

RE: 24040155-01
1003 Serenity-Roof-329 A COP GLH

Trenco
818 Soundside Rd
Edenton, NC 27932

Site Information:

Customer: David Weekley Homes Project Name: 24040155-01
Lot/Block: 1003 Model:
Address: 1039 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 63 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I65500357	CJ2	5/13/2024	21	I65500377	PBA4	5/13/2024
2	I65500358	HJ57	5/13/2024	22	I65500378	PBA3	5/13/2024
3	I65500359	EJ4B	5/13/2024	23	I65500379	PBA2	5/13/2024
4	I65500360	MH01	5/13/2024	24	I65500380	PBA1	5/13/2024
5	I65500361	MH02	5/13/2024	25	I65500381	PBA	5/13/2024
6	I65500362	L02	5/13/2024	26	I65500382	H02	5/13/2024
7	I65500363	L01	5/13/2024	27	I65500383	H01	5/13/2024
8	I65500364	VLD5	5/13/2024	28	I65500384	K01	5/13/2024
9	I65500365	VLG5	5/13/2024	29	I65500385	EJ4	5/13/2024
10	I65500366	VLD7	5/13/2024	30	I65500386	EJ4A	5/13/2024
11	I65500367	VLD6	5/13/2024	31	I65500387	A03	5/13/2024
12	I65500368	VLD4	5/13/2024	32	I65500388	A02	5/13/2024
13	I65500369	VLD3	5/13/2024	33	I65500389	A01	5/13/2024
14	I65500370	VLD2	5/13/2024	34	I65500390	K02	5/13/2024
15	I65500371	VLD1	5/13/2024	35	I65500391	A08	5/13/2024
16	I65500372	VLG6	5/13/2024	36	I65500392	A07	5/13/2024
17	I65500373	VLG4	5/13/2024	37	I65500393	A06	5/13/2024
18	I65500374	VLG3	5/13/2024	38	I65500394	A05	5/13/2024
19	I65500375	VLG2	5/13/2024	39	I65500395	A04	5/13/2024
20	I65500376	VLG1	5/13/2024	40	I65500396	G02	5/13/2024

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: Tony Miller

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.



May 13, 2024

RE: 24040155-01 - 1003 Serenity-Roof-329 A COP GLH

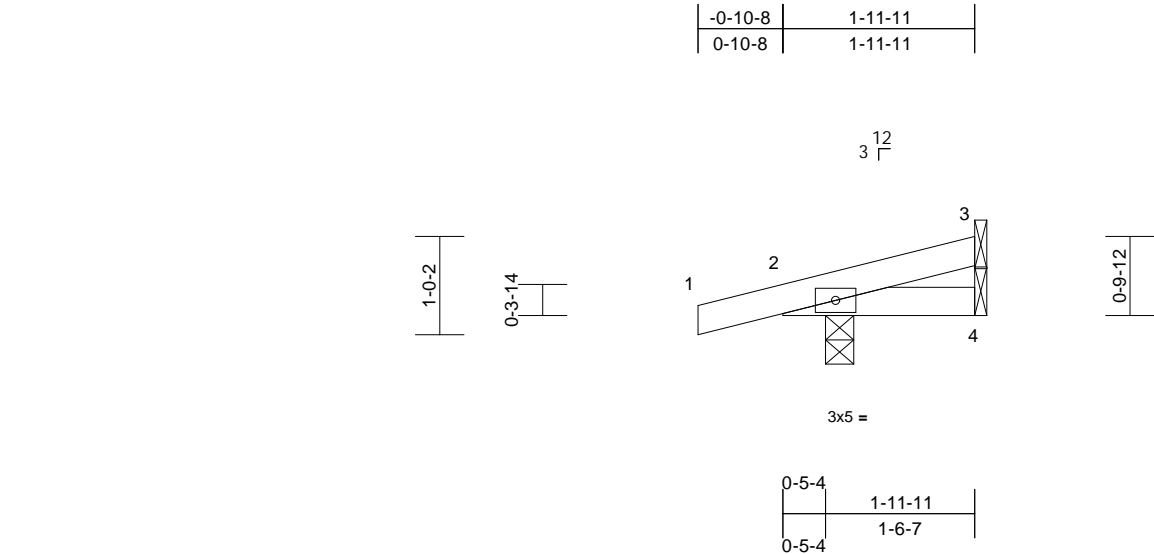
Trenco
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Edenton, NC 27932

Site Information:

Project Customer: David Weekley Homes Project Name: 24040155-01
Lot/Block: 1003 Subdivision: Serenity
Address: 1039 Serenity Walk Parkway
City, County: Fuquay-Varina State: NC

No.	Seal#	Truss Name	Date
41	I65500397	G01	5/13/2024
42	I65500398	D02	5/13/2024
43	I65500399	D01	5/13/2024
44	I65500400	VLC3	5/13/2024
45	I65500401	VLC2	5/13/2024
46	I65500402	VLC1	5/13/2024
47	I65500403	VLB6	5/13/2024
48	I65500404	VLB5	5/13/2024
49	I65500405	VLB4	5/13/2024
50	I65500406	VLB3	5/13/2024
51	I65500407	VLB2	5/13/2024
52	I65500408	VLB1	5/13/2024
53	I65500409	B05	5/13/2024
54	I65500410	B04	5/13/2024
55	I65500411	B03	5/13/2024
56	I65500412	B02	5/13/2024
57	I65500413	B01	5/13/2024
58	I65500414	C03	5/13/2024
59	I65500415	C02	5/13/2024
60	I65500416	C01	5/13/2024
61	I65500417	E01	5/13/2024
62	I65500418	E02	5/13/2024
63	I65500419	C04	5/13/2024

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	CJ2	Jack-Open	2	1	Job Reference (optional)
					I65500357



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	0.00	5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	0.00	5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	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 1-11-11 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 3= Mechanical, 4= Mechanical
Max Horiz 2=29 (LC 10)
Max Uplift 2=-86 (LC 10), 3=-8 (LC 14), 4=-4 (LC 11)
Max Grav 2=234 (LC 21), 3=25 (LC 21), 4=20 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-115/125
BOT CHORD 2-4=-121/139

- NOTES**
- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
 - 3) Unbalanced snow loads have been considered for this design.
 - 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
 - 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 7) Bearings are assumed to be: , Joint 2 User Defined .
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 4 lb uplift at joint 4, 8 lb uplift at joint 3 and 86 lb uplift at joint 2.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 13,2024

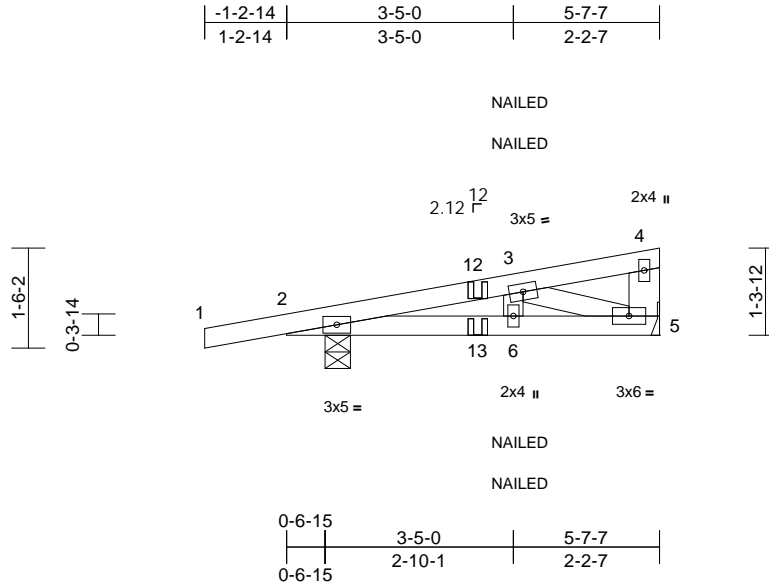
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	HJ57	Diagonal Hip Girder	1	1	Job Reference (optional)
					I65500358

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

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Page: 1

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Scale = 1:34.7												
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	0.19	Vert(LL)	0.00	6	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.01	6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.08	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 23 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3 *Except* 4-5:2x6 SP No.2

BRACING

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

REACTIONS

(size)	2=0-4-10, 5= Mechanical
Max Horiz	2=46 (LC 33)
Max Uplift	2=-146 (LC 8), 5=-65 (LC 8)
Max Grav	2=430 (LC 19), 5=214 (LC 19)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-366/243, 3-4=-15/10, 4-5=-75/24
BOT CHORD	2-6=-240/346, 5-6=-100/346
WEBS	3-6=-13/82, 3-5=-363/105

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; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) All bearings are assumed to be User Defined .
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 5.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 12) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 13) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-60, 5-7=-20
Concentrated Loads (lb)
Vert: 13=2 (F=1, B=1)



May 13, 2024

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.sbcacomponents.com)

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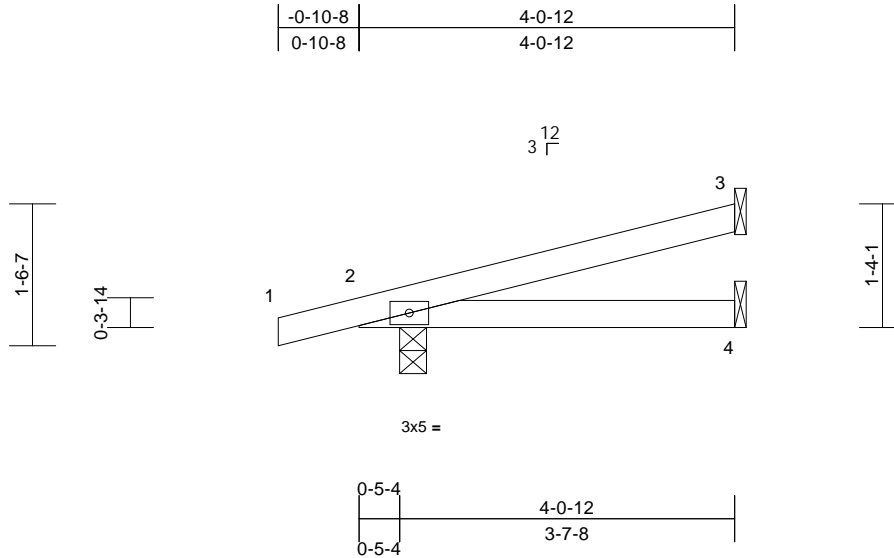
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500359
24040155-01	EJ4B	Jack-Open	2	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	0.20	Vert(LL)	0.01	4-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	-0.02	4-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 14 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 4-0-12 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-8, 3= Mechanical, 4= Mechanical
Max Horiz 2=47 (LC 10)
Max Uplift 2=-103 (LC 10), 3=-37 (LC 10), 4=-13 (LC 10)
Max Grav 2=328 (LC 21), 3=119 (LC 21), 4=62 (LC 7)

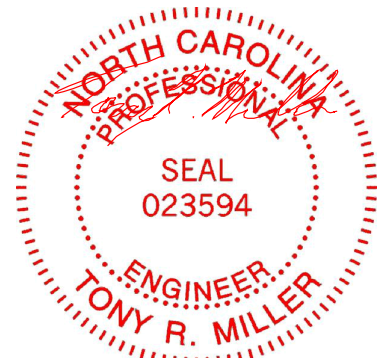
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/18, 2-3=-114/133
BOT CHORD 2-4=-128/139

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 7) Bearings are assumed to be: , Joint 2 User Defined .
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 3, 13 lb uplift at joint 4 and 103 lb uplift at joint 2.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 13, 2024

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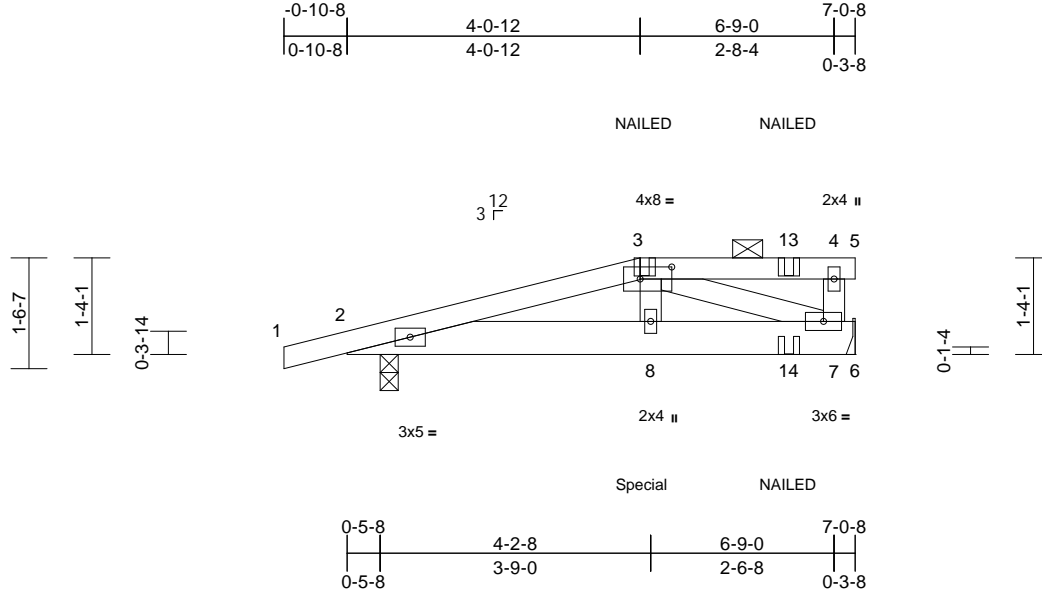
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500360
24040155-01	MH01	Half Hip Girder	1	1	Job Reference (optional)	

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

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Scale = 1:31.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	-0.01	8-12	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.24	Vert(CT)	-0.02	8-12	>999	180	
TCDL	10.0	Rep Stress Incr	NO	WB	0.19	Horz(CT)	0.00	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 34 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins: 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-3-0, 7= Mechanical
Max Horiz 2=49 (LC 8)
Max Uplift 2=-182 (LC 8), 7=-156 (LC 8)
Max Grav 2=550 (LC 34), 7=508 (LC 33)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-780/241, 3-4=0/0, 4-5=0/0
BOT CHORD 2-8=-241/732, 7-8=-252/770, 6-7=0/0
WEBS 3-8=-72/251, 4-7=-164/51, 3-7=-818/268

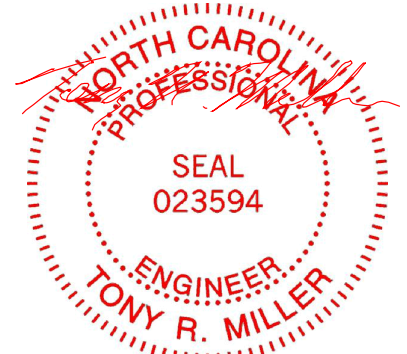
NOTES

- 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; porch 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 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.

- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 156 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 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.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 213 lb down and 107 lb up at 4-0-12 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-60, 3-5=-60, 2-6=-20
Concentrated Loads (lb)
Vert: 8=-213 (B), 3=-59 (B), 13=-61 (B), 14=-28 (B)



May 13, 2024

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818 Soundside Road
Edenton, NC 27932

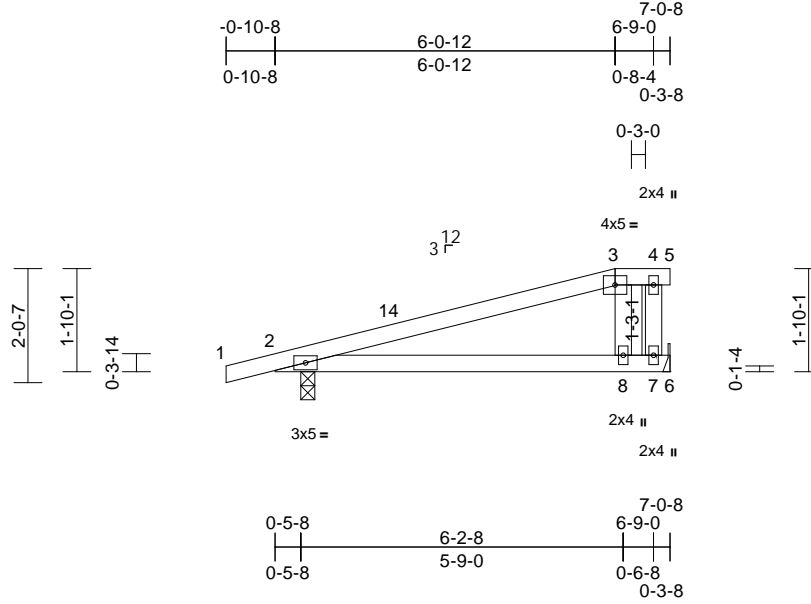
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500361
24040155-01	MH02	Half Hip	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:21

Page: 1

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Scale = 1:41.1

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	0.64	Vert(LL)	0.15	8-13	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.57	Vert(CT)	-0.19	8-13	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	2	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 26 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins: 3-5.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	2=0-3-0, 7= Mechanical
Max Horiz	2=66 (LC 10)
Max Uplift	2=-139 (LC 10), 7=-94 (LC 10)
Max Grav	2=440 (LC 38), 7=287 (LC 38)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-113/129, 3-4=0/0, 4-5=0/0
BOT CHORD	2-8=-124/136, 7-8=0/0, 6-7=0/0
WEBS	3-8=-212/177, 4-7=-56/18

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, Exterior(2R) 2-1-8 to 6-0-12, Exterior(2E) 6-0-12 to 7-0-8 zone; 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.
- Provide adequate drainage to prevent water ponding.
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 94 lb uplift at joint 7.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces.
- 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.

LOAD CASE(S) Standard



May 13, 2024

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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.sbcacompnents.com)

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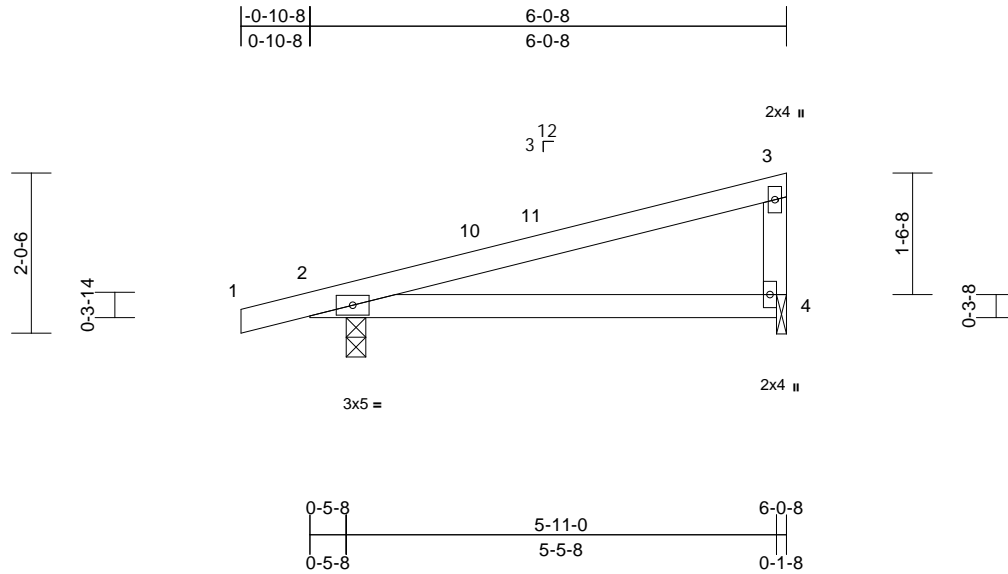
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	L02	Monopitch	8	1	Job Reference (optional)
					I65500362

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:20

Page: 1

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Scale = 1:29.2

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	0.57	0.08	4-9	>882	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.40	-0.10	4-9	>689	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 21 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=0-3-0, 4=0-1-8
Max Horiz 2=65 (LC 10)
Max Uplift 2=-127 (LC 10), 4=-83 (LC 20)
Max Grav 2=423 (LC 21), 4=271 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-117/137, 3-4=-194/163
BOT CHORD 2-4=-132/141

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 2-10-12, Exterior(2E) 2-10-12 to 5-10-12 zone; 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.
- Bearings are assumed to be: Joint 4 SP No.3 .
- Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4 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.

LOAD CASE(S) Standard



May 13, 2024

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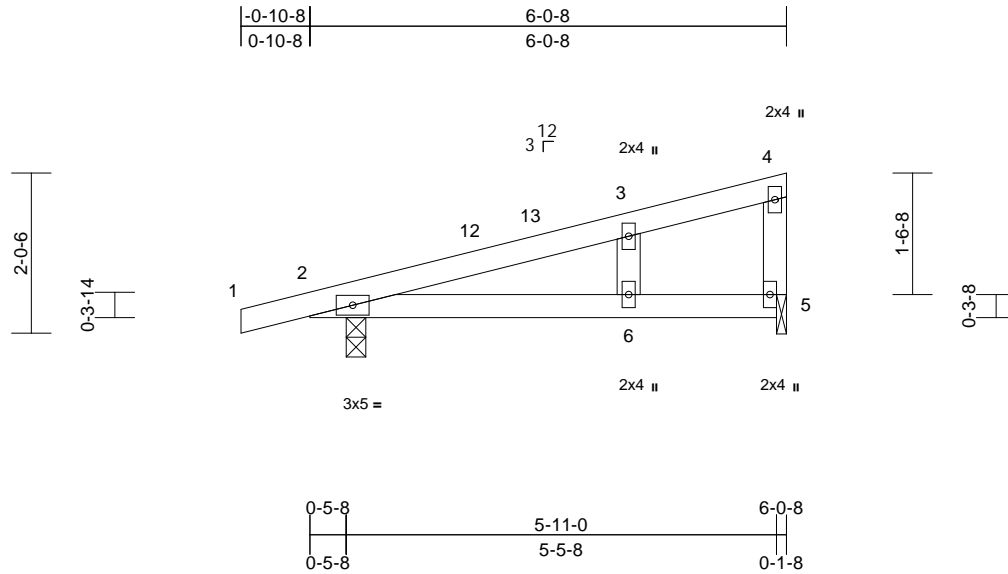
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500363
24040155-01	L01	Monopitch	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:20

Page: 1

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Scale = 1:29.2

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	0.42	Vert(LL)	0.09	6-11	>801	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.46	Vert(CT)	-0.12	6-11	>601	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 23 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" oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10'-0" oc bracing.

REACTIONS

(size)	2=0-3-0, 5=0-1-8
Max Horiz	2=63 (LC 10)
Max Uplift	2=123 (LC 10), 5=81 (LC 10)
Max Grav	2=409 (LC 21), 5=263 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-113/133, 3-4=-36/32, 4-5=-149/126
BOT CHORD	2-6=-128/136, 5-6=0/0
WEBS	3-6=-87/70

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 2-10-12, Exterior(2E) 2-10-12 to 5-10-12 zone; porch 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 studs spaced at 2'-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'-0"-0" tall by 2'-0"-0" wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 5 SP No.3 .
- Bearing at joint(s) 5 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 5.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5 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.

LOAD CASE(S) Standard



May 13, 2024

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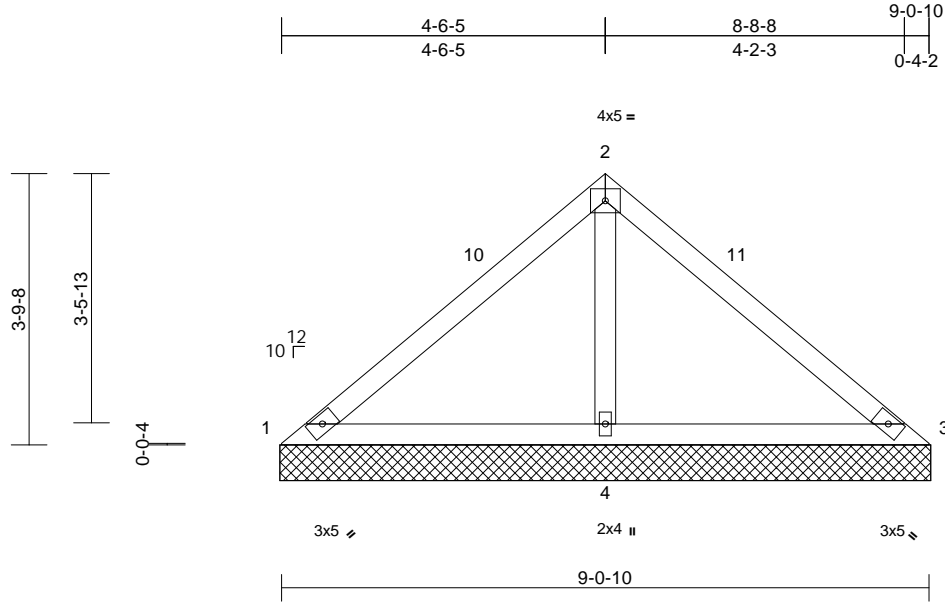
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500364
24040155-01	VLD5	Valley	1	1	Job Reference (optional)	

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Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:23

Page: 1

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Scale = 1:32.2

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	0.40	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.39	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 34 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'-0-10 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6'-0-0 oc bracing.

