

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: 24050081-01
139 Serenity-Roof-B327 B CP GLH

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

Pages or sheets covered by this seal: I65807390 thru I65807417

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

North Carolina COA: C-0844



May 24, 2024

Gilbert, Eric

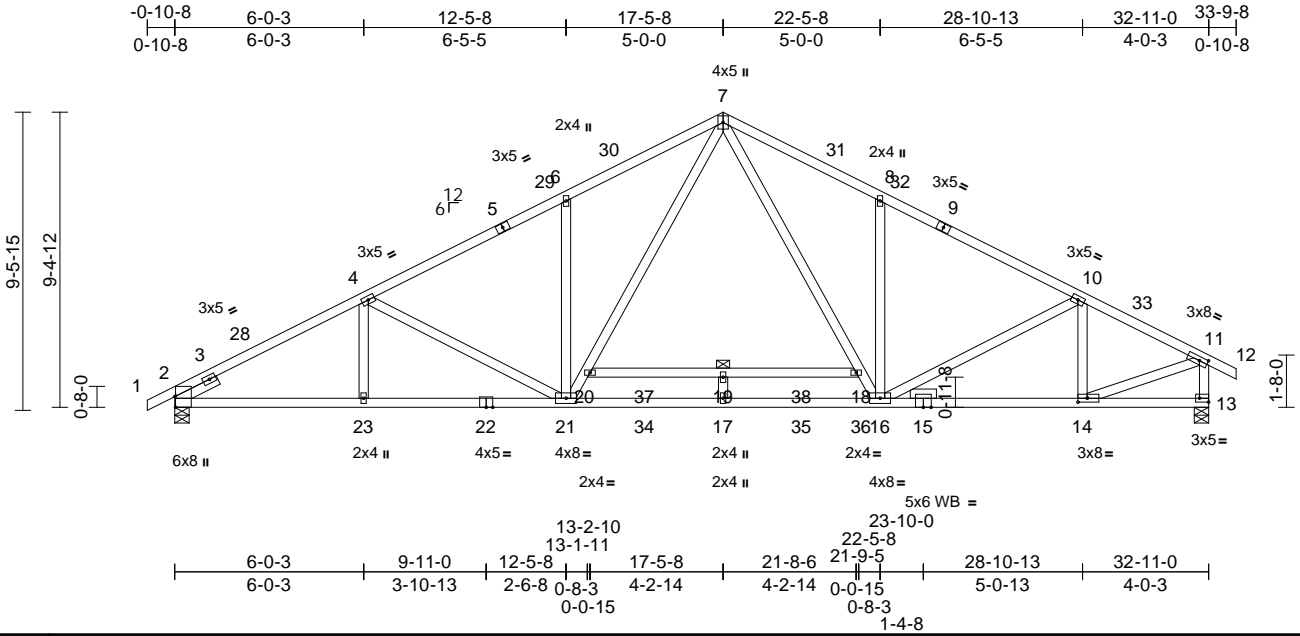
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

Job 24050081-01	Truss A	Truss Type Common	Qty 5	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807390
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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. Thu May 23 19:49:17
ID:ysriNNSpFYpVslQK2kzJ8z6RFw-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:73.4

Plate Offsets (X, Y): [2:0-4-1,Edge], [11:0-3-3,0-1-8], [13:Edge,0-1-8], [14:0-3-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.45	19	>874	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.89	19	>441	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.08	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 210 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2 *Except* 1-5:2x4 SP No.1
 BOT CHORD 2x4 SP No.1 *Except* 15-13:2x4 SP No.2,
 22-15:2x4 SP 2400F 2.0E
 WEBS 2x4 SP No.3 *Except* 21-7,16-7:2x4 SP No.2
 OTHERS 2x4 SP No.3
 SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or
 2-2-14 oc purlins, except end verticals.
 BOT CHORD Rigid ceiling directly applied or 2-2-0 oc
 bracing.

REACTIONS

(size) 2=0-5-8, 13=0-5-8
 Max Horiz 2=145 (LC 18)
 Max Uplift 2=-6 (LC 14)
 Max Grav 2=1747 (LC 5), 13=1795 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum
 Tension
 TOP CHORD 1-2=0/23, 2-4=-3237/0, 4-6=-2902/0,
 6-7=-2940/30, 7-8=-2718/39, 8-10=-2687/0,
 10-11=-2290/0, 11-12=0/27, 11-13=-1872/47
 BOT CHORD 2-23=-157/2855, 21-23=-29/2855,
 17-21=0/1834, 16-17=0/1834, 14-16=0/2043,
 13-14=0/75, 19-20=-38/21, 18-19=-38/21
 WEBS 11-14=0/2098, 4-23=-4/102, 4-21=-363/223,
 6-21=-502/208, 8-16=-492/215,
 20-21=-96/1322, 7-20=-27/1467,
 7-18=-36/1059, 16-18=-105/913,
 10-14=-648/0, 10-16=0/393, 17-19=-65/19

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 2-5-0, Interior (1) 2-5-0
 to 14-2-0, Exterior(2R) 14-2-0 to 20-9-0, Interior (1)
 20-9-0 to 30-6-0, Exterior(2E) 30-6-0 to 33-9-8 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
- 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.
- 200.0lb AC unit load placed on the bottom chord, 17-5-8
 from left end, supported at two points, 5-0-0 apart.
- 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. 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 24, 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/TPI 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)



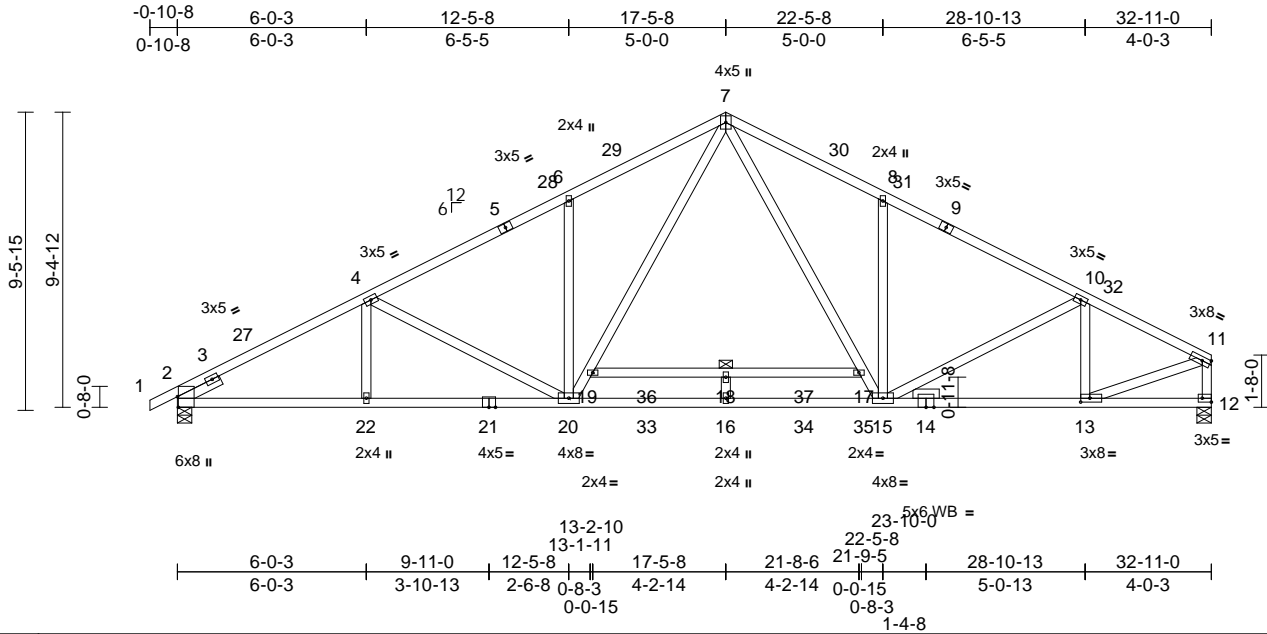
818 Soundside Road
 Edenton, NC 27932

Job 24050081-01	Truss A1	Truss Type Common	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807391
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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. Thu May 23 19:49:18
ID:iaqTRANsrk3Dfzi4s8B7MRz6RC2-RfC?PsB70Hq3NSgPqnL8w3uITxBkGWrCDoi7J4zJC7f

Page: 1



Scale = 1:73.4

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	-0.45	18	>874	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.89	18	>441	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.79	Horz(CT)	0.08	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 209 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 5-1:2x4 SP No.1
BOT CHORD 2x4 SP No.1 *Except* 14-12:2x4 SP No.2, 21-14:2x4 SP 2400F 2.0E
WEBS 2x4 SP No.3 *Except* 20-7,15-7:2x4 SP No.2
OTHERS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied or 2-2-14 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

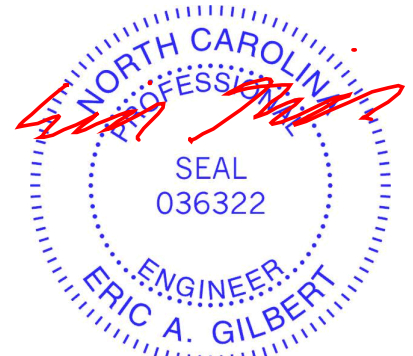
REACTIONS (size) 2=0-5-8, 12=0-5-8
Max Horiz 2=153 (LC 18)
Max Uplift 2=-5 (LC 14)
Max Grav 2=1747 (LC 5), 12=1743 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-3239/0, 4-6=-2904/0, 6-7=-2942/31, 7-8=-2721/40, 8-10=-2690/0, 10-11=-2296/1, 11-12=-1827/4
BOT CHORD 2-22=-163/2853, 20-22=-37/2853, 16-20=0/1833, 15-16=0/1833, 13-15=0/2048, 12-13=-4/74, 18-19=-38/21, 17-18=-38/21
WEBS 4-22=-4/102, 6-20=-502/208, 19-20=-96/1322, 7-19=-27/1467, 10-13=-650/0, 8-15=-490/214, 7-17=-35/1060, 15-17=-104/915, 4-20=-363/223, 16-18=-65/19, 11-13=0/2105, 10-15=0/389

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 2-5-0, Interior (1) 2-5-0 to 14-2-0, Exterior(2R) 14-2-0 to 20-9-0, Interior (1) 20-9-0 to 29-5-12, Exterior(2E) 29-5-12 to 32-9-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- 200.0lb AC unit load placed on the bottom chord, 17-5-8 from left end, supported at two points, 5-0-0 apart.
- 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. 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 24, 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/TPI 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)



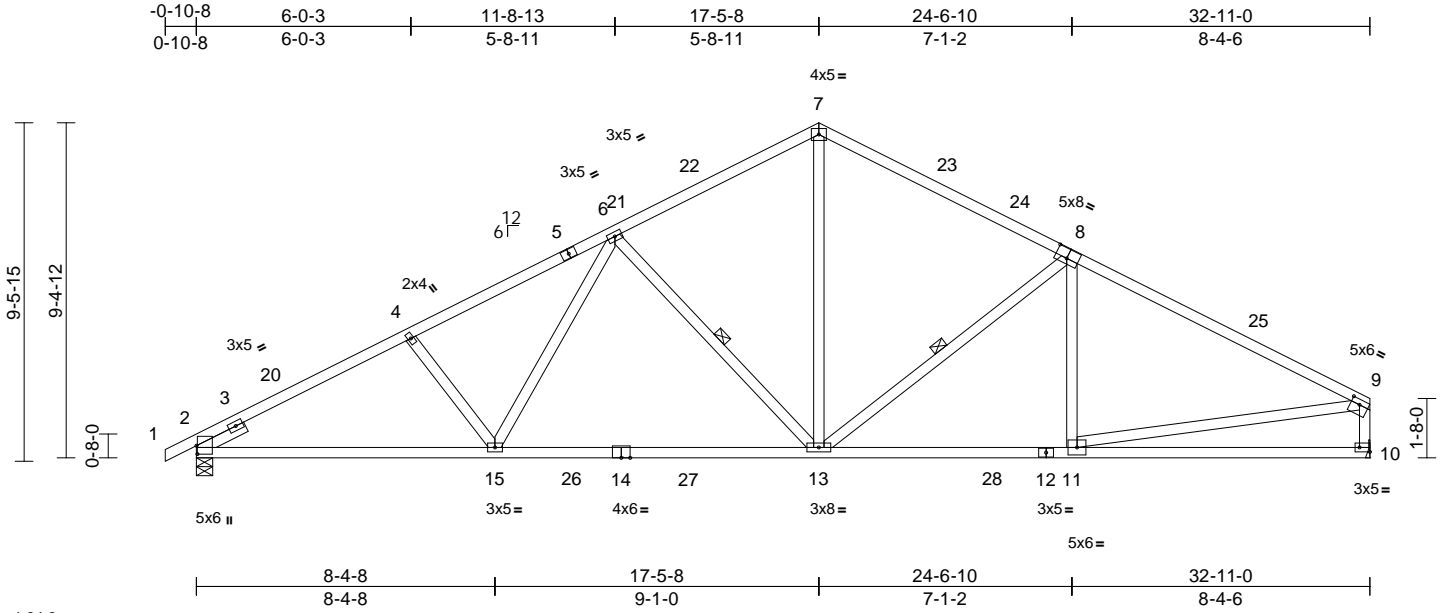
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss A2	Truss Type Common	Qty 6	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807392
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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. Thu May 23 19:49:18
ID:aEurK5ZD1vY33WkwaPWRz6RQ7-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:64.6
Plate Offsets (X, Y): [2:0-2-13,0-0-5], [8:0-4-0,0-3-4], [9:Edge,0-1-12], [10:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.28	13-15	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.75	Vert(CT)	-0.50	13-15	>793	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.64	Horz(CT)	0.07	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 183 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2 *Except* 8-9:2x4 SP No.1
BOT CHORD 2x4 SP No.1 *Except* 12-10:2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-13, 8-13

REACTIONS (size) 2=0-5-8, 10= Mechanical
Max Horiz 2=153 (LC 18)
Max Uplift 2=-148 (LC 14), 10=-116 (LC 15)
Max Grav 2=1480 (LC 5), 10=1434 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-2730/252, 4-6=-2581/264, 6-7=-1776/274, 7-9=-2207/271, 9-10=-1470/181
BOT CHORD 2-15=-279/2399, 13-15=-164/1978, 11-13=-80/1908, 10-11=-49/230
WEBS 4-15=-252/168, 6-15=-32/581, 6-13=-726/218, 7-13=-81/1194, 8-13=-538/196, 8-11=-89/152, 9-11=-71/1703

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 2-5-0, Interior (1) 2-5-0 to 14-2-0, Exterior(2R) 14-2-0 to 20-9-0, Interior (1) 20-9-0 to 29-5-12, Exterior(2E) 29-5-12 to 32-9-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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, with BCDL = 10.0psf.

