11=-207/121, 7-10=-183/88

NOTES

- Unbalanced roof live loads have been considered for this design.

- 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 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- N/A

- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
- LOAD CASE(S)** Standard

- 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.



September 22, 2025

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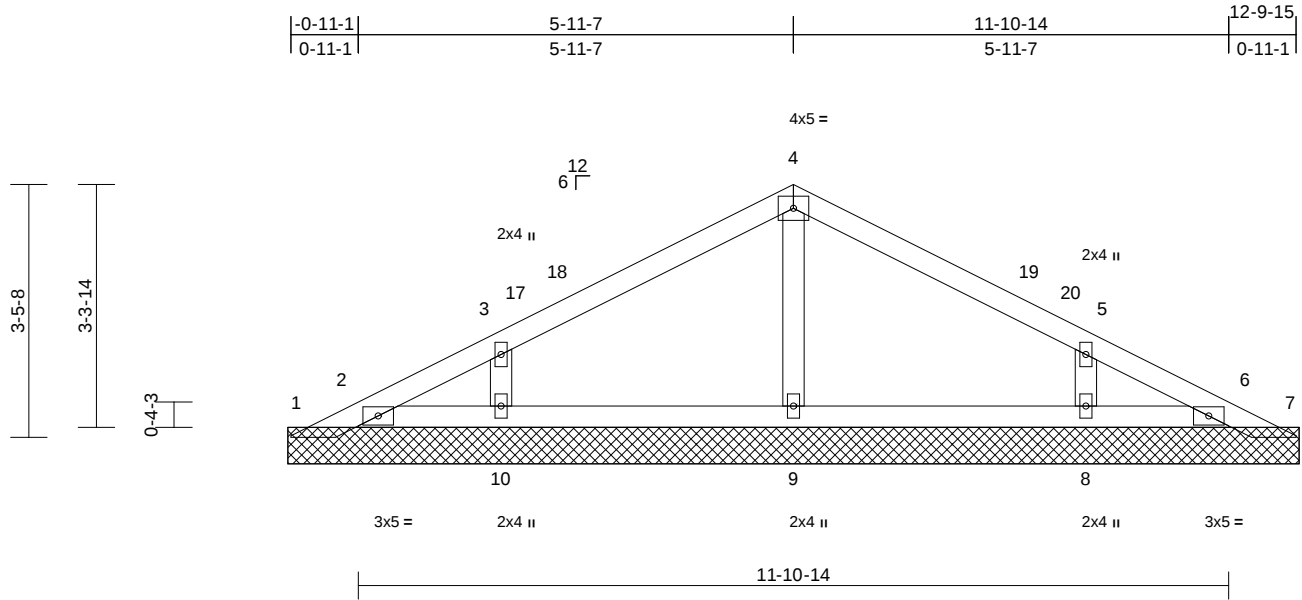
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436488
25090087-01	PBA1	Piggyback	18	1	Job Reference (optional)	

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

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Scale = 1:31.5

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

LUMBER

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

BRACING

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

REACTIONS

(size)	1=13-10-0, 2=13-10-0, 6=13-10-0, 7=13-10-0, 8=13-10-0, 9=13-10-0, 10=13-10-0
Max Horiz	1=52 (LC 18)
Max Uplift	1=-26 (LC 15), 7=-11 (LC 15), 8=-92 (LC 15), 10=-91 (LC 14)
Max Grav	1=45 (LC 21), 2=69 (LC 1), 6=57 (LC 1), 7=47 (LC 22), 8=439 (LC 22), 9=299 (LC 21), 10=440 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-56/65, 2-3=-54/48, 3-4=-124/94, 4-5=-124/94, 5-6=-36/48, 6-7=-19/15
BOT CHORD	2-10=-8/45, 9-10=-8/45, 8-9=-8/45, 6-8=-8/45
WEBS	4-9=-213/92, 3-10=-385/205, 5-8=-384/205

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 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

- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 1 and 11 lb uplift at joint 7.
- N/A

- 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



September 22, 2025

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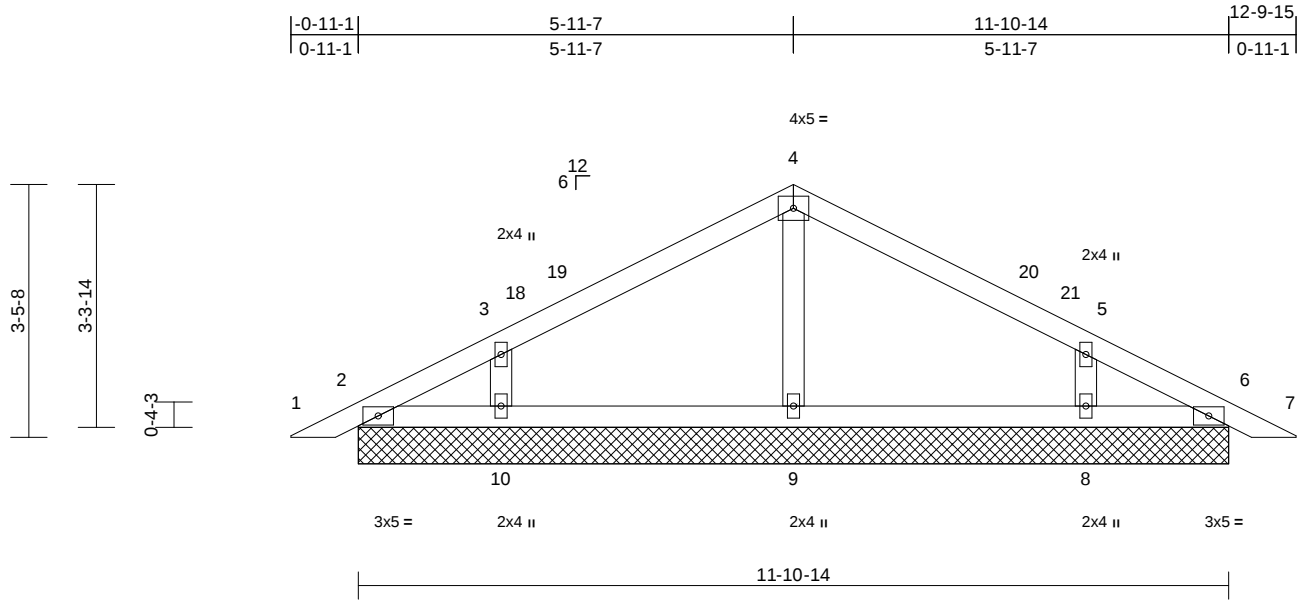
818 Soundside Road
Edenton, NC 27932

