

Trenco  
818 Soundside Rd  
Edenton, NC 27932

Re: P04059-27851  
902 Serenity

The truss drawing(s) referenced below have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by 84 Lumber 2383 (Dunn, NC).

Pages or sheets covered by this seal: I74944955 thru I74944998

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

North Carolina COA: C-0844



July 17, 2025

Gilbert, Eric

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

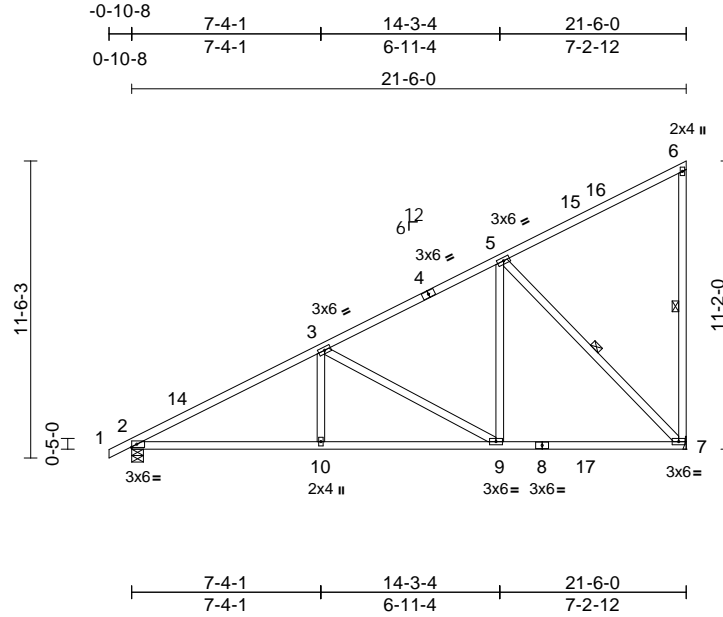
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944955
P04059-27851	A01	Monopitch	5	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:31

Page: 1

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Scale = 1:89.3

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	0.64	Vert(LL)	-0.12	7-9	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.20	10-13	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.74	Horz(CT)	0.04	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 126 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-0-14 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

WEBS 1 Row at midpt 6-7, 5-7

#### REACTIONS

(size) 2=0-5-8, 7= Mechanical  
Max Horiz 2=317 (LC 16)  
Max Uplift 2=-47 (LC 16), 7=-192 (LC 16)  
Max Grav 2=965 (LC 3), 7=944 (LC 3)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-1497/39, 3-5=-831/2,  
5-6=-125/71, 6-7=-176/70

BOT CHORD 2-10=-272/1278, 9-10=-272/1278,  
7-9=-137/675

WEBS 3-10=0/293, 3-9=-687/154, 5-9=-23/635,  
5-7=-952/193

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 21-4-4 zone; cantilever left and right exposed ; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 47 lb uplift at joint 2 and 192 lb uplift at joint 7.
- 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



July 17, 2025

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

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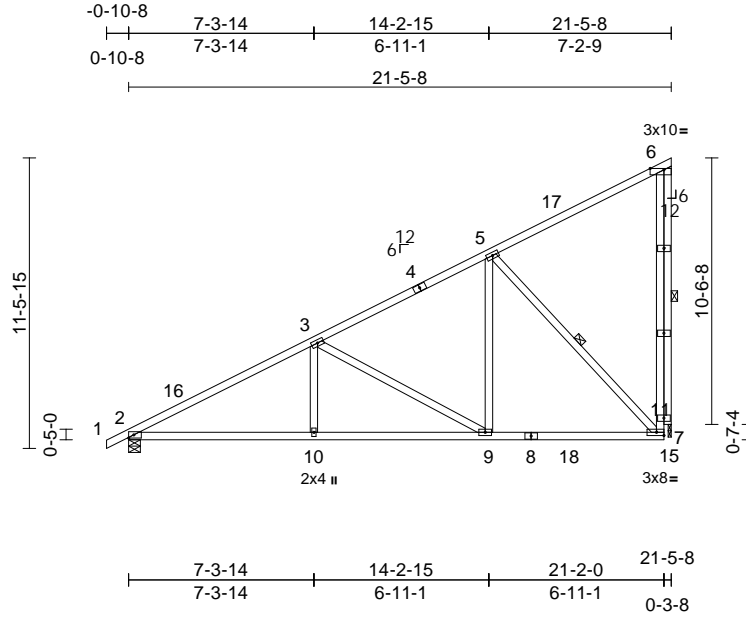
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944956
P04059-27851	A02	Monopitch	4	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:33

Page: 1

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Scale = 1:91.1

Plate Offsets (X, Y): [6:0-6-8,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	0.58	Vert(LL)	-0.10	10-14	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.20	10-14	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.75	Horz(CT)	0.03	15	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 140 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-1-3 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
WEBS 1 Row at midpt 5-7, 6-15

#### REACTIONS

(size) 2=0-5-8, 15=0-1-8  
Max Horiz 2=312 (LC 16)  
Max Uplift 2=-50 (LC 16), 15=-186 (LC 16)  
Max Grav 2=966 (LC 3), 15=912 (LC 3)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/23, 2-3=-1502/46, 3-5=-832/7,  
5-6=-149/37, 7-11=-121/787, 6-11=-121/787  
BOT CHORD 2-10=-273/1284, 9-10=-273/1284,  
7-9=-137/675  
WEBS 3-10=0/296, 3-9=-693/155, 5-9=-25/624,  
5-7=-921/187, 6-15=-913/186

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 21-0-4 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- All plates are 3x6 (=) MT20 unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Bearing at joint(s) 15 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) 15.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 2 and 186 lb uplift at joint 15.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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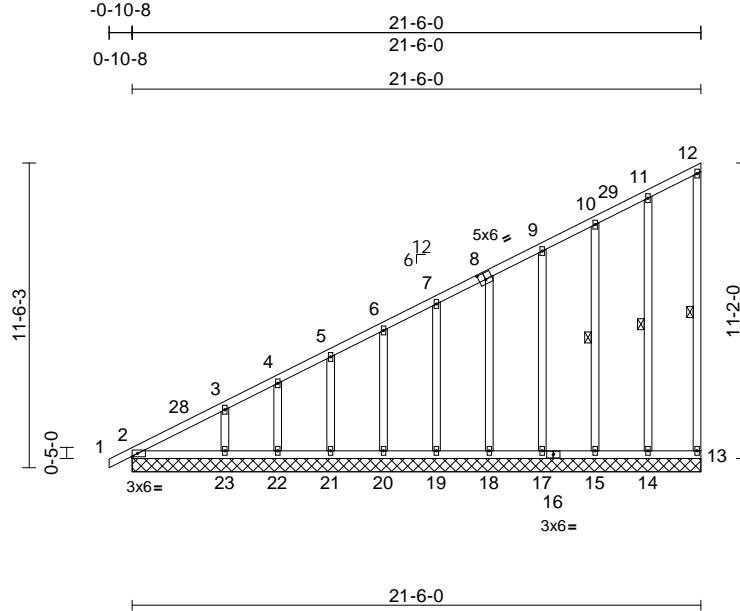
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	
P04059-27851	A05E	Monopitch Supported Gable	1	1	Job Reference (optional)	I74944957