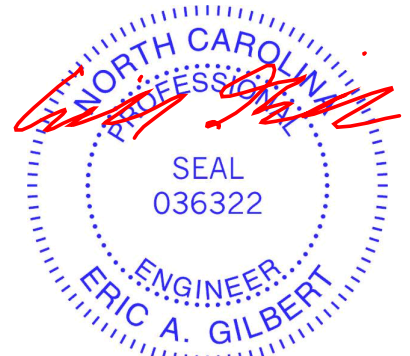
8) Refer to girder(s) for truss to truss connections.

9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 116 lb uplift at joint 10.

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.

LOAD CASE(S) Standard



May 24, 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/TPI 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)



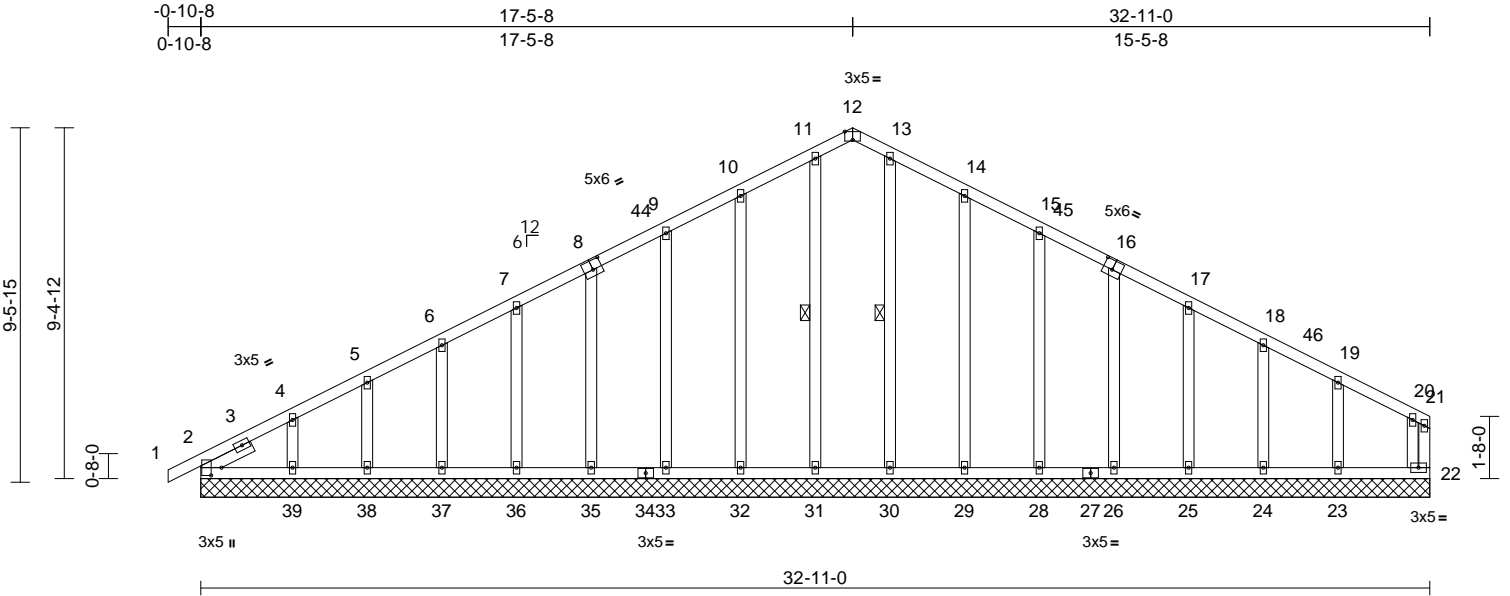
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss A2GE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807393
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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. Thu May 23 19:49:19
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Page: 1



Scale = 1:61.7

Plate Offsets (X, Y): [2:0-2-8,0-3-5], [8:0-3-0,0-3-0], [12:0-2-8,Edge], [16:0-3-0,0-3-0]

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	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horz(CT)	0.00	22	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 225 lb	FT = 20%

LUMBER		Max Grav	2=168 (LC 26), 22=105 (LC 28), 23=179 (LC 37), 24=156 (LC 1), 25=161 (LC 37), 26=160 (LC 37), 28=207 (LC 22), 29=240 (LC 22), 30=204 (LC 22), 31=208 (LC 21), 32=239 (LC 21), 33=207 (LC 21), 35=160 (LC 36), 36=159 (LC 21), 37=163 (LC 36), 38=151 (LC 1), 39=190 (LC 36), 40=168 (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) -0-10-8 to 2-5-8, Exterior(2N) 2-5-8 to 14-2-0, Corner(3R) 14-2-0 to 20-5-8, Exterior(2N) 20-5-8 to 29-5-12, Corner(3E) 29-5-12 to 32-9-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
TOP CHORD	2x4 SP No.2			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.
BOT CHORD	2x4 SP No.2			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
WEBS	2x4 SP No.3			5) Unbalanced snow loads have been considered for this design.
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.			
WEBS	1 Row at midpt 11-31, 13-30			
REACTIONS (size)	2=32-11-0, 22=32-11-0, 23=32-11-0, 24=32-11-0, 25=32-11-0, 26=32-11-0, 28=32-11-0, 29=32-11-0, 30=32-11-0, 31=32-11-0, 32=32-11-0, 33=32-11-0, 35=32-11-0, 36=32-11-0, 37=32-11-0, 38=32-11-0, 39=32-11-0, 40=32-11-0			
	Max Horiz 2=153 (LC 18), 40=153 (LC 18)			
	Max Uplift 2=-37 (LC 10), 23=-105 (LC 15), 24=-26 (LC 15), 25=-47 (LC 15), 26=-44 (LC 15), 28=-40 (LC 15), 29=-72 (LC 15), 32=-64 (LC 14), 33=-41 (LC 14), 35=-44 (LC 14), 36=-42 (LC 14), 37=-47 (LC 14), 38=-30 (LC 14), 39=-92 (LC 14), 40=-37 (LC 10)			
FORCES	(lb) - Maximum Compression/Maximum Tension			
TOP CHORD	1-2=0/23, 2-4=-169/90, 4-5=-130/90, 5-6=-109/114, 6-7=-99/137, 7-9=-89/225, 9-10=-85/268, 10-11=-109/330, 11-12=-99/284, 12-13=-99/284, 13-14=-109/330, 14-15=-85/268, 15-17=-69/225, 17-18=-52/134, 18-19=-53/95, 19-20=-78/34, 20-21=-29/70, 21-22=-30/145			
BOT CHORD	2-39=19/87, 38-39=-19/87, 37-38=-19/87, 36-37=-19/87, 35-36=-19/87, 33-35=-19/87, 32-33=-19/87, 31-32=-19/87, 30-31=-19/87, 29-30=-19/87, 28-29=-19/87, 26-28=-19/87, 25-26=-19/87, 24-25=-19/87, 23-24=-19/87, 22-23=-19/87			
WEBS	11-31=-168/0, 10-32=-199/117, 9-33=-167/72, 8-35=-127/78, 7-36=-125/76, 6-37=-128/79, 5-38=-120/70, 4-39=-149/116, 13-30=-164/0, 14-29=-200/117, 15-28=-166/72, 16-26=-126/78, 17-25=-127/79, 18-24=-122/64, 19-23=-144/179, 20-22=-132/11			

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



May 24, 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.
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/TPI 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)



818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss A2GE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807393
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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. Thu May 23 19:49:19
ID:c9VqEHTKX3tTR4AsVHRVNAz6RSp-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?f

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 7) All plates are 2x4 MT20 unless otherwise indicated.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 37 lb uplift at joint 2, 64 lb uplift at joint 32, 41 lb uplift at joint 33, 44 lb uplift at joint 35, 42 lb uplift at joint 36, 47 lb uplift at joint 37, 30 lb uplift at joint 38, 92 lb uplift at joint 39, 72 lb uplift at joint 29, 40 lb uplift at joint 28, 44 lb uplift at joint 26, 47 lb uplift at joint 25, 26 lb uplift at joint 24, 105 lb uplift at joint 23 and 37 lb uplift at joint 2.
- 13) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 40.
- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

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)



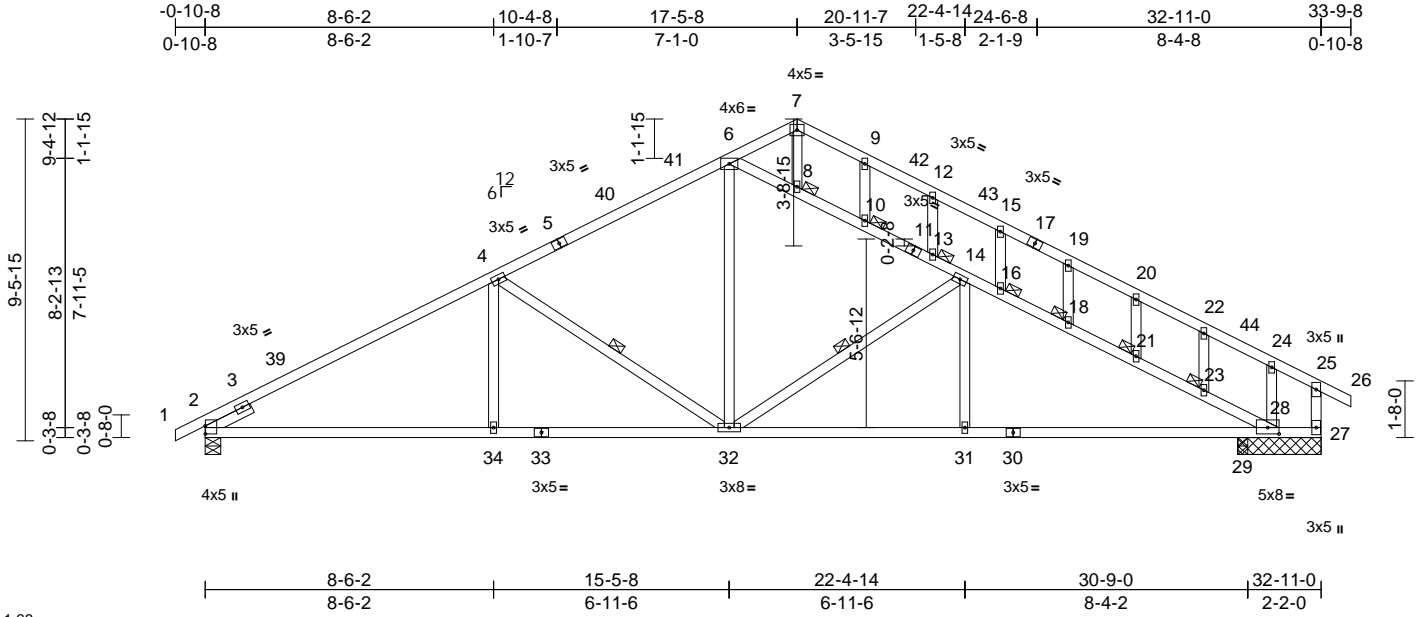
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss ASE	Truss Type Common	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807394
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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. Thu May 23 19:49:19
ID:Z?RrRUUawrsjRX0WcdE8aMz6RDJ-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:68
Plate Offsets (X, Y): [2:0-2-13,0-0-1], [28:0-4-0,0-2-4]

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	0.66	Vert(LL)	-0.10	31-32	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.22	31-32	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.33	Horz(CT)	0.09	27	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 208 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 3-0-1 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS	1 Row at midpt 14-32, 4-32
JOINTS	1 Brace at Jt(s): 8, 10, 13, 16, 18, 21, 23
REACTIONS (size)	
	2=0-5-8, 27=2-5-8, 28=2-5-8, 29=0-3-8
Max Horiz	2=145 (LC 18)
Max Uplift	2=140 (LC 14), 28=548 (LC 15)
Max Grav	2=1313 (LC 21), 27=321 (LC 22), 28=678 (LC 1), 29=673 (LC 7)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/23, 2-4=-2076/218, 4-6=-1497/235, 6-7=-218/162, 7-9=-204/154, 9-12=-265/124, 12-15=-222/79, 15-19=-177/36, 19-20=-212/18, 20-22=-247/0, 22-24=-223/9, 24-25=-229/52, 25-26=0/27, 25-27=-229/61, 6-8=-1309/186, 8-10=-1308/171, 10-13=-1321/179, 13-14=-1386/196, 14-16=-1741/176, 16-18=-1824/209, 18-21=-1842/215, 21-23=-1867/226, 23-28=-1955/246
BOT CHORD	2-34=-312/1772, 32-34=-215/1772, 31-32=-35/1719, 29-31=-35/1719, 28-29=-35/1719, 27-28=0/173

WEBS	
7-8	=65/33, 9-10=-74/42, 12-13=-263/104, 15-16=-220/100, 18-19=-41/21, 20-21=-55/34, 22-23=-177/51, 24-28=-182/267, 6-32=-28/824, 14-32=-702/143, 4-32=-649/208, 4-34=0/299, 14-31=0/296

- 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 2-5-0, Interior (1) 2-5-0 to 14-2-0, Exterior(2R) 14-2-0 to 20-9-0, Interior (1) 20-9-0 to 30-6-0, Exterior(2E) 30-6-0 to 33-9-8 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 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.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 2 and 28. 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.
- 2 X 4 notch at 20000 o.c. is allowed along the stacked top chord. No notches allowed in overhang and 1008 from left end and 1008 from right end or 12" along rake from scarf, whichever is larger. Minimum 1.5x4 tie plates required at 2-0-0 o.c. maximum between the stacking chords. For edge-wise notching, provide at least one tie plate between each notch.