Job 25090087-01	Truss PBA2	Truss Type Piggyback	Qty 2	Ply 4	927 Serenity-Roof-B326 C CP GRH Job Reference (optional)	176436489
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 1



Scale = 1:31.5

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	0.07	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	15	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
										Weight: 188 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=11-10-14, 6=11-10-14, 8=11-10-14, 9=11-10-14, 10=11-10-14
Max Horiz	2=52 (LC 18)
Max Uplift	2=-11 (LC 15), 6=-4 (LC 11), 8=-87 (LC 15), 10=-87 (LC 14)
Max Grav	2=86 (LC 1), 6=86 (LC 1), 8=423 (LC 22), 9=302 (LC 21), 10=423 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-53/45, 3-4=-123/96, 4-5=-123/96, 5-6=-33/45, 6-7=0/17
BOT CHORD	2-10=-8/47, 9-10=-2/46, 8-9=-2/46, 6-8=-8/47
WEBS	4-9=-215/91, 3-10=-375/198, 5-8=-375/198

NOTES

- 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.
- 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.
- Unbalanced roof live loads have been considered for this design.

- 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 3-11-0, Exterior(2R) 3-11-0 to 9-11-0, Interior (1) 9-11-0 to 10-5-13, Exterior(2E) 10-5-13 to 13-5-13 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- N/A
- 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.

- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.
- LOAD CASE(S)** Standard



September 22, 2025

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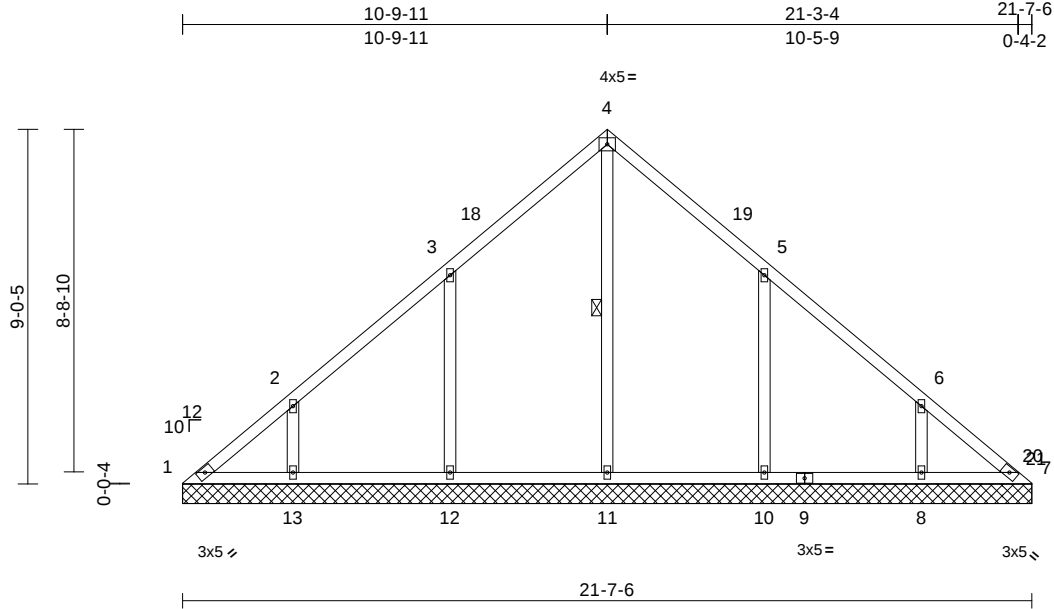
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436490
25090087-01	VLB1	Valley	1	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:58.7

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.17	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.01	7	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
										Weight: 106 lb	FT = 20%

LUMBER

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

BRACING

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

WEBS	1 Row at midpt	4-11
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REACTIONS	(size)	1=21-7-6, 7=21-7-6, 8=21-7-6, 10=21-7-6, 11=21-7-6, 12=21-7-6, 13=21-7-6
	Max Horiz	1=207 (LC 11)
	Max Uplift	1=-48 (LC 10), 7=-6 (LC 11), 8=-114 (LC 15), 10=-174 (LC 15), 12=-173 (LC 14), 13=-120 (LC 14)
	Max Grav	1=149 (LC 25), 7=109 (LC 27), 8=362 (LC 25), 10=473 (LC 6), 11=414 (LC 27), 12=473 (LC 5), 13=370 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-213/174, 2-3=-164/132, 3-4=-188/181, 4-5=-188/154, 5-6=-116/82, 6-7=-168/107
BOT CHORD	1-13=-76/154, 12-13=-76/154, 11-12=-76/154, 10-11=-76/154, 8-10=-76/154, 7-8=-76/154
WEBS	4-11=-208/3, 3-12=-376/222, 2-13=-265/163, 5-10=-376/222, 6-8=-264/161

NOTES

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

- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 2-10-0, Interior (1) 2-10-0 to 7-10-0, Exterior(2R) 7-10-0 to 13-10-0, Interior (1) 13-10-0 to 18-3-3, Exterior(2E) 18-3-3 to 21-3-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) 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 48 lb uplift at joint 1, 6 lb uplift at joint 7, 173 lb uplift at joint 12, 120 lb uplift at joint 13, 174 lb uplift at joint 10 and 114 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