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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Page: 1



Scale = 1:87.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	n/a	-	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.14	Horz(CT)	0.00	2	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 160 lb FT = 20%	

#### LUMBER

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

#### BRACING

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

WEBS 1 Row at midpt 12-13, 11-14, 10-15

REACTIONS	(size)	2=21-6-0, 13=21-6-0, 14=21-6-0, 15=21-6-0, 17=21-6-0, 18=21-6-0, 19=21-6-0, 20=21-6-0, 21=21-6-0, 22=21-6-0, 23=21-6-0
	Max Horiz	2=317 (LC 16)
	Max Uplift	13=17 (LC 16), 14=42 (LC 16), 15=40 (LC 16), 17=43 (LC 16), 18=40 (LC 16), 19=34 (LC 16), 20=38 (LC 16), 21=42 (LC 16), 22=20 (LC 16), 23=80 (LC 16)
	Max Grav	2=195 (LC 32), 13=77 (LC 2), 14=211 (LC 2), 15=192 (LC 2), 17=200 (LC 2), 18=187 (LC 2), 19=174 (LC 2), 20=179 (LC 2), 21=186 (LC 2), 22=127 (LC 2), 23=281 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/23, 2-3=-375/188, 3-4=-320/151, 4-5=-291/140, 5-6=-254/120, 6-7=-218/102, 7-9=-185/85, 9-10=-114/49, 10-11=-77/31, 11-12=-31/15, 12-13=-46/35
BOT CHORD	2-23=-91/66, 22-23=-2/4, 21-22=-2/4, 20-21=-2/4, 19-20=-2/4, 18-19=-2/4, 17-18=0/0, 15-17=0/0, 14-15=0/0, 13-14=0/0

#### WEBS

11-14=-125/91, 10-15=-118/60, 9-17=-129/58, 8-18=-119/57, 7-19=-110/50, 6-20=-121/56, 5-21=-125/59, 4-22=-95/42, 3-23=-187/101

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 21-4-4 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.

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

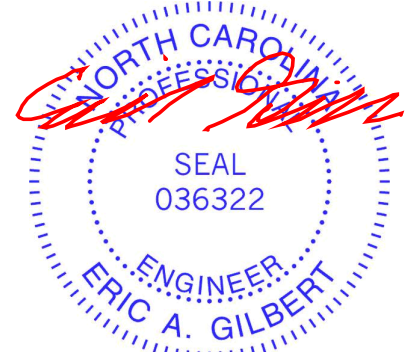
13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 13, 42 lb uplift at joint 14, 40 lb uplift at joint 15, 43 lb uplift at joint 17, 40 lb uplift at joint 18, 34 lb uplift at joint 19, 38 lb uplift at joint 20, 42 lb uplift at joint 21, 20 lb uplift at joint 22 and 80 lb uplift at joint 23.

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

15) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-12=35  
Trapezoidal Loads (lb/ft)



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Continued on page 2

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Job	Truss	Truss Type	Qty	Ply	902 Serenity
P04059-27851	A05E	Monopitch Supported Gable	1	1	174944957
Job Reference (optional)					

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

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Page: 2

Vert: 24=-20-to-26=-20 (F=0), 26=-20 (F=0)-  
to-23=-22 (F=-2), 23=-22 (F=-2)-to-22=-24 (F=-4),  
22=-24 (F=-4)-to-21=-25 (F=-5), 21=-25 (F=-5)-  
to-20=-27 (F=-7), 20=-27 (F=-7)-to-19=-28 (F=-8),  
19=-28 (F=-8)-to-18=-29 (F=-9), 18=-29 (F=-9)-  
to-17=-31 (F=-11), 17=-31 (F=-11)-to-16=-31 (F=-11),  
16=-31 (F=-11)-to-15=-32 (F=-12), 15=-32 (F=-12)-  
to-14=-34 (F=-14), 14=-34 (F=-14)-to-13=-35 (F=-15)



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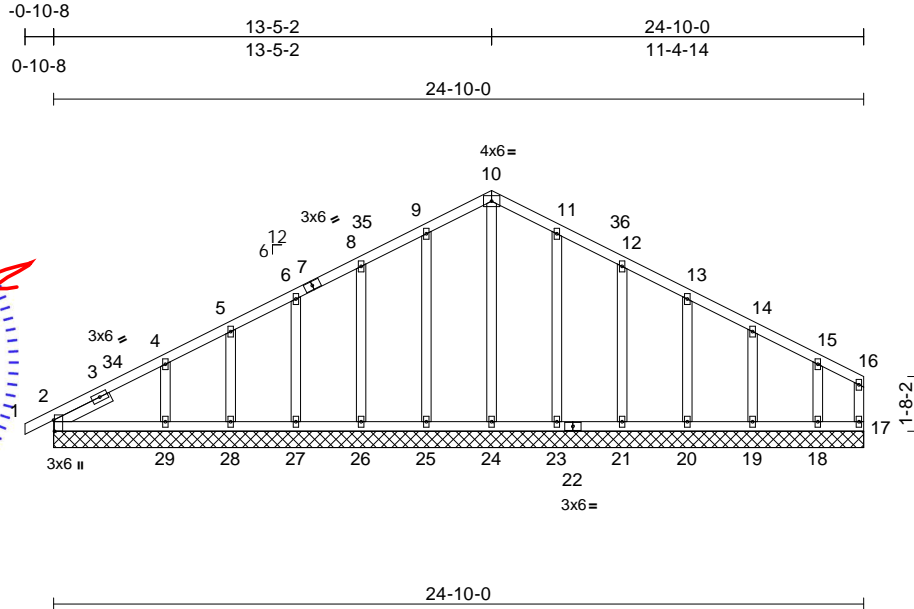
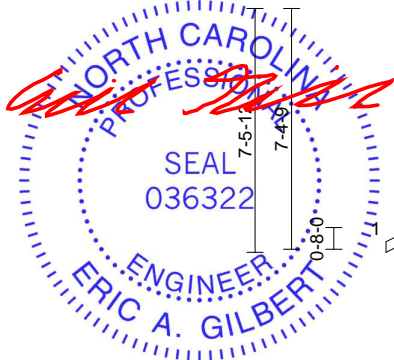


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944958
P04059-27851	B01E	Common Supported Gable	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:33  
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Page: 1



Scale = 1:70.6

Plate Offsets (X, Y): [2:0-4-1,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	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999	
TCDL	10.0	Rep Stress Incr	NO	WB	0.12	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 152 lb FT = 20%											

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2
OTHERS	2x4 SP No.2
SLIDER	Left 2x4 SP No.2 -- 1-11-0