LOAD CASE(S) Standard



May 24, 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/TPI 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)



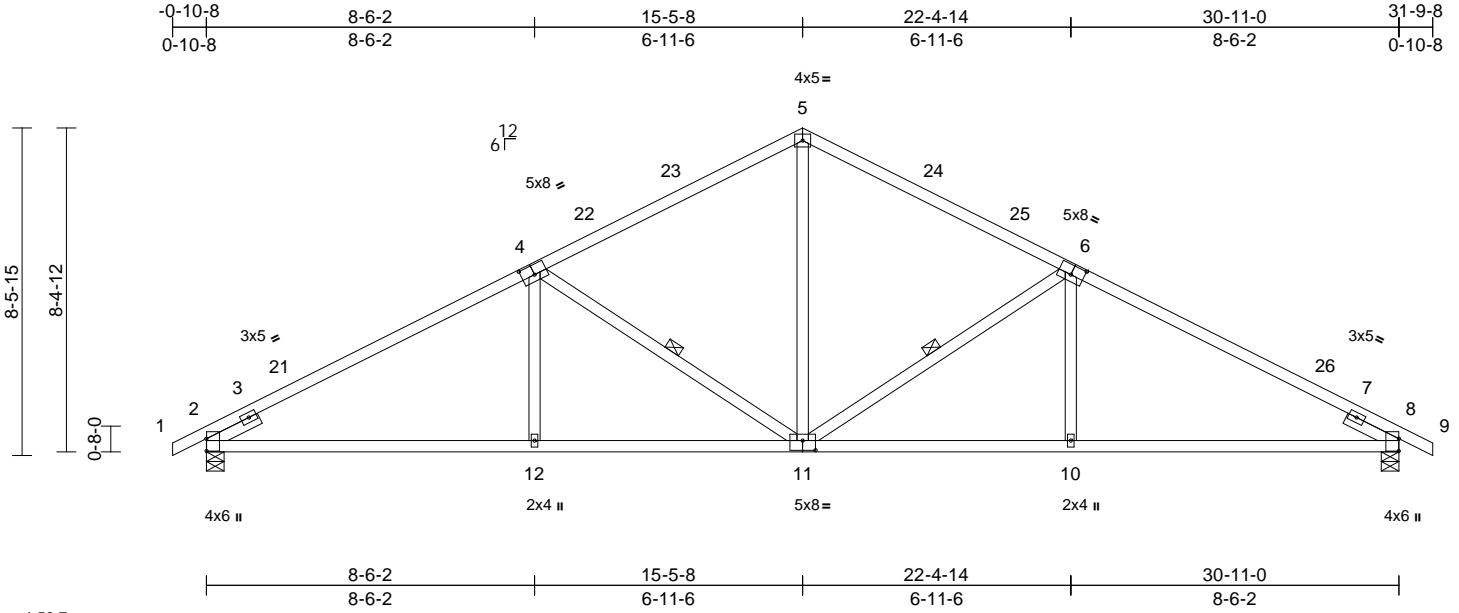
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss B	Truss Type Common	Qty 3	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807395
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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. Thu May 23 19:49:19
ID:WwcS_ow9RvOcm3mRjBta1yz6RCl-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:59.7
Plate Offsets (X, Y): [2:0-3-13,0-0-1], [4:0-4-0,0-3-0], [6:0-4-0,0-3-0], [8:0-3-13,0-0-1], [11:0-4-0,0-3-0]

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	0.79	Vert(LL)	-0.09	11-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.21	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.08	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 153 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1 *Except* 4-1,6-9:2x4 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 2-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 6-11, 4-11

REACTIONS (size) 2=0-5-8, 8=0-5-8
Max Horiz 2=129 (LC 18)
Max Uplift 2=-135 (LC 14), 8=-135 (LC 15)
Max Grav 2=1292 (LC 21), 8=1292 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-5=-2046/251, 5-8=-2046/251, 8-9=0/23
BOT CHORD 2-12=-295/1751, 10-12=-197/1753, 8-10=-195/1751
WEBS 5-11=-50/862, 6-11=-718/214, 6-10=0/299, 4-11=-718/214, 4-12=0/299

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 2-2-10, Interior (1) 2-2-10 to 12-4-6, Exterior(2R) 12-4-6 to 18-6-10, Interior (1) 18-6-10 to 28-8-6, Exterior(2E) 28-8-6 to 31-9-8 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

- 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 24, 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)



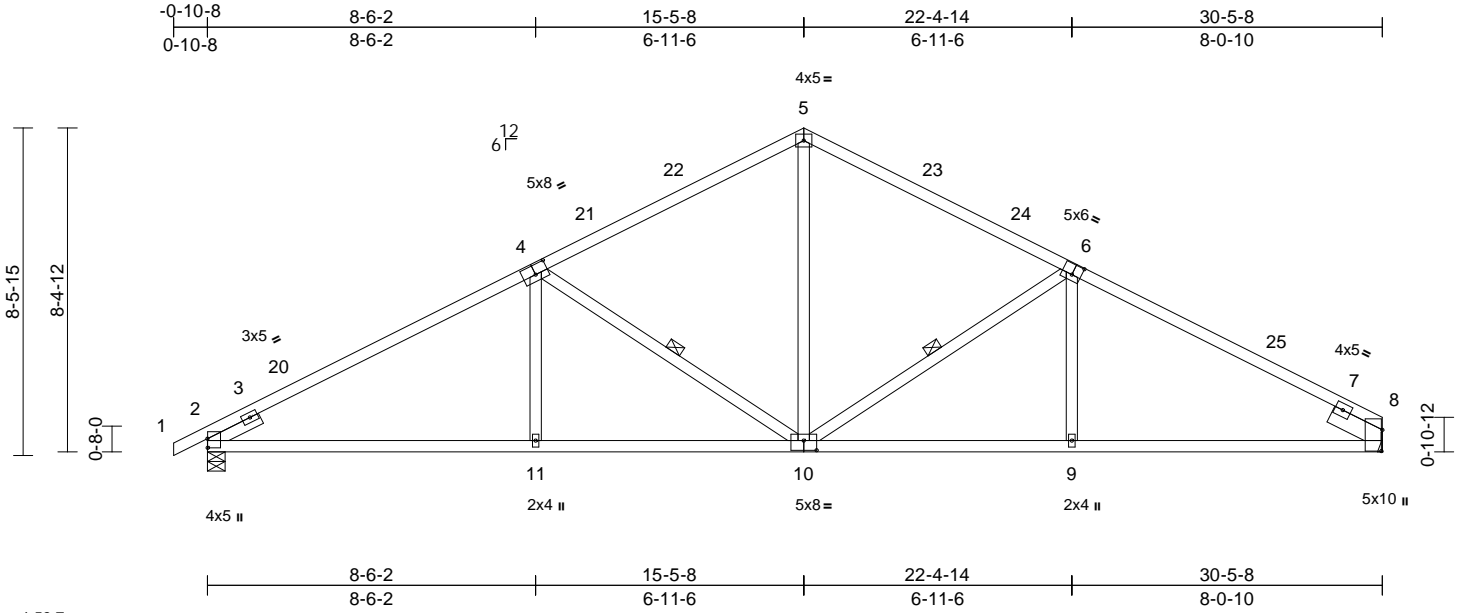
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss B1	Truss Type Common	Qty 6	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807396
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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. Thu May 23 19:49:19
ID:DE5Yhhuboc7FTqi0oB8dWFz6RYk-RFC?PsB70Hq3NSgPqnL8w3uITXbGKWRcDoi7J4zJC?f

Page: 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	0.94	Vert(LL)	-0.13	9-10	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.99	Vert(CT)	-0.27	9-10	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.11	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 152 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.1 *Except* 1-4:2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-0, Right 2x6 SP No.2 -- 1-6-0

BRACING
TOP CHORD Structural wood sheathing directly applied.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 8-9.
WEBS 1 Row at midpt 6-10, 4-10

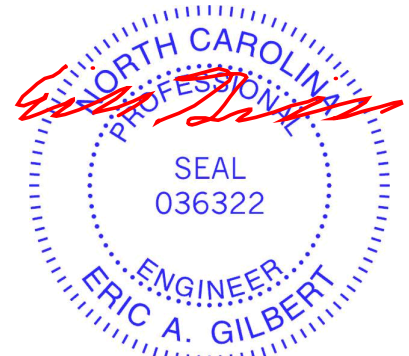
REACTIONS (size) 2=0-5-8, 8= Mechanical
Max Horiz 2=141 (LC 14)
Max Uplift 2=-135 (LC 14), 8=-114 (LC 15)
Max Grav 2=1278 (LC 21), 8=1221 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-5=-2016/249, 5-8=-1926/249
BOT CHORD 2-11=-304/1724, 9-11=-207/1726,
8-9=-163/1635
WEBS 5-10=-47/816, 6-10=-615/204, 6-9=0/260,
4-10=-715/214, 4-11=0/297

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 2-2-1, Interior (1) 2-2-1 to 12-4-15, Exterior(2R) 12-4-15 to 18-6-1, Interior (1) 18-6-1 to 27-4-15, Exterior(2E) 27-4-15 to 30-5-8 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.
- 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 114 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) 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 24, 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/TPI 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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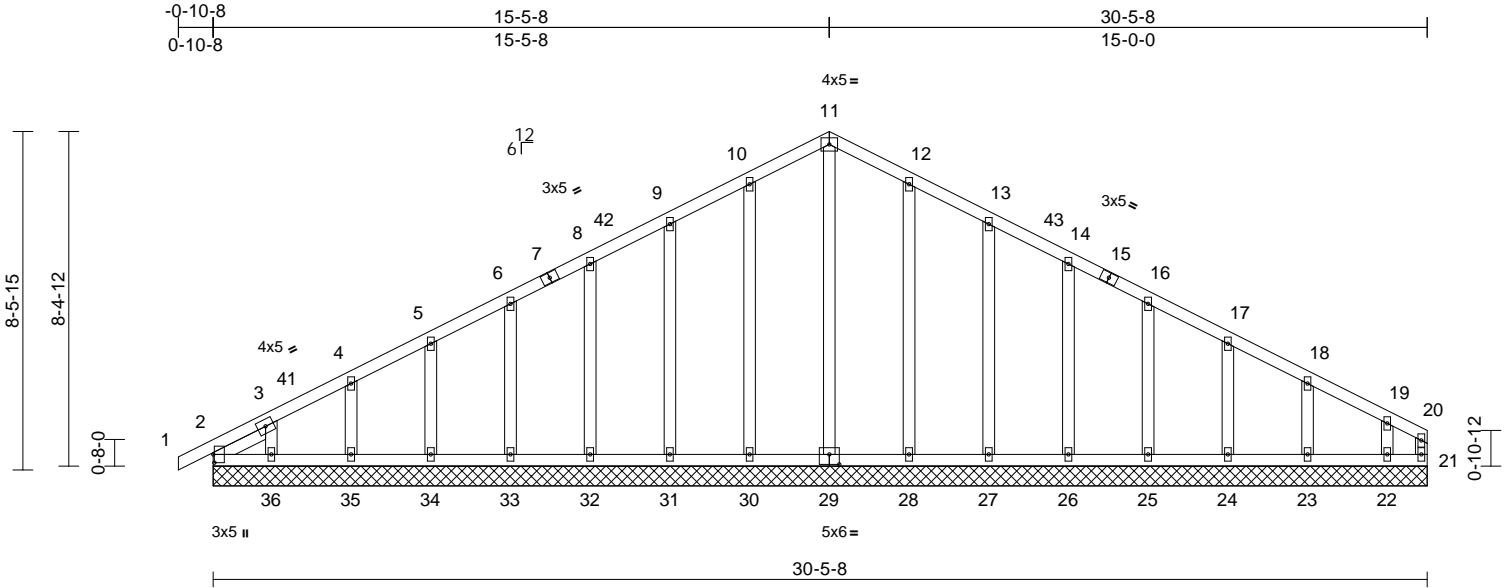
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss B1GE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807397
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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. Thu May 23 19:49:19
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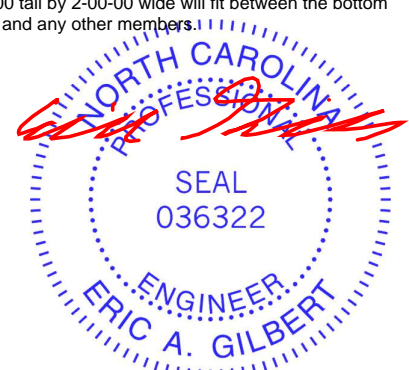
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Scale = 1:57.8
Plate Offsets (X, Y): [2:0-2-8,0-0-5], [29:0-3-0,0-3-0]

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.07	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.21	Horz(CT)	0.00	21	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 192 lb	FT = 20%

LUMBER	FORCES	NOTES
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 -- 1-5-14 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=30-5-8, 21=30-5-8, 22=30-5-8, 23=30-5-8, 24=30-5-8, 25=30-5-8, 26=30-5-8, 27=30-5-8, 28=30-5-8, 29=30-5-8, 30=30-5-8, 31=30-5-8, 32=30-5-8, 33=30-5-8, 34=30-5-8, 35=30-5-8, 36=30-5-8, 37=30-5-8 Max Horiz 2=134 (LC 18), 37=134 (LC 18) Max Uplift 2=-32 (LC 10), 21=-2 (LC 13), 22=-113 (LC 15), 23=-39 (LC 15), 24=-45 (LC 15), 25=-44 (LC 15), 26=-43 (LC 15), 27=-47 (LC 15), 28=-40 (LC 15), 30=-42 (LC 14), 31=-46 (LC 14), 32=-43 (LC 14), 33=-44 (LC 14), 34=-44 (LC 14), 35=-43 (LC 14), 36=-76 (LC 14), 37=-32 (LC 10) Max Grav 2=134 (LC 32), 21=112 (LC 15), 22=128 (LC 37), 23=166 (LC 1), 24=159 (LC 22), 25=160 (LC 1), 26=175 (LC 22), 27=228 (LC 22), 28=244 (LC 22), 29=182 (LC 28), 30=244 (LC 21), 31=228 (LC 21), 32=175 (LC 21), 33=160 (LC 1), 34=159 (LC 21), 35=165 (LC 1), 36=131 (LC 36), 37=134 (LC 32)	(lb) - Maximum Compression/Maximum Tension TOP CHORD 1-2=0/23, 2-3=-71/41, 3-4=-123/72, 4-5=-91/86, 5-6=-71/109, 6-8=-61/133, 8-9=-59/173, 9-10=-78/220, 10-11=-96/262, 11-12=-96/262, 12-13=-78/220, 13-14=-59/173, 14-16=-48/128, 16-17=-38/83, 17-18=-45/39, 18-19=-66/34, 19-20=-109/45, 20-21=-72/23 BOT CHORD 2-36=-21/105, 35-36=-21/105, 34-35=-21/105, 33-34=-21/105, 32-33=-21/105, 31-32=-21/105, 30-31=-21/105, 28-30=-21/105, 27-28=-21/105, 26-27=-21/105, 25-26=-21/105, 24-25=-21/105, 23-24=-21/105, 22-23=-21/105, 21-22=-21/105 WEBS 11-29=-166/25, 10-30=-204/70, 9-31=-188/81, 8-32=-135/76, 6-33=-127/78, 5-34=-126/76, 4-35=-130/82, 3-36=-111/106, 12-28=-204/70, 13-27=-188/81, 14-26=-135/76, 16-25=-127/78, 17-24=-125/74, 18-23=-130/100, 19-22=-110/143	3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1. 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10 5) Unbalanced snow loads have been considered for this design. 6) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads. 7) All plates are 2x4 MT20 unless otherwise indicated. 8) Gable requires continuous bottom chord bearing. 9) Gable studs spaced at 2-0-0 oc. 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 11) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
	NOTES 1) Unbalanced roof live loads have been considered for this design. 2) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -0-10-8 to 2-2-1, Exterior(2N) 2-2-1 to 12-4-15, Corner(3R) 12-4-15 to 18-6-1, Exterior(2N) 18-6-1 to 27-3-3, Corner(3E) 27-3-3 to 30-3-12 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	



May 24, 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.