September 22,2025

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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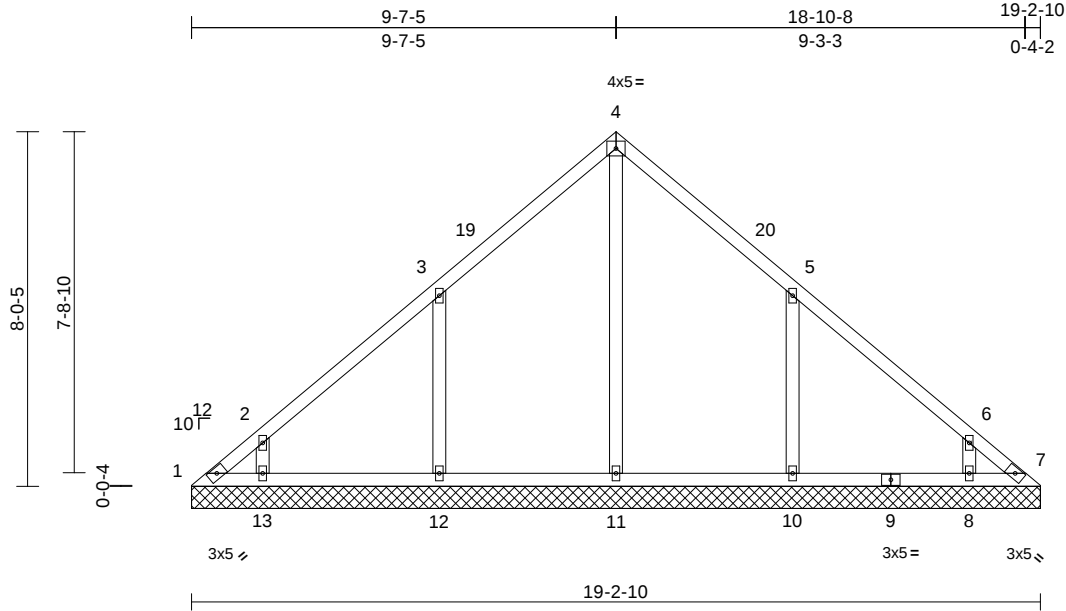
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436491
25090087-01	VLB2	Valley	1	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:52.2

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

LUMBER

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

BRACING

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

REACTIONS

(size)	1=19-2-10, 7=19-2-10, 8=19-2-10, 10=19-2-10, 11=19-2-10, 12=19-2-10, 13=19-2-10
Max Horiz	1=184 (LC 11)
Max Uplift	1=-96 (LC 10), 8=-53 (LC 15), 10=-193 (LC 15), 12=-174 (LC 14), 13=-102 (LC 14)
Max Grav	1=123 (LC 13), 7=0 (LC 13), 8=303 (LC 25), 10=477 (LC 25), 11=463 (LC 27), 12=480 (LC 5), 13=317 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-218/205, 2-3=-217/187, 3-4=-207/267, 4-5=-207/241, 5-6=-124/66, 6-7=-72/42
BOT CHORD	1-13=-45/64, 12-13=-18/55, 11-12=-18/55, 10-11=-18/55, 8-10=-18/55, 7-8=-18/55
WEBS	4-11=-255/59, 3-12=-379/222, 2-13=-260/173, 5-10=-376/229, 6-8=-252/154

NOTES

- Unbalanced roof live loads have been considered for this design.

- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 6-7-10, Exterior(2R) 6-7-10 to 12-7-10, Interior (1) 12-7-10 to 15-10-6, Exterior(2E) 15-10-6 to 18-10-6 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 1, 174 lb uplift at joint 12, 102 lb uplift at joint 13, 193 lb uplift at joint 10 and 53 lb uplift at joint 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



September 22, 2025

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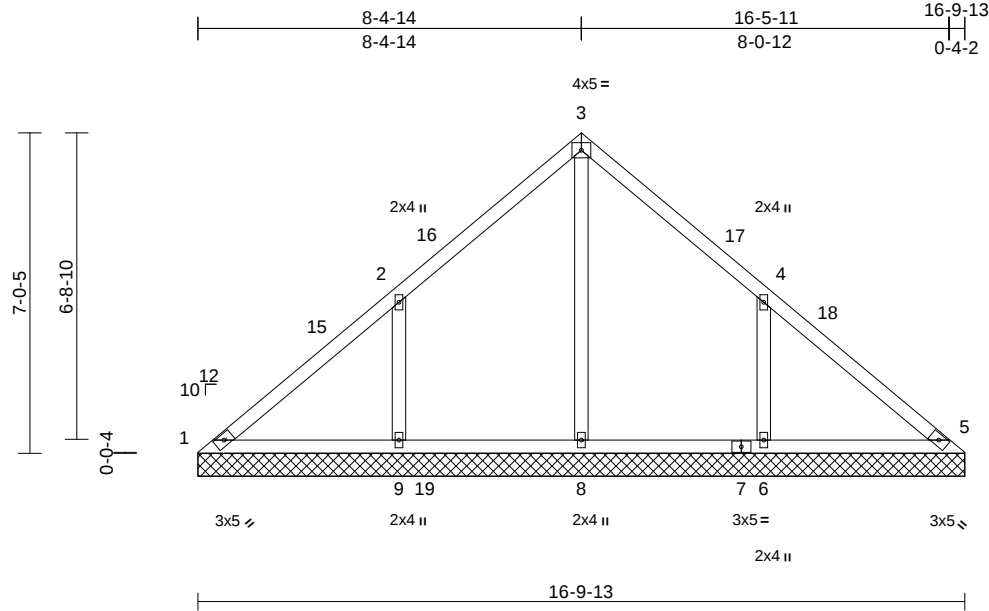
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436492
25090087-01	VLB3	Valley	1	1	Job Reference (optional)	

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

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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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.41	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 75 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	1=16-9-13, 5=16-9-13, 6=16-9-13, 8=16-9-13, 9=16-9-13
Max Horiz	1=160 (LC 11)
Max Uplift	1=-58 (LC 10), 6=-183 (LC 15), 9=-188 (LC 14)
Max Grav	1=82 (LC 35), 5=1 (LC 25), 6=510 (LC 6), 8=654 (LC 24), 9=510 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-105/370, 2-3=-25/319, 3-4=-2/298, 4-5=-139/301
BOT CHORD	1-9=-197/76, 8-9=-197/74, 6-8=-197/74, 5-6=-197/74
WEBS	3-8=-470/0, 2-9=-392/220, 4-6=-392/218

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 5-5-3, Exterior(2R) 5-5-3 to 11-5-3, Interior (1) 11-5-3 to 13-5-9, Exterior(2E) 13-5-9 to 16-5-9 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 1, 188 lb uplift at joint 9 and 183 lb uplift at joint 6.
- 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