#### BRACING

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

#### REACTIONS

(size)	2=24-10-0, 17=24-10-0, 18=24-10-0, 19=24-10-0, 20=24-10-0, 21=24-10-0, 23=24-10-0, 24=24-10-0, 25=24-10-0, 26=24-10-0, 27=24-10-0, 28=24-10-0, 29=24-10-0
Max Horiz	2=96 (LC 15)
Max Uplift	2=-23 (LC 17), 17=-4 (LC 16), 18=-60 (LC 17), 19=-39 (LC 17), 20=-40 (LC 17), 21=-41 (LC 17), 23=-37 (LC 17), 25=-38 (LC 16), 26=-38 (LC 16), 27=-41 (LC 16), 28=-21 (LC 16), 29=-79 (LC 16)
Max Grav	2=181 (LC 2), 17=64 (LC 33), 18=173 (LC 37), 19=204 (LC 2), 20=193 (LC 37), 21=190 (LC 2), 23=196 (LC 37), 24=185 (LC 33), 25=189 (LC 36), 26=173 (LC 2), 27=183 (LC 36), 28=130 (LC 2), 29=271 (LC 36)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
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TOP CHORD	1-2=0/23, 2-4=-94/73, 4-5=-79/80, 5-6=-65/98, 6-8=-69/133, 8-9=-82/169, 9-10=-94/202, 10-11=-94/202, 11-12=-82/169, 12-13=-69/132, 13-14=-57/97, 14-15=-44/61, 15-16=-40/26, 16-17=-37/14
BOT CHORD	2-29=-20/38, 28-29=-20/38, 27-28=-20/38, 26-27=-20/38, 25-26=-20/38, 24-25=-20/38, 23-24=-20/38, 21-23=-20/38, 20-21=-20/38, 19-20=-20/38, 18-19=-20/38, 17-18=-20/38
WEBS	10-24=-133/16, 9-25=-129/52, 8-26=-118/57, 6-27=-126/58, 5-28=-97/45, 4-29=-183/95, 11-23=-129/51, 12-21=-119/58, 13-20=-119/55, 14-19=-124/73, 15-18=-103/93

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 13-5-2, Corner(3R) 13-5-2 to 16-5-2, Exterior(2N) 16-5-2 to 24-8-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 23 lb uplift at joint 2, 4 lb uplift at joint 17, 38 lb uplift at joint 25, 38 lb uplift at joint 26, 41 lb uplift at joint 27, 21 lb uplift at joint 28, 79 lb uplift at joint 29, 37 lb uplift at joint 23, 41 lb uplift at joint 21, 40 lb uplift at joint 20, 39 lb uplift at joint 19, 60 lb uplift at joint 18 and 23 lb uplift at joint 2.

July 17,2025

Continued on page 2

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

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity
P04059-27851	B01E	Common Supported Gable	1	1	174944958
					Job Reference (optional)

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:33  
ID:yTQv5fjv4PUkMdXMHATQUuzxXRU-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 2

- 14) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 15) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
- Uniform Loads (lb/ft)
- Vert: 1-10=-35, 10-16=-35
- Trapezoidal Loads (lb/ft)
- Vert: 30=-20-to-32=-20 (F=-0), 32=-20 (F=0)-to-29=-22 (F=-2), 29=-22 (F=-2)-to-28=-23 (F=-3), 28=-23 (F=-3)-to-27=-25 (F=-5), 27=-25 (F=-5)-to-26=-26 (F=-6), 26=-26 (F=-6)-to-25=-27 (F=-7), 25=-27 (F=-7)-to-24=-28 (F=-8), 24=-28 (F=-8)-to-23=-29 (F=-9), 23=-29 (F=-9)-to-22=-30 (F=-10), 22=-30 (F=-10)-to-21=-31 (F=-11), 21=-31 (F=-11)-to-20=-32 (F=-12), 20=-32 (F=-12)-to-19=-33 (F=-13), 19=-33 (F=-13)-to-18=-34 (F=-14), 18=-34 (F=-14)-to-17=-35 (F=-15)



July 17, 2025

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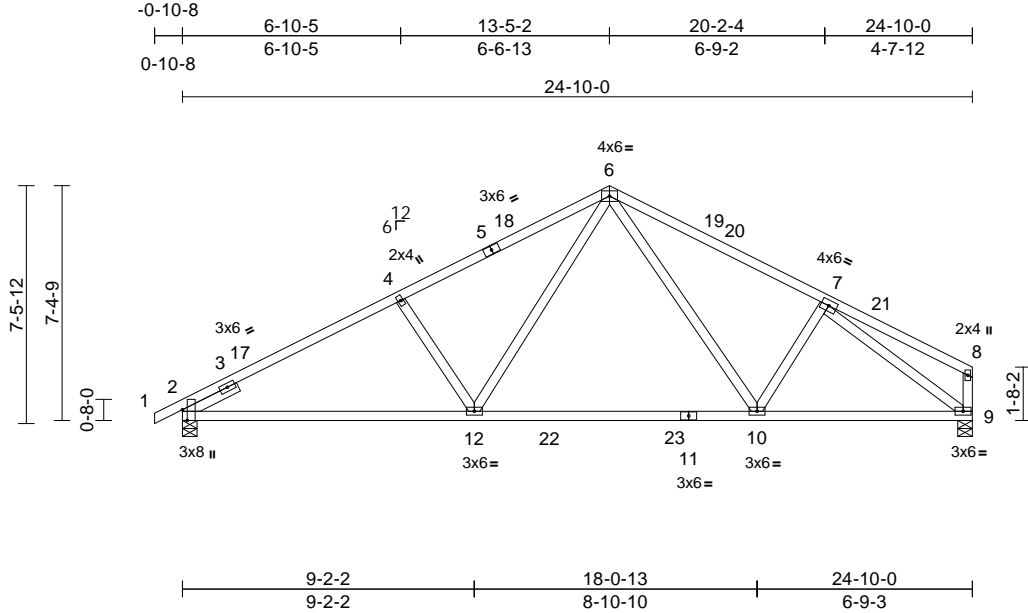
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944959
P04059-27851	B02	Common	3	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:34  
ID:XulmTdh1nU6AV9oob1vjfFzxXRX-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:72.4

Plate Offsets (X, Y): [2:0-4-1,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	0.60	Vert(LL)	-0.24	10-12	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.37	10-12	>793	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.78	Horz(CT)	0.05	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 129 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x4 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-11-13 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 9=0-5-8  
Max Horiz 2=96 (LC 15)  
Max Uplift 2=99 (LC 16), 9=76 (LC 17)  
Max Grav 2=1120 (LC 3), 9=1081 (LC 3)

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

TOP CHORD 1-2=0/23, 2-4=-1685/191, 4-6=-1536/215,  
6-7=-1357/198, 7-8=-102/55, 8-9=-113/33  
BOT CHORD 2-12=-167/1463, 10-12=-71/943,  
9-10=-127/1127

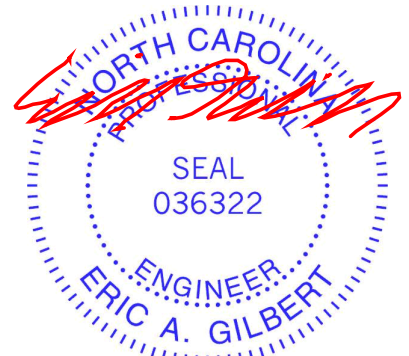
WEBS 4-12=-374/154, 6-12=-92/716, 6-10=-66/408,  
7-10=-120/139, 7-9=-1396/145

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-10-8 to 2-1-8, Interior (1) 2-1-8 to 13-5-2, Exterior(2R) 13-5-2 to 16-5-2, Interior (1) 16-5-2 to 24-8-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 2 and 76 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