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/TPI 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)



818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	139 Serenity-Roof-B327 B CP GLH	I65807397
24050081-01	B1GE	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. Thu May 23 19:49:19
 ID:kEyumvGz1eadDrk1IGCRPHz6RZY-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWwCDoi7J4zJC?f

Page: 2

12) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 21, 2, 30, 31, 32, 33, 34, 35, 36, 28, 27, 26, 25, 24, 23, and 22. 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

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)



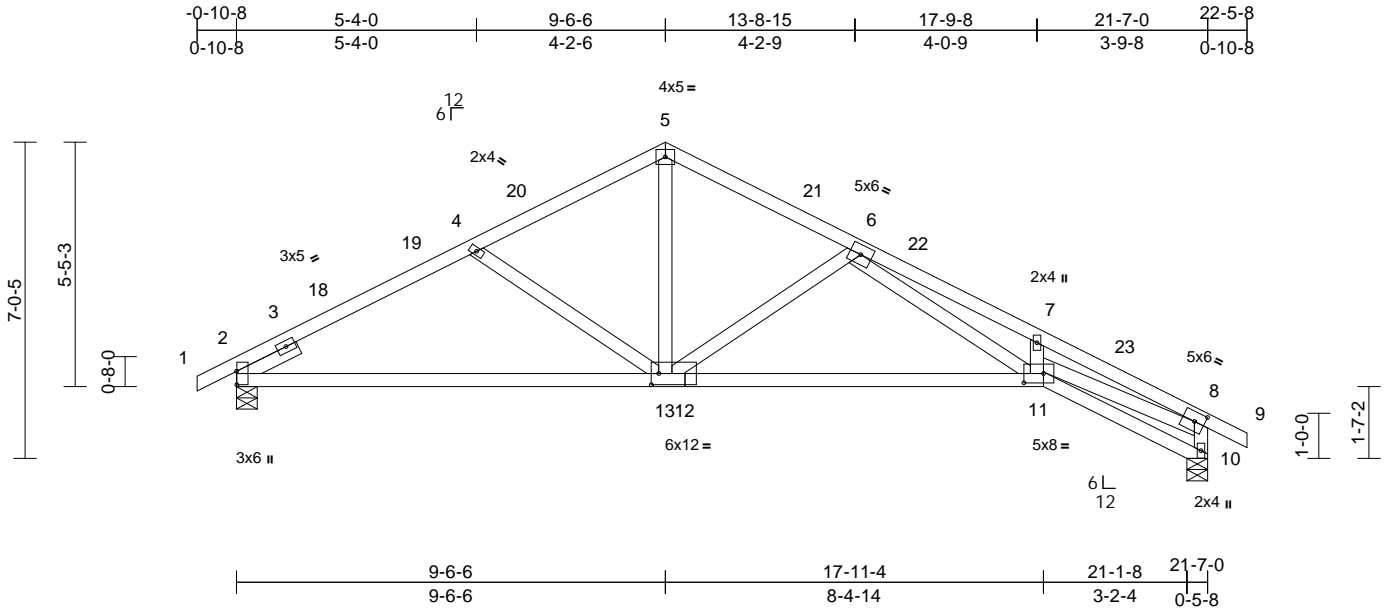
818 Soundside Road
 Edenton, NC 27932

Job 24050081-01	Truss C	Truss Type Roof Special	Qty 4	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807398
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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. Thu May 23 19:49:20
ID:IXiJ0Luyki5W8bFrb88Afoz6iod-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?*

Page: 1



Scale = 1:51.2

Plate Offsets (X, Y): [2:0-3-9,0-0-1], [8:0-2-11,0-2-8], [11:0-5-4,0-2-8], [12:0-2-0,0-3-0]

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	0.48	Vert(LL)	-0.17	11-13	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.42	11-13	>620	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.65	Horz(CT)	0.18	10	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
 WEBS 2x4 SP No.3 *Except* 11-8:2x4 SP No.2
 SLIDER Left 2x4 SP No.3 -- 1-6-0

BRACING

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

REACTIONS

(size) 2=0-5-8, 10=0-5-8
 Max Horiz 2=-117 (LC 15)
 Max Uplift 2=-89 (LC 14), 10=-114 (LC 15)
 Max Grav 2=946 (LC 21), 10=968 (LC 22)

FORCES

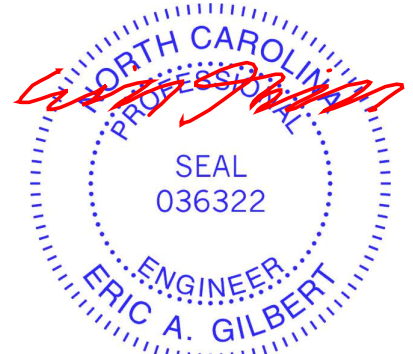
(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/23, 2-4=-1409/252, 4-5=-1110/208, 5-6=-1152/209, 6-7=-3104/393, 7-8=-3154/310, 8-9=0/27, 8-10=-1004/193
 BOT CHORD 2-13=-141/1212, 11-13=-83/1549, 10-11=-38/215
 WEBS 4-13=-389/160, 5-13=-62/714, 6-13=-745/193, 6-11=-174/1518, 7-11=-135/127, 8-11=-176/2643

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 6-6-6, Exterior(2R) 6-6-6 to 12-6-6, Interior (1) 12-6-6 to 19-5-8, Exterior(2E) 19-5-8 to 22-5-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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) Bearing at joint(s) 10 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 9) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 10 and 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.

LOAD CASE(S) Standard



May 24, 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/TPI 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)



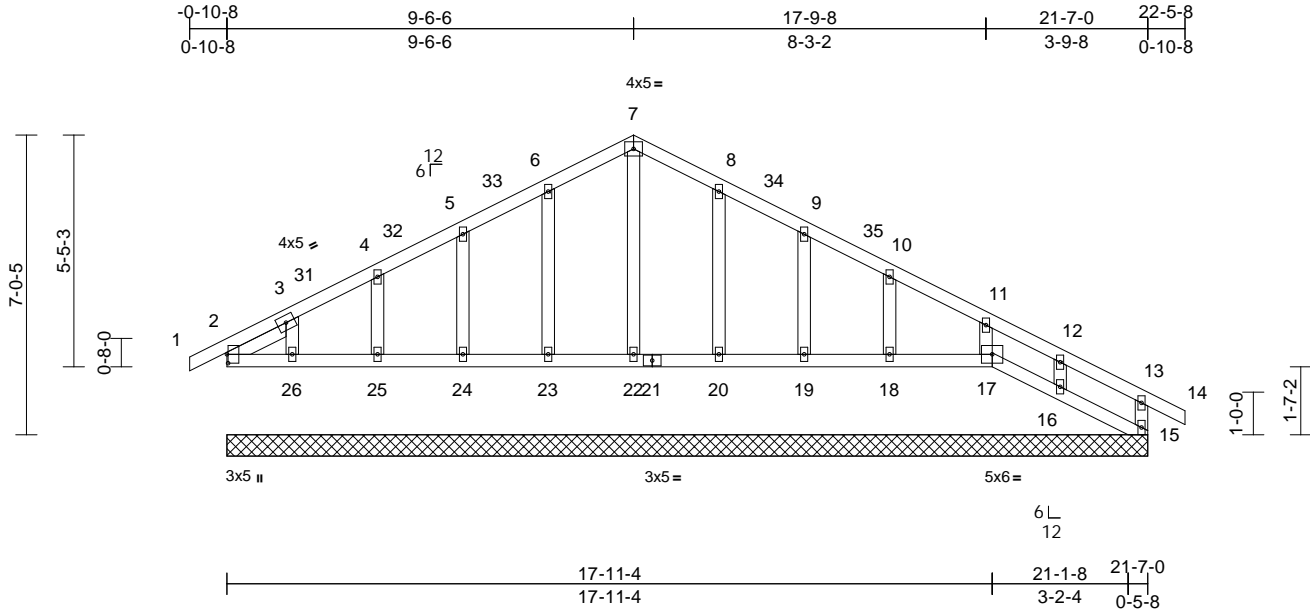
818 Soundside Road
 Edenton, NC 27932

Job 24050081-01	Truss CGE	Truss Type Roof Special Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807399
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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. Thu May 23 19:49:20
ID:IXiJ0Luyki5W8bFrb88Afoz6iod-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?I

Page: 1



Scale = 1:54

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.10	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 112 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3
OTHERS 2x4 SP No.3
SLIDER Left 2x4 SP No.3 -- 1-6-14

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

REACTIONS (size)
2=21-7-0, 15=21-7-0, 16=21-7-0, 17=21-7-0, 18=21-7-0, 19=21-7-0, 20=21-7-0, 22=21-7-0, 23=21-7-0, 24=21-7-0, 25=21-7-0, 26=21-7-0
Max Horiz 2=-117 (LC 15)
Max Uplift 2=-72 (LC 15), 15=-19 (LC 15), 16=-72 (LC 15), 17=-18 (LC 15), 18=-50 (LC 15), 19=-43 (LC 15), 20=-43 (LC 15), 23=-45 (LC 14), 24=-44 (LC 14), 25=-44 (LC 14), 26=-51 (LC 14)
Max Grav 2=125 (LC 1), 15=141 (LC 22), 16=140 (LC 37), 17=166 (LC 1), 18=195 (LC 22), 19=222 (LC 22), 20=247 (LC 22), 22=183 (LC 28), 23=246 (LC 21), 24=227 (LC 21), 25=179 (LC 21), 26=135 (LC 36)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-3=-38/52, 3-4=-73/136, 4-5=-65/159, 5-6=-71/184, 6-7=-90/224, 7-8=-90/224, 8-9=-71/180, 9-10=-61/142, 10-11=-49/101, 11-12=-18/55, 12-13=-39/42, 13-14=0/27, 13-15=-122/73

BOT CHORD 2-26=-8/63, 25-26=-8/63, 24-25=-8/63, 23-24=-8/63, 22-23=-8/63, 20-22=-8/63, 19-20=-8/63, 18-19=-8/63, 17-18=-8/63, 16-17=-24/84, 15-16=-21/80
WEBS 7-22=-143/21, 6-23=-206/74, 5-24=-187/68, 4-25=-139/69, 3-26=-107/68, 8-20=-206/74, 9-19=-185/66, 10-18=-146/78, 12-16=-115/82, 11-17=-138/64

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 6-6-6, Exterior(2R) 6-6-6 to 12-6-6, Interior (1) 12-6-6 to 19-5-8, Exterior(2E) 19-5-8 to 22-5-8 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); 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 18 lb uplift at joint 17, 19 lb uplift at joint 15, 72 lb uplift at joint 2, 45 lb uplift at joint 23, 44 lb uplift at joint 24, 44 lb uplift at joint 25, 51 lb uplift at joint 26, 43 lb uplift at joint 20, 43 lb uplift at joint 19, 50 lb uplift at joint 18 and 72 lb uplift at joint 16.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 17, 2, 22, 23, 24, 25, 26, 20, 19, 18, 16.
- 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 24, 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/TPI 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)



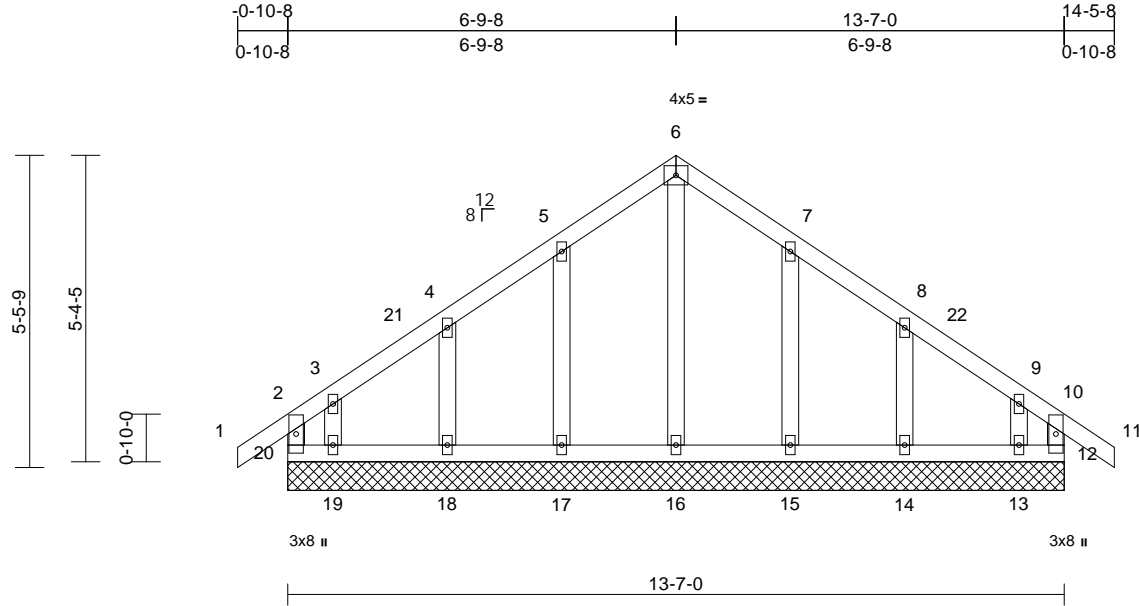
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss DGE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807400
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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. Thu May 23 19:49:20
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Page: 1



Scale = 1:40.3

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	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 76 lb	FT = 20%

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

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

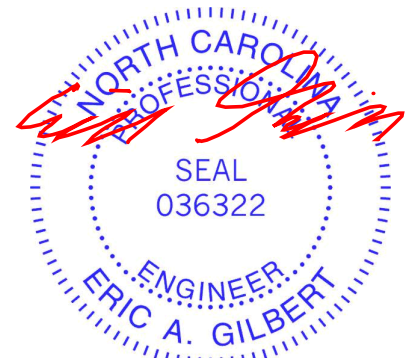
REACTIONS	
(size)	12=13-7-0, 13=13-7-0, 14=13-7-0, 15=13-7-0, 16=13-7-0, 17=13-7-0, 18=13-7-0, 19=13-7-0, 20=13-7-0
Max Horiz	20=141 (LC 12)
Max Uplift	12=59 (LC 11), 13=93 (LC 15), 14=58 (LC 15), 15=60 (LC 15), 17=60 (LC 14), 18=58 (LC 14), 19=104 (LC 14), 20=96 (LC 10)
Max Grav	12=123 (LC 25), 13=133 (LC 26), 14=228 (LC 22), 15=259 (LC 22), 16=165 (LC 28), 17=259 (LC 21), 18=228 (LC 21), 19=154 (LC 12), 20=153 (LC 26)

FORCES	
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-20=-120/66, 1-2=0/34, 2-3=-104/96, 3-4=-71/76, 4-5=-61/119, 5-6=-82/191, 6-7=-82/191, 7-8=-56/119, 8-9=-50/55, 9-10=-72/61, 10-11=0/34, 10-12=-102/54
BOT CHORD	19-20=-62/110, 18-19=-62/110, 17-18=-62/110, 16-17=-62/110, 15-16=-62/110, 14-15=-62/110, 13-14=-62/110, 12-13=-62/110
WEBS	6-16=-137/4, 5-17=-220/106, 4-18=-187/122, 3-19=-110/86, 7-15=-220/106, 8-14=-187/121, 9-13=-103/94