September 22,2025

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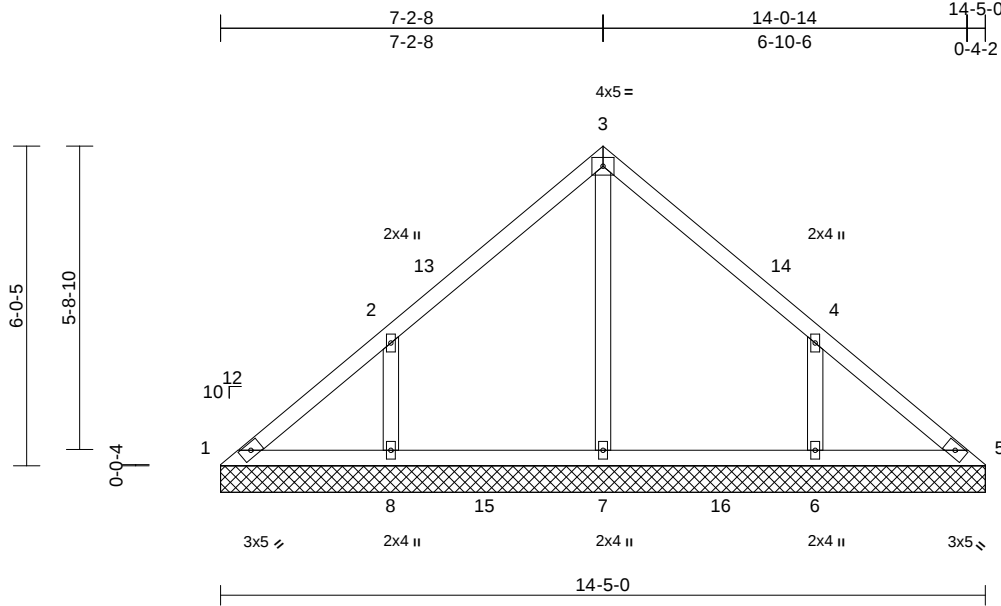
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436493
25090087-01	VLB4	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Thu Sep 18 13:50:22

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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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	5	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

All bearings	14-5-0.
(lb) - Max Horiz	1=-137 (LC 10)
Max Uplift	All uplift 100 (lb) or less at joint(s) 1 except 6=155 (LC 15), 8=158 (LC 14)
Max Grav	All reactions 250 (lb) or less at joint (s) 1, 5 except 6=455 (LC 21), 7=403 (LC 24), 8=455 (LC 20)

FORCES

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

WEBS

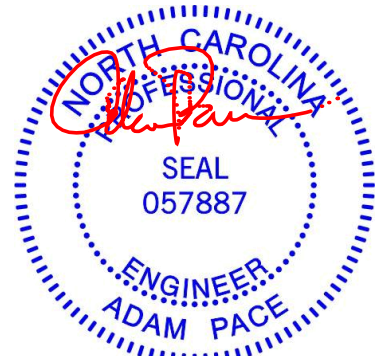
2-8=-374/196, 4-6=-374/195	
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NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-2-13, Interior (1) 3-2-13 to 4-2-13, Exterior(2R) 4-2-13 to 10-2-13, Interior (1) 10-2-13 to 11-2-13, Exterior(2E) 11-2-13 to 14-5-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.

- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 100 lb uplift at joint (s) 1 except (jt=lb) 8=157, 6=154.
- 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



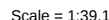
September 22,2025

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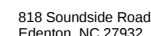
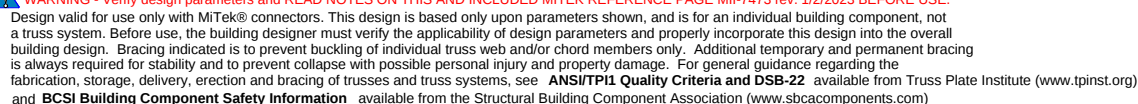
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Page: 1

- 4) TCELL: 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 100 lb uplift at joint (s) 1, 5 except (jt=lb) 8=139, 6=136.
- 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.

September 22, 2025



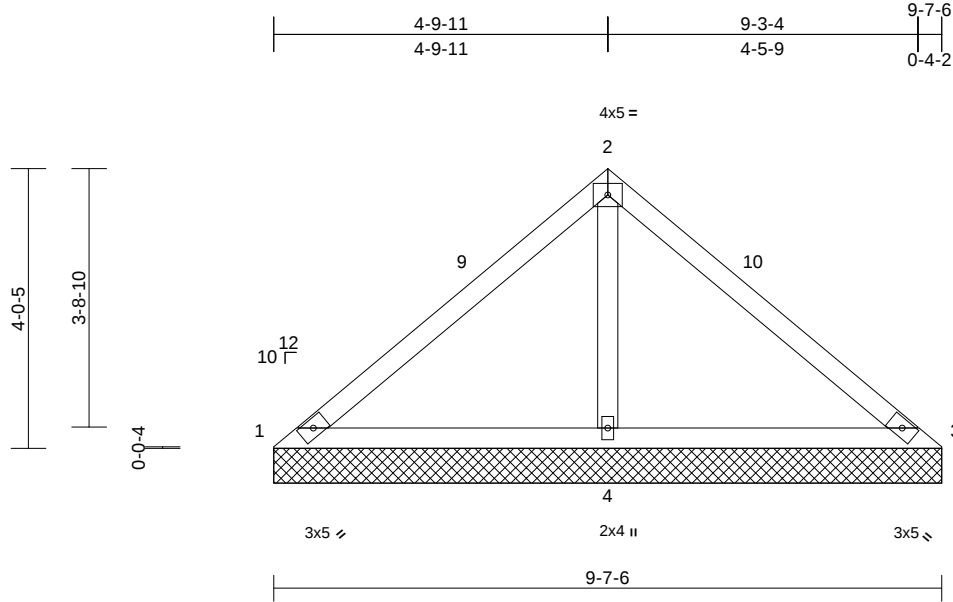
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436495
25090087-01	VLB6	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Thu Sep 18 13:50:44

Page: 1

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Scale = 1:33.2

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	0.45	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.42	Vert(TL)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horiz(TL)	0.01	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 37 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 9-7-6 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(lb/size)	1=31/9-7-6, 3=31/9-7-6, 4=707/9-7-6
Max Horiz	1=90 (LC 11)
Max Uplift	1=-49 (LC 21), 3=-49 (LC 20), 4=-108 (LC 14)
Max Grav	1=95 (LC 20), 3=95 (LC 21), 4=771 (LC 21)

FORCES

(lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.	
TOP CHORD	1-9=-114/264, 2-9=-97/372, 2-10=-97/372, 3-10=-114/264
WEBS	2-4=-636/271

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 6-7-11, Exterior(2E) 6-7-11 to 9-7-11 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
- 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.

- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 49 lb uplift at joint 1, 49 lb uplift at joint 3 and 108 lb uplift at joint 4.
- 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



September 22, 2025

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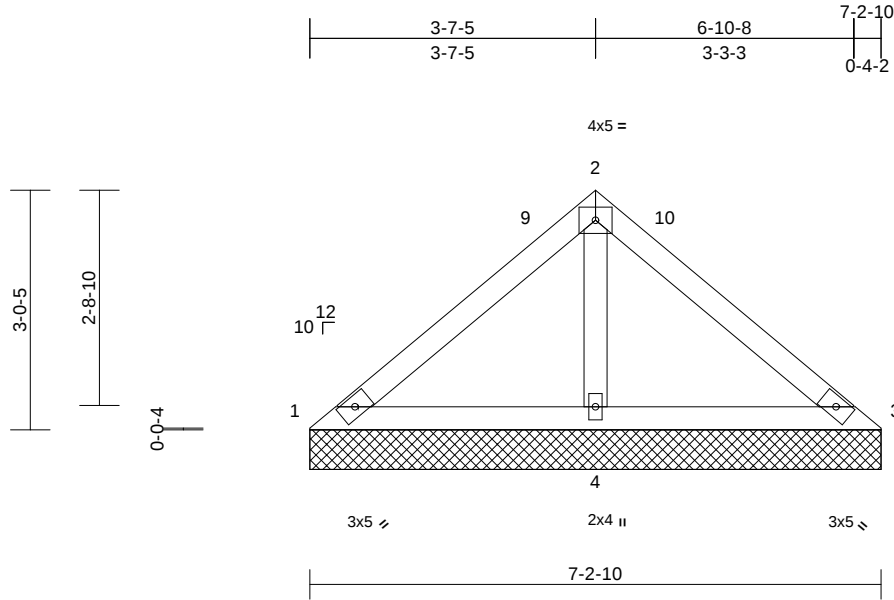
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436496
25090087-01	VLB7	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Thu Sep 18 13:51:00
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Page: 1



Scale = 1:29.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(TL)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 27 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 7-2-10 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(lb/size)	1=41/7-2-10, 3=41/7-2-10, 4=495/7-2-10
Max Horiz	1=-67 (LC 10)
Max Uplift	1=-17 (LC 21), 3=-17 (LC 20), 4=-73 (LC 14)
Max Grav	1=105 (LC 20), 3=105 (LC 21), 4=530 (LC 20)

FORCES

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

WEBS

2-4=-419/199

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-5 to 3-0-5, Exterior(2R) 3-0-5 to 4-2-14, Exterior(2E) 4-2-14 to 7-2-14 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 17 lb uplift at joint 1, 17 lb uplift at joint 3 and 73 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



September 22,2025

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

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Edenton, NC 27932

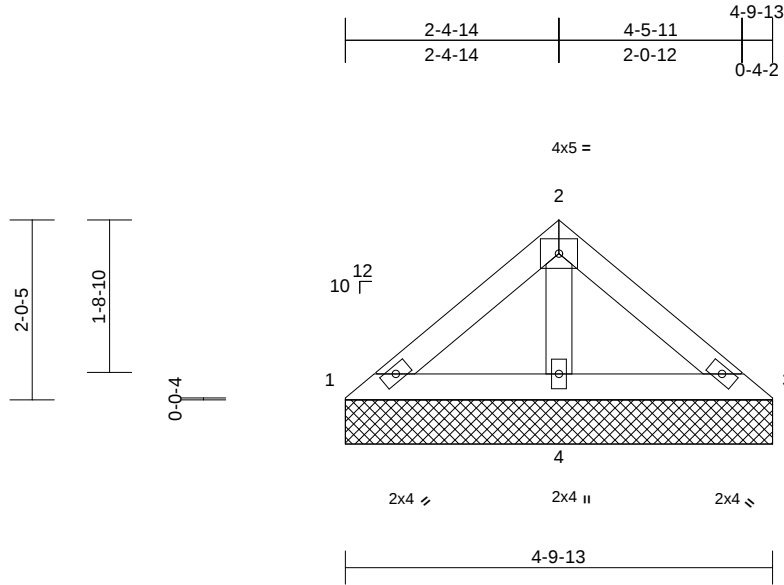
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436497
25090087-01	VLB8	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 E Nov 16 2023 Print: 8.730 E Nov 16 2023 MiTek Industries, Inc. Thu Sep 18 13:51:12

Page: 1

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Scale = 1:26

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 17 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-9-13 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(lb/size)	1=50/4-9-13, 3=50/4-9-13, 4=285/4-9-13
Max Horiz	1=-43 (LC 10)
Max Uplift	3=-7 (LC 15), 4=-33 (LC 14)
Max Grav	1=88 (LC 20), 3=88 (LC 21), 4=292 (LC 20)

FORCES

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

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.

- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 33 lb uplift at joint 4.
- 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



September 22,2025

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

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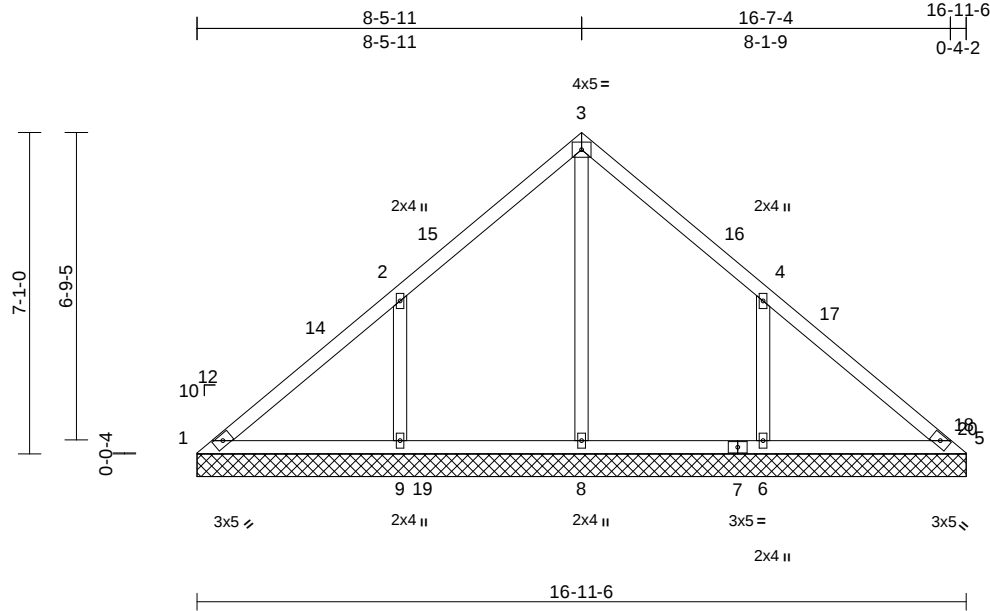
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436498
25090087-01	VLD1	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Aug 13 2025 Print: 8.730 S Aug 13 2025 MiTek Industries, Inc. Wed Sep 17 13:40:11