REACTIONS

(size)	1=9-1-3, 3=9-1-3, 4=9-1-3, 9=9-1-3
Max Horiz	1=-85 (LC 10)
Max Uplift	1=-136 (LC 21), 3=-1 (LC 15), 4=-57 (LC 15), 9=-1 (LC 15)
Max Grav	1=131 (LC 20), 3=4 (LC 21), 4=897 (LC 21), 9=4 (LC 21)

FORCES

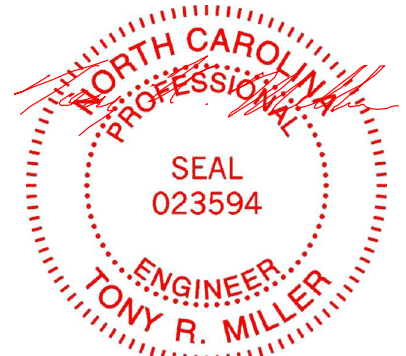
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-124/428, 2-3=-189/509
BOT CHORD	1-4=-295/131, 3-4=-339/157
WEBS	2-4=-756/206

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, Exterior(2R) 3-0-0 to 6-1-3, Exterior(2E) 6-1-3 to 9-1-3 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 136 lb uplift at joint 1, 1 lb uplift at joint 3, 57 lb uplift at joint 4 and 1 lb uplift at joint 3.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3, 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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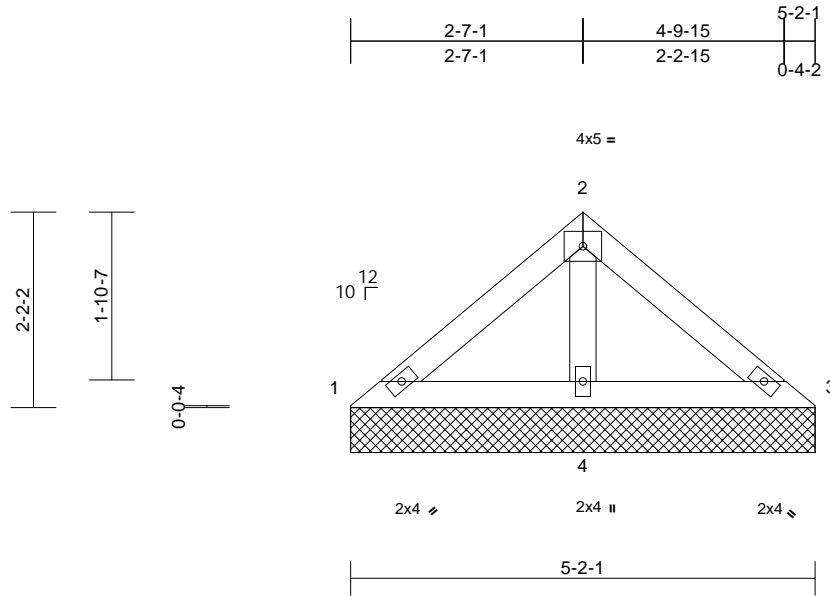
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500365
24040155-01	VLG5	Valley	1	1	Job Reference (optional)	

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Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:24

Page: 1

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Scale = 1:25.7

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	0.10	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.13	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: 19 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-2-1 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=5-2-1, 3=5-2-1, 4=5-2-1
Max Horiz	1=47 (LC 13)
Max Uplift	3=-6 (LC 15), 4=-38 (LC 14)
Max Grav	1=92 (LC 20), 3=92 (LC 21), 4=323 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

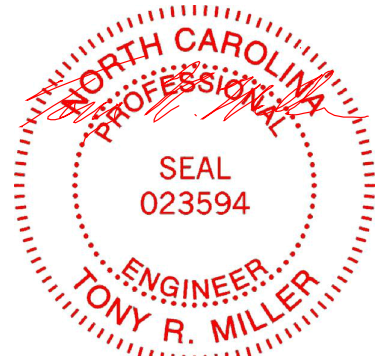
TOP CHORD	1-2=-84/117, 2-3=-84/117
BOT CHORD	1-4=-95/97, 3-4=-95/97
WEBS	2-4=-236/111

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 6 lb uplift at joint 3 and 38 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



May 13, 2024

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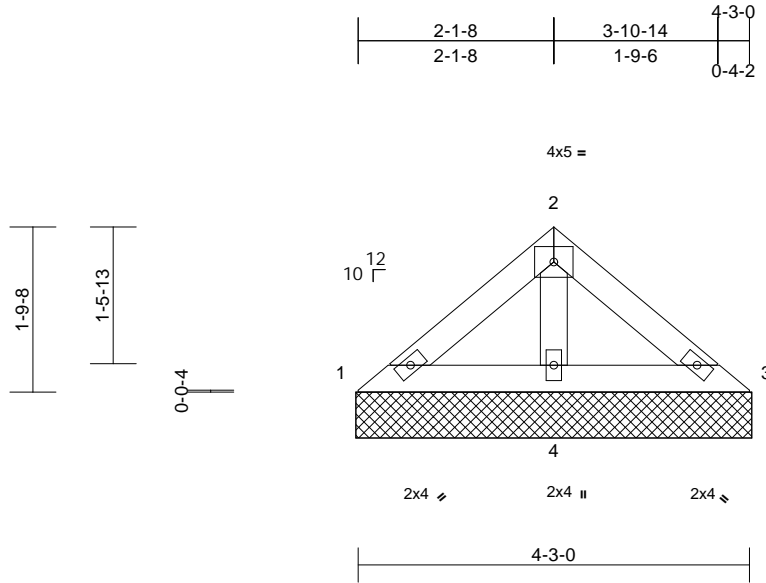
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500366
24040155-01	VLD7	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:23
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Scale = 1:25

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	Vert(TL)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	4	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 15 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 4-3-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=4-3-10, 3=4-3-10, 4=4-3-10
Max Horiz	1=-38 (LC 10)
Max Uplift	1=-1 (LC 14), 3=-8 (LC 15), 4=-26 (LC 14)
Max Grav	1=81 (LC 20), 3=81 (LC 21), 4=251 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-74/83, 2-3=-74/83
BOT CHORD	1-4=-67/73, 3-4=-67/73
WEBS	2-4=-169/73

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 1 lb uplift at joint 1, 8 lb uplift at joint 3 and 26 lb uplift at joint 4.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 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



May 13, 2024

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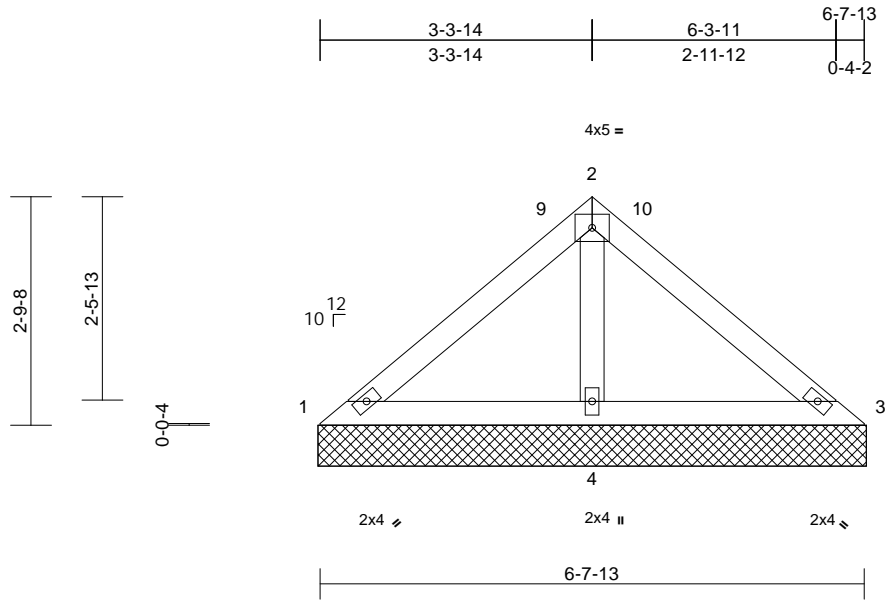
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500367
24040155-01	VLD6	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	0.21	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.22	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 25 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 6-7-13 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=6-8-7, 3=6-8-7, 4=6-8-7
Max Horiz	1=61 (LC 11)
Max Uplift	1=-10 (LC 21), 3=-10 (LC 20), 4=-63 (LC 14)
Max Grav	1=101 (LC 20), 3=101 (LC 21), 4=478 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-86/201, 2-3=-86/201
BOT CHORD	1-4=-160/140, 3-4=-160/140
WEBS	2-4=-376/180

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, Exterior(2R) 3-0-0 to 3-8-7, Exterior(2E) 3-8-7 to 6-8-7 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 10 lb uplift at joint 1, 10 lb uplift at joint 3 and 63 lb uplift at joint 4.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 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



May 13, 2024

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818 Soundside Road
Edenton, NC 27932

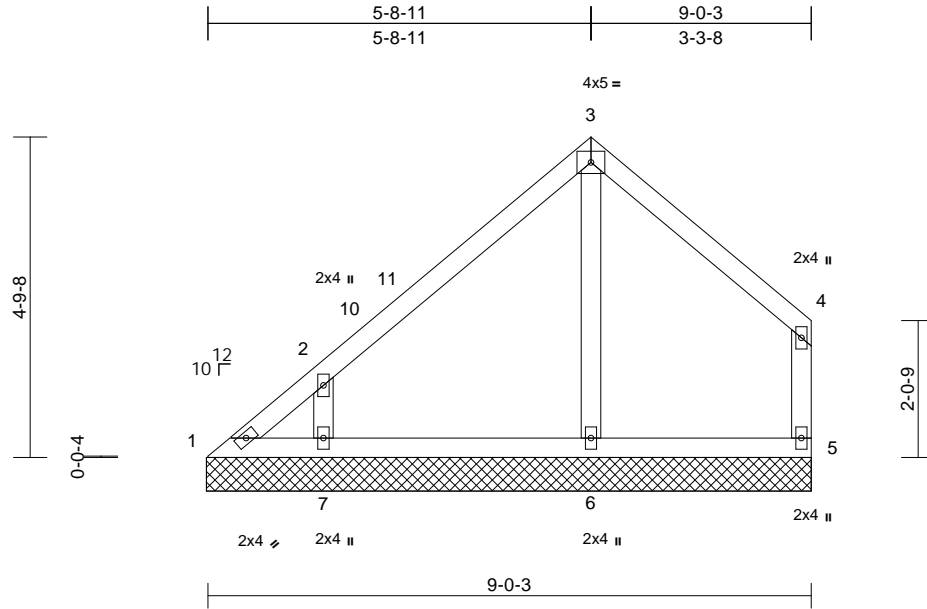
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500368
24040155-01	VLD4	Valley	1	1	Job Reference (optional)	

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	0.29	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	0.09	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 40 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS	(size)	1=9-0-8, 5=9-0-8, 6=9-0-8, 7=9-0-8
	Max Horiz	1=130 (LC 11)
	Max Uplift	1=60 (LC 10), 5=59 (LC 15), 6=11 (LC 11), 7=135 (LC 14)
	Max Grav	1=93 (LC 13), 5=218 (LC 21), 6=300 (LC 20), 7=378 (LC 20)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-160/148, 2-3=-161/125, 3-4=-145/141, 4-5=-192/130
BOT CHORD	1-7=-31/42, 6-7=-24/42, 5-6=-24/42
WEBS	3-6=-218/59, 2-7=-359/287

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, Exterior(2R) 3-0-0 to 5-9-0, Exterior(2E) 5-9-0 to 8-10-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 59 lb uplift at joint 5, 60 lb uplift at joint 1, 11 lb uplift at joint 6 and 135 lb uplift at joint 7.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

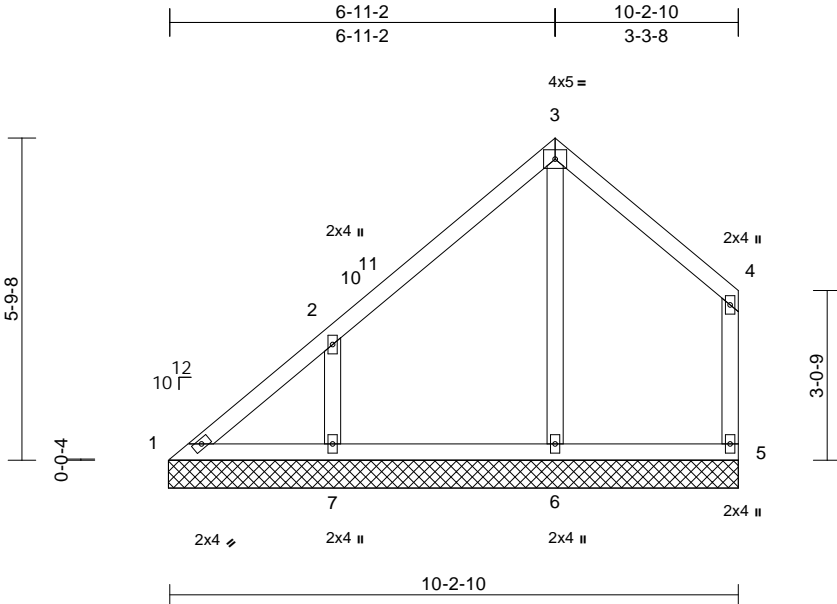
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ENGINEERING BY
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500369
24040155-01	VLD3	Valley	1	1	Job Reference (optional)	



Scale = 1:41.4

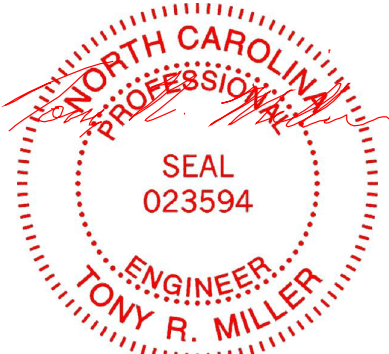
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.30	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 49 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
OTHERS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size)	
	1=10-2-14, 5=10-2-14, 6=10-2-14, 7=10-2-14
Max Horiz	1=166 (LC 11)
Max Uplift	1=-48 (LC 10), 5=-52 (LC 15), 6=-20 (LC 11), 7=150 (LC 14)
Max Grav	1=141 (LC 25), 5=206 (LC 21), 6=307 (LC 20), 7=395 (LC 20)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-185/155, 2-3=-164/137, 3-4=-127/154, 4-5=-179/134
BOT CHORD	1-7=-35/125, 6-7=-35/49, 5-6=-35/49
WEBS	3-6=-236/70, 2-7=-326/244

- 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 2-11-6, Interior (1) 2-11-6 to 3-11-6, Exterior(2R) 3-11-6 to 6-11-6, Exterior(2E) 6-11-6 to 10-1-2 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 52 lb uplift at joint 5, 48 lb uplift at joint 1, 20 lb uplift at joint 6 and 150 lb uplift at joint 7.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

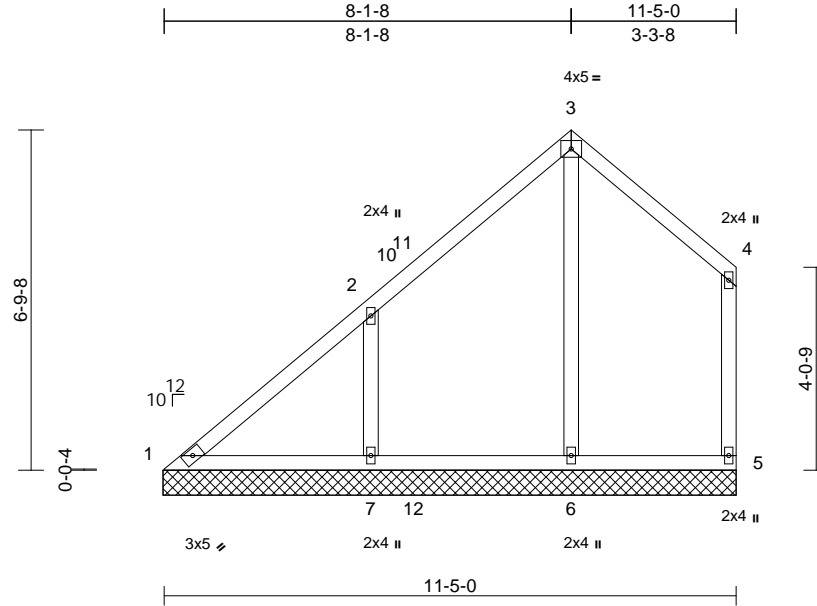
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500370
24040155-01	VLD2	Valley	1	1	Job Reference (optional)	

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

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Page: 1

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Scale = 1:46

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	0.30	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	0.20	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0									Weight: 58 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS	(size)	1=11-5-5, 5=11-5-5, 6=11-5-5, 7=11-5-5
	Max Horiz	1=202 (LC 11)
	Max Uplift	1=-42 (LC 10), 5=-53 (LC 10), 6=-29 (LC 11), 7=-177 (LC 14)
	Max Grav	1=201 (LC 30), 5=203 (LC 6), 6=411 (LC 24), 7=502 (LC 24)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-269/176, 2-3=-177/156, 3-4=-123/173, 4-5=-173/143
BOT CHORD	1-7=-50/211, 6-7=-46/70, 5-6=-46/70
WEBS	3-6=-250/80, 2-7=-364/245

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 5-1-13, Exterior(2R) 5-1-13 to 8-1-13, Exterior(2E) 8-1-13 to 11-3-9 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 53 lb uplift at joint 5, 42 lb uplift at joint 1, 29 lb uplift at joint 6 and 177 lb uplift at joint 7.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

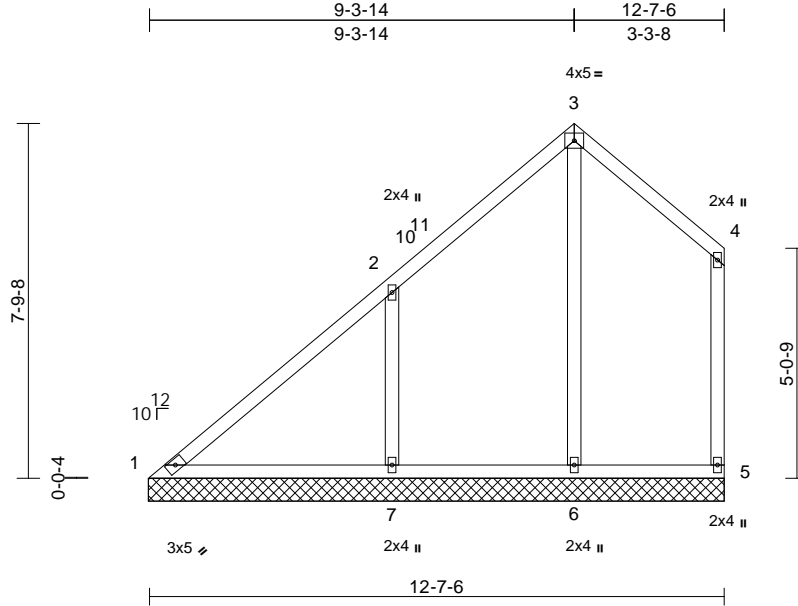
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500371
24040155-01	VLD1	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:22

Page: 1

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Scale = 1:50.6

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.29	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horiz(TL)	0.01	5	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.3
OTHERS	2x4 SP No.3

BRACING

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

REACTIONS	(size)	1=12-7-11, 5=12-7-11, 6=12-7-11, 7=12-7-11
	Max Horiz	1=238 (LC 11)
	Max Uplift	1=-37 (LC 10), 5=-58 (LC 10), 6=-38 (LC 11), 7=-211 (LC 14)
	Max Grav	1=253 (LC 25), 5=207 (LC 25), 6=389 (LC 24), 7=608 (LC 24)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-340/214, 2-3=-192/180, 3-4=-134/195, 4-5=-170/157
BOT CHORD	1-7=-63/283, 6-7=-60/90, 5-6=-60/90
WEBS	3-6=-256/100, 2-7=-418/258

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 6-4-3, Exterior(2R) 6-4-3 to 9-4-3, Exterior(2E) 9-4-3 to 12-5-15 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 5, 37 lb uplift at joint 1, 38 lb uplift at joint 6 and 211 lb uplift at joint 7.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13,2024

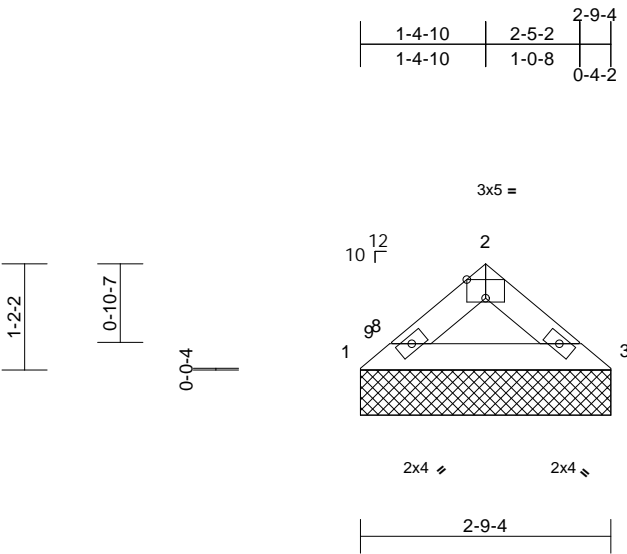
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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500372
24040155-01	VLG6	Valley	1	1	Job Reference (optional)	



Scale = 1:25.5												
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	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.06	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 8 lb	FT = 20%

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

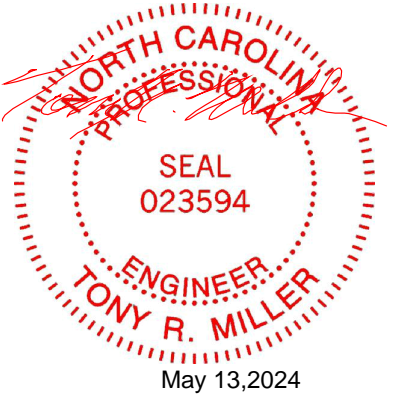
BRACING
TOP CHORD Structural wood sheathing directly applied or 2-9-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=2-9-4, 3=2-9-4
Max Horiz 1=-23 (LC 10)
Max Uplift 1=-1 (LC 14), 3=-9 (LC 15)
Max Grav 1=97 (LC 20), 3=122 (LC 21)

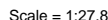
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-146/59, 2-3=-158/64
BOT CHORD 1-3=-35/113

- 7) Gable studs spaced at 4-0-0 oc.
8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 1 and 9 lb uplift at joint 3.
11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

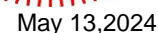
- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical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



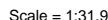
Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:24 Page: 1
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LOAD CASE(S) Standard

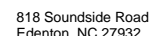
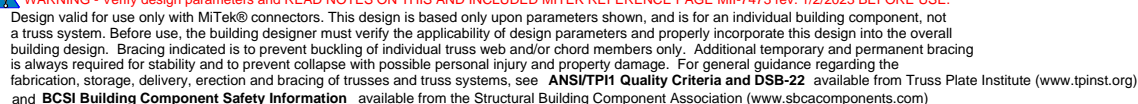
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
 Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Exterior(2R) 3-0-0 to 3-9-12, Exterior(2E)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



Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:24 Page: 1
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LOAD CASE(S) Standard

May 13, 2024



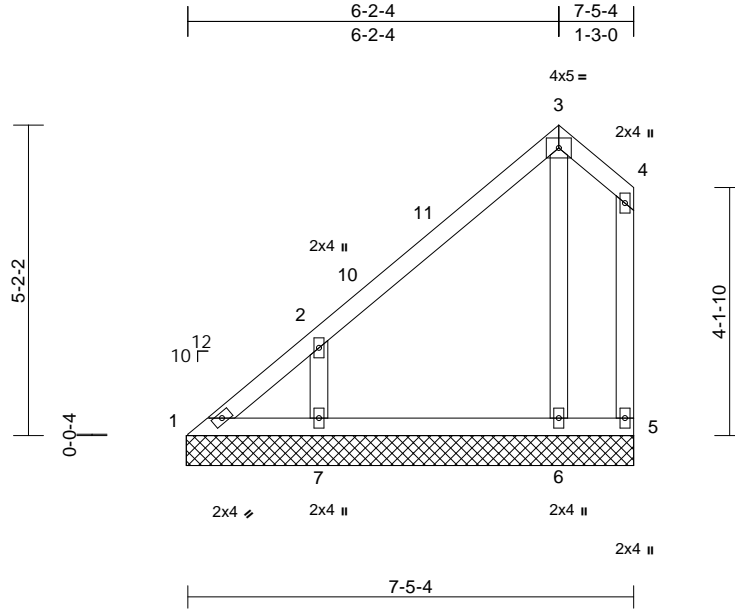
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500375
24040155-01	VLG2	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:23

Page: 1

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							Weight: 39 lb	FT = 20%
BCDL	10.0											

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

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

REACTIONS (size) 1=7-5-8, 5=7-5-8, 6=7-5-8, 7=7-5-8
Max Horiz 1=164 (LC 14)
Max Uplift 1=-27 (LC 12), 5=-33 (LC 15),
6=-23 (LC 14), 7=-146 (LC 14)
Max Grav 1=111 (LC 14), 5=48 (LC 21),
6=219 (LC 20), 7=343 (LC 24)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-279/173, 2-3=-102/66, 3-4=-30/33,
4-5=-58/40
BOT CHORD 1-7=-22/29, 6-7=0/0, 5-6=0/0
WEBS 3-6=-155/97, 2-7=-370/331