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; 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 3-9-8, Corner(3R) 3-9-8 to 9-9-8, Exterior(2N) 9-9-8 to 11-5-8, Corner(3E) 11-5-8 to 14-5-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 96 lb uplift at joint 20, 59 lb uplift at joint 12, 60 lb uplift at joint 17, 58 lb uplift at joint 18, 104 lb uplift at joint 19, 60 lb uplift at joint 15, 58 lb uplift at joint 14 and 93 lb uplift at joint 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 24, 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/TPI 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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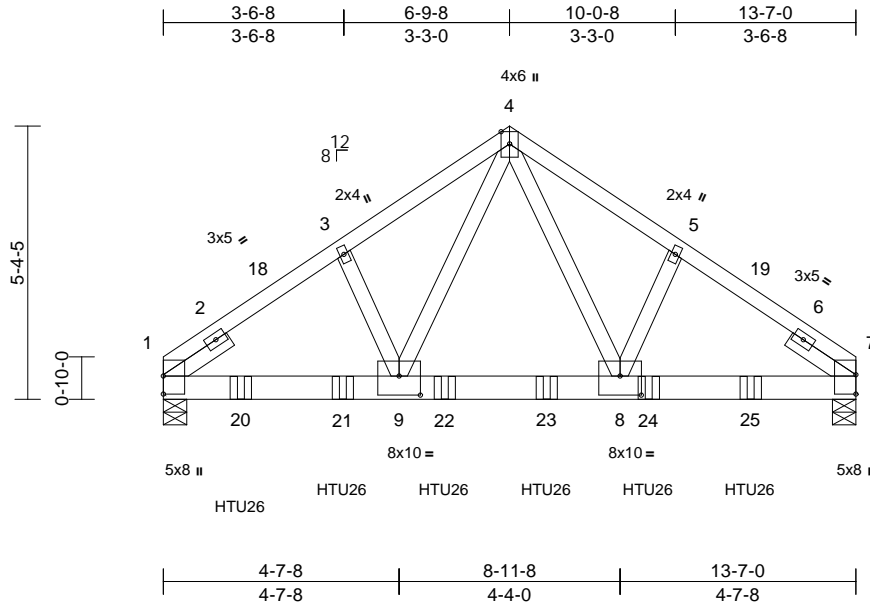
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss DGR	Truss Type Common Girder	Qty 1	Ply 2	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807401
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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. Thu May 23 19:49:20
ID:qviXtQKgSNSj4jaf4vEm9dz6RVb-RfC?PsB70Hq3NSGpqnL8w3uITXbGKWRcDoi7J4zJC?f

Page: 1



Scale = 1:45.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	-0.06	8-9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.85	Vert(CT)	-0.12	8-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.62	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 168 lb	FT = 20%

LUMBER
TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 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 5-0-6 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 1=0-5-8, 7=0-5-8
Max Horiz 1=-106 (LC 35)
Max Uplift 1=-439 (LC 12), 7=-408 (LC 13)
Max Grav 1=4369 (LC 18), 7=4081 (LC 19)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-5265/545, 3-4=-5159/588, 4-5=-5105/582, 5-7=-5216/540
BOT CHORD 1-9=-467/4300, 8-9=-282/3045, 7-8=-399/4248
WEBS 4-8=-345/2906, 5-8=-101/191, 4-9=-356/3013, 3-9=-125/180

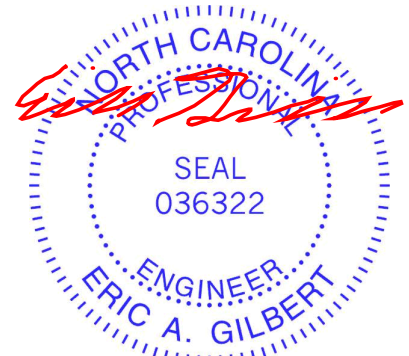
- NOTES**
- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:
Top chords connected as follows: 2x4 - 1 row at 0-9-0 oc.
Bottom chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc.
Web connected as follows: 2x4 - 1 row at 0-9-0 oc.
 - All loads are considered equally 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 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.
- 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 1-6-4 from the left end to 11-6-4 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: 1-4=-60, 4-7=-60, 10-14=-20

Concentrated Loads (lb)
Vert: 20=-1201 (B), 21=-1201 (B), 22=-1201 (B), 23=-1201 (B), 24=-1201 (B), 25=-1201 (B)



May 24, 2024

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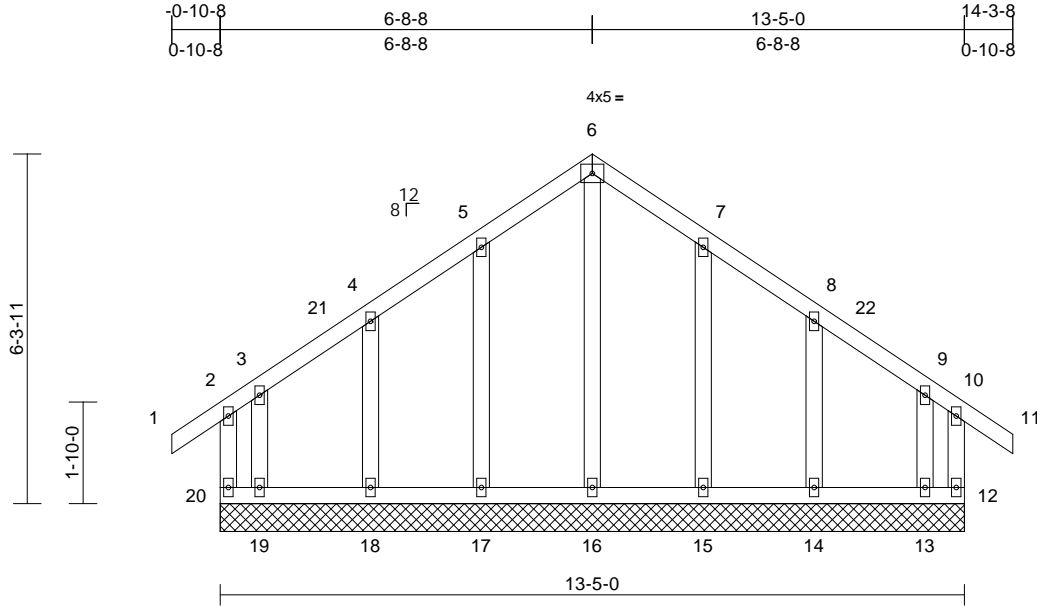
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss EGE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807402
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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. Thu May 23 19:49:20
ID:1SFxIVJYq6Slw6AgLBD0Dz6RT1-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRcD0i7J4zJC?F

Page: 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	0.20	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	0.15	Horz(CT)	0.00	12	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0									Weight: 88 lb	FT = 20%

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

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

REACTIONS	(size)
Max Horiz	12=13-5-0, 13=13-5-0, 14=13-5-0, 15=13-5-0, 16=13-5-0, 17=13-5-0, 18=13-5-0, 19=13-5-0, 20=13-5-0
Max Uplift	20=174 (LC 13) 12=-227 (LC 11), 13=-210 (LC 10), 14=-60 (LC 15), 15=-58 (LC 15), 17=-58 (LC 14), 18=-60 (LC 14), 19=-225 (LC 11), 20=-245 (LC 10)
Max Grav	12=242 (LC 12), 13=291 (LC 13), 14=226 (LC 22), 15=260 (LC 22), 16=178 (LC 28), 17=260 (LC 21), 18=226 (LC 21), 19=307 (LC 12), 20=262 (LC 13)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-20=-163/162, 1-2=0/34, 2-3=-124/129, 3-4=-67/119, 4-5=-60/201, 5-6=-95/272, 6-7=-95/272, 7-8=-60/201, 8-9=-62/119, 9-10=-114/119, 10-11=0/34, 10-12=-155/121
BOT CHORD	19-20=-92/87, 18-19=-92/87, 17-18=-92/87, 16-17=-92/87, 15-16=-92/87, 14-15=-92/87, 13-14=-92/87, 12-13=-92/87
WEBS	6-16=-222/12, 5-17=-220/103, 4-18=-185/123, 3-19=-141/119, 7-15=-220/103, 8-14=-185/123, 9-13=-134/112

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 3-8-8, Corner(3R) 3-8-8 to 9-8-8, Exterior(2N) 9-8-8 to 11-3-8, Corner(3E) 11-3-8 to 14-3-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 245 lb uplift at joint 20, 227 lb uplift at joint 12, 58 lb uplift at joint 17, 60 lb uplift at joint 18, 225 lb uplift at joint 19, 58 lb uplift at joint 15, 60 lb uplift at joint 14 and 210 lb uplift at joint 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 24, 2024

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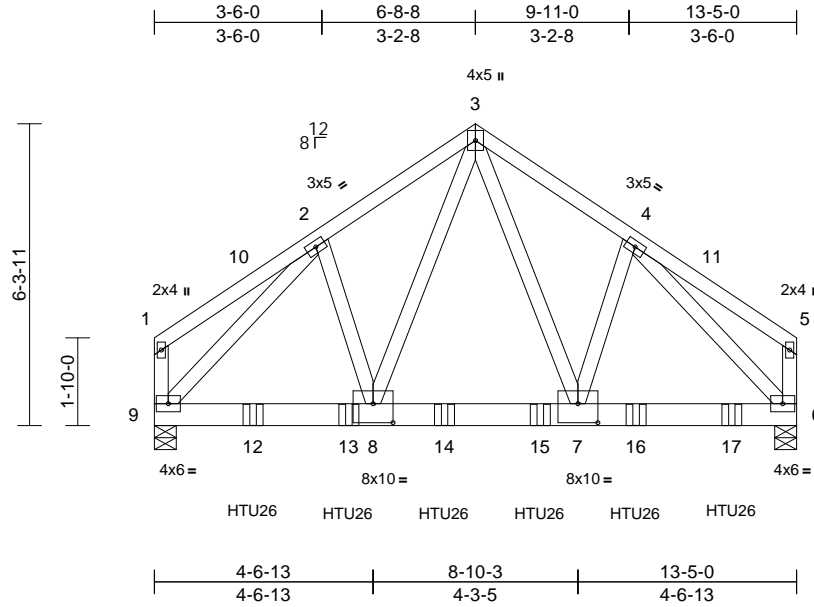
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss EGR	Truss Type Common Girder	Qty 1	Ply 2	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807403
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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. Thu May 23 19:49:20
ID:QCiWCKeHS2khFeTgPXLFPz6R9E-RfC?PsB70Hq3NSgPqnl8w3uTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:48.1

Plate Offsets (X, Y): [7:0-5-0,0-4-12], [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	0.76	Vert(LL)	-0.04	6-7	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.07	6-7	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.01	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 202 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP 2400F 2.0E
WEBS 2x4 SP No.3

BRACING

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

REACTIONS

(size) 6=0-5-8, 9=0-5-8
Max Horiz 9=155 (LC 11)
Max Uplift 6=-444 (LC 13), 9=-403 (LC 12)
Max Grav 6=4993 (LC 6), 9=4535 (LC 5)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-423/84, 2-3=-4358/470, 3-4=-4400/473,
4-5=-461/87, 1-9=-334/75, 5-6=-356/77
BOT CHORD 8-9=-313/3289, 7-8=-232/2762,
6-7=-289/3324
WEBS 3-7=-283/2528, 4-7=-141/1175,
3-8=-273/2423, 2-8=-141/1172,
2-9=-4533/377, 4-6=-4538/377

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 0-7-0 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.

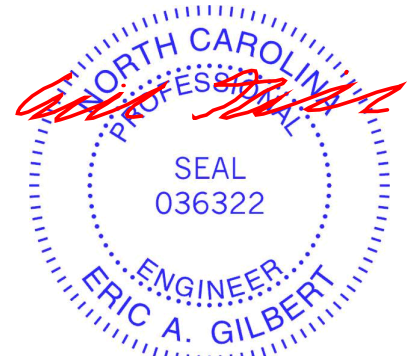
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

Vert: 12=-1290 (B), 13=-1290 (B), 14=-1290 (B), 15=-1290 (B), 16=-1290 (B), 17=-1290 (B)

- 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) 9 and 6. 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 0-2-12 from the left end to 12-0-12 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, 6-9=-20
Concentrated Loads (lb)



May 24, 2024

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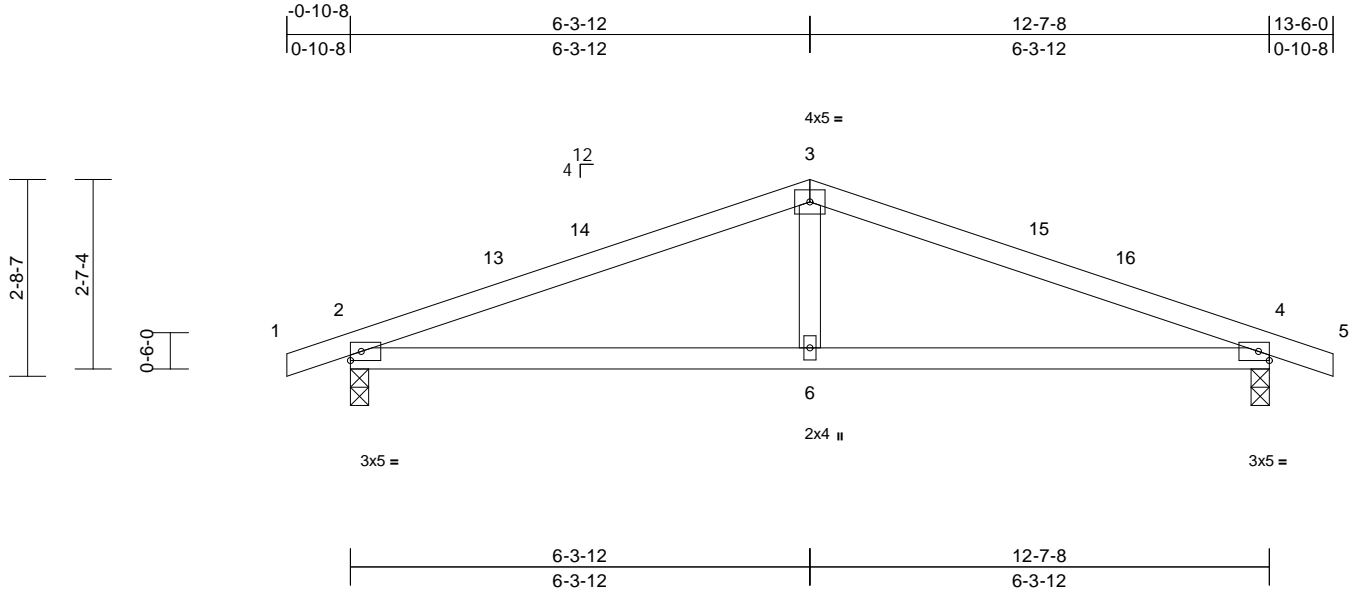
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss F	Truss Type Common	Qty 5	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807404
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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. Thu May 23 19:49:21
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Page: 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	0.75	Vert(LL)	-0.07	6-12	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.11	6-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 45 lb	FT = 20%

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

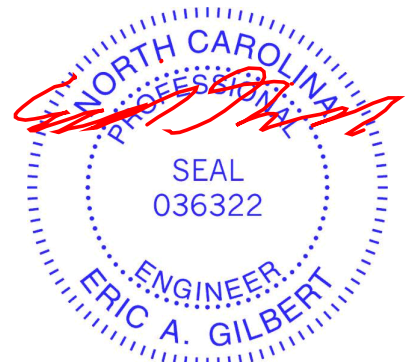
BRACING
TOP CHORD Structural wood sheathing directly applied or 3-9-3 oc purlins.
BOT CHORD Rigid ceiling directly applied or 8-0-7 oc bracing.