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Scale = 1:50.8

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	0.35	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.18	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.00	5	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=16-11-6, 5=16-11-6, 6=16-11-6, 8=16-11-6, 9=16-11-6
Max Horiz	1=161 (LC 11)
Max Uplift	1=-21 (LC 10), 6=-183 (LC 15), 9=-187 (LC 14)
Max Grav	1=123 (LC 25), 5=86 (LC 21), 6=520 (LC 25), 8=496 (LC 24), 9=526 (LC 24)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-145/253, 2-3=-108/190, 3-4=-109/170, 4-5=-111/218
BOT CHORD	1-9=-130/131, 8-9=-130/131, 6-8=-130/131, 5-6=-130/131
WEBS	3-8=-312/0, 2-9=-397/221, 4-6=-396/219

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 5-6-0, Exterior(2R) 5-6-0 to 11-6-0, Interior (1) 11-6-0 to 13-7-3, Exterior(2E) 13-7-3 to 16-7-3 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 21 lb uplift at joint 1, 187 lb uplift at joint 9 and 183 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



September 22,2025

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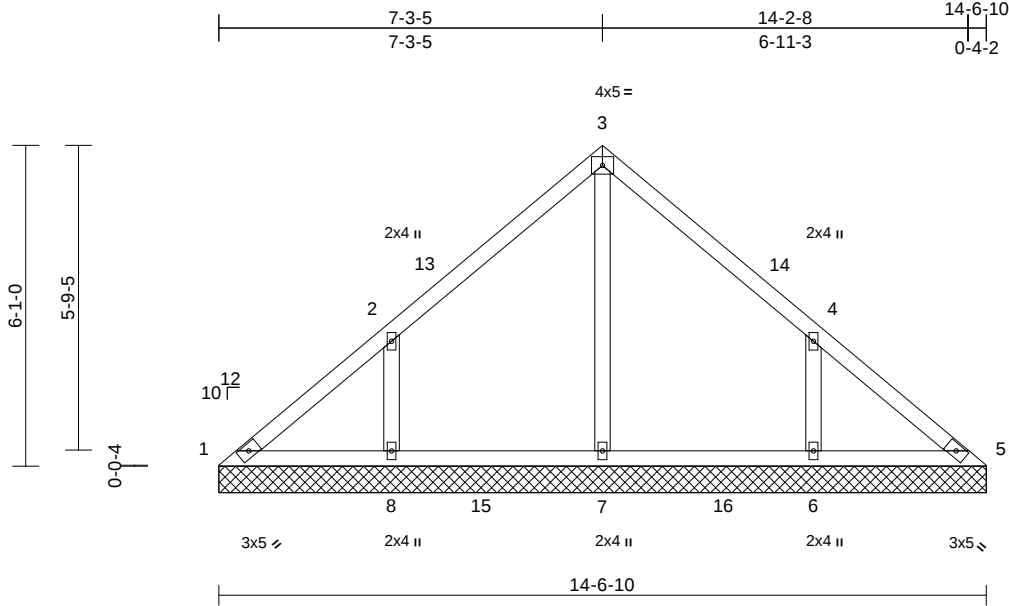
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436499
25090087-01	VLD2	Valley	1	1	Job Reference (optional)	

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

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Scale = 1:43.7

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	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=14-6-10, 5=14-6-10, 6=14-6-10, 7=14-6-10, 8=14-6-10
	Max Horiz	1=-138 (LC 10)
	Max Uplift	1=-24 (LC 10), 6=-156 (LC 15), 8=-159 (LC 14)
	Max Grav	1=124 (LC 30), 5=99 (LC 24), 6=456 (LC 21), 7=407 (LC 24), 8=456 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-153/145, 2-3=-173/121, 3-4=-173/111, 4-5=-121/110
BOT CHORD	1-8=-61/127, 7-8=-61/101, 6-7=-61/101, 5-6=-61/101
WEBS	3-7=-227/0, 2-8=-375/197, 4-6=-375/196

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 3-3-10, Interior (1) 3-3-10 to 4-3-10, Exterior(2R) 4-3-10 to 10-3-10, Interior (1) 10-3-10 to 11-3-10, Exterior(2E) 11-3-10 to 14-6-14 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

- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 1, 159 lb uplift at joint 8 and 156 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



September 22, 2025

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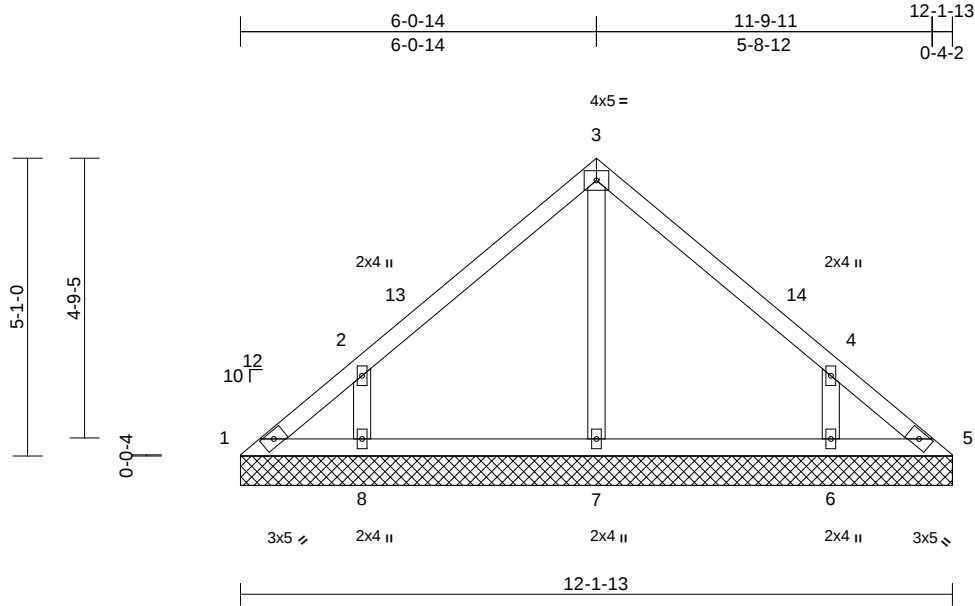
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436500
25090087-01	VLD3	Valley	1	1	Job Reference (optional)	