NOTES
1) Unbalanced roof live loads have been considered for this design.
2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Exterior(2R) 3-0-0 to 6-2-9, Exterior(2E) 6-2-9 to 7-3-12 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) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 33 lb uplift at joint 5, 27 lb uplift at joint 1, 23 lb uplift at joint 6 and 146 lb uplift at joint 7.
- 11) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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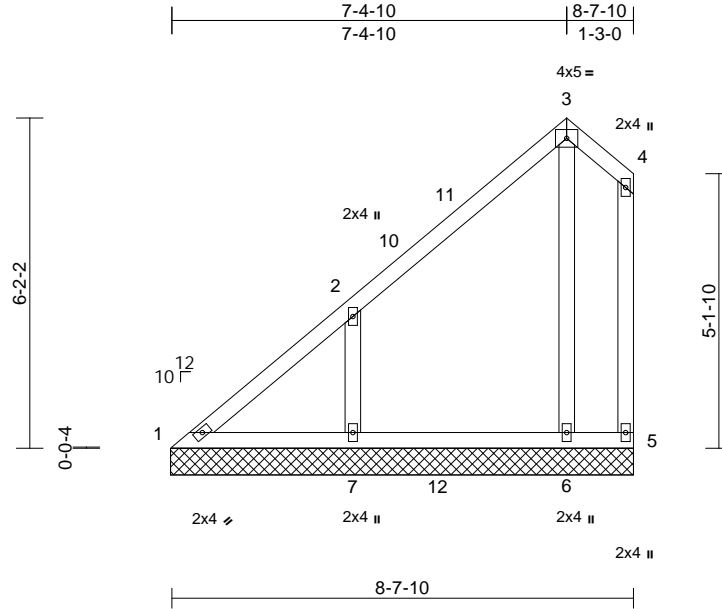
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	VLG1	Valley	1	1	165500376
					Job Reference (optional)

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:23

Page: 1

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Scale = 1:43.1

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	0.25	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.13	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	5	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 48 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS	(size)	1=8-7-15, 5=8-7-15, 6=8-7-15, 7=8-7-15
	Max Horiz	1=200 (LC 14)
	Max Uplift	5=-33 (LC 15), 6=-20 (LC 14), 7=-167 (LC 14)
	Max Grav	1=140 (LC 26), 5=51 (LC 21), 6=295 (LC 24), 7=462 (LC 24)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-263/173, 2-3=-103/64, 3-4=-30/31, 4-5=-58/37
BOT CHORD	1-7=-64/120, 6-7=0/0, 5-6=0/0
WEBS	3-6=-150/89, 2-7=-374/299

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 4-4-15, Exterior(2R) 4-4-15 to 7-4-15, Exterior(2E) 7-4-15 to 8-6-3 zone; 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 33 lb uplift at joint 5, 20 lb uplift at joint 6 and 167 lb uplift at joint 7.
 - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 13, 2024

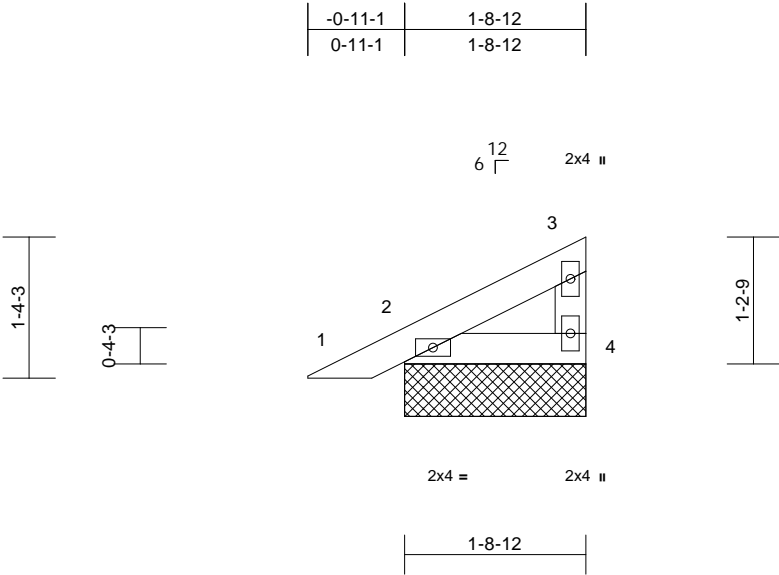
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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	PBA4	Piggyback	1	1	165500377
					Job Reference (optional)



Scale = 1:22

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

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 2-8-5 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size) 2=1-8-12, 4=1-8-12, 5=1-8-12	
Max Horiz	2=39 (LC 14), 5=39 (LC 14)
Max Uplift	2=-17 (LC 14), 4=-13 (LC 14), 5=-17 (LC 14)
Max Grav	2=144 (LC 21), 4=75 (LC 21), 5=144 (LC 21)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-0/23, 2-3=-23/18, 3-4=-48/34
BOT CHORD	2-4=-5/20

- 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) zone;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.

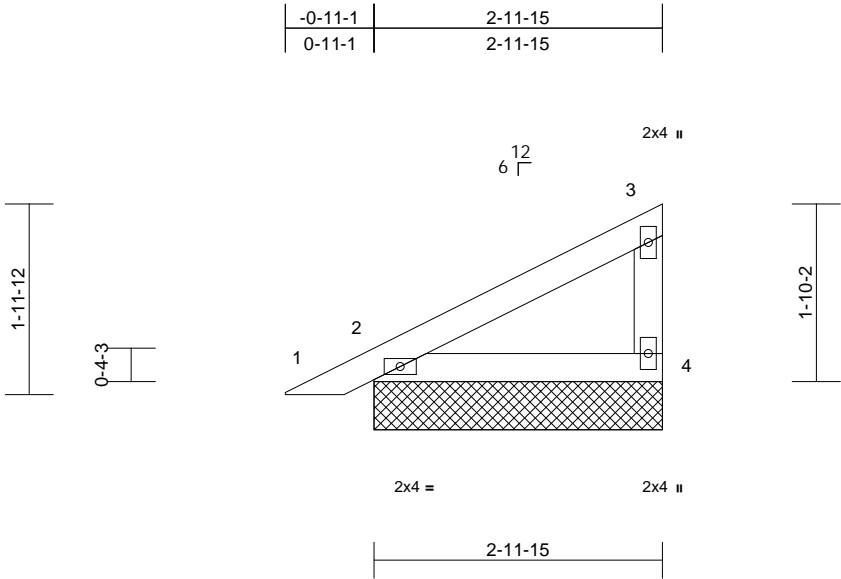
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 4, 17 lb uplift at joint 2 and 17 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



May 13,2024

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	
24040155-01	PBA3	Piggyback	2	1	Job Reference (optional)	I65500378



Scale = 1:23.9

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 13 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 3-11-8 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size) 2=2-11-15, 4=2-11-15, 5=2-11-15	
Max Horiz	2=62 (LC 14), 5=62 (LC 14)
Max Uplift	2=-18 (LC 14), 4=-28 (LC 14), 5=-18 (LC 14)
Max Grav	2=218 (LC 21), 4=153 (LC 21), 5=218 (LC 21)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/25, 2-3=-48/37, 3-4=-104/73
BOT CHORD	2-4=-25/43

- 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) zone;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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 28 lb uplift at joint 4, 18 lb uplift at joint 2 and 18 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



May 13,2024

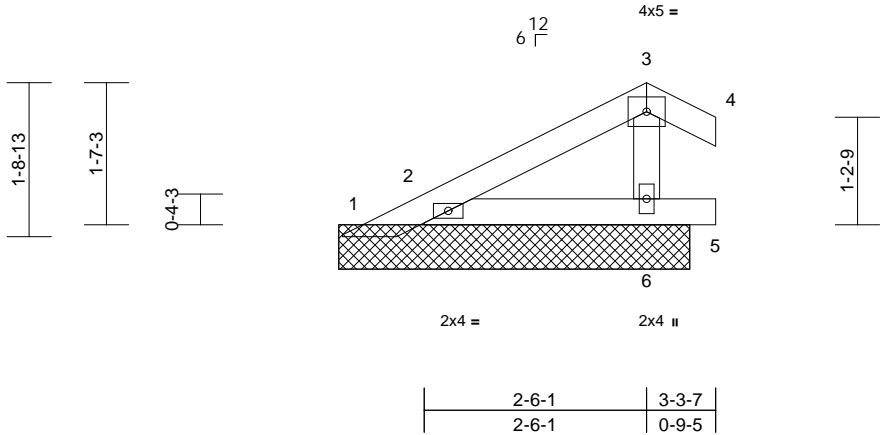
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500379
24040155-01	PBA2	Piggyback	1	1	Job Reference (optional)	

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

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Page: 1

-0-11-1	2-6-1	3-3-7
0-11-1	2-6-1	0-9-5



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	0.11	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 14 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 3-11-8 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size)	
	1=3-11-8, 2=3-11-8, 6=3-11-8, 7=3-11-8
Max Horiz	1=51 (LC 14)
Max Uplift	1=-53 (LC 21), 2=-52 (LC 14), 7=-52 (LC 14)
Max Grav	1=38 (LC 14), 2=236 (LC 21), 6=180 (LC 1), 7=236 (LC 21)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-88/85, 2-3=-32/40, 3-4=0/31
BOT CHORD	2-6=-19/2, 5-6=0/0
WEBS	3-6=-116/108

- 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;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
 - 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) Gable requires continuous bottom chord bearing.
- 8) Gable studs spaced at 4-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 11) Bearing at joint(s) 2, 1, 2 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 52 lb uplift at joint 2, 53 lb uplift at joint 1 and 52 lb uplift at joint 2.
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 14) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



May 13,2024

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)

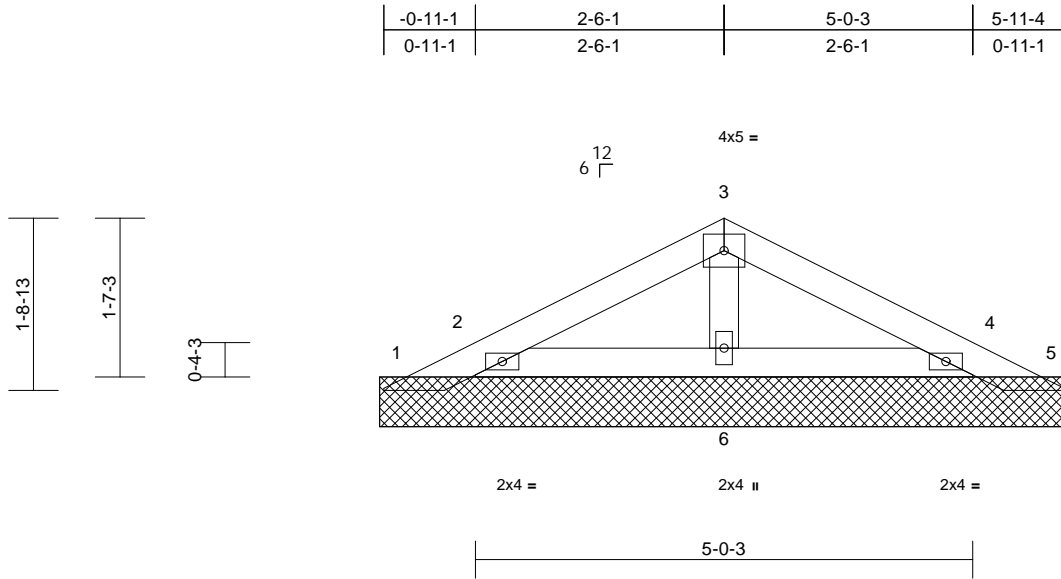
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500380
24040155-01	PBA1	Piggyback	8	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:23.2

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	0.12	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(TL)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	4	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 20 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
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=6-11-5, 2=6-11-5, 4=6-11-5, 5=6-11-5, 6=6-11-5, 7=6-11-5, 10=6-11-5
Max Horiz	1=-25 (LC 15)
Max Uplift	1=-53 (LC 21), 2=-47 (LC 14), 4=-48 (LC 15), 5=-50 (LC 22), 7=-47 (LC 14), 10=-48 (LC 15)
Max Grav	1=25 (LC 14), 2=290 (LC 21), 4=277 (LC 22), 5=14 (LC 15), 6=170 (LC 21), 7=290 (LC 21), 10=277 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-32/54, 2-3=-65/55, 3-4=-65/55, 4-5=-12/53
BOT CHORD	2-6=-11/28, 4-6=-12/28
WEBS	3-6=-90/42

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 47 lb uplift at joint 2, 48 lb uplift at joint 4, 53 lb uplift at joint 1, 50 lb uplift at joint 5, 47 lb uplift at joint 2 and 48 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



May 13, 2024

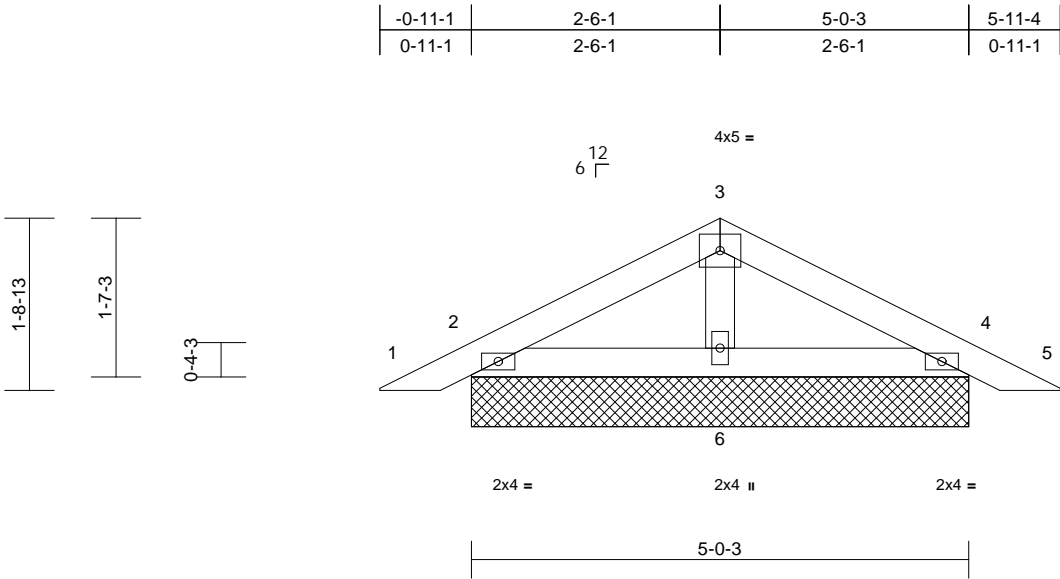
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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	1003 Serenity-Roof-329 A COP GLH	I65500381
24040155-01	PBA	Piggyback	1	1	Job Reference (optional)	



Scale = 1:23.2

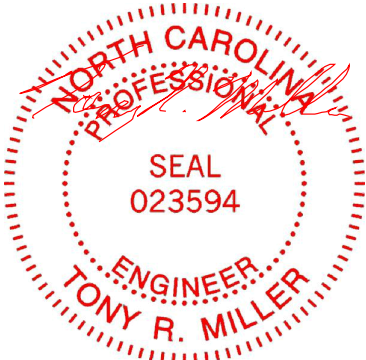
Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	4	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 20 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
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=5-0-3, 4=5-0-3, 6=5-0-3, 7=5-0-3, 11=5-0-3
Max Horiz	2=25 (LC 14), 7=25 (LC 14)
Max Uplift	2=-31 (LC 14), 4=-35 (LC 15), 6=-3 (LC 14), 7=-31 (LC 14), 11=-35 (LC 15)
Max Grav	2=196 (LC 21), 4=196 (LC 22), 6=194 (LC 21), 7=196 (LC 21), 11=196 (LC 22)
FORCES	
	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/24, 2-3=-57/57, 3-4=-57/57, 4-5=0/24
BOT CHORD	2-6=-5/35, 4-6=0/35
WEBS	3-6=-101/44

- 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.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 31 lb uplift at joint 2, 35 lb uplift at joint 4, 3 lb uplift at joint 6, 31 lb uplift at joint 2 and 35 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.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

LOAD CASE(S) Standard



May 13,2024

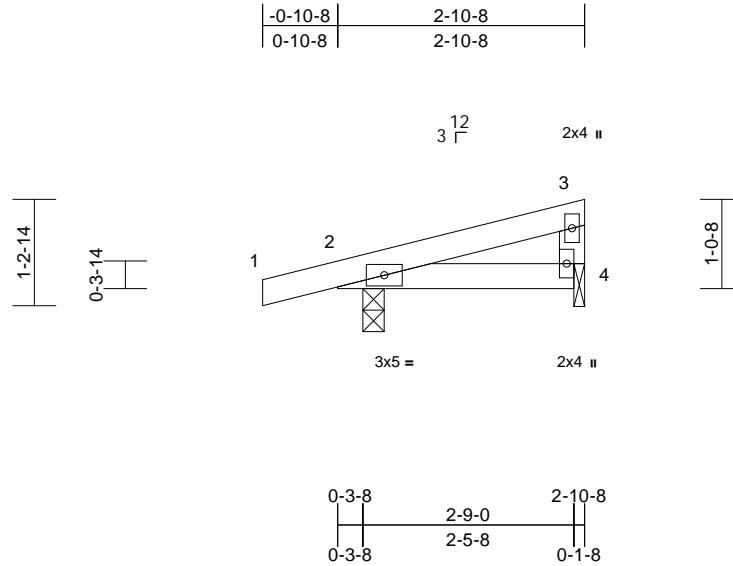
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	
24040155-01	H02	Jack-Closed	9	1	Job Reference (optional)	I65500382

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

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Scale = 1:26.8

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	0.09	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	Vert(CT)	-0.01	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 11 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 2-10-8 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	2=0-3-0, 4=0-1-8
Max Horiz	2=36 (LC 10)
Max Uplift	2=-76 (LC 10), 4=-39 (LC 10)
Max Grav	2=221 (LC 21), 4=127 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/17, 2-3=-68/33, 3-4=-83/75
BOT CHORD	2-4=-50/52

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 7) Bearings are assumed to be: Joint 2 User Defined , Joint 4 SP No.3 .
- 8) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4 and 2. This connection is for uplift only and does not consider lateral forces.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)

Standard



May 13,2024

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

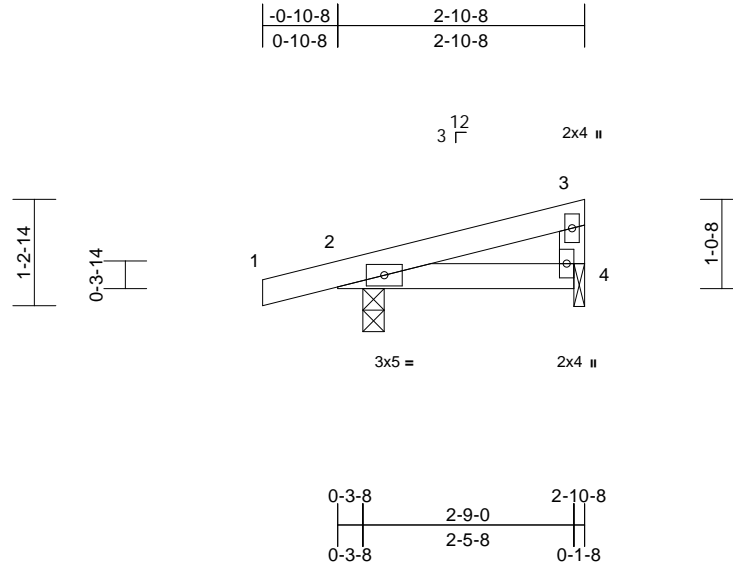
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	H01	Jack-Closed	2	1	165500383
					Job Reference (optional)

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

Page: 1

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Scale = 1:26.8

Loading	(psf)	Spacing	1-11-4	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.09	0.00	4-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.10	-0.01	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 11 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-10-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-3-0, 4=0-1-8
Max Horiz 2=35 (LC 10)
Max Uplift 2=-73 (LC 10), 4=-38 (LC 10)
Max Grav 2=214 (LC 21), 4=123 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/17, 2-3=-66/32, 3-4=-80/73
BOT CHORD 2-4=-48/51

NOTES

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

- 6) Gable studs spaced at 2-0-0 oc.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) Bearings are assumed to be: Joint 2 User Defined , Joint 4 SP No.3 .
- 10) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 11) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4 and 2. This connection is for uplift only and does not consider lateral forces.
- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13,2024

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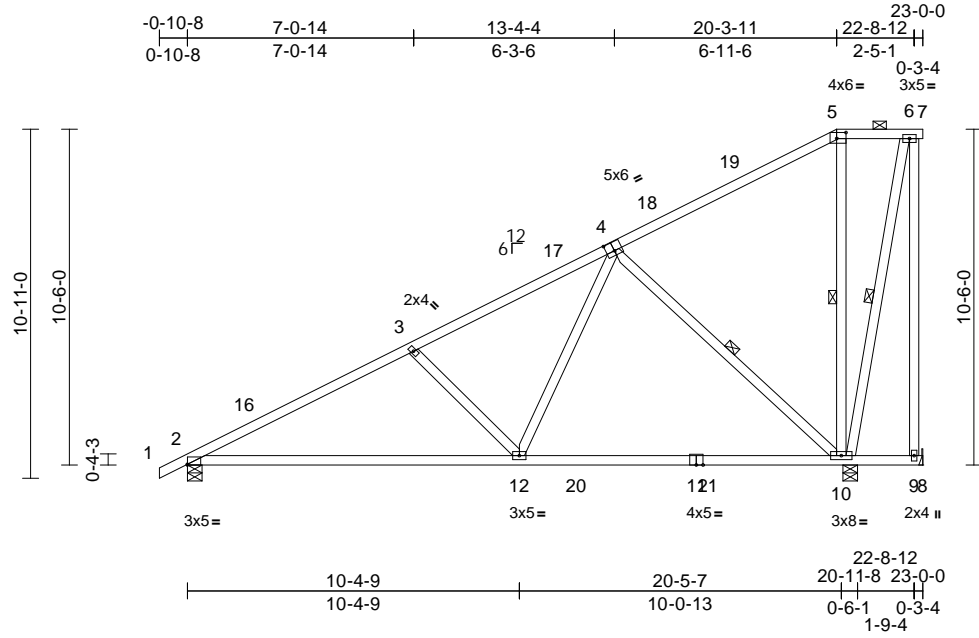
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500384
24040155-01	K01	Piggyback Base	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:20

Page: 1

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Scale = 1:72.1

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

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	0.83	Vert(LL)	-0.27	10-12	>902	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.87	Vert(CT)	-0.43	12-15	>577	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.53	Horz(CT)	0.03	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 150 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1 *Except* 11-8:2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 10-6:2x4 SP No.2

BRACING

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

REACTIONS (size) 2=0-5-8, 9= Mechanical, 10=0-5-8
Max Horiz 2=387 (LC 14)
Max Uplift 2=-52 (LC 14), 9=-393 (LC 44), 10=-231 (LC 14)
Max Grav 2=919 (LC 40), 9=19 (LC 14), 10=1643 (LC 40)

FORCES

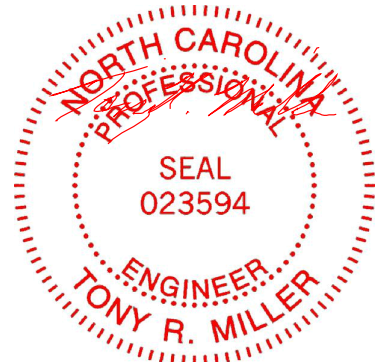
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=-1449/43, 3-5=-1191/196, 5-6=-5/72, 6-7=0/0
BOT CHORD 2-12=-329/1354, 10-12=-179/732, 9-10=-5/1, 8-9=0/0
WEBS 6-9=-38/337, 5-10=-422/169, 6-10=-330/25, 3-12=-435/200, 4-12=-25/826, 4-10=-1091/250

NOTES

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

- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 17-3-11, Exterior(2R) 17-3-11 to 20-3-11, Exterior(2E) 20-3-11 to 23-0-0 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) Provide adequate drainage to prevent water ponding.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 9) Refer to girder(s) for truss to truss connections.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 393 lb uplift at joint 9.
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 10. This connection is for uplift only and does not consider lateral forces.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



May 13, 2024

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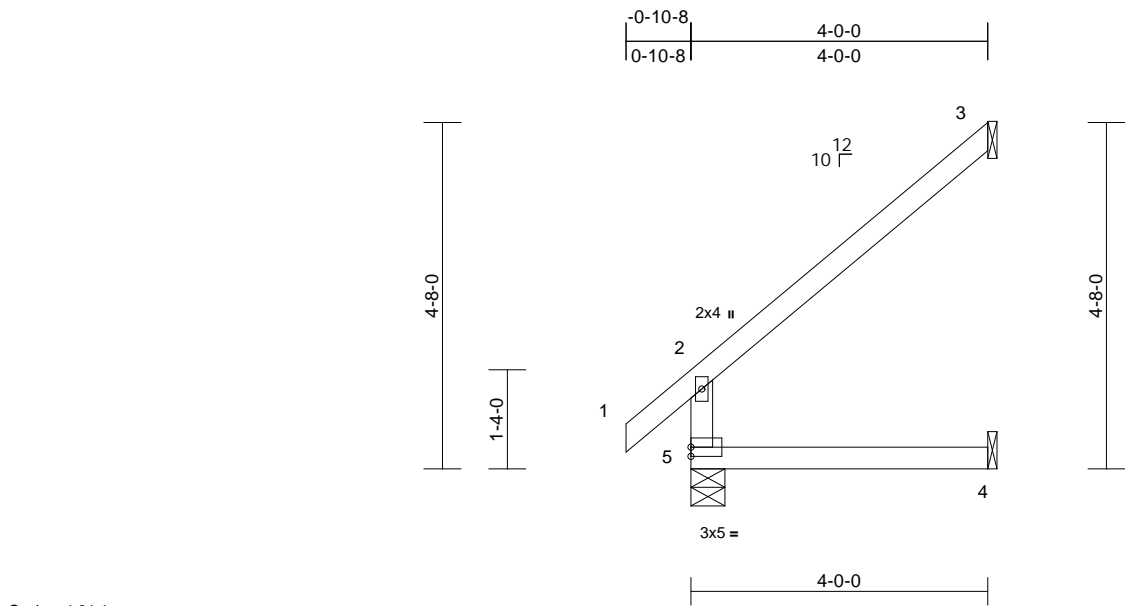
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	EJ4	Jack-Open	22	1	Job Reference (optional)
					I65500385

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

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Page: 1



Scale = 1:31.1

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	0.52	Vert(LL)	0.03	4-5	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.03	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.06	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 17 lb	FT = 20%

LUMBER		
TOP CHORD	2x4	SP No.2
BOT CHORD	2x4	SP No.2
WEBS	2x4	SP No.3
BRACING		
TOP CHORD	Structural wood sheathing directly applied or 4-0-0 oc purlins, except end verticals.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	
REACTIONS	(size)	3= Mechanical, 4= Mechanical, 5=0-5-8
	Max Horiz	5=129 (LC 14)
	Max Uplift	3=99 (LC 14), 4=8 (LC 14)
	Max Grav	3=178 (LC 21), 4=73 (LC 7), 5=307 (LC 21)
FORCES		
	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-5=-283/75, 1-2=0/39, 2-3=-142/88	
BOT CHORD	4-5=0/0	

- NOTES**
- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; 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.
 - 7) Bearings are assumed to be: , Joint 5 User Defined .
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 3 and 8 lb uplift at joint 4.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard

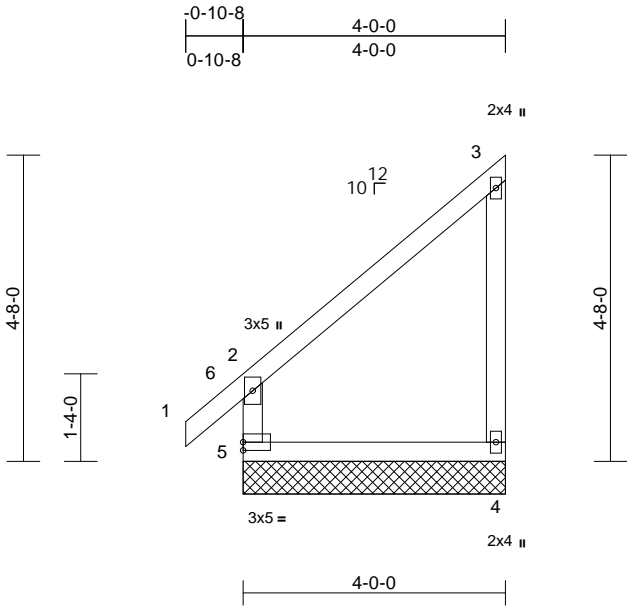


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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500386
24040155-01	EJ4A	Jack-Open	1	1	Job Reference (optional)	



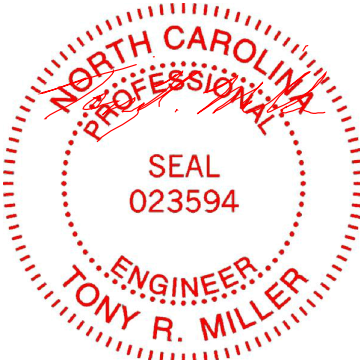
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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	n/a	-	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 23 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 4-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size) 4=4-0-0, 5=4-0-0	
Max Horiz 5=126 (LC 14)	
Max Uplift 4=-105 (LC 14)	
Max Grav 4=223 (LC 21), 5=317 (LC 21)	
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-5=-290/64, 1-2=0/49, 2-3=-140/88
BOT CHORD	4-5=0/0
WEBS	3-4=-176/178

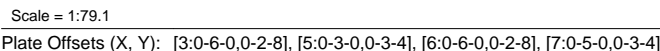
- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
 - 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; end vertical left exposed;C-C for members 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) Gable requires continuous bottom chord bearing.

- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 9) All bearings are assumed to be SP No.2 .
 - 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 4. This connection is for uplift only and does not consider lateral forces.
 - 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 13,2024

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:15
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LUMBER		2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCdL=6.0psf; BCDL=6.0psf; h=25ft; Cat. I; Exp B; Enclosed: MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 4-10-4, Interior (1) 4-10-4 to 7-5-8, Exterior(2R) 7-5-8 to 20-6-8, Interior (1) 20-6-8 to 24-4-13, Exterior(2R) 24-4-13 to 37-5-13, Interior (1) 37-5-13 to 41-7-8, Exterior(2E) 41-7-8 to 46-3-0 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
TOP CHORD	2x4 SP No.2 *Except* 7-8,7-6:2x4 SP No.1	
BOT CHORD	2x4 SP No.2	
WEBS	2x4 SP No.3 *Except* 17-1:2x6 SP No.2	
BRACING		
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-6.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing, Except:	
	6-0-0 oc bracing: 12-13,10-12.	
WEBS	1 Row at midpt 2-15, 3-13, 4-12, 6-12, 7-10	
REACTIONS	(size) 8= Mechanical, 12=0-5-8, 17=0-5-8	
	Max Horiz 17=138 (LC 15)	
	Max Uplift 8=109 (LC 15), 12=158 (LC 15), 17=124 (LC 14)	
	Max Grav 8=718 (LC 44), 12=2613 (LC 45), 17=997 (LC 36)	
FORCES	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-1446/201, 2-3=-789/186, 3-4=-233/144, 4-6=-80/869, 1-17=-909/160, 6-8=-1064/266	
BOT CHORD	16-17=-139/295, 15-16=-202/1232, 13-15=-48/631, 12-13=-138/312, 10-12=-176/143, 9-10=-75/895, 8-9=-75/895	
WEBS	2-16=0/233, 2-15=-804/179, 3-15=-14/666, 7-9=0/349, 5-12=-521/146, 3-13=-949/105, 4-13=-16/987, 4-12=-1587/191, 1-16=-63/1003, 6-10=-32/765, 6-12=-1408/138, 7-10=-1088/221	
NOTES		
1) Unbalanced roof live loads have been considered for this design.		
		3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Ps=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
		4) Unbalanced snow loads have been considered for this design.
		5) Provide adequate drainage to prevent water ponding.
		6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
		7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
		8) Refer to girder(s) for truss to truss connections.
		9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 109 lb uplift at joint 8.
		10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jts (s) 17 and 12. This connection is for uplift only and does not consider lateral forces.
		11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
		12) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

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 Components Association (www.sbcacomponents.com)

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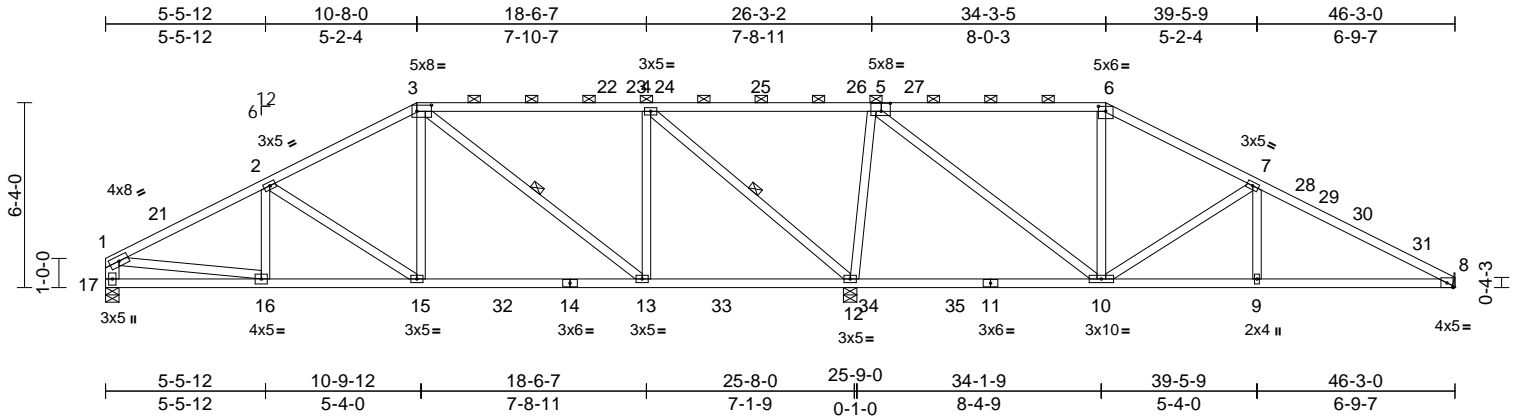
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500388
24040155-01	A02	Hip	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:15

Page: 1

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Scale = 1:79

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.86	Vert(LL)	-0.15	10-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.26	10-12	>965	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.97	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 254 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 3-5,5-6:2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 17-1:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-10-3 oc purlins, except end verticals, and 2-0-0 oc purlins (4-2-2 max.): 3-6.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:

6-0-0 oc bracing: 10-12.

WEBS 1 Row at midpt 3-13, 4-12

REACTIONS

(size) 8= Mechanical, 12=0-5-8, 17=0-5-8
Max Horiz 17=97 (LC 19)
Max Uplift 8=119 (LC 15), 12=193 (LC 10), 17=135 (LC 14)
Max Grav 8=823 (LC 44), 12=2604 (LC 45), 17=1071 (LC 36)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=1510/216, 2-3=1151/219, 3-4=625/180, 4-6=369/845, 6-7=551/183, 7-8=1306/222, 1-17=989/164
BOT CHORD 16-17=94/241, 15-16=203/1276, 13-15=103/965, 12-13=81/601, 10-12=730/157, 9-10=119/1079, 8-9=119/1079
WEBS 2-16=64/100, 2-15=516/119, 3-15=0/552, 3-13=698/63, 4-13=0/714, 4-12=1869/228, 5-12=1372/266, 5-10=111/1315, 6-10=266/93, 7-10=841/172, 7-9=0/243, 1-16=110/1078

NOTES

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

2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-2-12 to 4-10-4, Exterior(2R) 4-10-4 to 17-2-8, Interior (1) 17-2-8 to 27-8-13, Exterior (2R) 27-8-13 to 40-9-13, Interior (1) 40-9-13 to 41-7-8, Exterior(2E) 41-7-8 to 46-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

4) Unbalanced snow loads have been considered for this design.

5) Provide adequate drainage to prevent water ponding.

6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.

8) Refer to girder(s) for truss to truss connections.

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 119 lb uplift at joint 8.

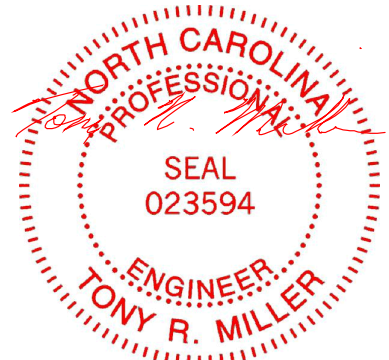
10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 17 and 12. This connection is for uplift only and does not consider lateral forces.

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

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

LOAD CASE(S)

Standard



May 13, 2024

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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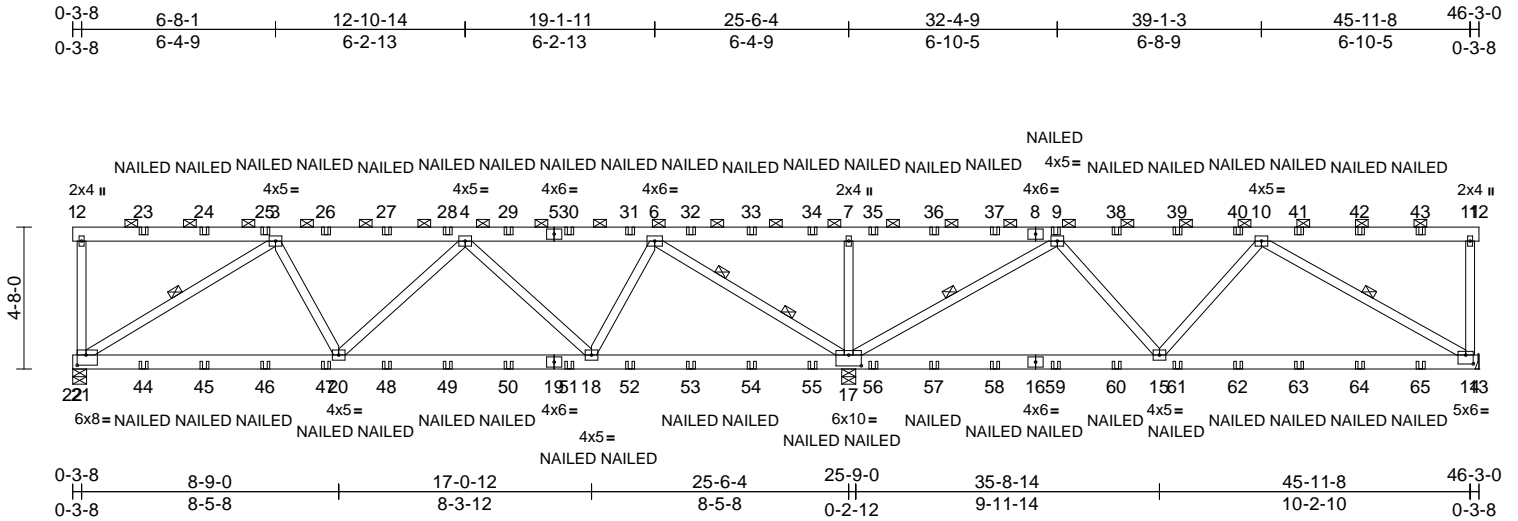
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500389
24040155-01	A01	Flat	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:14

Page: 1

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Scale = 1:75.8

Plate Offsets (X, Y): [14:0-3-0,0-3-8], [17:0-5-0,0-4-4], [21:0-3-8,0-4-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.84	Vert(LL)	-0.12	14-15	>999	240	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.66	Vert(CT)	-0.26	14-15	>926	180	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.06	14	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 322 lb FT = 20%											

LUMBER

TOP CHORD 2x6 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD 2-0-0 oc purlins (4-10-7 max.): 1-12.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
8-5-2 oc bracing: 20-21
7-11-11 oc bracing: 18-20.
WEBS 1 Row at midpt 3-21, 9-17, 10-14
WEBS 2 Rows at 1/3 pts 6-17

REACTIONS

(size) 14= Mechanical, 17=0-5-8, 21=0-5-8
Max Uplift 14=-432 (LC 11), 17=-1635 (LC 10), 21=-584 (LC 11)
Max Grav 14=1165 (LC 1), 17=4241 (LC 1), 21=1580 (LC 1)

FORCES

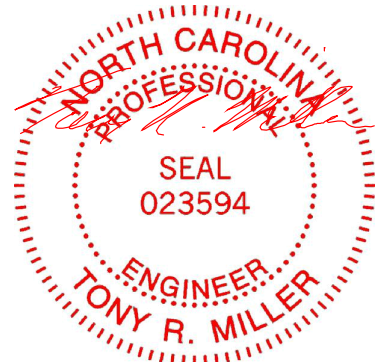
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/0, 2-3=0/0, 3-4=-2024/800, 4-6=-1344/528, 6-7=-715/1711, 7-9=-715/1711, 9-10=-1018/366, 10-11=0/0, 11-12=0/0
BOT CHORD 21-22=0/0, 20-21=-778/1833, 18-20=-864/2039, 17-18=-372/853, 15-17=-238/517, 14-15=-520/1168, 13-14=0/0
WEBS 7-17=-858/472, 11-14=-308/159, 2-21=-269/137, 3-21=-2196/932, 3-20=-50/481, 4-20=-35/147, 4-18=-989/478, 6-18=-353/1109, 6-17=-3071/1303, 9-17=-2613/1118, 9-15=-206/804, 10-15=-261/247, 10-14=-1370/610

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 Corner (3) 0-0-0 to 5-0-0, Exterior (2) 5-0-0 to 41-3-0, Corner (3) 41-3-0 to 46-3-0 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.
- Provide adequate drainage to prevent water ponding.
- 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1635 lb uplift at joint 17 and 432 lb uplift at joint 14.
- H10A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 21. 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.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S)

- Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-12=-60, 13-22=-20
Concentrated Loads (lb)
Vert: 9=-118 (F), 23=-118 (F), 24=-118 (F), 25=-118 (F), 26=-118 (F), 27=-118 (F), 28=-118 (F), 29=-118 (F), 30=-118 (F), 31=-118 (F), 32=-118 (F), 33=-118 (F), 34=-118 (F), 35=-118 (F), 36=-118 (F), 37=-118 (F), 38=-118 (F), 39=-118 (F), 40=-118 (F), 41=-118 (F), 42=-118 (F), 43=-118 (F), 44=-32 (F), 45=-32 (F), 46=-32 (F), 47=-32 (F), 48=-32 (F), 49=-32 (F), 50=-32 (F), 51=-32 (F), 52=-32 (F), 53=-32 (F), 54=-32 (F), 55=-32 (F), 56=-32 (F), 57=-32 (F), 58=-32 (F), 59=-32 (F), 60=-32 (F), 61=-32 (F), 62=-32 (F), 63=-32 (F), 64=-32 (F), 65=-32 (F)



May 13, 2024

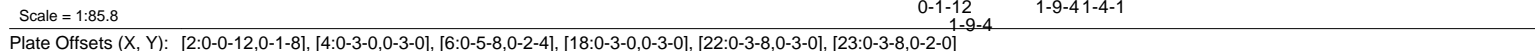
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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)

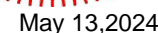
ENGINEERING BY
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Edenton, NC 27932

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:20 Page: 1
ID:ZXfAd0VlQCta cCKGIK2vpvi2Sn-RfC?PsB70Hq3NSaPanL8w3uITXbGKWrCDoi7J4zJC?f



LUMBER		WEBS	3-19=110/158, 4-19=21/249, 4-17=786/198, 16-17=49/732, 16-21=0/837, 5-21=0/770, 10-11=0/388, 11-22=0/879, 7-22=244/65, 21-23=52/697, 22-23=1574/106, 3-20=1364/0, 6-23=0/303, 5-23=2305/157, 9-22=4891/248, 8-22=3432/295, 6-22=1478/127, 14-15=113/105, 15-16=358/133, 12-13=365/0, 11-13=0/898	10) Ceiling dead load (5.0 psf) on member(s). 21-23, 22-23; Wall dead load (5.0psf) on member(s).16-21, 11-22
TOP CHORD	2x4 SP No.2			11) Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 14-16, 12-14, 11-12
BOT CHORD	2x4 SP No.1 *Except* 16-11:2x4 SP No.3, 18-9:2x4 SP No.2			12) Refer to girder(s) for truss to truss connections.
WEBS	2x4 SP No.3 *Except* 8-9,21-22:2x4 SP No.2, 5-17,7-10:2x4 SP No.1, 20-2:2x6 SP No.2, 9-22:2x4 SP 2400F 2.0E			13) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 20. This connection is for uplift only and does not consider lateral forces.
BRACING		NOTES		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.
TOP CHORD	Structural wood sheathing directly applied or 4-0-14 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 6-8.	1) Unbalanced roof live loads have been considered for this design.		15) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 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 Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 14-9-1, Exterior(2R) 14-9-1 to 19-9-12, Exterior(2E) 19-9-12 to 22-9-12 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60		16) Attic room checked for L/360 deflection.
WEBS	1 Row at midpt 4-17, 3-20, 9-22			LOAD CASE(S) Standard
JOINTS	1 Brace at Jt(s): 22, 23, 8			
REACTIONS	(size) 9= Mechanical, 20=0-5-8 Max Horiz 20=352 (LC 14) Max Uplift 20=33 (LC 14) Max Grav 9=1607 (LC 41), 20=1212 (LC 41)			
FORCES	(lb) - Maximum Compression/Maximum Tension			
TOP CHORD	6-7=-170/2014, 7-8=-158/1841, 8-9=-257/2910, 2-20=-432/137, 1-2=0/30, 2-3=-506/116, 3-5=-1728/2, 5-6=-95/967	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		
BOT CHORD	19-20=-297/1616, 17-19=-191/1446, 15-17=-79/1296, 13-15=0/1087, 10-13=-8/270, 9-10=-34/681, 14-16=-409/0, 12-14=-409/0, 11-12=-409/0	4) Unbalanced snow loads have been considered for this design.		
		5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs and concurrent with other live loads.		



Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500391
24040155-01	A08	Attic	2	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:16

Page: 1

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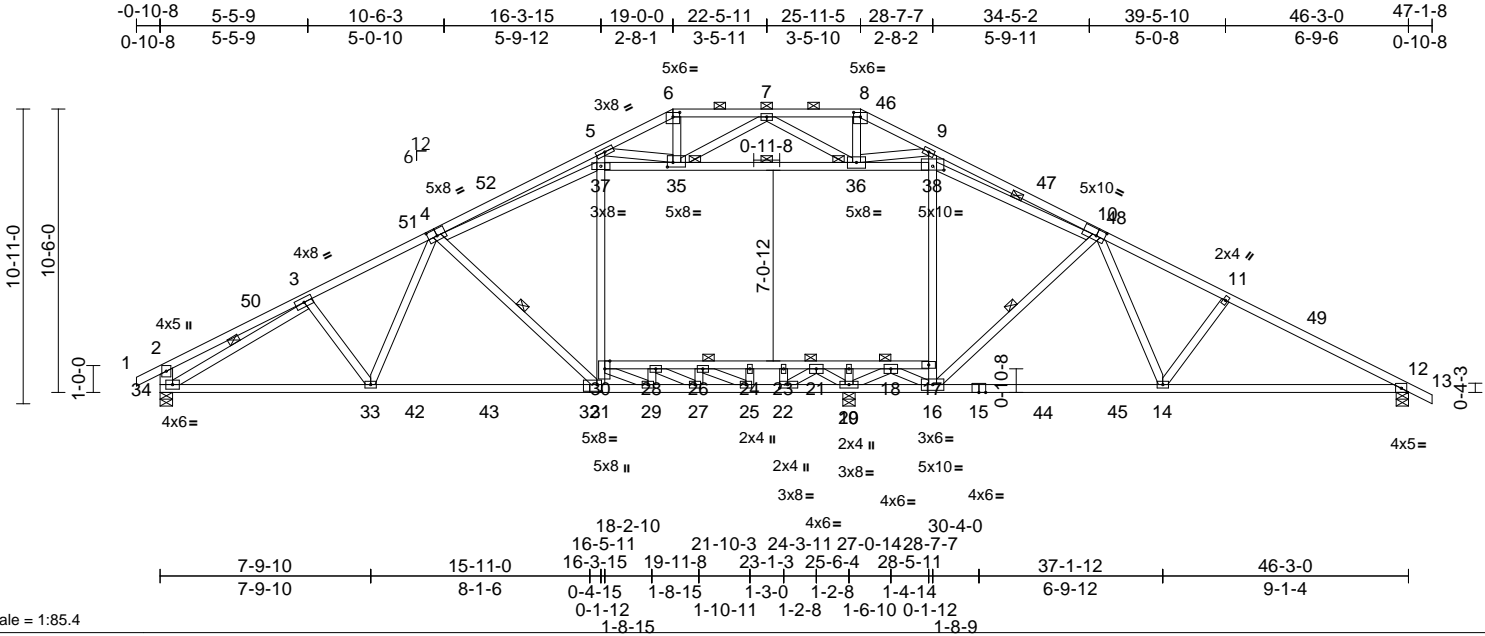


Plate Offsets (X, Y): [4:0-4-0,0-3-0], [6:0-3-0,0-2-0], [8:0-3-0,0-2-0], [10:0-3-12,0-3-0], [22:0-3-8,0-1-8], [30:Edge,0-2-4], [32:0-2-0,0-3-0], [35:0-2-8,0-2-0], [38:0-5-0,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.77	Vert(LL)	-0.53	31-33	>575	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.92	Vert(CT)	-0.86	31-33	>353	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.92	Horz(CT)	0.13	12	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH		Attic	-0.32	17-30	>465	360	
BCDL	10.0										
Weight: 335 lb FT = 20%											

LUMBER
TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP 2400F 2.0E *Except* 30-17:2x4 SP No.1
WEBS 2x4 SP No.3 *Except* 5-31,9-16:2x4 SP No.1, 37-38:2x4 SP No.2, 34-2:2x6 SP No.2

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (5-5-11 max.): 6-8.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.
WEBS 1 Row at midpt 35-36, 4-31, 3-34, 10-16, 10-38
JOINTS 1 Brace at Jt(s): 35, 36, 21, 18

REACTIONS (size) 12=0-5-8, 19=0-5-8, 34=0-5-8
Max Horiz 34=168 (LC 19)
Max Uplift 12=2 (LC 14), 34=119 (LC 14)
Max Grav 12=1775 (LC 48), 19=2161 (LC 40), 34=2111 (LC 38)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 6-7=-1266/131, 7-8=-648/149, 2-34=-494/144, 8-9=-784/153, 9-11=-3403/570, 11-12=-3581/80, 12-13=0/23, 1-2=0/30, 2-3=-620/122, 3-5=-3616/182, 5-6=-1395/137
BOT CHORD 33-34=-211/2906, 31-33=-125/2902, 29-31=-7/2738, 27-29=0/3079, 25-27=0/3140, 22-25=-565/2259, 19-22=-1519/946, 16-19=-539/898, 14-16=0/2680, 12-14=0/3151, 28-30=-812/281, 26-28=-1014/686, 24-26=-490/1674, 23-24=-490/1674, 21-23=-490/1674, 20-21=-220/3620, 18-20=-220/3620, 17-18=-39/501

WEBS
30-31=-26/682, 30-37=0/979, 5-37=0/1288, 16-17=-375/58, 17-38=-337/184, 9-38=-1009/107, 35-37=-93/1377, 35-36=-1502/46, 36-38=-3239/209, 10-14=-52/706, 11-14=-364/167, 4-31=-686/200, 4-33=-11/271, 3-33=0/241, 3-34=-2921/43, 19-20=-500/0, 24-25=-19/223, 22-23=-678/0, 7-35=-189/406, 6-35=-9/432, 8-36=-22/210, 7-36=-767/120, 5-35=-2600/160, 9-36=-60/1229, 10-16=-680/266, 4-37=-230/833, 10-38=-2835/177, 29-30=-435/530, 28-29=-311/174, 27-28=-460/230, 26-27=-46/330, 25-26=-1381/29, 21-22=0/1940, 19-21=-1392/0, 18-19=-1933/192, 16-18=-228/1900

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 3-9-0, Interior (1) 3-9-0 to 12-5-8, Exterior(2R) 12-5-8 to 32-5-13, Interior (1) 32-5-13 to 42-6-0, Exterior(2E) 42-6-0 to 47-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 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.
- Ceiling dead load (5.0 psf) on member(s). 35-37, 35-36, 36-38; Wall dead load (5.0psf) on member(s).30-37, 17-38
- Bottom chord live load (40.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 28-30, 26-28, 24-26, 23-24, 21-23, 20-21, 18-20, 17-18
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 34 and 12. This connection is for uplift only and does not consider lateral forces.