REACTIONS (size) 2=0-3-0, 4=0-3-0
Max Horiz 2=-38 (LC 15)
Max Uplift 2=-203 (LC 10), 4=-203 (LC 11)
Max Grav 2=651 (LC 21), 4=651 (LC 22)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-913/650, 3-4=-913/650, 4-5=0/17
BOT CHORD 2-6=-517/782, 4-6=-517/782
WEBS 3-6=-122/271

- 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 4. 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

- 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 3-3-12, Exterior(2R) 3-3-12 to 9-3-12, Interior (1) 9-3-12 to 10-6-0, Exterior(2E) 10-6-0 to 13-6-0 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 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.



May 24, 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/TPI 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)



818 Soundside Road
Edenton, NC 27932

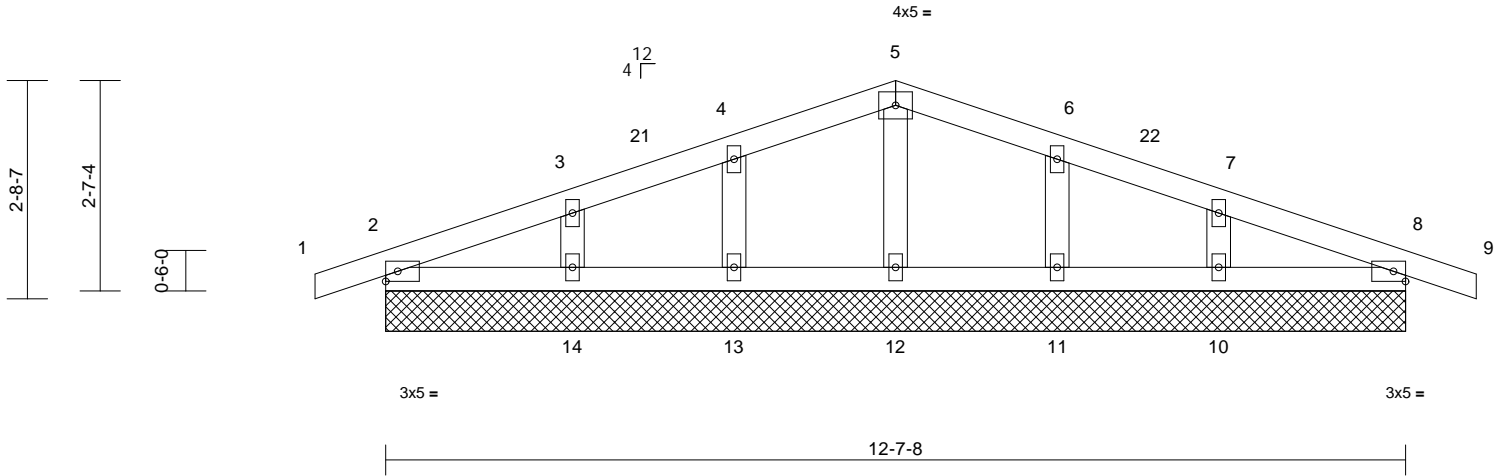
Job 24050081-01	Truss FGE	Truss Type Common Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807405
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Carter Components (Sanford, NC), Sanford, NC - 27332,

Run: 8.73 S Apr 25 2024 Print: 8.730 S Apr 25 2024 MiTek Industries, Inc. Thu May 23 19:49:21
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Page: 1

-0-10-8	6-3-12	12-7-8	13-6-0
0-10-8	6-3-12	6-3-12	0-10-8



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	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0											
											Weight: 51 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=12-7-8, 8=12-7-8, 10=12-7-8, 11=12-7-8, 12=12-7-8, 13=12-7-8, 14=12-7-8, 15=12-7-8, 18=12-7-8
Max Horiz 2=-38 (LC 15), 15=-38 (LC 15)
Max Uplift 2=-41 (LC 10), 8=-47 (LC 11), 10=-39 (LC 15), 11=-37 (LC 11), 13=-36 (LC 10), 14=-41 (LC 14), 15=-41 (LC 10), 18=-47 (LC 11)
Max Grav 2=176 (LC 21), 8=176 (LC 22), 10=250 (LC 22), 11=222 (LC 22), 12=139 (LC 1), 13=222 (LC 21), 14=250 (LC 21), 15=176 (LC 21), 18=176 (LC 22)
- FORCES** (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-52/35, 3-4=-51/56, 4-5=-57/108, 5-6=-57/108, 6-7=-51/56, 7-8=-52/35, 8-9=0/17
BOT CHORD 2-14=-20/44, 13-14=0/44, 12-13=0/44, 11-12=0/44, 10-11=0/44, 8-10=-20/44
WEBS 5-12=-97/46, 4-13=-187/141, 3-14=-192/120, 6-11=-187/141, 7-10=-192/120
- 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 Corner(3E) -0-10-8 to 2-3-12, Exterior(2N) 2-3-12 to 3-3-12, Corner(3R) 3-3-12 to 9-3-12, Exterior (2N) 9-3-12 to 10-3-12, Corner(3E) 10-3-12 to 13-6-0 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 41 lb uplift at joint 2, 47 lb uplift at joint 8, 36 lb uplift at joint 13, 41 lb uplift at joint 14, 37 lb uplift at joint 11, 39 lb uplift at joint 10, 41 lb uplift at joint 2 and 47 lb uplift at joint 8.
 - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 15.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



May 24, 2024

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ENGINEERING BY
TRENCO
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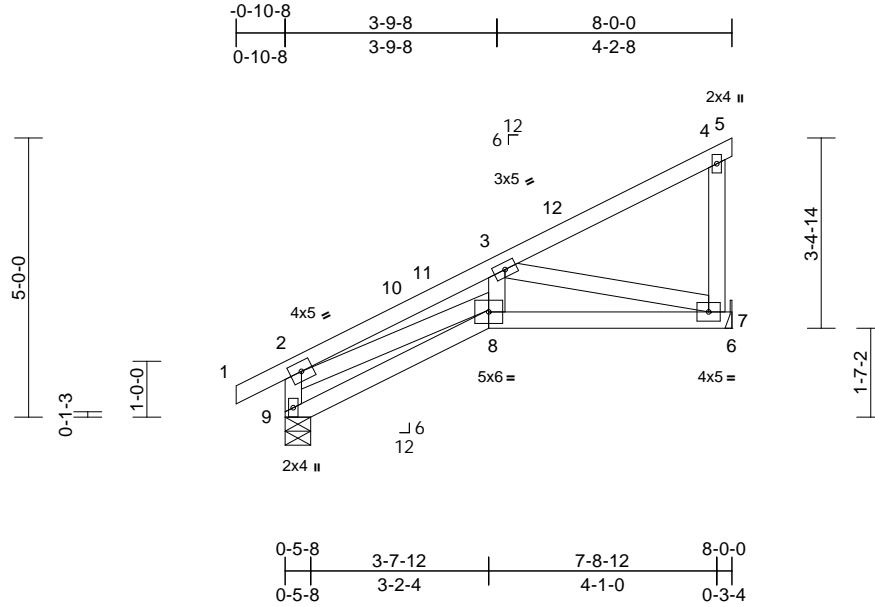
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss G	Truss Type Monopitch	Qty 2	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807406
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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. Thu May 23 19:49:21
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Page: 1



Scale = 1:41.3

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	0.34	Vert(LL)	-0.03	8	>999	240	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.05	7-8	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.03	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0									Weight: 45 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 5-7-12 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 7= Mechanical, 9=0-5-8
Max Horiz 9=158 (LC 11)
Max Uplift 7=-81 (LC 14), 9=-37 (LC 14)
Max Grav 7=451 (LC 21), 9=428 (LC 21)

FORCES

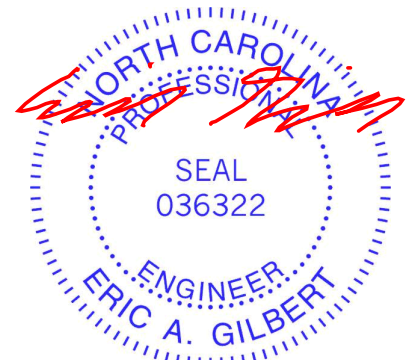
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-9=-393/223, 1-2=0/27, 2-3=-1048/339, 3-4=-96/77, 4-5=-12/0, 4-7=-188/63
BOT CHORD 8-9=-174/203, 7-8=-331/857, 6-7=0/0
WEBS 2-8=-230/924, 3-8=-66/320, 3-7=-883/398

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust)
Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 5-0-0, Exterior(2E) 5-0-0 to 8-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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) Refer to girder(s) for truss to truss connections.
- 8) Bearing at joint(s) 9 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 capable of withstanding 81 lb uplift at joint 7.
- 10) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.
- 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 24, 2024

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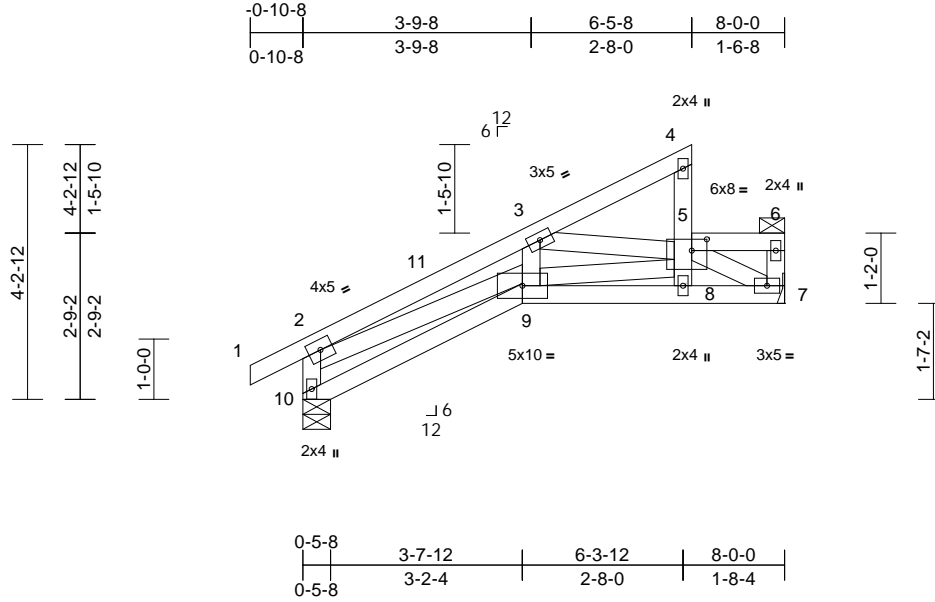
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss G1	Truss Type Half Hip	Qty 7	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807407
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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. Thu May 23 19:49:21
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Page: 1



Scale = 1:38.3
Plate Offsets (X, Y): [5:0-3-0,0-2-4]

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	0.31	Vert(LL)	-0.03	9	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.43	Horz(CT)	0.03	7	n/a	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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-11 oc purlins, except end verticals, and 2-0-0 oc purlins: 5-8, 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7= Mechanical, 10=0-5-8
Max Horiz 10=153 (LC 14)
Max Uplift 7=-114 (LC 14), 10=-21 (LC 14)
Max Grav 7=554 (LC 38), 10=550 (LC 38)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-10=-515/260, 1-2=0/40, 2-3=-1307/455, 3-4=-93/15, 5-8=0/90, 4-5=-302/119, 5-6=-11/16, 6-7=-120/52
BOT CHORD 9-10=-184/162, 8-9=-317/919, 7-8=-329/963
WEBS 2-9=-332/1132, 3-9=-73/305, 3-5=-1099/495, 5-9=-173/251, 5-7=-1097/397

- 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.
- Bearing at joint(s) 10 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 capable of withstanding 114 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) 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 221 lb down and 73 lb up at 6-3-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.

Vert: 1-2=-60, 2-4=-60, 5-6=-115, 9-10=-20, 7-9=-20
Concentrated Loads (lb)
Vert: 4=-180

LOAD CASE(S) Standard
1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)

- 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 7-10-4 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 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



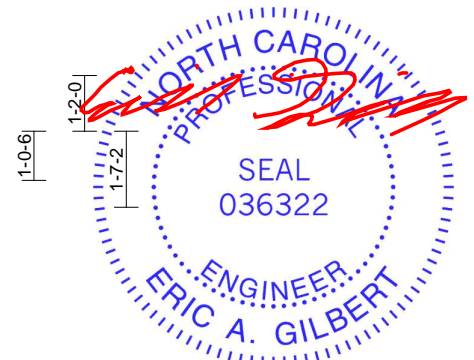
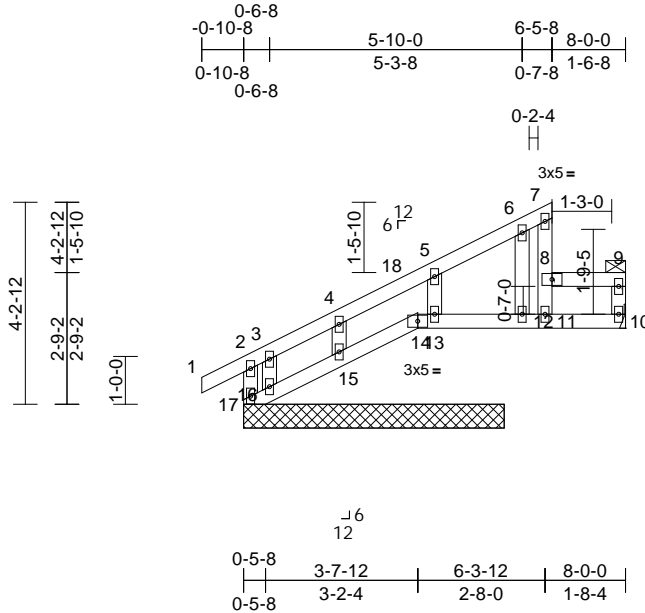
May 24, 2024

Job 24050081-01	Truss G1GE	Truss Type Half Hip Supported Gable	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807408
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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. Thu May 23 19:49:21
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Page: 1



Scale = 1:48.3

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	0.35	Vert(LL)	0.02	11	>999	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	-0.02	11-12	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 38 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, and 2-0-0 oc purlins (6-0-0 max.): 8-11, 8-9.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing. Except: 6-0-0 oc bracing: 16-17.