July 17, 2025

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

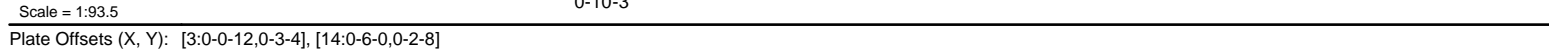
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

ENGINEERING BY  
**TRENCO**  
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818 Soundside Road  
Edenton, NC 27932



84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:34 Page: 1  
ID:XulmTdh1nU6AV9oob1vjtFzxRX-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCdoi7J4zJC?i



<b>LUMBER</b>		2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
TOP CHORD	2x4 SP No.2 *Except* 1-6:2x4 SP DSS	Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat.
BOT CHORD	2x4 SP No.2 *Except* 3-14:2x4 SP No.1	II; Exp B; Enclosed; MWFRS (envelope) exterior zone
WEBS	2x4 SP No.2	and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8
<b>BRACING</b>		to 13-5-2, Exterior(2R) 13-5-2 to 16-5-2, Interior (1)
TOP CHORD	Structural wood sheathing directly applied or	16-5-2 to 24-8-4 zone; cantilever left and right exposed ;
	2-4-0 oc purlins, except end verticals.	end vertical left and right exposed;C-C for members and
BOT CHORD	Rigid ceiling directly applied or 2-2-0 oc	forces & MWFRS for reactions shown; Lumber
	bracing.	DOL=1.60 plate grip DOL=1.60
WEBS	1 Row at midpt 4-14, 8-12	3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15
<b>REACTIONS</b>		Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL =
	(size) 11=0-5-8, 18=0-5-8	1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially
	Max Horiz 18=96 (LC 15)	Exp.; Ce=1.0; Cs=1.00; Ct=1.10
	Max Uplift 11=76 (LC 17), 18=100 (LC 16)	4) Unbalanced snow loads have been considered for this
	Max Grav 11=980 (LC 2), 18=1044 (LC 2)	design.
<b>FORCES</b>		5) This truss has been designed for greater of min roof live
	(lb) - Maximum Compression/Maximum	load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on
	Tension	overhangs non-concurrent with other live loads.
TOP CHORD	1-2=0/27, 2-3=-326/60, 3-4=-2906/302,	6) Building Designer/Project engineer responsible for
	4-5=-1764/231, 5-7=-1422/193,	verifying Rain Load = 5.0 (psf) covers rain loading
	7-8=-1311/228, 8-9=-1242/218, 9-10=-82/58,	requirements specific to the use of this truss component.
	10-11=-106/34	7) This truss has been designed for a 10.0 psf bottom
BOT CHORD	17-18=-96/58, 16-17=-101/53,	chord live load nonconcurrent with any other live loads.
	15-16=-58/285, 3-15=-248/2858,	8) * This truss has been designed for a live load of 20.0psf
	14-15=-325/2842, 13-14=0/143,	on the bottom chord in all areas where a rectangle
	7-14=-141/72, 12-13=-40/0, 11-12=-122/1039	3-06-00 tall by 2-00-00 wide will fit between the bottom
WEBS	4-14=-1272/141, 5-14=-428/140,	chord and any other members.
	12-14=-72/977, 8-14=-118/749,	9) Provide mechanical connection (by others) of truss to
	8-12=-101/210, 9-12=-113/127,	bearing plate capable of withstanding 100 lb uplift at joint
	9-11=-1301/136, 3-17=-489/92,	18 and 76 lb uplift at joint 11.
	2-18=-797/108	10) This truss is designed in accordance with the 2018
<b>NOTES</b>		International Residential Code sections R502.11.1 and
1) Unbalanced roof live loads have been considered for		R802.10.2 and referenced standard ANSI/TP1 1.
this design.		

WARNING – Verify design parameters and READ NOTES ON THIS AND INCLUDED MITTEL REFERENCE PAGE MIT-TR-17-0169, 1/12/2023 BEFORE USE.

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

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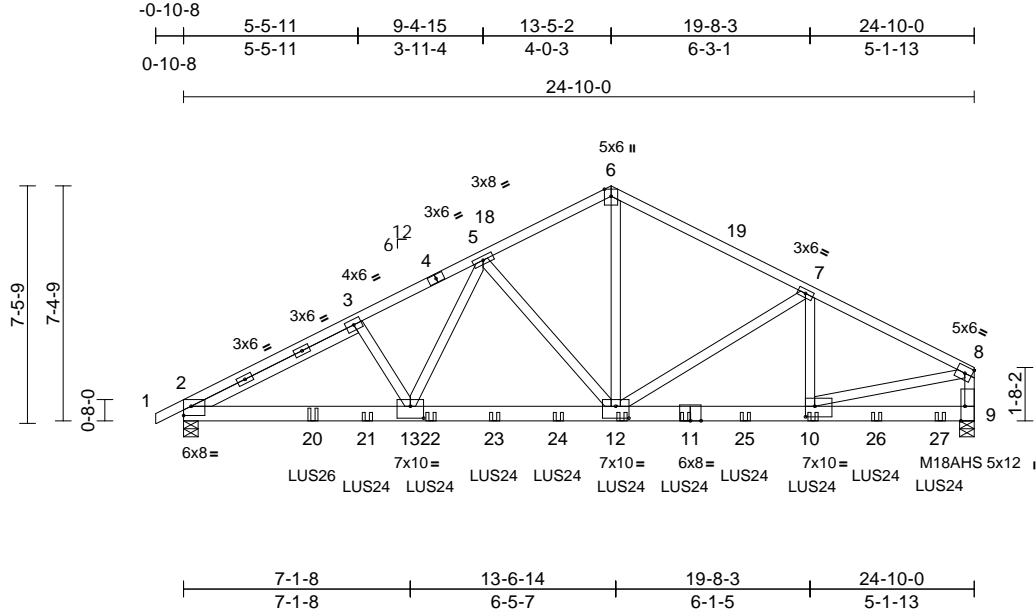
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944961
P04059-27851	B04G	Common Girder	1	2	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:34

Page: 1

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Scale = 1:72.4

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

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	0.85	Vert(LL)	-0.15	12-13	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	1.00	Vert(CT)	-0.29	12-13	>999	180	M18AHS	186/179
TCDL	10.0	Rep Stress Incr	NO	WB	0.76	Horz(CT)	0.06	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
Weight: 330 lb											FT = 20%	

#### LUMBER

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x6 SP DSS \*Except\* 11-9:2x6 SP No.2  
 WEBS 2x4 SP No.2  
 SLIDER Left 2x4 SP No.2 -- 5-8-14

#### BRACING

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

#### REACTIONS

(size) 2=0-5-8, 9=0-5-8  
 Max Horiz 2=111 (LC 38)  
 Max Uplift 2=627 (LC 12), 9=426 (LC 13)  
 Max Grav 2=5096 (LC 2), 9=5885 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/29, 2-3=5397/702, 3-5=8623/1061, 5-6=5853/636, 6-7=6006/651, 7-8=7138/601, 8-9=4926/423  
 BOT CHORD 2-13=968/7677, 12-13=740/6502, 10-12=494/6327, 9-10=23/384  
 WEBS 8-10=489/6181, 6-12=517/4928, 7-12=1350/80, 7-10=0/1038, 3-13=63/174, 5-13=465/2842, 5-12=2066/390

#### 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=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- All plates are MT20 plates unless otherwise indicated.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 627 lb uplift at joint 2 and 426 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Use Simpson Strong-Tie LUS26 (4-SD9112 Girder, 4-SD9212 Truss, Single Ply Girder) or equivalent at 4-0-12 from the left end to connect truss(es) to back face of bottom chord.

- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 6-0-0 oc max. starting at 5-9-4 from the left end to 15-9-4 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS24 (4-SD9112 Girder, 2-SD9212 Truss, Single Ply Girder) or equivalent spaced at 5-10-8 oc max. starting at 9-9-4 from the left end to 23-9-4 to connect truss(es) to back face of bottom chord.

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
 Uniform Loads (lb/ft)  
 Vert: 1-6=-35, 6-8=-35, 9-14=-20  
 Concentrated Loads (lb)  
 Vert: 11=-529 (B), 10=-603 (B), 12=-529 (B), 20=-949 (B), 21=-619 (B), 22=-615 (B), 23=-606 (B), 24=-600 (B), 25=-562 (B), 26=-570 (B), 27=-571 (B)



July 17, 2025

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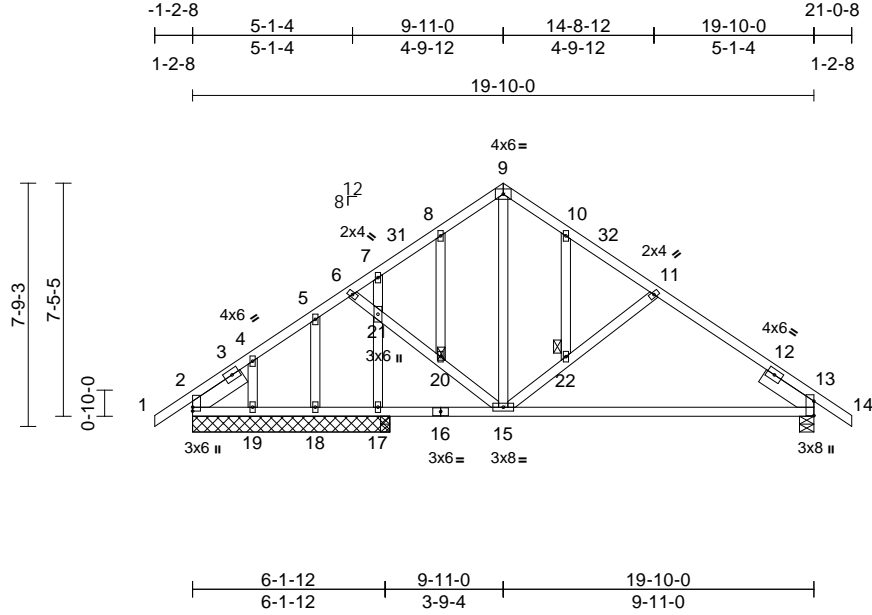
818 Soundside Road  
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944962
P04059-27851	C01E	Common Structural Gable	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:35  
ID:mdoALiogfFEu4Y\_WdQZqk9zxXRO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCdoi7J4zJC?7f

Page: 1



Scale = 1:73.6

Plate Offsets (X, Y): [2:Edge,0-0-0], [13:Edge,0-0-0]

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	0.32	Vert(LL)	-0.16	15-29	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.65	Vert(CT)	-0.32	15-29	>529	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.19	Horz(CT)	-0.01	13	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 131 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2
OTHERS	2x4 SP No.2
SLIDER	Left 2x6 SP No.2 -- 1-11-0, Right 2x6 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 5-11-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 20, 22

#### REACTIONS

(size)	2=6-3-8, 13=0-5-8, 17=6-3-8, 18=6-3-8, 19=6-3-8
Max Horiz	2=136 (LC 13)
Max Uplift	2=-24 (LC 10), 13=-70 (LC 15), 17=-86 (LC 14), 18=-1 (LC 14), 19=-92 (LC 14)
Max Grav	2=269 (LC 27), 13=674 (LC 2), 17=417 (LC 2), 18=299 (LC 2), 19=118 (LC 26)

#### FORCES

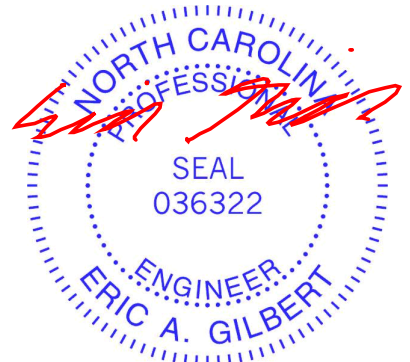
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/40, 2-4=-207/71, 4-5=-179/61, 5-6=-246/65, 6-7=-311/67, 7-8=-423/91, 8-9=-373/108, 9-10=-364/93, 10-11=-445/65, 11-13=-806/93, 13-14=0/40
BOT CHORD	2-19=-3/148, 18-19=-3/148, 17-18=-3/148, 15-17=-3/148, 13-15=-53/519
WEBS	9-15=-57/319, 15-22=-302/137, 11-22=-276/123, 6-21=0/231, 20-21=0/281, 15-20=0/257, 8-20=-53/27, 7-21=-311/61, 17-21=-393/90, 5-18=-250/22, 4-19=-80/92, 10-22=-45/23

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TC DL=6.0psf; BC DL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-11-0, Interior (1) 1-11-0 to 9-11-0, Exterior(2R) 9-11-0 to 12-11-0, Interior (1) 12-11-0 to 21-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 2, 86 lb uplift at joint 17, 1 lb uplift at joint 18, 92 lb uplift at joint 19, 70 lb uplift at joint 13 and 24 lb uplift at joint 2.

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

**LOAD CASE(S)** Standard



July 17, 2025

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

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

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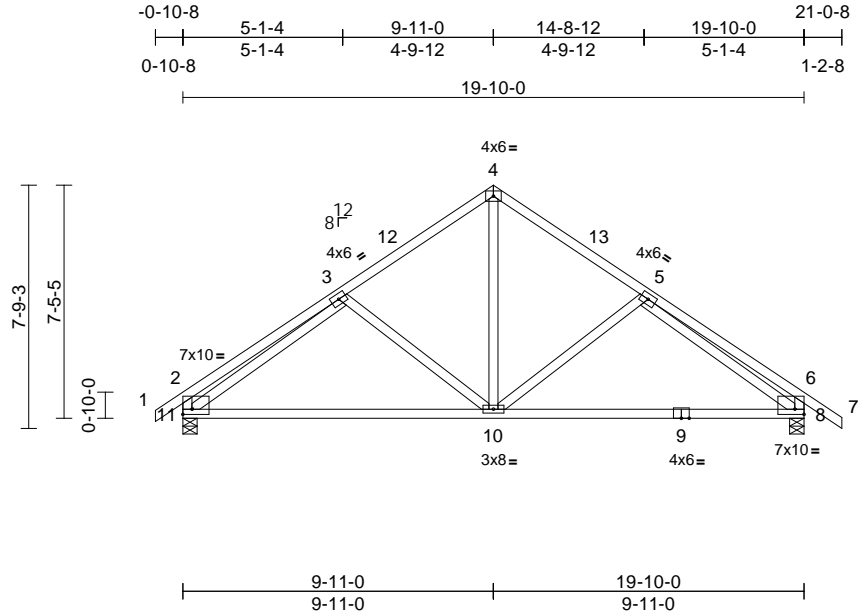
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944963
P04059-27851	C02	Common	4	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:35  
ID:mdoALiogfFEu4Y\_WdQZqk9zxXRO-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:73.6