May 13,2024

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	1003 Serenity-Roof-329 A COP GLH
24040155-01	A08	Attic	2	1	Job Reference (optional)

I65500391

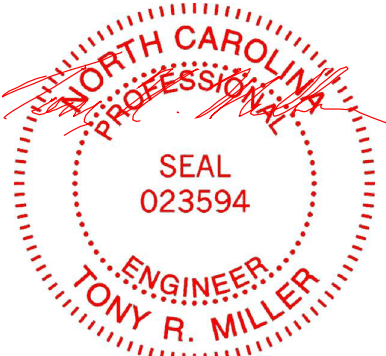
Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:16
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Page: 2

- 13) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 15) Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



May 13,2024

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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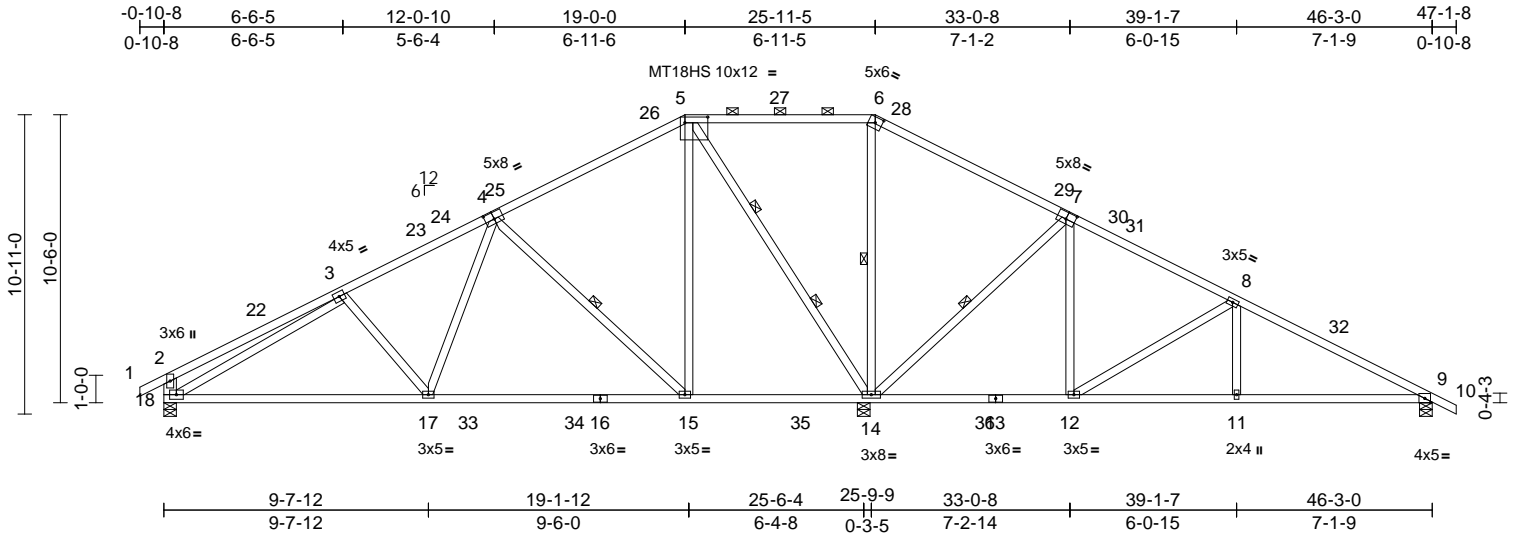
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500392
24040155-01	A07	Piggyback Base	1	1	Job Reference (optional)	

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Page: 1

ID:mnZqp49xwCxjCaSirOxFxlyi2dZ-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f



Scale = 1:84

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.24	15-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.40	15-17	>774	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.03	9	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 277 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 18-2:2x6 SP No.2,
14-5:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied,
except end verticals, and 2-0-0 oc purlins
(10-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc
bracing.
WEBS 1 Row at midpt 6-14, 4-15, 7-14
WEBS 2 Rows at 1/3 pts 5-14

REACTIONS

(size) 9=0-5-8, 14=0-5-8, 18=0-5-8
Max Horiz 18=168 (LC 19)
Max Uplift 9=125 (LC 15), 14=145 (LC 15),
18=136 (LC 14)
Max Grav 9=619 (LC 45), 14=2932 (LC 47),
18=980 (LC 37)

FORCES

(lb) - Maximum Compression/Maximum
Tension
TOP CHORD 1-2=0/30, 2-3=572/163, 3-5=1113/192,
5-6=0/839, 6-8=215/1049, 8-9=798/188,
9-10=0/23, 2-18=474/173
BOT CHORD 17-18=230/1047, 15-17=122/767,
14-15=123/270, 12-14=210/127,
11-12=71/645, 9-11=71/645
WEBS 5-15=57/1019, 6-14=826/120,
3-17=245/167, 4-17=4/625, 7-12=0/645,
8-11=0/284, 8-12=763/169, 3-18=805/37,
4-15=986/225, 7-14=1134/227,
5-14=1671/186

NOTES

1) 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 3-9-0, Interior (1) 3-9-0
to 12-5-8, Exterior(2R) 12-5-8 to 32-5-13, Interior (1)
32-5-13 to 42-6-0, Exterior(2E) 42-6-0 to 47-1-8 zone;
end vertical left exposed; C-C for members and forces &
MWFRS for reactions shown; Lumber DOL=1.60 plate
grip DOL=1.60
- 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 MT20 plates 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) 14, 9, and 18. 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.

LOAD CASE(S) Standard



May 13, 2024

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.sbcacomponents.com)

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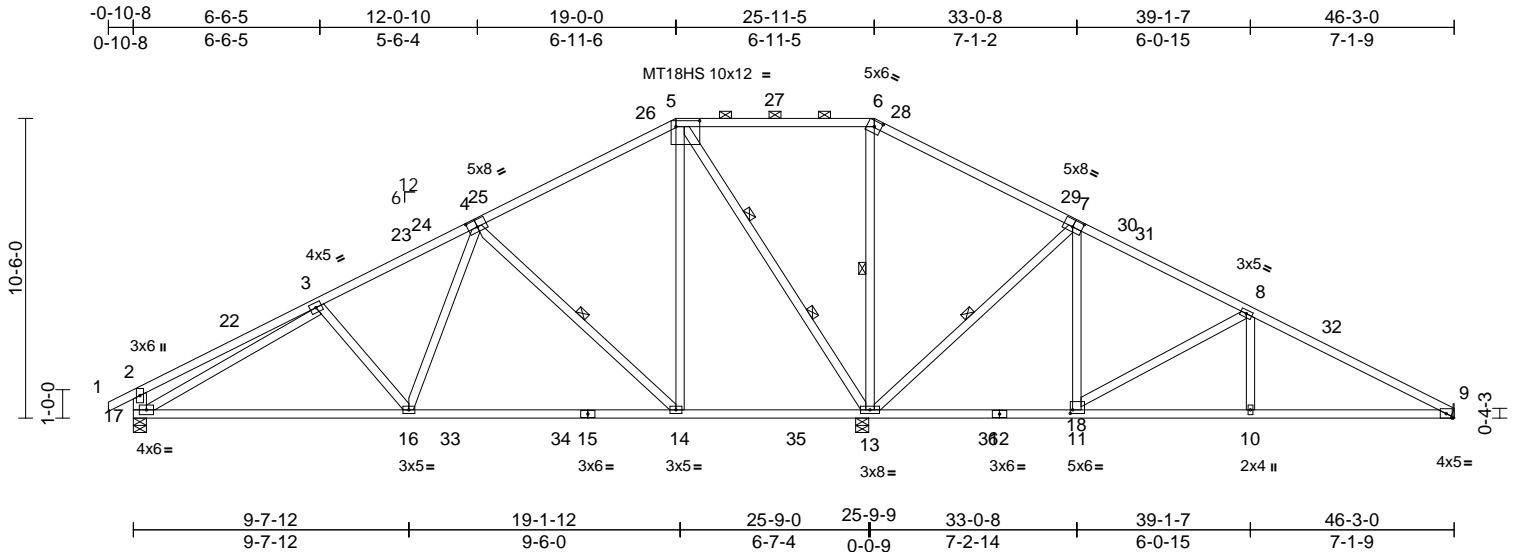
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500393
24040155-01	A06	Piggyback Base	2	1	Job Reference (optional)	

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

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Page: 1

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Scale = 1:80.7

Plate Offsets (X, Y): [4:0-4-0,0-3-0], [5:0-10-0,0-2-8], [6:0-3-0,0-2-7], [7:0-4-0,0-3-0], [11:0-1-0,0-1-8]

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	0.99	Vert(LL)	-0.24	14-16	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.40	14-16	>774	180	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.82	Horz(CT)	0.03	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 275 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP No.1
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except* 17-2:2x6 SP No.2, 7-11,13-5:2x4 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
 WEBS 1 Row at midpt 6-13, 4-14, 7-13
 WEBS 2 Rows at 1/3 pts 5-13

REACTIONS

(size) 9= Mechanical, 13=0-5-8, 17=0-5-8
 Max Horiz 17=-155 (LC 19)
 Max Uplift 9=-106 (LC 15), 13=-150 (LC 15), 17=-135 (LC 14)
 Max Grav 9=570 (LC 39), 13=2928 (LC 47), 17=978 (LC 37)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/30, 2-3=-572/163, 3-5=-1109/190, 5-6=0/832, 6-8=-192/1040, 8-9=-786/184, 2-17=-474/173
 BOT CHORD 16-17=-235/1043, 14-16=-127/765, 13-14=-119/263, 11-13=-202/125, 10-11=-81/650, 9-10=-81/650
 WEBS 3-16=-244/167, 4-16=-4/624, 5-14=-57/1019, 6-13=-821/126, 11-18=0/315, 7-18=0/629, 8-10=0/281, 8-18=-778/174, 3-17=-801/35, 4-14=-986/225, 7-13=-1139/228, 5-13=-1668/187

NOTES

1) 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 3-9-0, Interior (1) 3-9-0 to 12-5-8, Exterior(2R) 12-5-8 to 32-5-13, Interior (1) 32-5-13 to 41-7-8, Exterior(2E) 41-7-8 to 46-3-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 MT20 plates 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 106 lb uplift at joint 9.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13 and 17. 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.

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

LOAD CASE(S) Standard



May 13, 2024

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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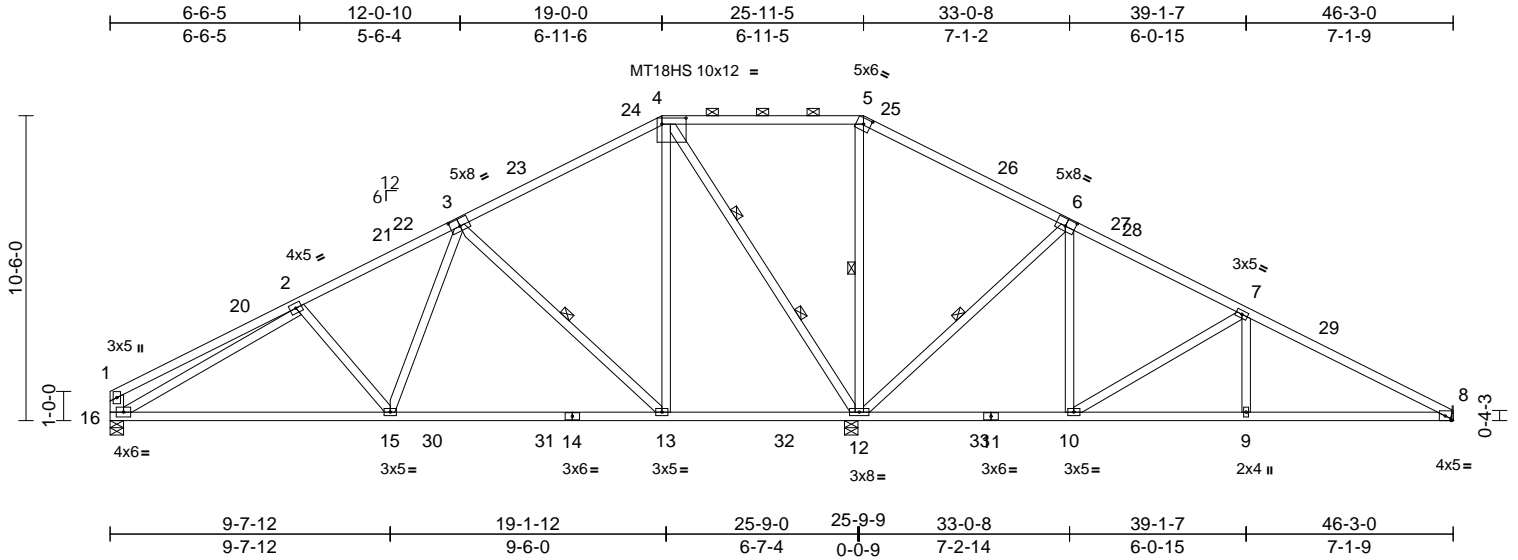
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500394
24040155-01	A05	Piggyback Base	3	1	Job Reference (optional)	

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

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Page: 1

ID:JB5bLQFGF3C9vTBfKpf65yi2p3-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:79.3

Plate Offsets (X, Y): [3:0-4-0,0-3-0], [4:0-10-0,0-2-8], [5:0-3-0,0-2-7], [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	1.00	Vert(LL)	-0.24	13-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.98	Vert(CT)	-0.40	13-15	>773	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.91	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 274 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 4-5:2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 12-4:2x4 SP No.2,
16-1:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied,
except end verticals, and 2-0-0 oc purlins
(10-0-0 max.): 4-5.

BOT CHORD Rigid ceiling directly applied or 2-2-0 oc
bracing.

WEBS 1 Row at midpt 3-13, 5-12, 6-12
WEBS 2 Rows at 1/3 pts 4-12

REACTIONS

(size) 8= Mechanical, 12=0-5-8, 16=0-5-8
Max Horiz 16=-177 (LC 15)
Max Uplift 8=-103 (LC 15), 12=-102 (LC 15),
16=-102 (LC 14)
Max Grav 8=563 (LC 38), 12=2941 (LC 46),
16=917 (LC 36)

FORCES

(lb) - Maximum Compression/Maximum
Tension

TOP CHORD 1-2=-451/103, 2-4=-1107/192, 4-5=0/849,
5-7=-205/1059, 7-8=-774/180, 1-16=-355/111

BOT CHORD 15-16=-222/1047, 13-15=-108/757,
12-13=-123/271, 10-12=-216/123,
9-10=-77/640, 8-9=-77/640

WEBS 2-15=-257/173, 3-15=-9/634, 3-13=-986/229,
4-13=-60/1019, 4-12=-1677/163,
5-12=-831/167, 6-12=-1135/230,
6-10=-1/647, 7-10=-767/171, 7-9=0/285,
2-16=-892/78

NOTES

1) 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) 0-2-12 to 4-10-4, Interior (1) 4-10-4
to 14-4-8, Exterior(2R) 14-4-8 to 30-6-13, Interior (1)
30-6-13 to 41-7-8, Exterior(2E) 41-7-8 to 46-3-0 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.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates 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 103 lb uplift at joint
8.
- One H2.5A Simpson Strong-Tie connectors
recommended to connect truss to bearing walls due to
UPLIFT at jt(s) 12 and 16. 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.

LOAD CASE(S) Standard



May 13,2024

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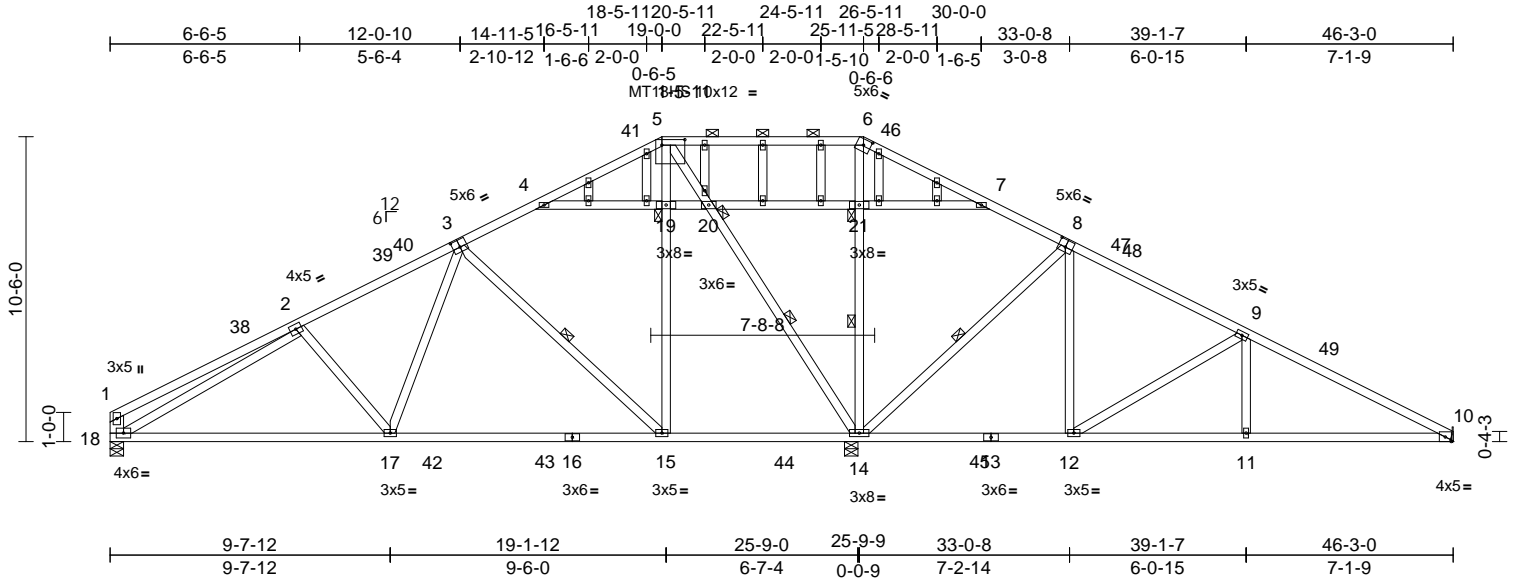
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	A04	Piggyback Base	1	1	165500395
Job Reference (optional)					

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

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Page: 1

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Scale = 1:79.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.85	Vert(LL)	-0.24	15-17	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.40	15-17	>773	180	MT18HS	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.98	Horz(CT)	0.04	10	n/a	n/a		
BCLL	0.0 *	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 311 lb FT = 20%												

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 5-6:2x4 SP No.1
 BOT CHORD 2x4 SP No.2
 WEBS 2x4 SP No.3 *Except* 14-5:2x4 SP No.2, 18-1:2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-2-12 oc purlins, except end verticals, and 2-0-0 oc purlins (10-0-0 max.): 5-6.
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.
 WEBS 1 Row at midpt 3-15, 14-20, 14-21, 8-14
 JOINTS 1 Brace at Jt(s): 19, 20, 21

REACTIONS

(size) 10= Mechanical, 14=0-5-8, 18=0-5-8
 Max Horiz 18=177 (LC 15)
 Max Uplift 10=114 (LC 15), 14=83 (LC 15), 18=111 (LC 14)
 Max Grav 10=588 (LC 44), 14=2879 (LC 46), 18=935 (LC 36)

FORCES

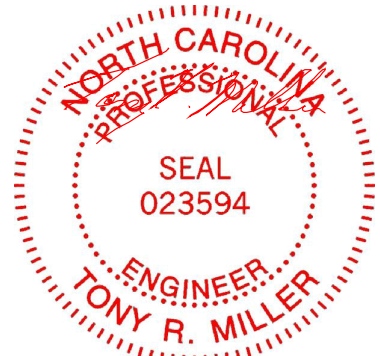
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=-434/98, 2-4=-1162/188, 4-5=-87/533, 5-6=-35/1220, 1-18=-340/106, 6-7=-89/1386, 7-9=-257/791, 9-10=-841/206
 BOT CHORD 17-18=-239/1097, 15-17=-115/773, 14-15=-45/284, 12-14=-179/145, 11-12=-102/702, 10-11=-102/702
 WEBS 2-17=-282/185, 3-17=-19/655, 3-15=-792/170, 15-19=-20/887, 5-19=-20/889, 5-20=-1687/150, 14-20=-1626/144, 14-21=-916/202, 6-21=-918/202, 8-14=-952/174, 8-12=-8/662, 9-12=-796/183, 9-11=0/284, 2-18=-955/103, 4-19=-562/210, 19-20=-517/212, 20-21=-604/221, 7-21=-547/207

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) 0-2-12 to 4-10-4, Interior (1) 4-10-4 to 14-4-8, Exterior(2R) 14-4-8 to 30-3-15, Interior (1) 30-3-15 to 41-7-8, Exterior(2E) 41-7-8 to 46-3-0 zone; 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.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- All plates are 2x4 MT20 unless otherwise indicated.
- 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, 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 114 lb uplift at joint 10.

- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14 and 18. 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.

LOAD CASE(S) Standard



May 13, 2024

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.sbccomponents.com)

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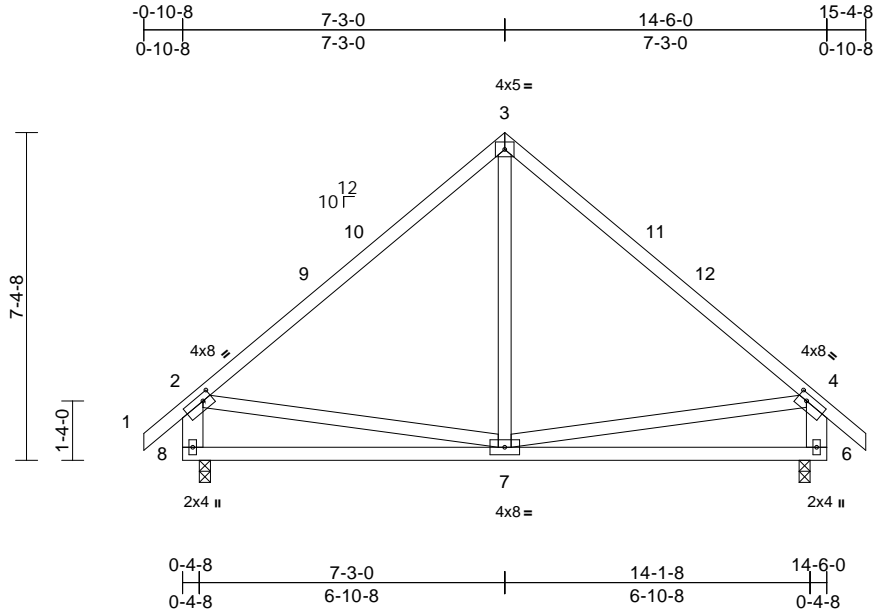
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500396
24040155-01	G02	Common	4	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

Page: 1

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Scale = 1:51.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.97	Vert(LL)	-0.05	7-8	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.10	7-8	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.01	6	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
										Weight: 89 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3 *Except* 8-2,6-4:2x6 SP No.2

BRACING

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

REACTIONS (size) 6=0-3-0, 8=0-3-0
Max Horiz 8=200 (LC 13)
Max Uplift 6=-57 (LC 15), 8=-57 (LC 14)
Max Grav 6=703 (LC 22), 8=702 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/42, 2-3=-624/270, 3-4=-624/270, 4-5=0/42, 2-8=-640/266, 4-6=-641/260
BOT CHORD 7-8=-277/397, 6-7=-174/368
WEBS 3-7=-153/281, 2-7=-173/286, 4-7=-178/287

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-10-8 to 2-1-8, Interior (1) 2-1-8 to 4-3-0, Exterior(2R) 4-3-0 to 10-3-0, Interior (1) 10-3-0 to 12-4-8, Exterior(2E) 12-4-8 to 15-4-8 zone; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10

- 4) Unbalanced snow loads have been considered for this design.
- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 57 lb uplift at joint 8 and 57 lb uplift at joint 6.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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.sbcacomponents.com)

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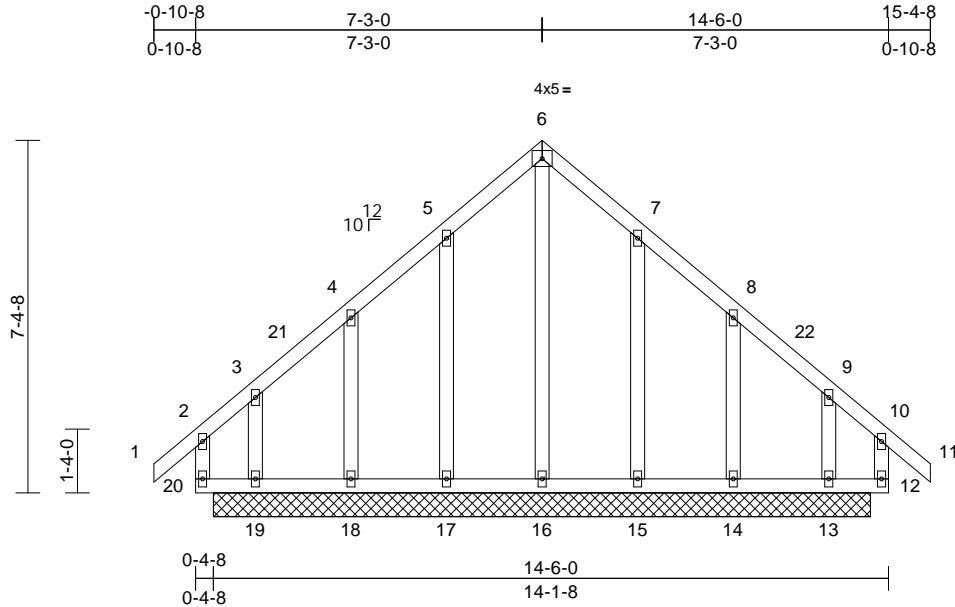
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500397
24040155-01	G01	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

Page: 1

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Scale = 1:48.2

Plate Offsets (X, Y): [10:0-0-0,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	0.19	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.27	Horz(CT)	0.00	13	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 10'-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 6'-0-0 oc bracing.