REACTIONS (size)
10= Mechanical, 13=5-5-8, 14=5-5-8, 15=5-5-8, 16=5-5-8, 17=5-5-8
Max Horiz 17=153 (LC 14)
Max Uplift 10=55 (LC 11), 13=101 (LC 14), 14=270 (LC 38), 15=48 (LC 14), 16=233 (LC 14)
Max Grav 10=322 (LC 37), 13=722 (LC 38), 14=25 (LC 14), 15=144 (LC 38), 16=5 (LC 12), 17=405 (LC 48)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-17=-261/52, 1-2=0/40, 2-3=-130/33, 3-4=-166/27, 4-5=-126/18, 5-6=-152/65, 6-7=-74/55, 8-11=-347/201, 7-8=-342/185, 8-9=-171/120, 9-10=-226/137
BOT CHORD 16-17=-202/163, 15-16=-50/151, 14-15=-50/146, 13-14=-41/128, 12-13=-41/128, 11-12=-39/150, 10-11=-80/194, 3-16=-85/136, 6-12=-35/127
WEBS 5-13=-298/212, 4-15=-110/119

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 Corner(3E) -0-10-8 to 2-0-0, Exterior(2N) 2-0-0 to 3-3-12, Corner(3E) 3-3-12 to 7-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Provide adequate drainage to prevent water ponding.
- 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 3-06-00 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 55 lb uplift at joint 10, 270 lb uplift at joint 14, 233 lb uplift at joint 16 and 48 lb uplift at joint 15.

- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 13. This connection is for uplift only and does not consider lateral forces.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
 - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
 - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 236 lb down and 117 lb up at 6-3-12 on top chord. The design/selection of such connection device(s) is the responsibility of others.
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-60, 2-7=-60, 8-9=-115, 16-17=-20, 14-16=-20, 12-14=-20, 10-12=-20
Concentrated Loads (lb)
Vert: 7=-180

May 24, 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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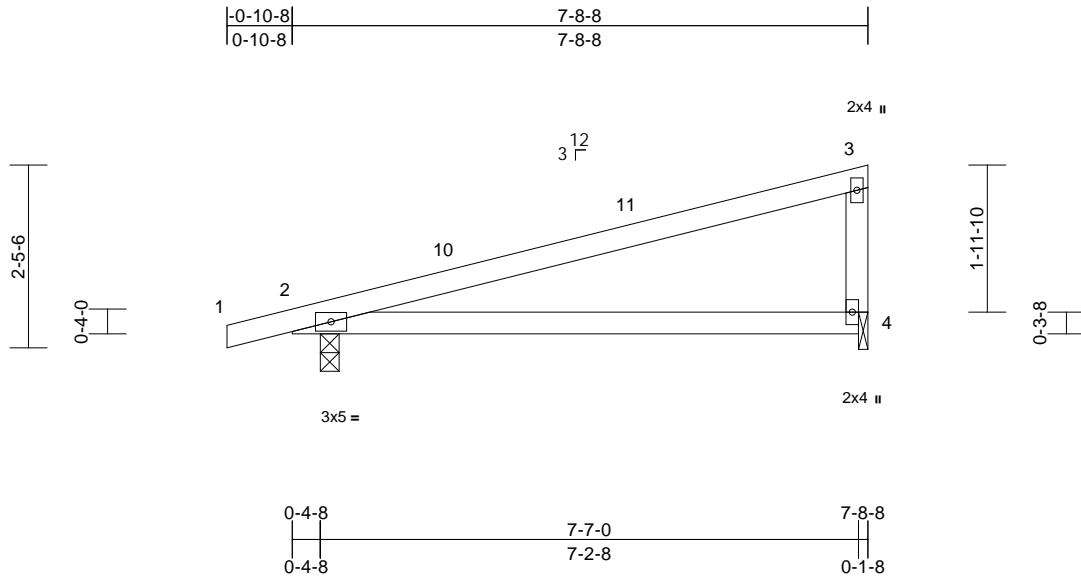
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss H	Truss Type Monopitch	Qty 6	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	I65807409
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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. Thu May 23 19:49:21
ID:X_hcbChxDcqlloSveVUtaUz6RjJ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:30.9

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	0.85	Vert(LL)	0.22	4-9	>405	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.32	4-9	>285	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 27 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.1
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-10-14 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=78 (LC 13)
Max Uplift 2=-151 (LC 10), 4=-109 (LC 10)
Max Grav 2=477 (LC 21), 4=371 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/13, 2-3=-118/86, 3-4=-269/192
BOT CHORD 2-4=-84/144

NOTES

- 1) Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 4-6-12, Exterior(2E) 4-6-12 to 7-6-12 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pf=20.0 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Fully Exp.; Ce=0.9; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 20.0 psf on overhangs non-concurrent with other live loads.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 6) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 7) Bearings are assumed to be: , 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) 2 and 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 24, 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/TPI 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)



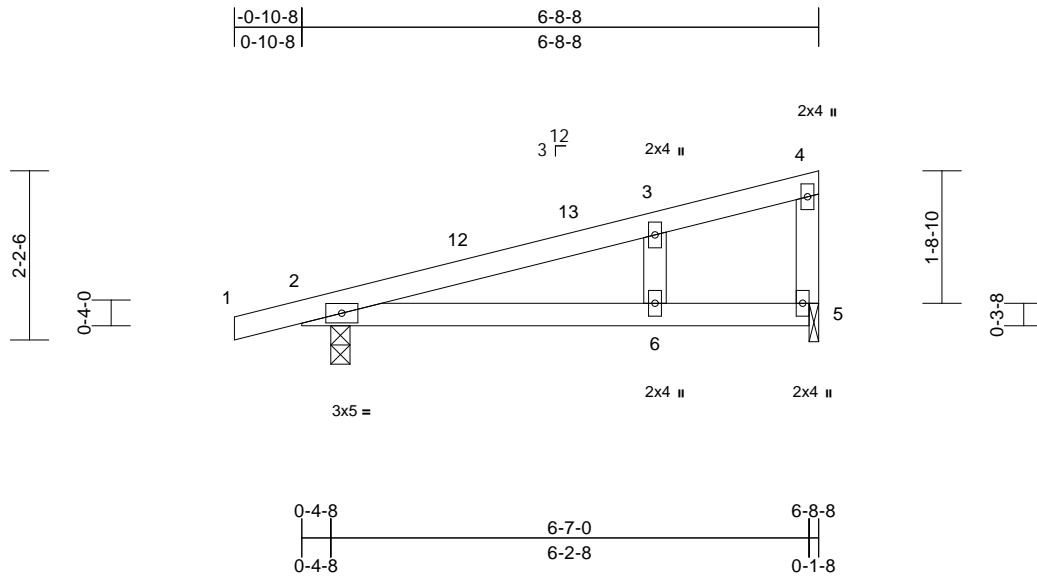
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss H1	Truss Type Monopitch	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807410
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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. Thu May 23 19:49:21
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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	0.61	Vert(LL)	0.15	6-11	>521	240	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.64	Vert(CT)	-0.21	6-11	>372	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: 25 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.

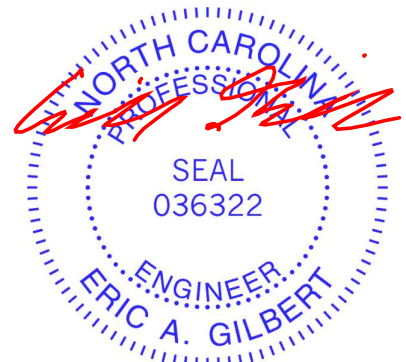
REACTIONS (size) 2=0-3-0, 5=0-1-8
Max Horiz 2=68 (LC 13)
Max Uplift 2=-138 (LC 10), 5=-92 (LC 20)
Max Grav 2=450 (LC 21), 5=314 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/18, 2-3=-103/123, 3-4=-28/47, 4-5=-174/132
BOT CHORD 2-6=-122/128, 5-6=-21/32
WEBS 3-6=-104/79

- 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 3-6-12, Exterior(2E) 3-6-12 to 6-6-12 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
 - 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 2-0-0 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.
- 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) 2 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.

LOAD CASE(S) Standard



May 24, 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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A MiTek Affiliate

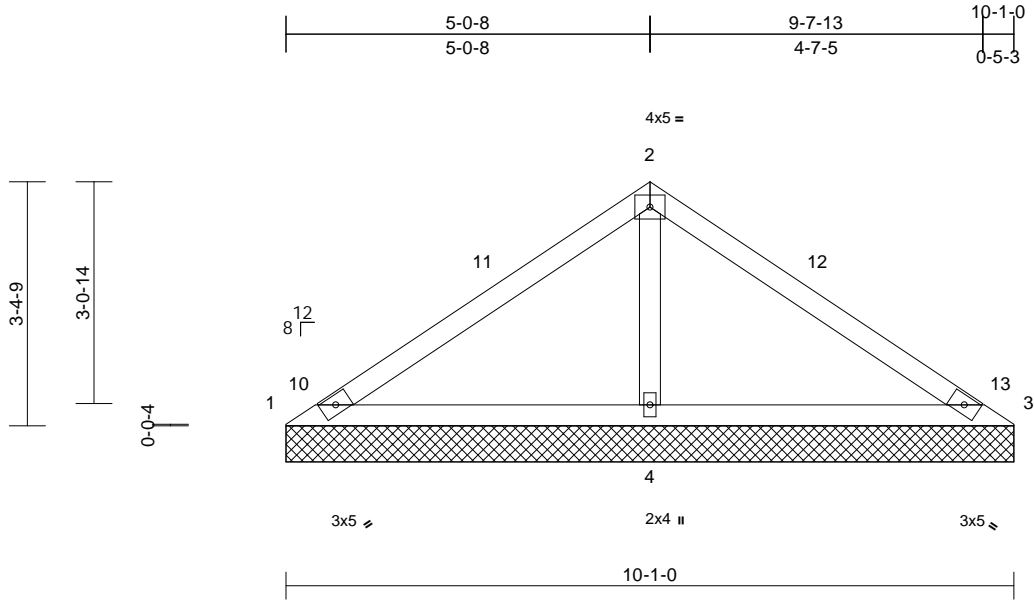
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V1	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807411
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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. Thu May 23 19:49:21
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Page: 1



Loading (psf)		Spacing		CSI		DEFL				PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.47	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.22	Horiz(TL)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 36 lb	FT = 20%

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

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

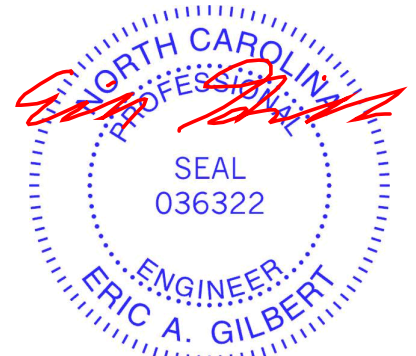
REACTIONS (size) 1=10-1-0, 3=10-1-0, 4=10-1-0, 9=10-1-0
Max Horiz 1=-75 (LC 10)
Max Uplift 1=-162 (LC 21), 3=-1 (LC 15), 4=-72 (LC 15), 9=-1 (LC 15)
Max Grav 1=156 (LC 20), 3=4 (LC 21), 4=1012 (LC 21), 9=4 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-185/557, 2-3=-167/633
BOT CHORD 1-4=-428/156, 3-4=-468/147
WEBS 2-4=-859/199

- 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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 7-1-6, Exterior(2E) 7-1-6 to 10-1-6 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 4-0-0 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 162 lb uplift at joint 1, 1 lb uplift at joint 3, 72 lb uplift at joint 4 and 1 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 24, 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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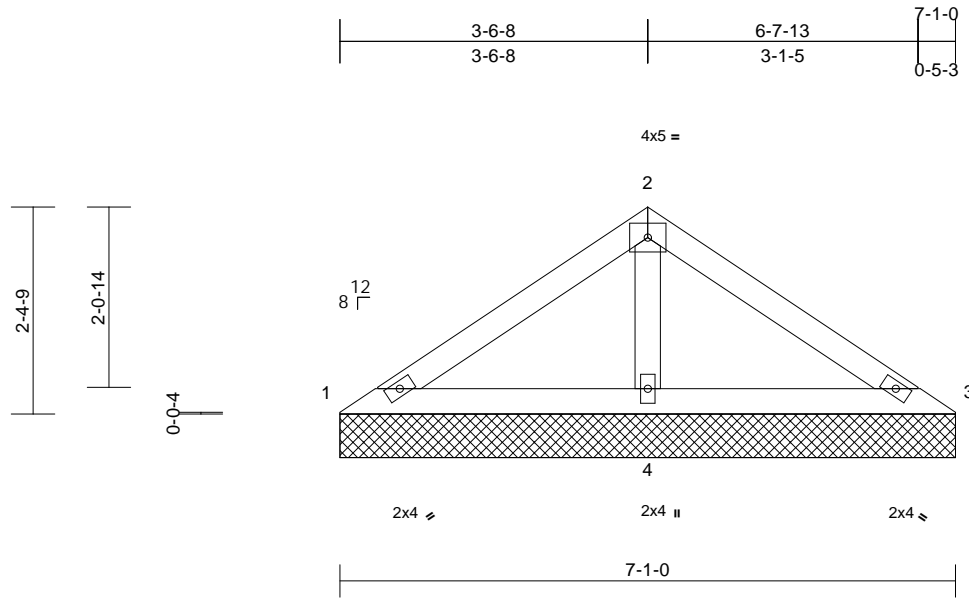
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V2	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807412
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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. Thu May 23 19:49:22
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Page: 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	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.24	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: 24 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 7-1-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 1=7-1-0, 3=7-1-0, 4=7-1-0
Max Horiz 1=-52 (LC 10)
Max Uplift 1=-8 (LC 21), 3=-9 (LC 15), 4=-51 (LC 14)
Max Grav 1=103 (LC 20), 3=103 (LC 21), 4=495 (LC 20)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-98/224, 2-3=-98/224
BOT CHORD 1-4=-188/127, 3-4=-188/127
WEBS 2-4=-388/163

- 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 8 lb uplift at joint 1, 9 lb uplift at joint 3 and 51 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

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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 4-1-6, Exterior(2E) 4-1-6 to 7-1-6 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.