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

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Page: 1



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	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	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=12-1-13, 5=12-1-13, 6=12-1-13, 7=12-1-13, 8=12-1-13
Max Horiz	1=-115 (LC 12)
Max Uplift	1=-33 (LC 10), 5=-5 (LC 11), 6=-136 (LC 15), 8=-140 (LC 14)
Max Grav	1=94 (LC 25), 5=73 (LC 24), 6=434 (LC 21), 7=261 (LC 21), 8=434 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-117/101, 2-3=-216/116, 3-4=-216/116, 4-5=-91/63
BOT CHORD	1-8=-32/79, 7-8=-32/74, 6-7=-32/74, 5-6=-32/74
WEBS	3-7=-174/0, 2-8=-397/217, 4-6=-397/217

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 9-2-2, Exterior(2E) 9-2-2 to 12-2-2 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

- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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.
- 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



September 22, 2025

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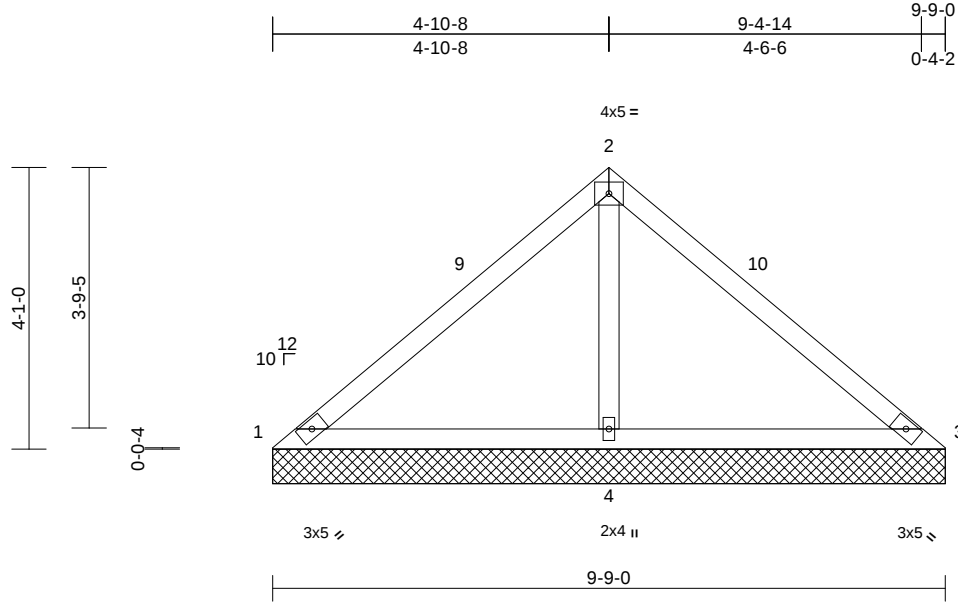
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436501
25090087-01	VLD4	Valley	1	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:33.4

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	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.44	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 9-9-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=9-9-0, 3=9-9-0, 4=9-9-0
Max Horiz	1=-91 (LC 10)
Max Uplift	1=-52 (LC 21), 3=-52 (LC 20), 4=-111 (LC 14)
Max Grav	1=94 (LC 20), 3=94 (LC 21), 4=788 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-117/382, 2-3=-117/382
BOT CHORD	1-4=-249/175, 3-4=-249/175
WEBS	2-4=-650/275

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 6-9-5, Exterior(2E) 6-9-5 to 9-9-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.

- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 1, 52 lb uplift at joint 3 and 111 lb uplift at joint 4.
- 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



September 22,2025

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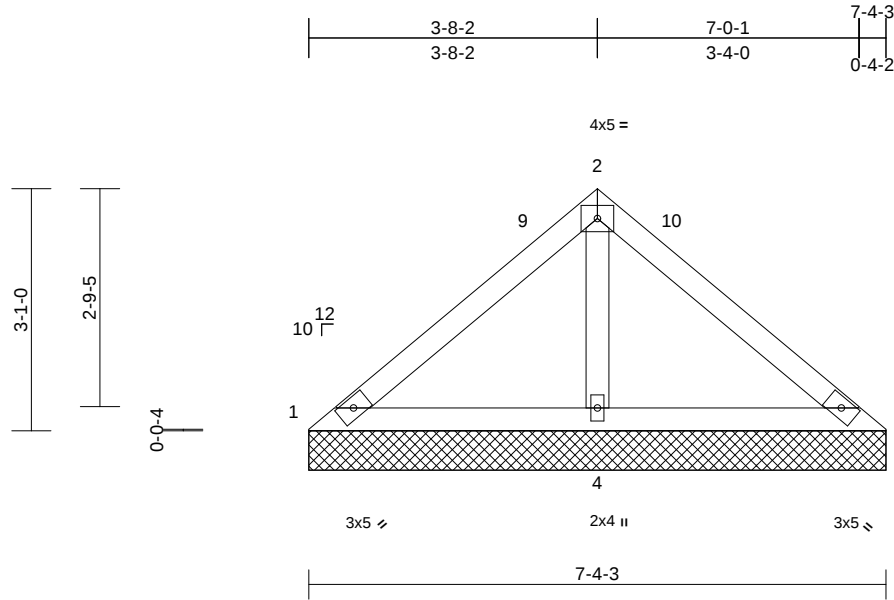
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	176436502
25090087-01	VLD5	Valley	1	1	Job Reference (optional)	

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

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Scale = 1:29.3

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

REACTIONS

(size)	1=7-4-3, 3=7-4-3, 4=7-4-3
Max Horiz	1=68 (LC 11)
Max Uplift	1=-19 (LC 21), 3=-19 (LC 20), 4=-76 (LC 14)
Max Grav	1=105 (LC 20), 3=105 (LC 21), 4=545 (LC 20)

FORCES

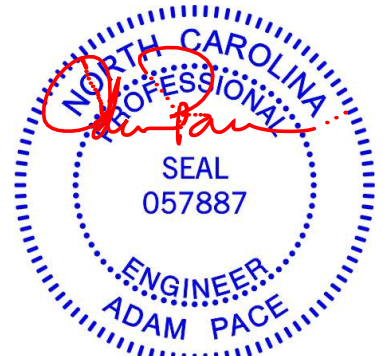
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-92/236, 2-3=-92/236
BOT CHORD	1-4=-184/155, 3-4=-184/155
WEBS	2-4=-432/204

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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 4-4-8, Exterior(2E) 4-4-8 to 7-4-8 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
- 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.

- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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 76 lb uplift at joint 4.
- 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



September 22, 2025

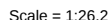
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

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LUMBER		5) Unbalanced snow loads have been considered for this design.
TOP CHORD	2x4 SP No.2	6) Gable requires continuous bottom chord bearing.
BOT CHORD	2x4 SP No.2	7) Gable studs spaced at 4'-0" oc.
OTHERS	2x4 SP No.3	8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
BRACING		9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-0" x 6'-0" tall by 2'-0" x 0'-0" wide will fit between the bottom chord and any other members.
TOP CHORD	Structural wood sheathing directly applied or 4'-11-6" oc purlins.	10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 3 and 35 lb uplift at joint 4.
BOT CHORD	Rigid ceiling directly applied or 6'-0" oc bracing.	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.
REACTIONS		
	(size) 1=4-11-6, 3=4-11-6, 4=4-11-6	
	Max Horiz 1=-44 (LC 10)	
	Max Uplift 3=-7 (LC 15), 4=-35 (LC 14)	
	Max Grav 1=89 (LC 20), 3=89 (LC 21), 4=303 (LC 21)	
FORCES		
	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-82/108, 2-3=-82/108	
BOT CHORD	1-4=-87/91, 3-4=-87/91	
WEBS	2-4=-218/101	
LOAD CASE(S)		Standard

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 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; Ctt=1.10



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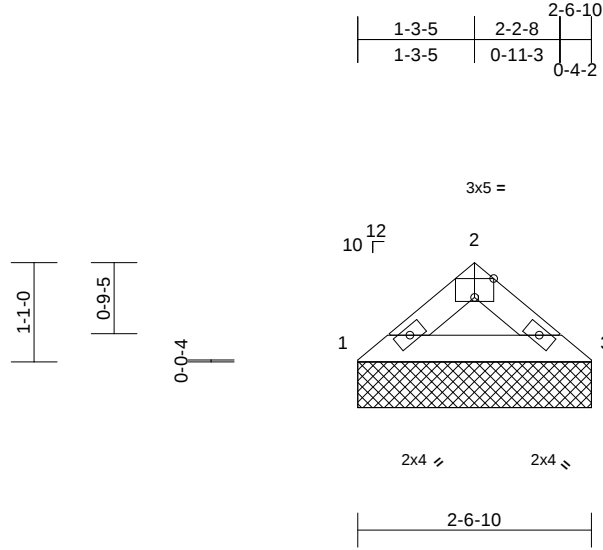
Job	Truss	Truss Type	Qty	Ply	927 Serenity-Roof-B326 C CP GRH	I76436504
25090087-01	VLD7	Valley	1	1	Job Reference (optional)	

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

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Scale = 1:25.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999	244/190
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 2-6-10 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-6-10, 3=2-6-10
Max Horiz 1=-21 (LC 12)
Max Uplift 1=-9 (LC 14), 3=-9 (LC 15)
Max Grav 1=115 (LC 20), 3=115 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

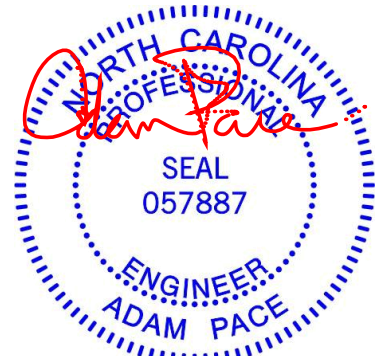
TOP CHORD 1-2=-146/63, 2-3=-146/63
BOT CHORD 1-3=-34/104

NOTES

- Unbalanced roof live loads have been considered for this design.
- 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
- 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.
- 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
- Unbalanced snow loads have been considered for this design.
- Gable requires continuous bottom chord bearing.

- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * 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.
- 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.
- 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



September 22, 2025

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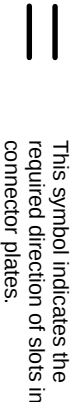
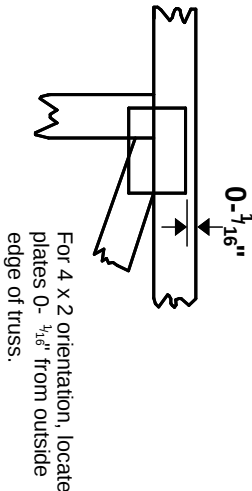
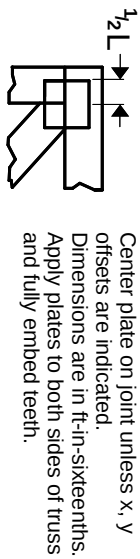
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Symbols

PLATE LOCATION AND ORIENTATION



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

PLATE SIZE

4 X 4

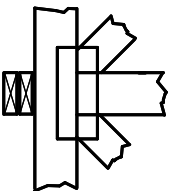
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

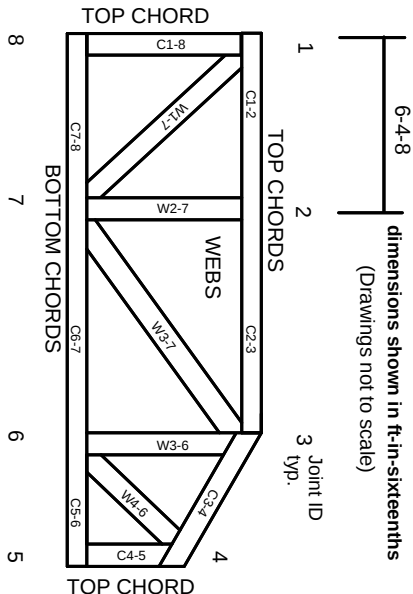


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI.1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Design Standard for Bracing.
BCSI: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

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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.

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