REACTIONS	(size)	13=13-9-0, 14=13-9-0, 15=13-9-0, 16=13-9-0, 17=13-9-0, 18=13-9-0, 19=13-9-0
	Max Horiz	19=191 (LC 13)
	Max Uplift	13=-103 (LC 14), 14=-133 (LC 15), 15=-58 (LC 15), 17=-58 (LC 14), 18=-135 (LC 11), 19=-105 (LC 15)
	Max Grav	13=241 (LC 25), 14=224 (LC 26), 15=276 (LC 22), 16=250 (LC 28), 17=276 (LC 21), 18=226 (LC 30), 19=245 (LC 31)

FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-20=-45/56, 1-2=-0/38, 2-3=-70/130, 3-4=-86/135, 4-5=-82/192, 5-6=-126/282, 6-7=-126/282, 7-8=-80/193, 8-9=-82/132, 9-10=-67/128, 10-11=-0/38, 10-12=-44/55
BOT CHORD	19-20=-115/98, 18-19=-113/131, 17-18=-113/131, 16-17=-113/131, 15-16=-113/131, 14-15=-113/131, 13-14=-113/131, 12-13=-113/131
WEBS	6-16=-283/66, 5-17=-231/118, 4-18=-154/126, 3-19=-142/148, 7-15=-231/115, 8-14=-153/135, 9-13=-149/138

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 4-3-0, Corner(3R) 4-3-0 to 10-3-0, Exterior(2N) 10-3-0 to 12-4-8, Corner(3E) 12-4-8 to 15-4-8 zone; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- 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'-0-0 tall by 2'-0-0 wide will fit between the bottom chord and any other members.

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 58 lb uplift at joint 17, 135 lb uplift at joint 18, 105 lb uplift at joint 19, 58 lb uplift at joint 15, 133 lb uplift at joint 14 and 103 lb uplift at joint 13.
- Non Standard bearing condition. Review required.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

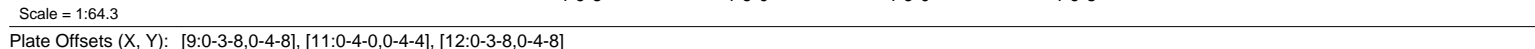
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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		
TOP CHORD	2x4 SP No.2	3) Unbalanced roof live loads have been considered for this design.
BOT CHORD	2x6 SP No.2	4) Wind: ASCE 7-16; Vult=130mph (3-second gust)
WEBS	2x4 SP No.3 *Except* 13-2,8-6;2x6 SP No.2	Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
BRACING		
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	5) 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
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	6) Unbalanced snow loads have been considered for this design.
REACTIONS		
(size)	8=0-5-8, 13=0-5-8	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.
Max Horiz	13=-237 (LC 10)	8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
Max Uplift	8=-757 (LC 13), 13=-781 (LC 12)	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.
Max Grav	8=3999 (LC 20), 13=3630 (LC 19)	10) LGT2 Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13 and 8. This connection is for uplift only and does not consider lateral forces.
FORCES		
(lb) - Maximum Compression/Maximum Tension		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.
TOP CHORD	1-2=0/42, 2-3=-4126/906, 3-4=-3118/703, 4-5=-3119/704, 5-6=-3710/732, 6-7=0/42, 2-13=-3477/751, 6-8=-3116/610	12) Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent at 4-0-12 from the left end to connect truss(es) to back face of bottom chord.
BOT CHORD	12-13=-276/440, 11-12=-686/3102, 9-11=-474/2784, 8-9=-97/353	13) Use Simpson Strong-Tie LUS26 (4-10d Girder, 3-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 6-0-12 from the left end to 18-0-12 to connect truss(es) to back face of bottom chord.
WEBS	4-11=-790/3507, 5-11=-770/263, 5-9=-127/715, 3-11=-1212/460, 3-12=-383/1245, 2-12=-545/2922, 6-9=-423/2522	14) Fill all nail holes where hanger is in contact with lumber.
NOTES		
1) 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:		
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc, 2x6 - 2 rows staggered at 0-9-0 oc.		
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.		
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.		
2) All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.		



May 13, 2024

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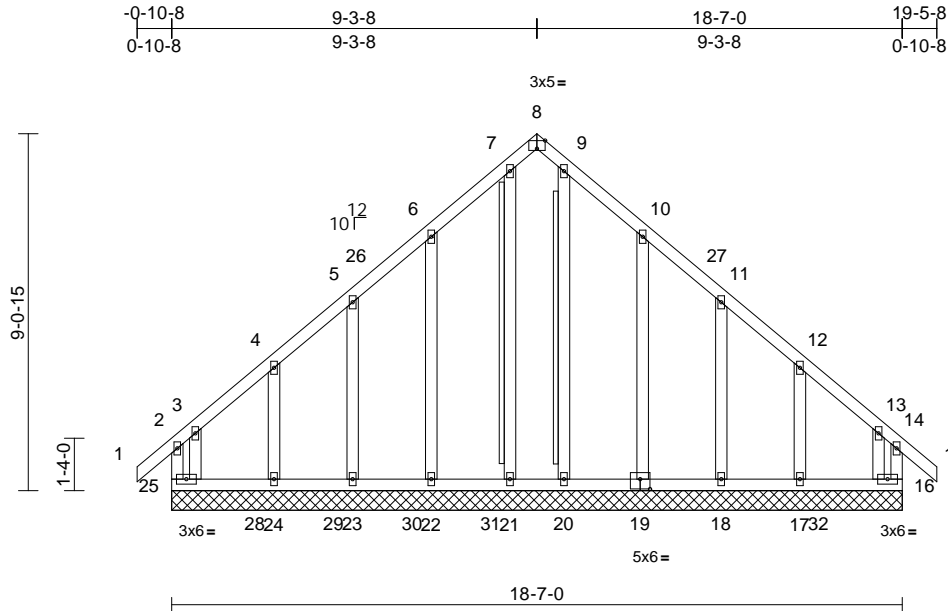
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500399
24040155-01	D01	Common Girder	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:18

Page: 1

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Scale = 1:58.6												
Plate Offsets (X, Y): [8:0-2-8,Edge], [19:0-3-0,0-3-0]												
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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.18	Horz(CT)	0.00	16	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
										Weight: 139 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 *Except* 0-0,0-0:2x4 SP No.2 (flat)	
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.	
WEBS	T-Brace: 2x4 SP No.2 - 7-21, 9-20 Fasten (2X) T and I braces to narrow edge of web with 10d (0.131"x3") nails, 6in o.c., with 3in minimum end distance. Brace must cover 90% of web length.	
REACTIONS		
(size)	16=18-7-0, 17=18-7-0, 18=18-7-0, 19=18-7-0, 20=18-7-0, 21=18-7-0, 22=18-7-0, 23=18-7-0, 24=18-7-0, 25=18-7-0	
Max Horiz	25=230 (LC 10)	
Max Uplift	16=126 (LC 9), 17=264 (LC 13), 18=89 (LC 13), 19=162 (LC 13), 20=20 (LC 30), 21=23 (LC 31), 22=161 (LC 12), 23=93 (LC 12), 24=225 (LC 12), 25=144 (LC 8)	
Max Grav	16=315 (LC 22), 17=413 (LC 23), 18=262 (LC 20), 19=371 (LC 20), 20=267 (LC 20), 21=270 (LC 19), 22=371 (LC 19), 23=271 (LC 19), 24=354 (LC 22), 25=328 (LC 23)	
FORCES	(lb) - Maximum Compression/Maximum Tension	

TOP CHORD	2-25=-179/146, 1-2=0/38, 2-3=-69/68, 3-4=-160/143, 4-5=-102/135, 5-6=-100/177, 6-7=-92/235, 7-8=-54/150, 8-9=-54/147, 9-10=-92/226, 10-11=-86/170, 11-12=-89/128, 12-13=-137/121, 13-14=-66/66, 14-15=0/38, 14-16=-171/141
BOT CHORD	24-25=-105/123, 23-24=-105/123, 22-23=-105/123, 21-22=-105/123, 20-21=-105/123, 18-20=-105/123, 17-18=-104/123, 16-17=-104/123
WEBS	7-21=-146/16, 9-20=-146/2, 6-22=-217/127, 5-23=-135/73, 4-24=-186/167, 3-25=-253/212, 10-19=-215/128, 11-18=-135/74, 12-17=-180/164, 13-16=-224/180

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; end vertical left and right exposed; 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 144 lb uplift at joint 25, 126 lb uplift at joint 16, 23 lb uplift at joint 21, 20 lb uplift at joint 20, 161 lb uplift at joint 22, 93 lb uplift at joint 23, 225 lb uplift at joint 24, 162 lb uplift at joint 19, 89 lb uplift at joint 18 and 264 lb uplift at joint 17.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



May 13, 2024

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	1003 Serenity-Roof-329 A COP GLH
24040155-01	D01	Common Girder	1	1	I65500399
					Job Reference (optional)

- 15) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 113 lb down and 46 lb up at 0-1-12, 108 lb down and 53 lb up at 2-1-8, 108 lb down and 53 lb up at 4-1-8, 108 lb down and 53 lb up at 6-1-8, 108 lb down and 53 lb up at 8-1-8, 108 lb down and 53 lb up at 10-1-8, 108 lb down and 53 lb up at 12-1-8, 108 lb down and 53 lb up at 14-1-8, 108 lb down and 53 lb up at 16-1-8, and 108 lb down and 53 lb up at 16-5-8, and 113 lb down and 46 lb up at 18-5-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 16) Warning: Additional permanent and stability bracing for truss system (not part of this component design) is always required.

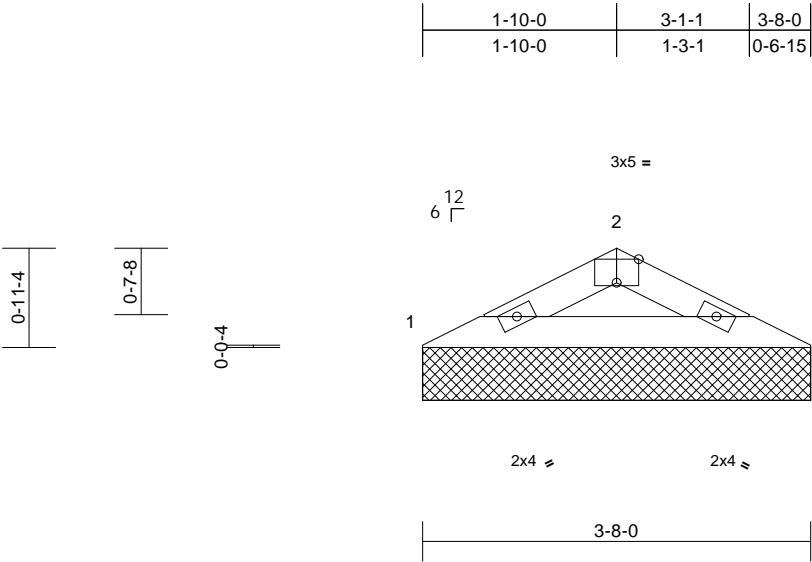
LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
- Uniform Loads (lb/ft)
- Vert: 1-2=-58, 2-8=-58, 8-14=-58, 14-15=-58, 16-25=-19
- Concentrated Loads (lb)
- Vert: 25=-113, 16=-113, 20=-108, 19=-108, 18=-108, 17=-108, 28=-108, 29=-108, 30=-108, 31=-108, 32=-108



May 13,2024

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	
24040155-01	VLC3	Valley	1	1	Job Reference (optional)	I65500400



Scale = 1:21.8											
Plate Offsets (X, Y): [2:0-2-8,Edge]											
Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999	GRIP
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a	244/190
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										Weight: 10 lb FT = 20%

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

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

REACTIONS (size) 1=3-8-0, 3=3-8-0
Max Horiz 1=12 (LC 18)
Max Uplift 1=-15 (LC 14), 3=-15 (LC 15)
Max Grav 1=164 (LC 20), 3=164 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-276/123, 2-3=-276/123
BOT CHORD 1-3=-96/238

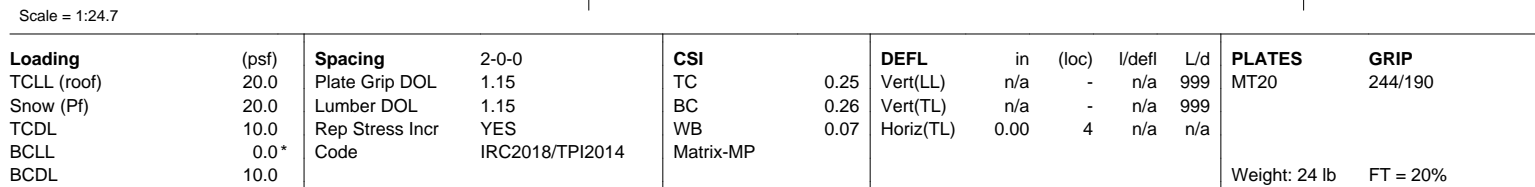
- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical 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 15 lb uplift at joint 1 and 15 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



May 13,2024

Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:22 Page: 1
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- 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 10 lb uplift at joint 1, 16 lb uplift at joint 3 and 41 lb uplift at joint 4.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

May 13, 2024

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

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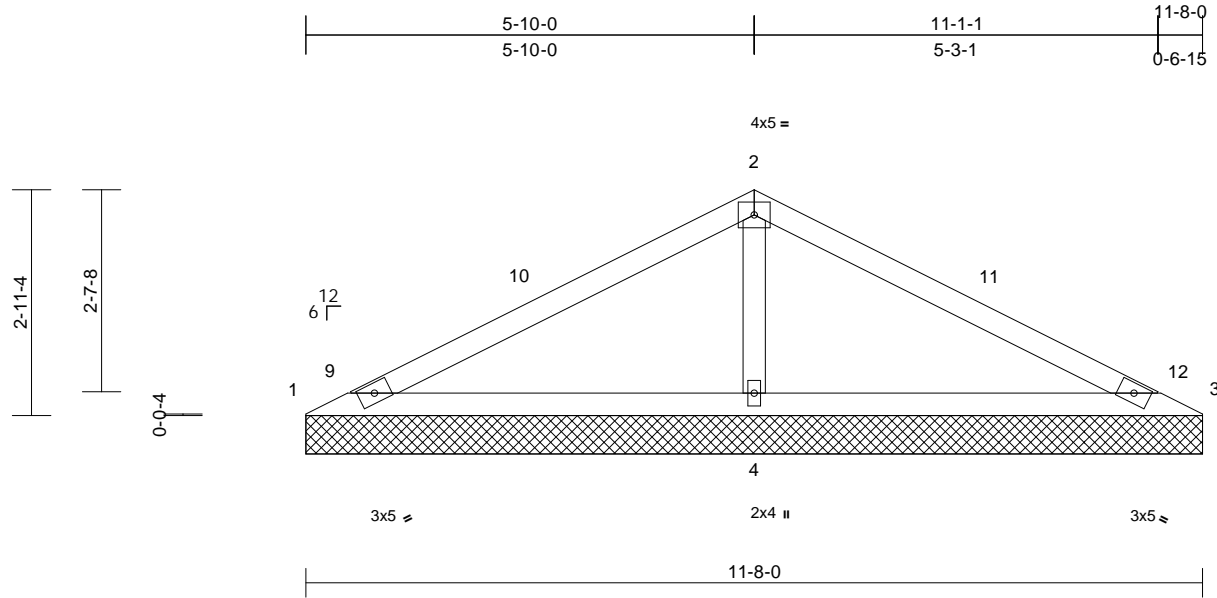
818 Soundside Road
Edenport, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500402
24040155-01	VLC1	Valley	1	1	Job Reference (optional)	

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

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Scale = 1:30

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	0.60	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.55	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 38 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=11-8-0, 3=11-8-0, 4=11-8-0
Max Horiz	1=-44 (LC 15)
Max Uplift	1=-61 (LC 21), 3=-61 (LC 20), 4=-79 (LC 14)
Max Grav	1=107 (LC 20), 3=108 (LC 21), 4=913 (LC 20)

FORCES

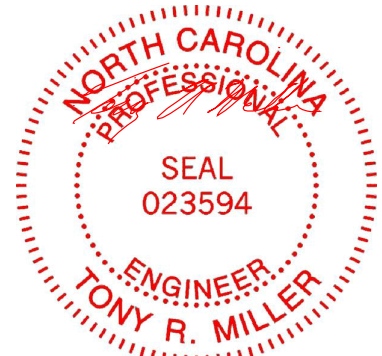
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-180/533, 2-3=-180/533
BOT CHORD	1-4=-409/231, 3-4=-409/231
WEBS	2-4=-716/360

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) 0-0-8 to 3-0-8, Exterior(2R) 3-0-8 to 8-8-8, Exterior(2E) 8-8-8 to 11-8-8 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 61 lb uplift at joint 1, 61 lb uplift at joint 3 and 79 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



May 13,2024

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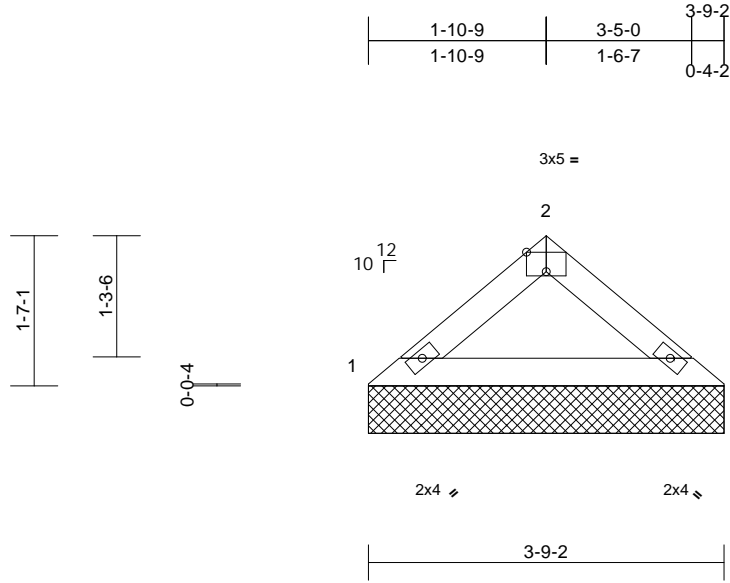
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500403
24040155-01	VLB6	Valley	1	1	Job Reference (optional)	

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

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Scale = 1:24.3

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	0.11	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.09	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: 12 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-9-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=3-9-2, 3=3-9-2
Max Horiz 1=-33 (LC 10)
Max Uplift 1=-12 (LC 14), 3=-12 (LC 15)
Max Grav 1=177 (LC 20), 3=177 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

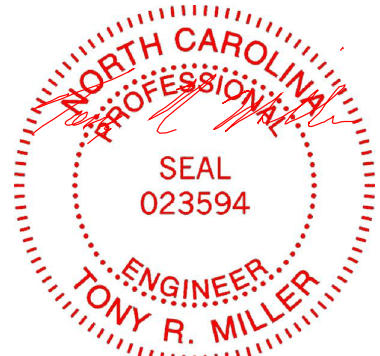
TOP CHORD 1-2=-230/86, 2-3=-230/86
BOT CHORD 1-3=-52/168

NOTES

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

- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 12 lb uplift at joint 1 and 12 lb uplift at joint 3.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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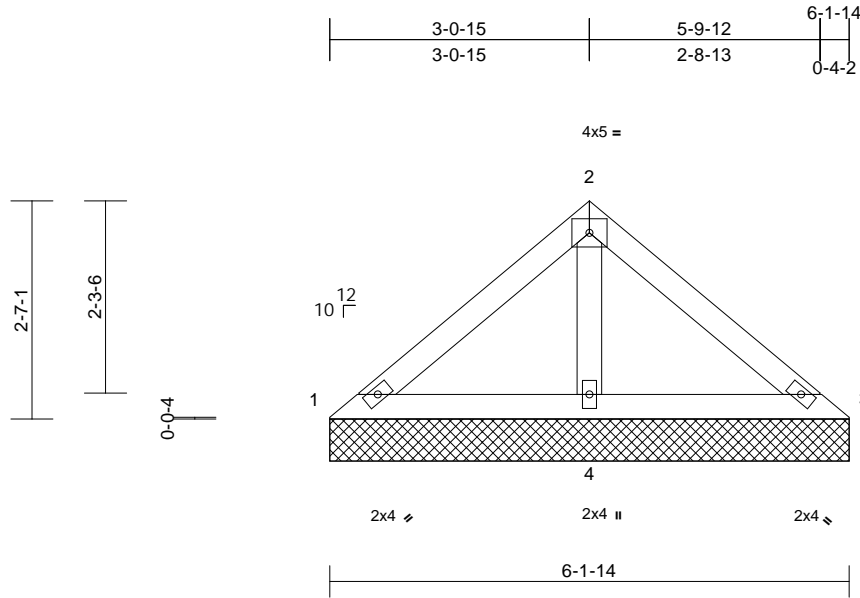
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500404
24040155-01	VLB5	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:22
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Scale = 1:27.3

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	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 23 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 6-1-14 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=6-1-14, 3=6-1-14, 4=6-1-14
Max Horiz	1=56 (LC 11)
Max Uplift	3=-3 (LC 15), 4=-53 (LC 14)
Max Grav	1=100 (LC 20), 3=100 (LC 21), 4=417 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-88/166, 2-3=-88/166
BOT CHORD	1-4=-133/125, 3-4=-133/125
WEBS	2-4=-320/153

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 3 lb uplift at joint 3 and 53 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



May 13, 2024

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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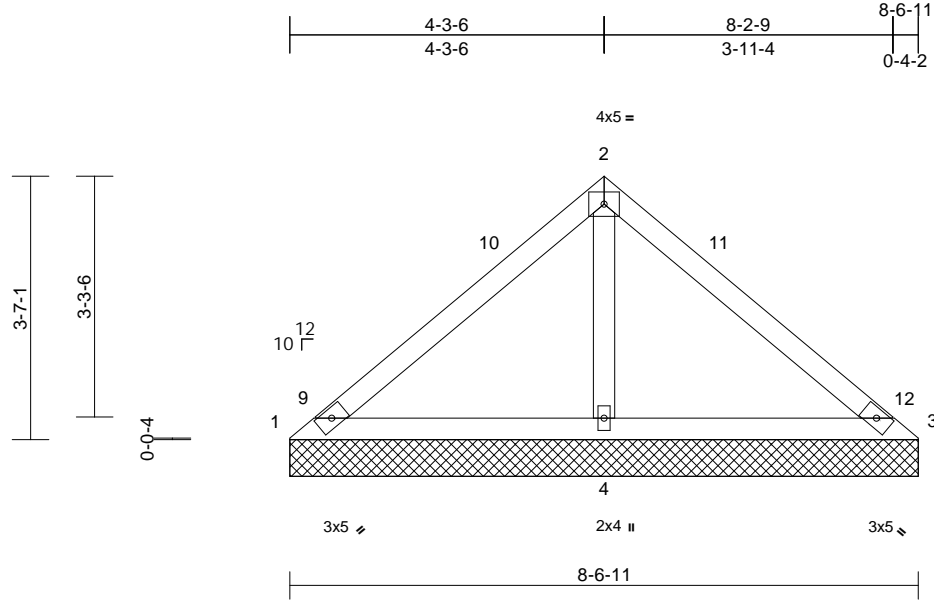
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500405
24040155-01	VLB4	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:22

Page: 1

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Scale = 1:31.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.38	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	4	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 32 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 8-6-11 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=8-6-11, 3=8-6-11, 4=8-6-11
Max Horiz	1=80 (LC 11)
Max Uplift	1=-47 (LC 21), 3=-47 (LC 20), 4=-104 (LC 14)
Max Grav	1=87 (LC 20), 3=87 (LC 21), 4=689 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-126/318, 2-3=-126/318
BOT CHORD	1-4=-245/186, 3-4=-245/186
WEBS	2-4=-558/256

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 5-7-0, Exterior(2E) 5-7-0 to 8-7-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 47 lb uplift at joint 1, 47 lb uplift at joint 3 and 104 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