May 24, 2024

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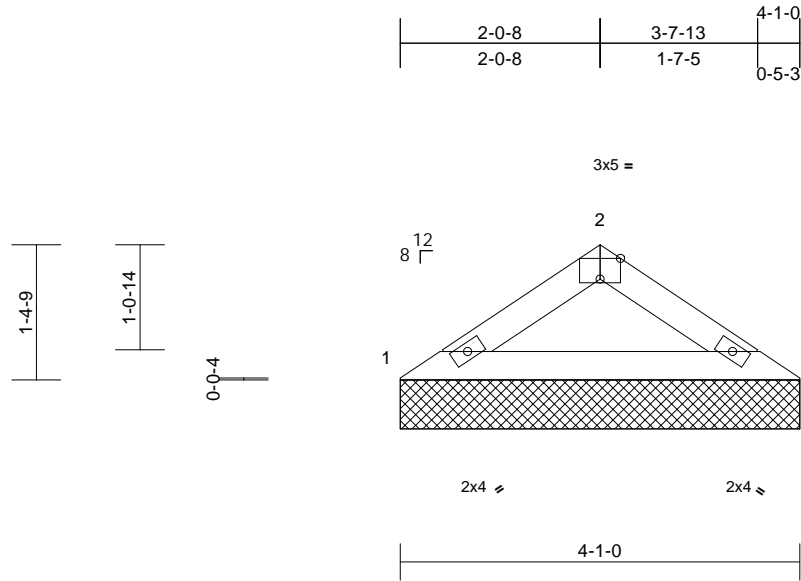
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	139 Serenity-Roof-B327 B CP GLH	165807413
24050081-01	V3	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. Thu May 23 19:49:22
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Page: 1



Scale = 1:23.5

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	0.13	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.11	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	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 4-1-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=4-1-0, 3=4-1-0
Max Horiz 1=-28 (LC 10)
Max Uplift 1=-15 (LC 14), 3=-15 (LC 15)
Max Grav 1=189 (LC 20), 3=189 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

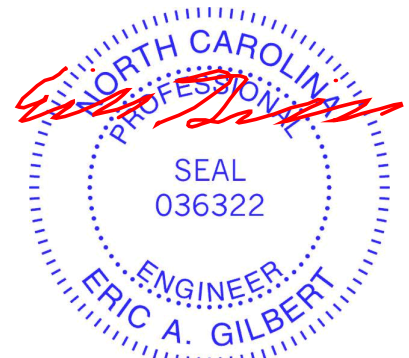
TOP CHORD 1-2=-283/101, 2-3=-283/101
BOT CHORD 1-3=-71/225

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 24, 2024

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ENGINEERING BY
TRENCO
A MiTek Affiliate

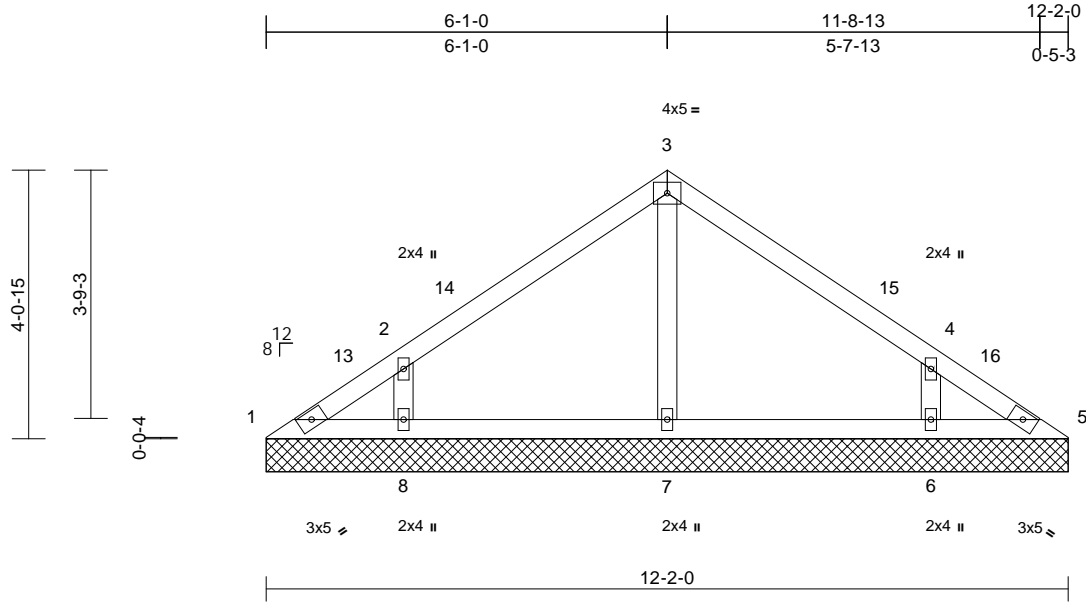
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V11	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807414
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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. Thu May 23 19:49:22
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Page: 1



Scale = 1:35

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	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.12	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.08	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
BCDL	10.0										Weight: 46 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 1=12-2-0, 5=12-2-0, 6=12-2-0, 7=12-2-0, 8=12-2-0
Max Horiz 1=-92 (LC 10)
Max Uplift 1=-19 (LC 10), 6=-107 (LC 15), 8=-109 (LC 14)
Max Grav 1=73 (LC 25), 5=57 (LC 24), 6=442 (LC 21), 7=278 (LC 20), 8=442 (LC 20)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-95/81, 2-3=-177/93, 3-4=-177/93, 4-5=-70/49
BOT CHORD 1-8=-22/63, 7-8=-21/56, 6-7=-21/56, 5-6=-21/56
WEBS 3-7=-191/16, 2-8=-408/173, 4-6=-408/173

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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 9-2-6, Exterior(2E) 9-2-6 to 12-2-6 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 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 1, 109 lb uplift at joint 8 and 107 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 24, 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/TPI 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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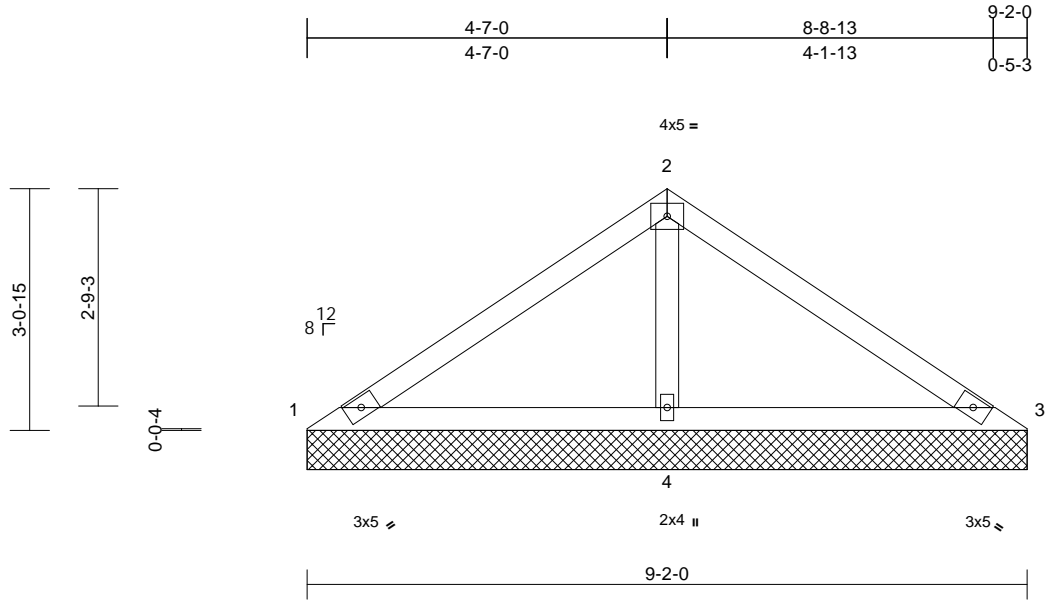
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V12	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807415
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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. Thu May 23 19:49:22
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Page: 1



Scale = 1:29.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.37	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MSH								
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 9-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=9-2-0, 3=9-2-0, 4=9-2-0
Max Horiz 1=-68 (LC 10)
Max Uplift 1=-35 (LC 21), 3=-35 (LC 20),
4=-72 (LC 14)
Max Grav 1=120 (LC 20), 3=120 (LC 21),
4=701 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

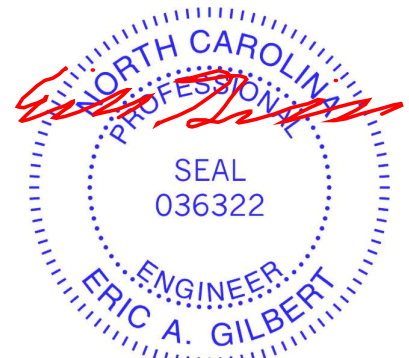
TOP CHORD 1-2=-109/349, 2-3=-109/349
BOT CHORD 1-4=-249/138, 3-4=-249/138
WEBS 2-4=-571/208

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) 0-0-6 to 3-0-6, Exterior(2R) 3-0-6 to 6-2-6, Exterior(2E) 6-2-6 to 9-2-6 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 4-0-0 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 35 lb uplift at joint 1, 35 lb uplift at joint 3 and 72 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 24, 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)



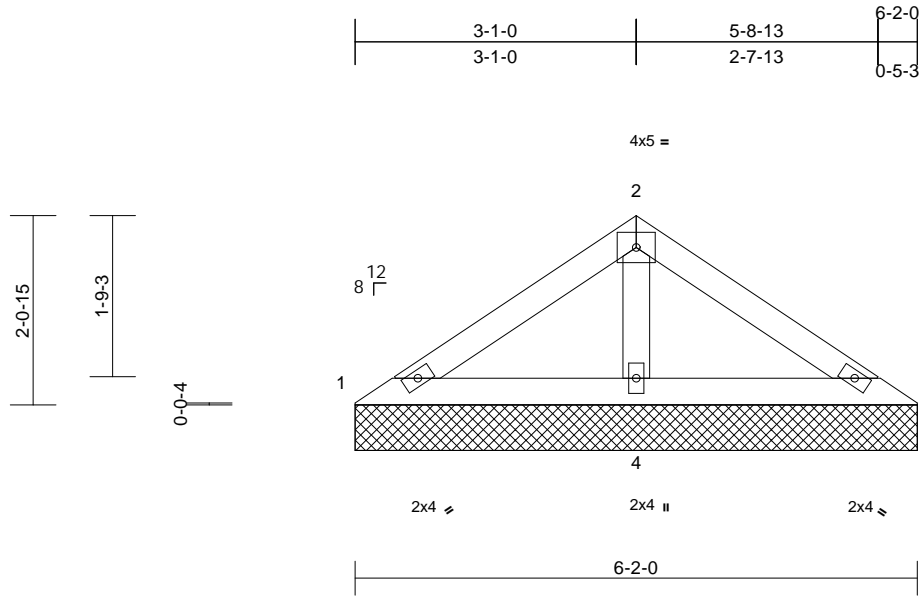
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V13	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	165807416
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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. Thu May 23 19:49:22
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Page: 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	0.15	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	0.06	Horiz(TL)	0.00	4	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
OTHERS 2x4 SP No.3

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

REACTIONS (size) 1=6-2-0, 3=6-2-0, 4=6-2-0
Max Horiz 1=45 (LC 11)
Max Uplift 1=-3 (LC 14), 3=-10 (LC 15), 4=-39 (LC 14)
Max Grav 1=98 (LC 20), 3=98 (LC 21), 4=403 (LC 21)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=-96/170, 2-3=-96/170
BOT CHORD 1-4=-145/107, 3-4=-145/107
WEBS 2-4=-308/135

- 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 1, 10 lb uplift at joint 3 and 39 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

- 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



May 24, 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/TPI 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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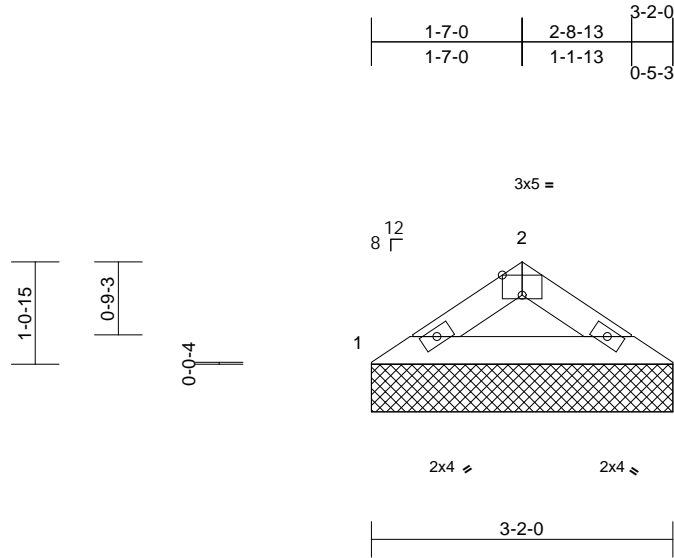
818 Soundside Road
Edenton, NC 27932

Job 24050081-01	Truss V14	Truss Type Valley	Qty 1	Ply 1	139 Serenity-Roof-B327 B CP GLH Job Reference (optional)	i65807417
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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. Thu May 23 19:49:22
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Page: 1



Scale = 1:24.2

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	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf)	20.0	Lumber DOL	1.15	BC	0.08	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: 9 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 3-2-0 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 1=3-2-0, 3=3-2-0
Max Horiz 1=21 (LC 11)
Max Uplift 1=-12 (LC 14), 3=-12 (LC 15)
Max Grav 1=143 (LC 20), 3=143 (LC 21)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-209/75, 2-3=-209/75
BOT CHORD 1-3=-50/165

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 12 lb uplift at joint 1 and 12 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 24, 2024

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

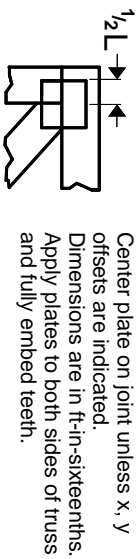
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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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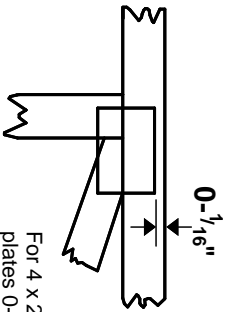
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

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

PLATE SIZE

4 X 4

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

LATERAL BRACING LOCATION



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

BEARING



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

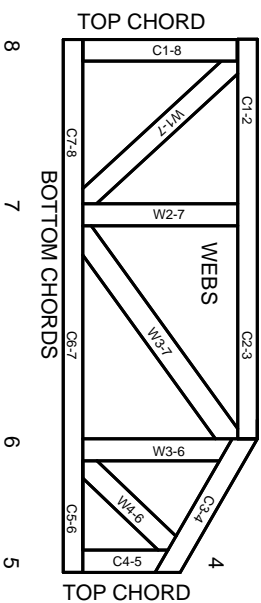
Industry Standards:

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

Numbering System



1 TOP CHORDS
2 JOINT ID TYP.



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

Lumber design values are in accordance with ANSI/TP1 section 6.3. These truss designs rely on lumber values established by others.

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

General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

1. Additional stability/bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/TP1 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TP1 1.
8. Unless otherwise noted, moisture content of lumber shall not exceed 19% at time of fabrication.
9. Unless expressly noted, this design is not applicable for use with fire retardant, preservative treated, or green lumber.
10. Camber is a non-structural consideration and is the responsibility of truss fabricator. General practice is to camber for dead load deflection.
11. Plate type, size, orientation and location dimensions indicated are minimum plating requirements.
12. Lumber used shall be of the species and size, and in all respects, equal to or better than that specified.
13. Top chords must be sheathed or purlins provided at spacing indicated on design.
14. Bottom chords require lateral bracing at 10 ft. spacing, or less, if no ceiling is installed, unless otherwise noted.
15. Connections not shown are the responsibility of others.
16. Do not cut or alter truss member or plate without prior approval of an engineer.
17. Install and load vertically unless indicated otherwise.
18. Use of green or treated lumber may pose unacceptable environmental, health or performance risks. Consult with project engineer before use.
19. Review all portions of this design (front, back, words and pictures) before use. Reviewing pictures alone is not sufficient.
20. Design assumes manufacture in accordance with ANSI/TP1 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.