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.30	Vert(LL)	-0.18	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.93	Vert(CT)	-0.36	10-11	>651	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 116 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

#### REACTIONS

(size) 8=0-5-8, 11=0-5-8  
Max Horiz 11=151 (LC 12)  
Max Uplift 8=76 (LC 15), 11=72 (LC 14)  
Max Grav 8=864 (LC 2), 11=842 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/34, 2-3=-402/95, 3-4=-770/114,  
4-5=-769/113, 5-6=-371/88, 6-7=0/45,  
2-11=-383/93, 6-8=-387/93

BOT CHORD 10-11=-89/747, 8-10=-16/735

WEBS 4-10=-49/520, 5-10=-234/139,

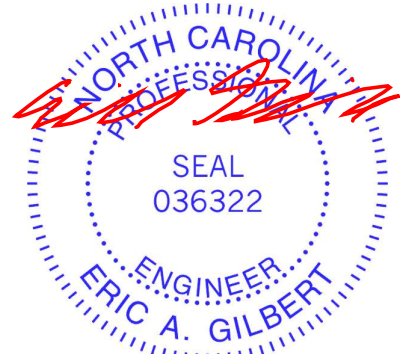
3-10=-238/140, 3-11=-599/48, 5-8=-629/60

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 12-11-0, Interior (1) 12-11-0 to 21-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- 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 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 72 lb uplift at joint 11 and 76 lb uplift at joint 8.
- 9) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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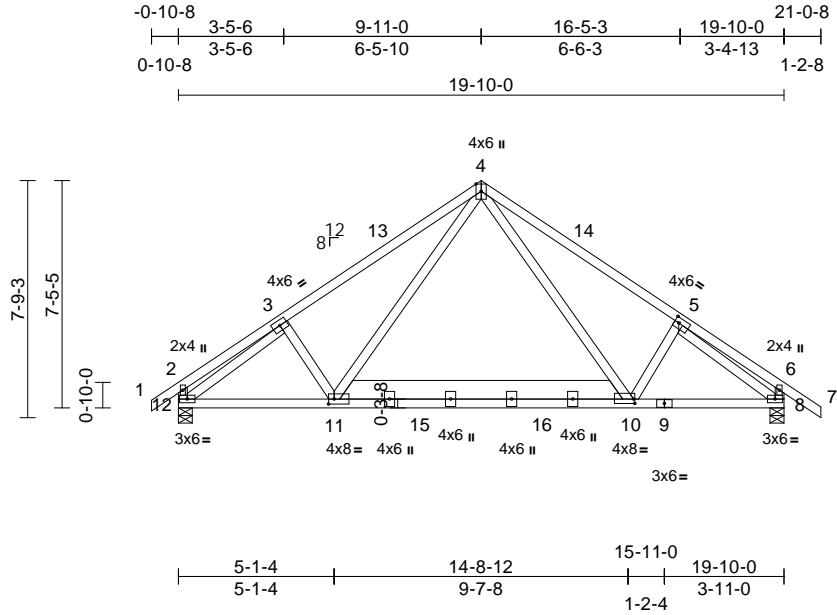
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944964
P04059-27851	C03	Common	2	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:35

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Scale = 1:75.5

Plate Offsets (X, Y): [5:0-1-12,0-2-0], [10:0-0-8,0-1-12], [11:0-2-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.05	10-11	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.11	10-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 144 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2 \*Except\* 11-10:2x8 SP DSS  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-2-13 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 8=0-5-8, 12=0-5-8  
Max Horiz 12=151 (LC 12)  
Max Uplift 8=26 (LC 15), 12=22 (LC 14)  
Max Grav 8=1010 (LC 27), 12=990 (LC 26)

#### FORCES

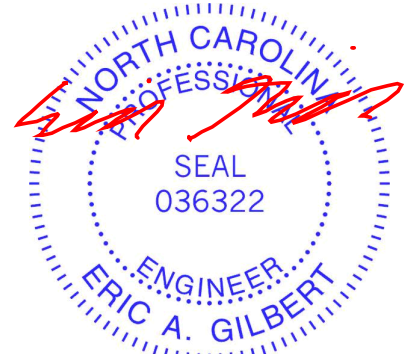
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/34, 2-3=151/28, 3-4=1192/77, 4-5=1194/79, 5-6=130/58, 6-7=0/45, 2-12=167/23, 6-8=171/26  
BOT CHORD 11-12=64/1066, 10-11=0/653, 8-10=0/947  
WEBS 4-11=32/582, 3-11=187/154, 3-12=1149/31, 4-10=35/577, 5-10=182/153, 5-8=1175/35

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 12-11-0, Interior (1) 12-11-0 to 21-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 100.0lb AC unit load placed on the bottom chord, 9-11-0 from left end, supported at two points, 4-0-0 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 8 and 22 lb uplift at joint 12.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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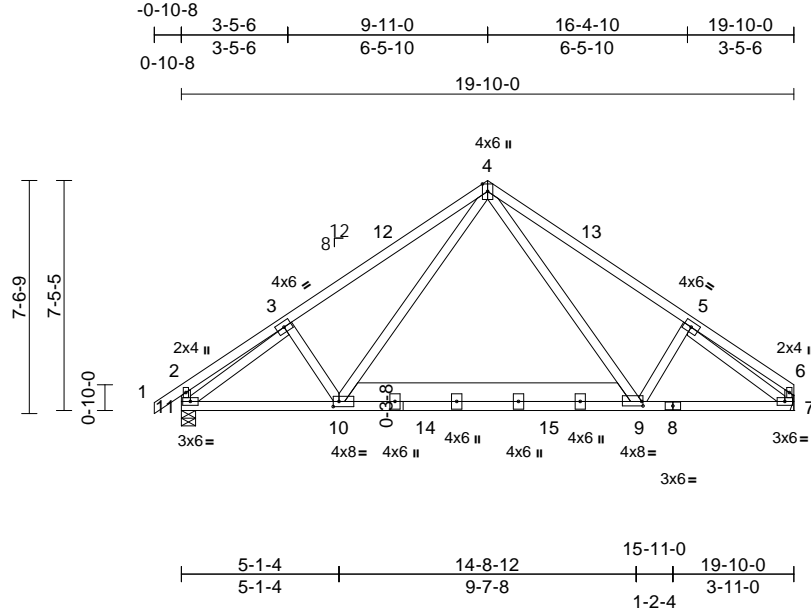
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944965
P04059-27851	C04	Common	2	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:36

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Scale = 1:74.6

Plate Offsets (X, Y): [9:0-0-8,0-1-12], [10:0-2-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	-0.05	9-10	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.44	Vert(CT)	-0.11	9-10	>999	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.02	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 142 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2 \*Except\* 10-9:2x8 SP DSS  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-3-4 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 7= Mechanical, 11=0-5-8  
Max Horiz 11=144 (LC 13)  
Max Uplift 7=-9 (LC 15), 11=-22 (LC 14)  
Max Grav 7=933 (LC 27), 11=992 (LC 26)