May 13, 2024

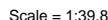
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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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Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:21 Page: 1
ID:7MlrD p5BovaCX9psz7pHZviMPI-RfC?PsB70Hq3NSaPanL8w3u1TXbGKWCrDci7J4zJC?f



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

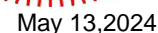
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=10-11-8, 5=10-11-8, 6=10-11-8, 7=10-11-8, 8=10-11-8
Max Horiz 1=-103 (LC 10)
Max Uplift 1=-48 (LC 12), 5=-22 (LC 13), 6=-135 (LC 15), 8=-139 (LC 14)
Max Grav 1=70 (LC 11), 5=50 (LC 15), 6=452 (LC 21), 7=248 (LC 21), 8=452 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-134/105, 2-3=-227/110, 3-4=-227/110, 4-5=-112/73
BOT CHORD 1-8=-37/73, 7-8=-23/73, 6-7=-23/73, 5-6=-46/73
WEBS 3-7=-160/3, 2-8=-468/266, 4-6=-468/266

- 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 48 lb uplift at joint 1, 22 lb uplift at joint 5, 139 lb uplift at joint 8 and 135 lb uplift at joint 6.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



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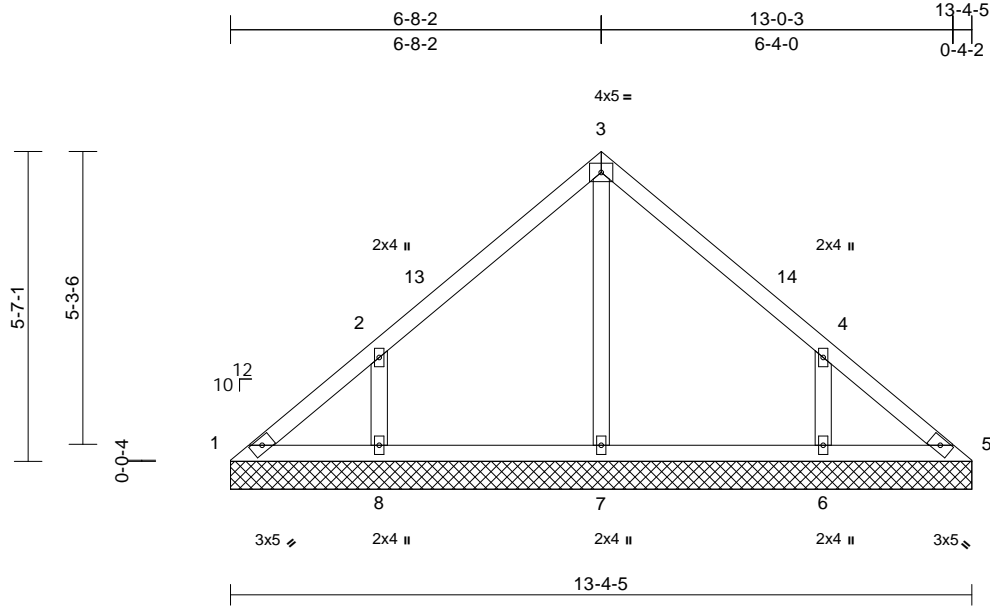
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	165500407
24040155-01	VLB2	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:21

Page: 1

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Scale = 1:41.5

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	0.33	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999	
TCDL	10.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
										Weight: 57 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=13-4-5, 5=13-4-5, 6=13-4-5, 7=13-4-5, 8=13-4-5
Max Horiz	1=127 (LC 11)
Max Uplift	1=-27 (LC 10), 6=-144 (LC 15), 8=-148 (LC 14)
Max Grav	1=111 (LC 30), 5=88 (LC 24), 6=440 (LC 21), 7=281 (LC 21), 8=440 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-139/114, 2-3=-198/115, 3-4=-198/115, 4-5=-110/74
BOT CHORD	1-8=-45/107, 7-8=-45/86, 6-7=-45/86, 5-6=-45/86
WEBS	3-7=-197/0, 2-8=-376/194, 4-6=-376/194

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 3-8-7, Exterior(2R) 3-8-7 to 9-8-7, Interior (1) 9-8-7 to 10-4-10, Exterior(2E) 10-4-10 to 13-4-10 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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 27 lb uplift at joint 1, 148 lb uplift at joint 8 and 144 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



May 13,2024

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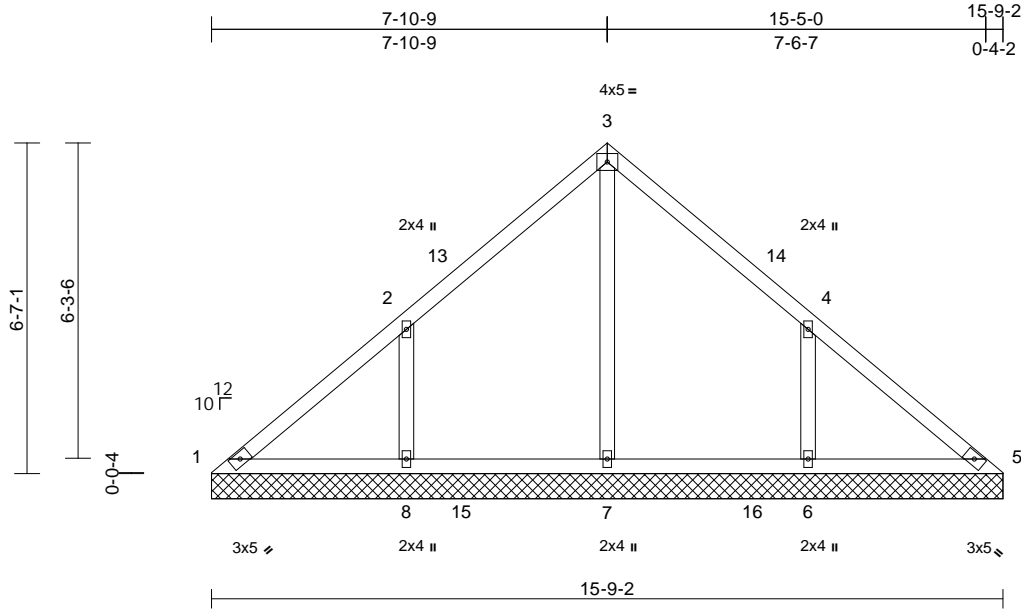
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500408
24040155-01	VLB1	Valley	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:21

Page: 1

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Loading	(psf)	Spacing	2'-0"	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.20	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 69 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" oc purlins.	
BOT CHORD	Rigid ceiling directly applied or 6'-0" oc bracing.	
REACTIONS	(size)	1=15'-9"-2, 5=15'-9"-2, 6=15'-9"-2, 7=15'-9"-2, 8=15'-9"-2
	Max Horiz	1=150 (LC 13)
	Max Uplift	1=-22 (LC 10), 6=-169 (LC 15), 8=-172 (LC 14)
	Max Grav	1=127 (LC 30), 5=104 (LC 21), 6=483 (LC 6), 7=452 (LC 24), 8=483 (LC 5)
FORCES		
	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-152/196, 2-3=-143/154, 3-4=-143/133, 4-5=-124/156	
BOT CHORD	1-8=-89/134, 7-8=-89/119, 6-7=-89/119, 5-6=-89/119	
WEBS	3-7=-264/0, 2-8=-383/207, 4-6=-383/206	

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 4-10-14, Exterior(2R) 4-10-14 to 10-10-14, Interior (1) 10-10-14 to 12-9-6, Exterior(2E) 12-9-6 to 15-9-6 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4'-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'-0"-0" tall by 2'-0"-0" 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 22 lb uplift at joint 1, 172 lb uplift at joint 8 and 169 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



May 13, 2024

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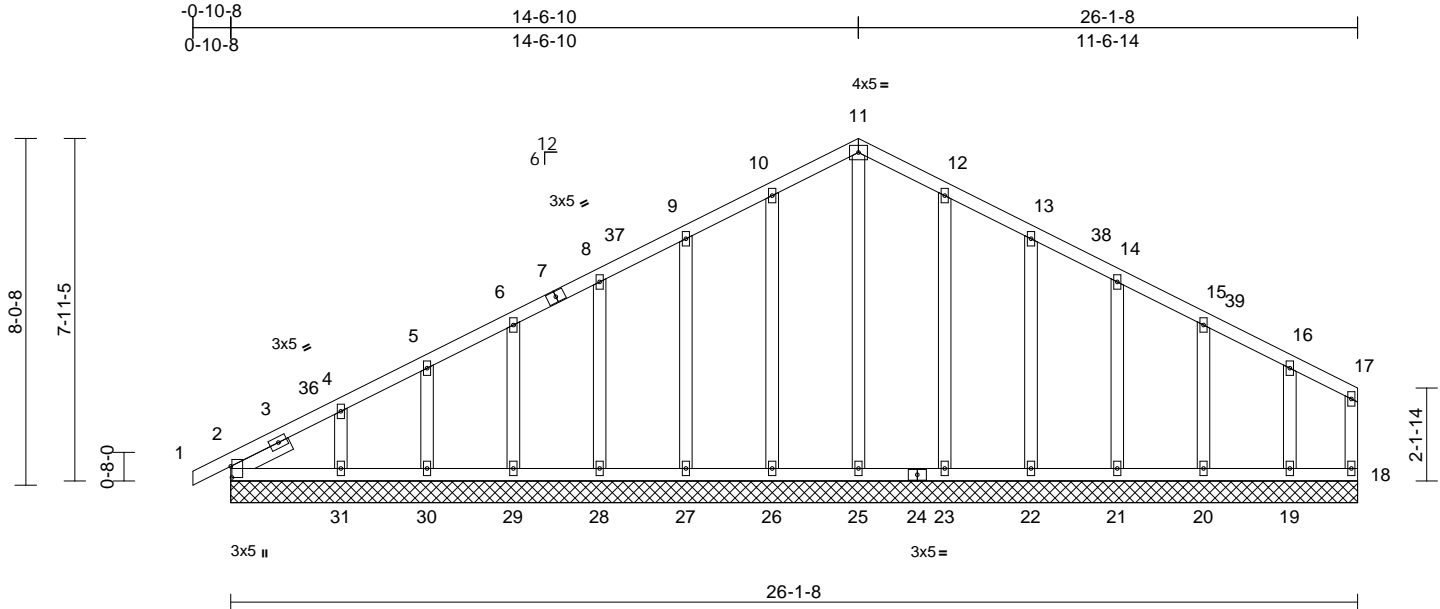
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500409
24040155-01	B05	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:17

Page: 1

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Scale = 1:53.4

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999	
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 167 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
SLIDER	Left 2x4 SP No.3 -- 1-6-0

BRACING

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

REACTIONS

(size)	2=26-1-8, 18=26-1-8, 19=26-1-8, 20=26-1-8, 21=26-1-8, 22=26-1-8, 23=26-1-8, 25=26-1-8, 26=26-1-8, 27=26-1-8, 28=26-1-8, 29=26-1-8, 30=26-1-8, 31=26-1-8, 32=26-1-8
Max Horiz	2=162 (LC 14), 32=162 (LC 14)
Max Uplift	2=-37 (LC 15), 19=-61 (LC 15), 20=-41 (LC 15), 21=-44 (LC 15), 22=-46 (LC 15), 23=-40 (LC 15), 26=-43 (LC 14), 27=-45 (LC 14), 28=-43 (LC 14), 29=-47 (LC 14), 30=-30 (LC 14), 31=-89 (LC 14), 32=-37 (LC 15)
Max Grav	2=150 (LC 1), 18=50 (LC 1), 19=146 (LC 37), 20=164 (LC 1), 21=174 (LC 22), 22=228 (LC 22), 23=245 (LC 22), 25=197 (LC 28), 26=245 (LC 21), 27=228 (LC 21), 28=174 (LC 21), 29=163 (LC 36), 30=149 (LC 21), 31=199 (LC 36), 32=150 (LC 1)

FORCES

(lb) - Maximum Compression/Maximum Tension	
--	--

TOP CHORD

1-2=0/23, 2-4=-147/97, 4-5=-103/100, 5-6=-75/123, 6-8=-58/146, 8-9=-62/170, 9-10=-81/217, 10-11=-99/259, 11-12=-99/259, 12-13=-81/217, 13-14=-62/169, 14-15=-51/126, 15-16=-38/74, 16-17=-20/20, 17-18=-37/20

BOT CHORD

2-31=-2/11, 30-31=-2/11, 29-30=-2/11, 28-29=-2/11, 27-28=-2/11, 26-27=-2/11, 25-26=-2/11, 23-25=-2/11, 22-23=-2/11, 21-22=-2/11, 20-21=-2/11, 19-20=-2/11, 18-19=-2/11, 11-25=-164/28, 10-26=-205/71, 9-27=-188/81, 8-28=-135/76, 6-29=-128/79, 5-30=-119/69, 4-31=-152/111, 12-23=-205/71, 13-22=-188/82, 14-21=-135/74, 15-20=-129/92, 16-19=-117/123

WEBS

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 11-6-10, Corner(3R) 11-6-10 to 17-6-10, Exterior(2N) 17-6-10 to 22-11-12, Corner(3E) 22-11-12 to 25-11-12 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 43 lb uplift at joint 26, 45 lb uplift at joint 27, 43 lb uplift at joint 28, 47 lb uplift at joint 29, 30 lb uplift at joint 30, 89 lb uplift at joint 31, 40 lb uplift at joint 23, 46 lb uplift at joint 22, 44 lb uplift at joint 21, 41 lb uplift at joint 20, 61 lb uplift at joint 19, 37 lb uplift at joint 2 and 37 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.



May 13, 2024

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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Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	B05	Common Supported Gable	1	1	Job Reference (optional)

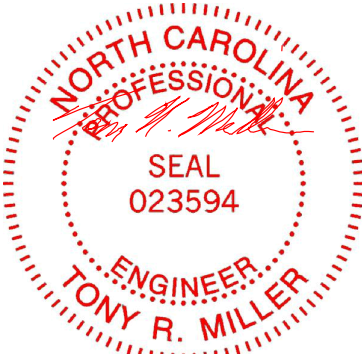
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Carter Components (Sanford, NC), Sanford, NC - 27332,

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Page: 2

LOAD CASE(S) Standard



May 13,2024

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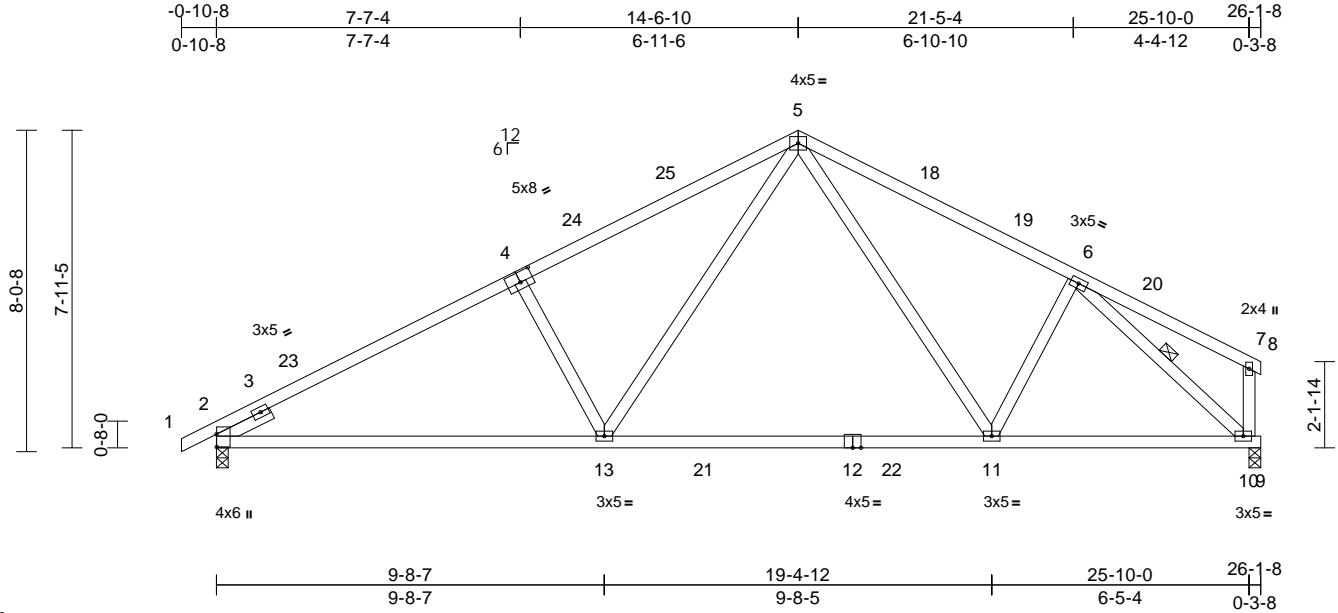
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500410
24040155-01	B04	Common	2	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:17

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Scale = 1:57.6

Plate Offsets (X, Y): [2:0-3-13,0-0-1], [4:0-4-0,0-3-0]

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	0.89	Vert(LL)	-0.30	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.46	11-13	>670	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.04	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
Weight: 137 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.1 *Except* 4-1:2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING

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

REACTIONS

(size) 2=0-3-8, 10=0-3-8
Max Horiz 2=161 (LC 14)
Max Uplift 2=123 (LC 14), 10=86 (LC 15)
Max Grav 2=1198 (LC 5), 10=1171 (LC 6)

FORCES

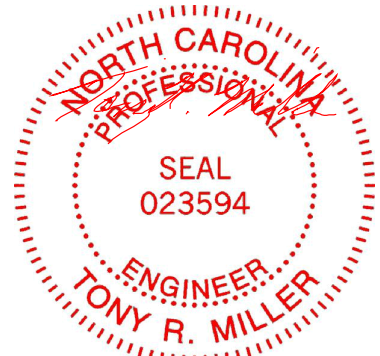
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 5-6=-1488/241, 6-7=-28/92, 7-8=0/8,
1-2=0/23, 2-5=-1991/273
BOT CHORD 2-13=-285/1719, 11-13=-68/1048,
10-11=-124/1168, 9-10=0/0
WEBS 5-13=-113/893, 6-11=-52/231, 5-11=-64/350,
4-13=-476/235, 7-10=-98/50, 6-10=-1620/172

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 11-6-10, Exterior(2R) 11-6-10 to 17-6-10, Interior (1) 17-6-10 to 23-1-8, Exterior(2E) 23-1-8 to 26-1-8 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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 and 10. 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



May 13, 2024

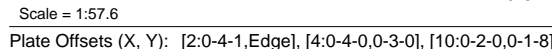
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:17 ID: aTl0y7Gve?cacW?KuvHXv5viMxZ-RfC?PsB70Hq3NSaPanL8w3uITXbGKwRCdoi7J4zJC?f Page: 1



LUMBER		3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10 4) Unbalanced snow loads have been considered for this design. 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, 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 158 lb uplift at joint 1 and 84 lb uplift at joint 10. 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2. This connection is for uplift only and does not consider lateral forces. 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
TOP CHORD	2x4 SP No.1 *Except* 4-1:2x4 SP No.2	
BOT CHORD	2x4 SP No.2 *Except* 12-2:2x4 SP No.1	
WEBS	2x4 SP No.3	
SLIDER	Left 2x4 SP No.3 -- 1-6-0	
BRACING		
TOP CHORD	Structural wood sheathing directly applied.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	
REACTIONS	(size)	1= Mechanical, 2=0-3-8, 10= Mechanical
	Max Horiz	1=165 (LC 14)
	Max Uplift	1=158 (LC 7), 2=209 (LC 14), 10=84 (LC 15)
	Max Grav	1=99 (LC 14), 2=1304 (LC 3), 10=1157 (LC 6)
FORCES		
	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-191/130, 2-5=-1938/269, 5-6=-1418/236, 6-7=-23/90, 7-8=0/8	
BOT CHORD	2-13=-216/1670, 11-13=-69/1014, 10-11=-120/1089, 9-10=0/0	
WEBS	5-13=-99/875, 6-11=-19/264, 5-11=-59/306,	
LOAD CASE(S)		Standard

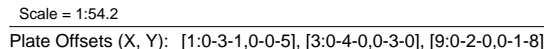
- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDF=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0.9-12 to 2-2-4, Interior (1) 2-2-4 to 11-6-10, Interior(2R) 11-6-10 to 17-6-10, Interior (1) 17-6-10 to 22-10-0, Exterior(2E) 22-10-0 to 25-10-0 zone; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber
DOL=1.60 plate gir DOL=1.60

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

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Carter Components (Sanford, NC), Sanford, NC - 27332, Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:17 Page: 1
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LUMBER		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
TOP CHORD	2x4 SP No.1 *Except* 3-1:2x4 SP No.2		
BOT CHORD	2x4 SP No.1 *Except* 11-8:2x4 SP No.2		
WEBS	2x4 SP No.3		
SLIDER	Left 2x4 SP No.3 -- 1-6-0	4)	Unbalanced snow loads have been considered for this design.
BRACING		5)	This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
TOP CHORD	Structural wood sheathing directly applied or 2-2-0 oc purlins.	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.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	7)	Refer to girder(s) for truss to truss connections.
REACTIONS	(size) 1= Mechanical, 9= Mechanical	8)	Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 105 lb uplift at joint 1 and 83 lb uplift at joint 9.
	Max Horiz 1=150 (LC 14)		
	Max Uplift 1=-105 (LC 14), 9=-83 (LC 15)		
	Max Grav 1=1142 (LC 5), 9=1159 (LC 6)	9)	This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
FORCES	(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-4=-1965/276, 4-5=-1425/238, 5-6=-23/90, 6-7=0/8		

LOAD CASE(S) Standard

NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 11-6-10, Exterior(2R) 11-6-10 to 17-6-10, Interior (1) 17-6-10 to 22-10-0, Exterior(2E) 22-10-0 to 25-10-0 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip
DOI=1.60



May 13, 2024



WARNING – Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEL REFERENCE PAGE MIT-TP1-19-169: 1/2/2023 BEFORE USE.

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LUMBER		TOP CHORD	1-32=84/37, 1-2=154/79, 2-3=109/85, 3-4=89/106, 4-5=70/128, 5-7=71/155, 7-8=82/197, 8-9=98/249, 9-10=87/219, 10-11=87/219, 11-12=98/249, 12-13=82/198, 13-14=71/154, 14-15=61/114, 15-16=44/43, 16-17=6/15, 17-18=14/41	5) Unbalanced snow loads have been considered for this design.
TOP CHORD	2x4 SP No.2			6) All plates are 2x4 MT20 unless otherwise indicated.
BOT CHORD	2x4 SP No.2			7) Gable requires continuous bottom chord bearing.
WEBS	2x4 SP No.3			8) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
OTHERS	2x4 SP No.3			9) Gable studs spaced at 2-0-0 oc.
BRACING		BOT CHORD	31-32=4/21, 30-31=4/21, 29-30=4/21, 28-29=4/21, 27-28=4/21, 26-27=4/21, 25-26=4/21, 24-25=4/21, 22-24=4/21, 21-22=4/21, 20-21=4/21, 19-20=4/21, 18-19=4/21	10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.			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.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.			12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 36 lb uplift at joint 32, 9 lb uplift at joint 18, 52 lb uplift at joint 26, 41 lb uplift at joint 27, 42 lb uplift at joint 28, 45 lb uplift at joint 29, 31 lb uplift at joint 30, 96 lb uplift at joint 31, 57 lb uplift at joint 22, 42 lb uplift at joint 21, 35 lb uplift at joint 20 and 69 lb uplift at joint 19.
REACTIONS	(size)	WEBS	9-25=138/1, 11-24=134/1, 8-26=196/94, 7-27=169/72, 5-28=123/75, 4-29=122/74, 3-30=122/80, 2-31=125/129, 12-22=197/94, 13-21=170/74, 14-20=119/67, 15-19=136/134, 16-18=85/33	
	18=25-10-0, 19=25-10-0, 20=25-10-0, 21=25-10-0, 22=25-10-0, 24=25-10-0, 25=25-10-0, 26=25-10-0, 27=25-10-0, 28=25-10-0, 29=25-10-0, 30=25-10-0, 31=25-10-0, 32=25-10-0			
	Max Horiz 32=144 (LC 14)			
	Max Uplift 18=9 (LC 14), 19=69 (LC 15),			
		NOTES		
		1) Unbalanced roof live loads have been considered for		

	20=35 (LC 15), 21=42 (LC 15), 22=57 (LC 15), 26=52 (LC 14), 27=41 (LC 14), 28=42 (LC 14), 29=45 (LC 14), 30=31 (LC 14), 31=96 (LC 14), 32=36 (LC 15)	1) Unbalanced roof live loads have been considered for this design.	
Max Grav	18=106 (LC 1), 19=176 (LC 36), 20=150 (LC 21), 21=209 (LC 21), 22=237 (LC 21), 24=166 (LC 21), 25=170 (LC 20), 26=237 (LC 20), 27=207 (LC 20), 28=156 (LC 20), 29=155 (LC 35), 30=156 (LC 1), 31=158 (LC 35), 32=114 (LC 26)	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) 0-1-12 to 3-1-12, Exterior(2N) 3-1-12 to 11-6-10, Corner(3R) 11-6-10 to 17-6-10, Exterior(2N) 17-6-10 to 22-8-4, Corner(3E) 22-8-4 to 25-8-4 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60	
FORCES	(lb) - Maximum Compression/Maximum Tension	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) 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	

May 13, 2024

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818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	B01	Common Supported Gable	1	1	Job Reference (optional)

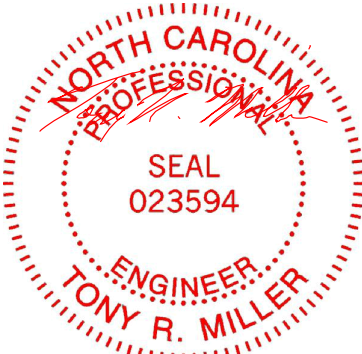
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Page: 2

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



May 13,2024

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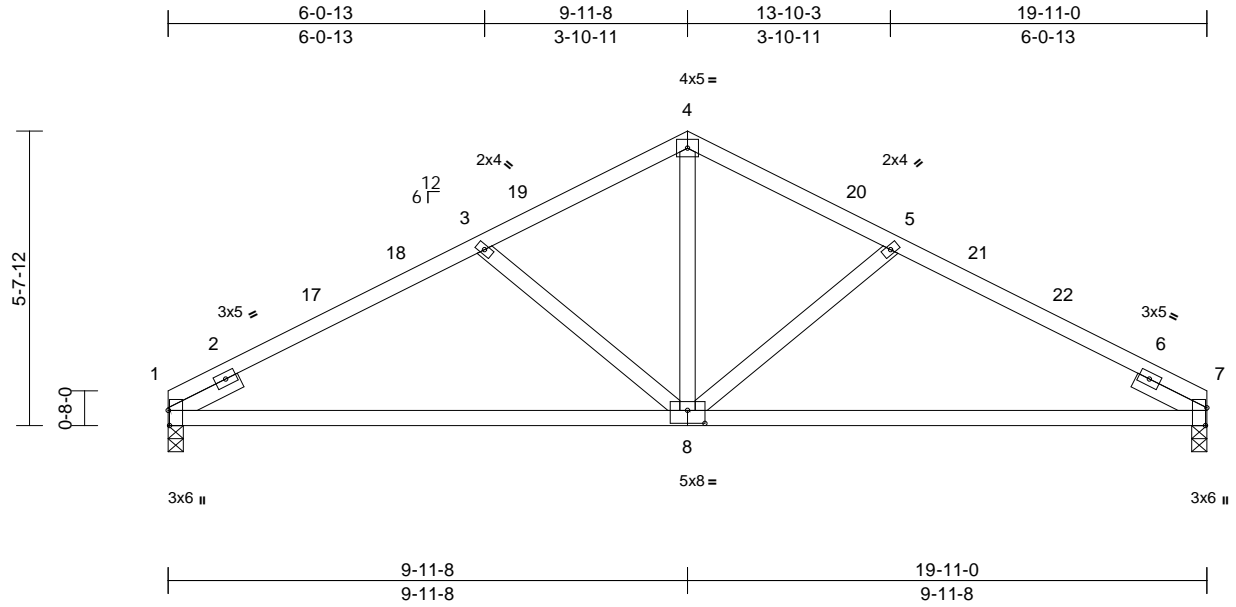
ENGINEERING BY
TRENCO
A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500414
24040155-01	C03	Common	2	1	Job Reference (optional)	

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

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Page: 1



Scale = 1:44.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	-0.13	8-11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.27	8-11	>869	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 90 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-4 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-3-8, 7=0-3-8
Max Horiz 1=79 (LC 14)
Max Uplift 1=-76 (LC 14), 7=-76 (LC 15)
Max Grav 1=847 (LC 20), 7=847 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-1240/268, 3-4=-971/226, 4-5=-971/226, 5-7=-1240/268
BOT CHORD 1-7=-207/1104
WEBS 4-8=-86/613, 5-8=-420/167, 3-8=-420/167

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 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 16-11-0, Exterior(2E) 16-11-0 to 19-11-0 zone; 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 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.
- 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.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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Edenton, NC 27932

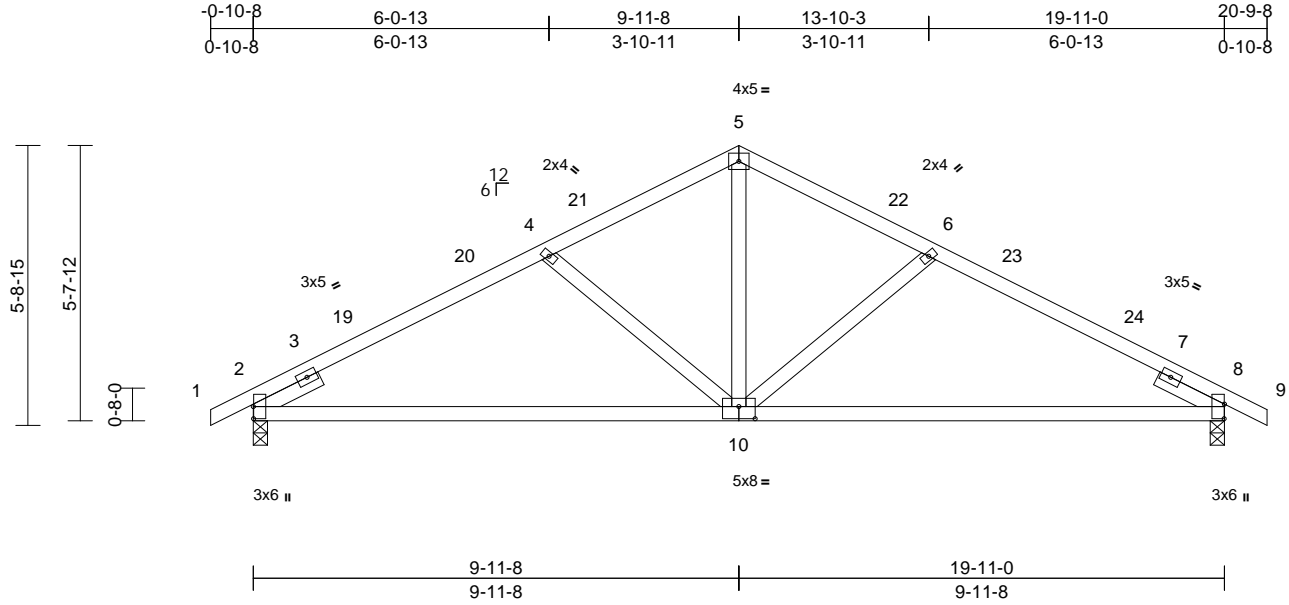
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	C02	Common	9	1	Job Reference (optional)
					I65500415

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:18

Page: 1

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Scale = 1:47.3

Plate Offsets (X, Y): [2:0-3-0,0-0-1], [8:0-3-9,0-0-1], [10:0-4-0,0-3-0]

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	0.34	Vert(LL)	-0.13	10-13	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.27	10-13	>874	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.03	8	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
										Weight: 93 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=0-3-8, 8=0-3-8
 Max Horiz 2=86 (LC 14)
 Max Uplift 2=-93 (LC 14), 8=-93 (LC 15)
 Max Grav 2=900 (LC 21), 8=900 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-4=-1284/260, 4-5=-966/219, 5-6=-966/219, 6-8=-1284/260, 8-9=0/23
 BOT CHORD 2-8=-194/1097

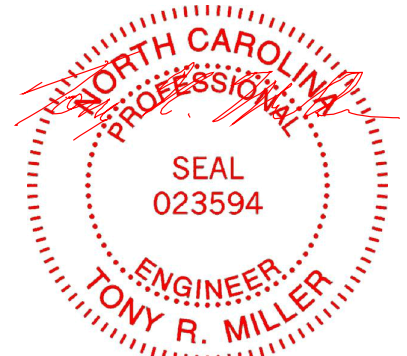
WEBS 5-10=-78/607, 6-10=-416/166, 4-10=-416/166

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 6-11-8, Exterior(2R) 6-11-8 to 12-11-8, Interior (1) 12-11-8 to 17-9-8, Exterior(2E) 17-9-8 to 20-9-8 zone; 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.
- 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 8. 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



May 13, 2024

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 Edenton, NC 27932

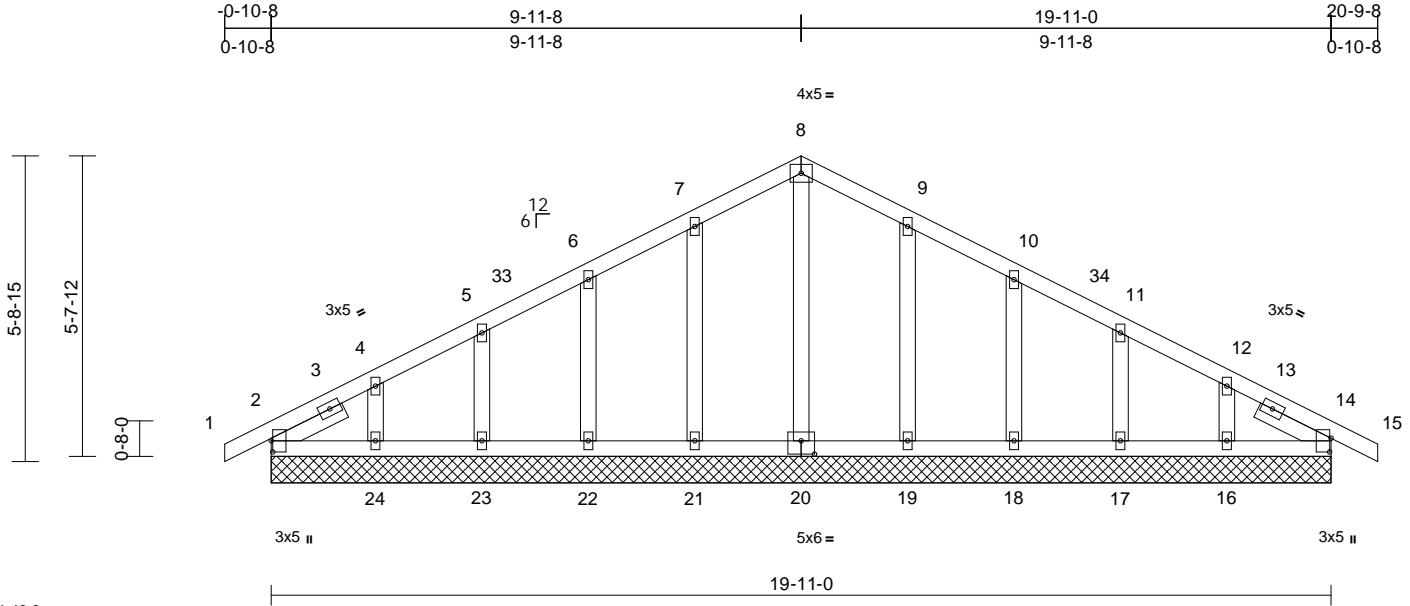
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	C01	Common Supported Gable	1	1	Job Reference (optional)
					I65500416

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

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Scale = 1:43.3

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

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	0.07	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.03	Vert(CT)	n/a	-	n/a	999	
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	14	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 109 lb FT = 20%											

LUMBER

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

BRACING

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

REACTIONS

(size)	2=19-11-0, 14=19-11-0, 16=19-11-0, 17=19-11-0, 18=19-11-0, 19=19-11-0, 20=19-11-0, 21=19-11-0, 22=19-11-0, 23=19-11-0, 24=19-11-0, 25=19-11-0, 29=19-11-0
Max Horiz	2=83 (LC 14), 25=83 (LC 14)
Max Uplift	2=15 (LC 15), 16=59 (LC 15), 17=39 (LC 15), 18=44 (LC 15), 19=43 (LC 15), 21=44 (LC 14), 22=44 (LC 14), 23=37 (LC 14), 24=67 (LC 14), 25=15 (LC 15)
Max Grav	2=136 (LC 21), 14=136 (LC 22), 16=153 (LC 37), 17=170 (LC 22), 18=221 (LC 22), 19=238 (LC 22), 20=143 (LC 28), 21=238 (LC 21), 22=221 (LC 21), 23=170 (LC 21), 24=153 (LC 36), 25=136 (LC 21), 29=136 (LC 22)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/23, 2-4=-88/46, 4-5=-66/54, 5-6=-50/77, 6-7=-58/117, 7-8=-72/162, 8-9=-72/162, 9-10=-58/117, 10-11=-48/70, 11-12=-41/25, 12-14=-53/22, 14-15=0/23

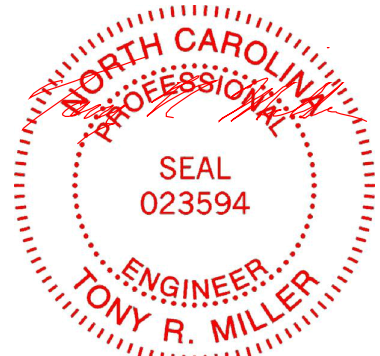
BOT CHORD	2-24=-13/87, 23-24=-13/87, 22-23=-13/87, 21-22=-13/87, 19-21=-13/87, 18-19=-13/87, 17-18=-13/87, 16-17=-13/87, 14-16=-13/87, 8-20=-104/0, 7-21=-199/78, 6-22=-182/81, 5-23=-132/77, 4-24=-121/99, 9-19=-199/78, 10-18=-182/81, 11-17=-132/77, 12-16=-121/99
WEBS	

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 1-11-8, Exterior(2N) 1-11-8 to 6-11-8, Corner(3R) 6-11-8 to 12-11-8, Exterior (2N) 12-11-8 to 17-9-8, Corner(3E) 17-9-8 to 20-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 15 lb uplift at joint 2, 44 lb uplift at joint 21, 44 lb uplift at joint 22, 37 lb uplift at joint 23, 67 lb uplift at joint 24, 43 lb uplift at joint 19, 44 lb uplift at joint 18, 39 lb uplift at joint 17, 59 lb uplift at joint 16 and 15 lb uplift at joint 2.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 14, 29.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



May 13, 2024

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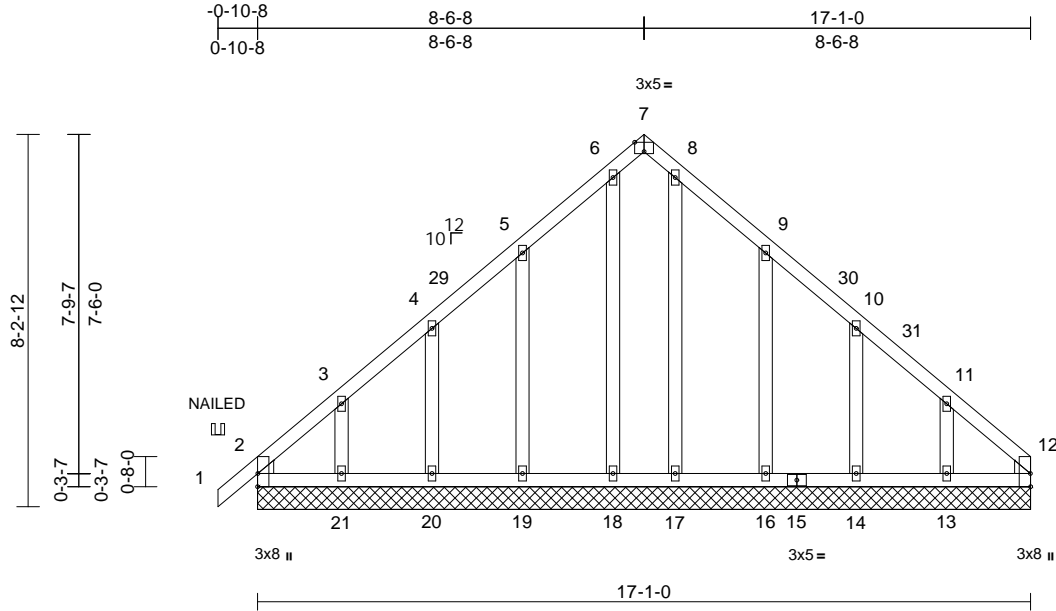
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500417
24040155-01	E01	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

Page: 1

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Scale = 1:50.9

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.01	12	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 111 lb FT = 20%											

LUMBER

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

BRACING

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

REACTIONS

(size) 2=17-1-0, 12=17-1-0, 13=17-1-0, 14=17-1-0, 16=17-1-0, 17=17-1-0, 18=17-1-0, 19=17-1-0, 20=17-1-0, 21=17-1-0, 22=17-1-0, 26=17-1-0
Max Horiz 2=178 (LC 13), 22=178 (LC 13)
Max Uplift 2=209 (LC 10), 12=33 (LC 13), 13=128 (LC 15), 14=63 (LC 57), 16=96 (LC 57), 18=12 (LC 11), 19=98 (LC 56), 20=80 (LC 14), 21=199 (LC 56), 22=209 (LC 10), 26=33 (LC 13)
Max Grav 2=301 (LC 56), 12=148 (LC 15), 13=200 (LC 26), 14=179 (LC 47), 16=267 (LC 47), 17=178 (LC 22), 18=178 (LC 21), 19=272 (LC 46), 20=171 (LC 25), 21=271 (LC 49), 22=301 (LC 56), 26=148 (LC 15)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=107/87, 2-3=215/130, 3-4=139/106, 4-5=95/81, 5-6=107/137, 6-7=67/115, 7-8=67/115, 8-9=107/137, 9-10=82/45, 10-11=110/67, 11-12=203/101

BOT CHORD 2-21=180/204, 20-21=74/183, 19-20=74/183, 18-19=74/183, 17-18=74/183, 16-17=74/183, 14-16=74/183, 13-14=74/183, 12-13=74/183
WEBS 6-18=146/31, 8-17=145/4, 5-19=227/142, 4-20=151/118, 3-21=161/172, 9-16=225/140, 10-14=148/114, 11-13=156/157

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 1-10-4, Exterior(2N) 1-10-4 to 5-6-8, Corner(3R) 5-6-8 to 11-6-8, Exterior(2N) 11-6-8 to 14-1-0, Corner(3E) 14-1-0 to 17-1-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 209 lb uplift at joint 2, 33 lb uplift at joint 12, 12 lb uplift at joint 18, 98 lb uplift at joint 19, 80 lb uplift at joint 20, 199 lb uplift at joint 21, 96 lb uplift at joint 16, 63 lb uplift at joint 14, 128 lb uplift at joint 13, 209 lb uplift at joint 2 and 33 lb uplift at joint 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.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard



May 13, 2024

Continued on page 2

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ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	E01	Common Supported Gable	1	1	Job Reference (optional)

I65500417

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19
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Page: 2

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-7=-60, 7-12=-60, 22-26=-20
Concentrated Loads (lb)
Vert: 1=92 (B)



May 13,2024

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818 Soundside Road
Edenton, NC 27932

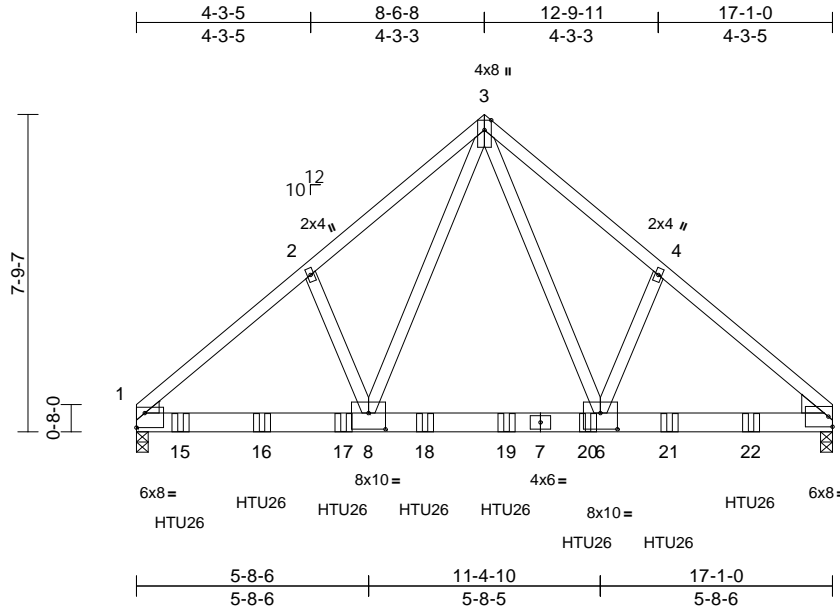
Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH
24040155-01	E02	Common Girder	1	2	Job Reference (optional)
					I65500418

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:19

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Scale = 1:56.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.09	6-8	>999	240	MT20
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.47	Vert(CT)	-0.16	6-8	>999	180	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.82	Horz(CT)	0.02	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH							
BCDL	10.0										
Weight: 218 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3
WEDGE Left: 2x4 SP No.3
Right: 2x6 SP No.2

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-8-7 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=0-3-8, 5=0-3-8
Max Horiz 1=167 (LC 11)
Max Uplift 1=542 (LC 12), 5=492 (LC 13)
Max Grav 1=5452 (LC 5), 5=4977 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-5985/622, 2-3=-5962/706,
3-4=-5914/701, 4-5=-5969/617
BOT CHORD 1-8=-510/4586, 6-8=-265/3066,
5-6=-425/4542
WEBS 3-8=-491/3950, 2-8=-324/185,
3-6=-480/3855, 4-6=-298/197

NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-8-0 oc.
Web connected 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 5 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.
- Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 1-1-0 from the left end to 9-1-0 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 11-1-0 from the left end to 15-1-0 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

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: 15=-1037 (B), 16=-1037 (B), 17=-1037 (B), 18=-1037 (B), 19=-1037 (B), 20=-1037 (B), 21=-1037 (B), 22=-1037 (B)



May 13, 2024

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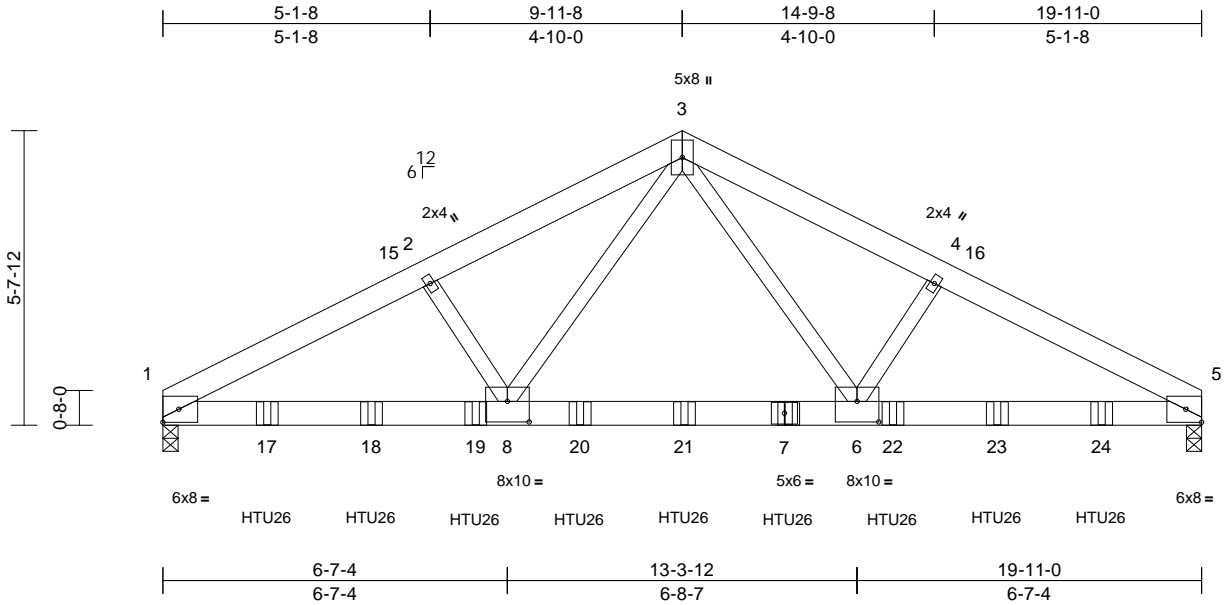
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	1003 Serenity-Roof-329 A COP GLH	I65500419
24040155-01	C04	Common Girder	1	2	Job Reference (optional)	

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

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Fri May 10 10:28:18
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Page: 1



Scale = 1:44.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	-0.15	6-8	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.28	6-8	>859	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.61	Horz(CT)	0.05	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 250 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 1=0-3-8, 5=0-3-8
Max Horiz 1=-79 (LC 38)
Max Uplift 1=-504 (LC 12), 5=-507 (LC 13)
Max Grav 1=5845 (LC 5), 5=5876 (LC 6)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-9784/855, 2-3=-9654/870,
3-4=-9643/870, 4-5=-9773/855

BOT CHORD 1-8=-786/8729, 6-8=-462/5891,
5-6=-708/8721

WEBS 2-8=-334/173, 3-8=-448/4964,
3-6=-447/4945, 4-6=-339/171

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: 2x6 - 2 rows staggered at 0-7-0 oc.
Web connected 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.

- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 1 and 5. This connection is for uplift only and does not consider lateral forces.

- 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.

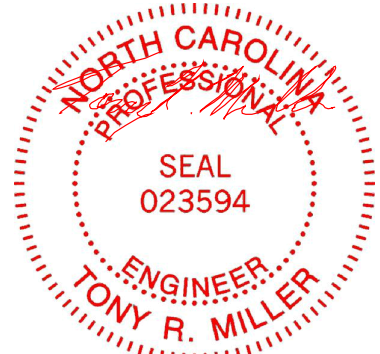
- Use Simpson Strong-Tie HTU26 (20-10d Girder, 11-10dx1 1/2 Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-0 from the left end to 18-0-0 to connect truss(es) to back face of bottom chord.

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

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: 7=-1037 (B), 17=-1037 (B), 18=-1037 (B),
19=-1037 (B), 20=-1037 (B), 21=-1037 (B), 22=-1037 (B), 23=-1037 (B), 24=-1035 (B)



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Edenton, NC 27932

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/TP1: National Design Specification for Metal Plate Connected Wood Truss Construction.
DSB-22: Building Component Safety Information, Guide to Good Practice for Handling, Installing, Restraining & Bracing of Metal Plate Connected Wood Trusses.

Numbering System