#### FORCES

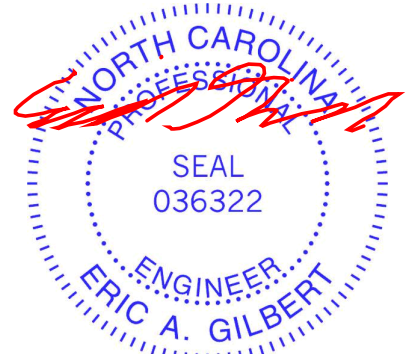
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/34, 2-3=-151/28, 3-4=-1195/77, 4-5=-1207/81, 5-6=-153/23, 6-7=-112/6, 2-11=-167/24  
BOT CHORD 10-11=-74/1060, 9-10=0/647, 7-9=-10/968  
WEBS 4-10=-32/581, 3-10=-187/154, 3-11=-1152/31, 4-9=-37/589, 5-9=-195/155, 5-7=-1147/24

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 12-11-0, Interior (1) 12-11-0 to 19-8-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 100.0lb AC unit load placed on the bottom chord, 9-11-0 from left end, supported at two points, 4-0-0 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 7 and 22 lb uplift at joint 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



July 17, 2025

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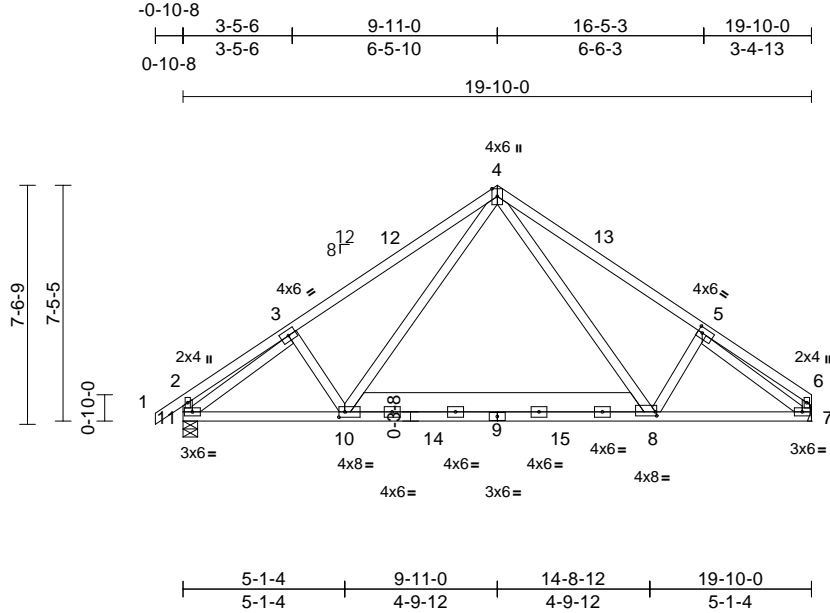
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944966
P04059-27851	C05	Common	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:36

Page: 1

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Scale = 1:72.7

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

Loading	(psf)	Spacing	2-1-8	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.79	Vert(LL)	-0.06	8-10	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.13	8-10	>999	180	
TCDL	10.0	Rep Stress Incr	NO	WB	0.37	Horz(CT)	0.02	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 142 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2 \*Except\* 10-8:2x8 SP DSS  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-11-6 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 7= Mechanical, 11=0-5-8  
Max Horiz 11=153 (LC 13)  
Max Uplift 7=-12 (LC 15), 11=-26 (LC 14)  
Max Grav 7=989 (LC 27), 11=1051 (LC 26)

#### FORCES

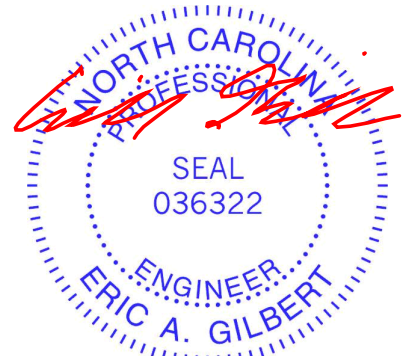
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/36, 2-3=-158/32, 3-4=-1267/86,  
4-5=-1279/90, 5-6=-160/25, 2-11=-176/25,  
6-7=-119/7  
BOT CHORD 10-11=-83/1124, 8-10=0/686, 7-8=-14/1025  
WEBS 4-10=-37/616, 3-10=-199/163,  
3-11=-1223/37, 4-8=-42/624, 5-8=-207/164,  
5-7=-1217/29

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 12-11-0, Interior (1) 12-11-0 to 19-8-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 100.0lb AC unit load placed on the bottom chord, 9-11-0 from left end, supported at two points, 4-0-0 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.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 26 lb uplift at joint 11 and 12 lb uplift at joint 7.
- 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



July 17, 2025

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

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

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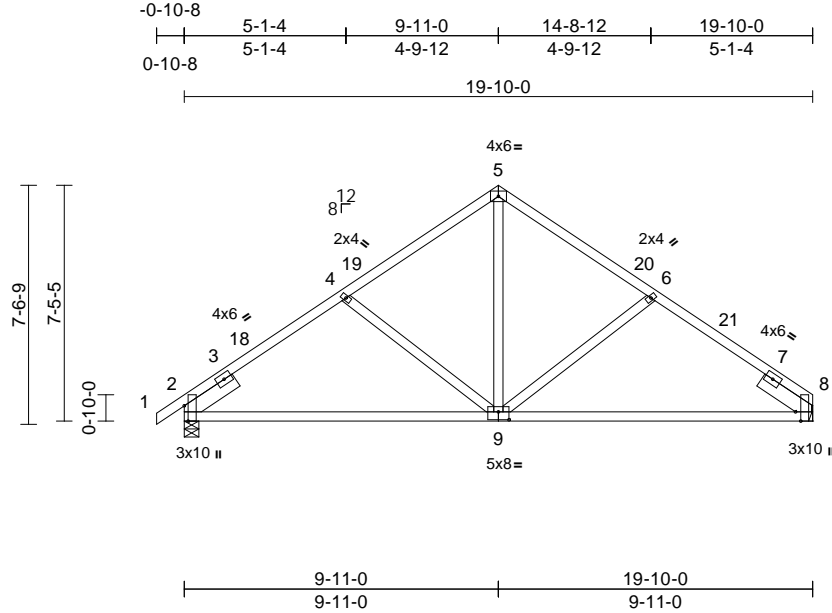
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944967
P04059-27851	C06	Common	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:36  
ID:BT?kYY1DyOl2TcWModwWYNzxXR4-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:72.7

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

Loading	(psf)	Spacing	2-1-8	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	-0.13	9-12	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.26	9-12	>914	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.19	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 104 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x6 SP No.2 -- 1-11-0, Right 2x6 SP No.2 -- 1-11-0

#### BRACING

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

**REACTIONS** (size) 2=0-5-8, 8= Mechanical  
Max Horiz 2=137 (LC 13)  
Max Uplift 2=-75 (LC 14), 8=-63 (LC 15)  
Max Grav 2=900 (LC 2), 8=842 (LC 2)

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

TOP CHORD 1-2=0/31, 2-4=-1046/110, 4-5=-833/120, 5-6=-834/119, 6-8=-1048/110

BOT CHORD 2-8=-150/827

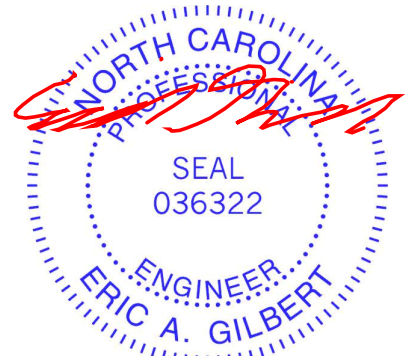
WEBS 5-9=-52/570, 6-9=-287/143, 4-9=-283/142

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 14-1-15, Interior (1) 14-1-15 to 19-10-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 63 lb uplift at joint 8 and 75 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



July 17, 2025

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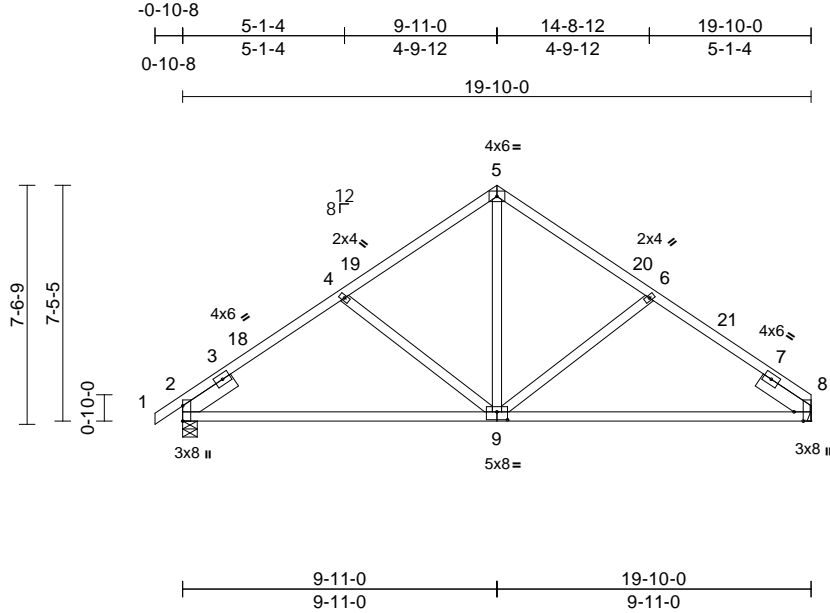
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944968
P04059-27851	C07	Common	2	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:37  
ID:BT?kYY1DyOl2TcWModwWYNzxXR4-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRcDoi7J4zJC?f

Page: 1



Scale = 1:72.7

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

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	0.28	Vert(LL)	-0.12	9-12	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.78	Vert(CT)	-0.24	9-12	>972	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 104 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x6 SP No.2 -- 1-11-0, Right 2x6 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-9-11 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 8= Mechanical  
Max Horiz 2=129 (LC 13)  
Max Uplift 2=-71 (LC 14), 8=-60 (LC 15)  
Max Grav 2=847 (LC 2), 8=792 (LC 2)

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

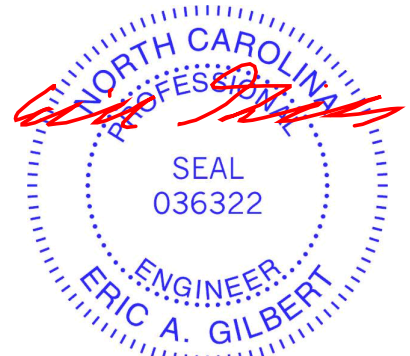
TOP CHORD 1-2=0/29, 2-4=-984/103, 4-5=-784/113, 5-6=-785/112, 6-8=-986/104  
BOT CHORD 2-8=-141/779  
WEBS 5-9=-49/536, 6-9=-270/134, 4-9=-266/134

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 9-11-0, Exterior(2R) 9-11-0 to 14-1-15, Interior (1) 14-1-15 to 19-10-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- 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 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 60 lb uplift at joint 8 and 71 lb uplift at joint 2.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



July 17, 2025

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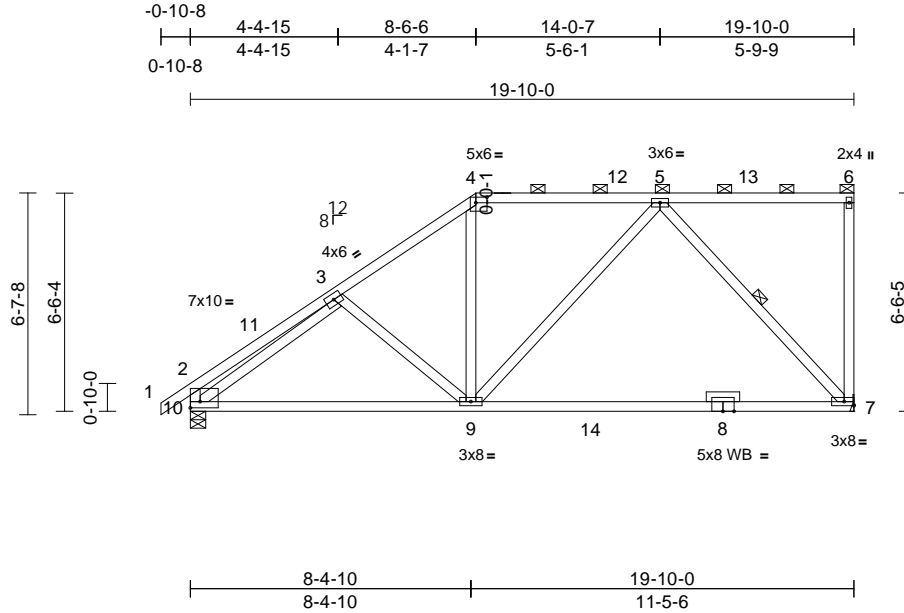
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944969
P04059-27851	C08	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:37  
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Page: 1



Scale = 1:68.9

Plate Offsets (X, Y): [2:Edge,0-2-4], [4:0-4-0,0-1-15]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.55	7-9	>423	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.81	Vert(CT)	-0.89	7-9	>262	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.02	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 122 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP DSS \*Except\* 8-7:2x4 SP No.1  
WEBS 2x4 SP No.2  
OTHERS 2x4 SP No.2

#### BRACING

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

**REACTIONS** (size) 7= Mechanical, 10=0-5-8  
Max Horiz 10=172 (LC 14)  
Max Uplift 7=-99 (LC 11), 10=-50 (LC 24)  
Max Grav 7=871 (LC 3), 10=900 (LC 3)

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

TOP CHORD 1-2=0/34, 2-3=-306/85, 3-4=-963/60, 4-5=-741/70, 5-6=-35/0, 6-7=-143/38, 2-10=-315/82  
BOT CHORD 9-10=-165/842, 7-9=-80/531  
WEBS 3-9=-157/124, 4-9=0/298, 5-9=-37/363, 5-7=-741/121, 3-10=-828/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-6-6, Exterior(2R) 8-6-6 to 12-9-5, Interior (1) 12-9-5 to 19-8-4 zone; cantilever left and right exposed ; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 99 lb uplift at joint 7 and 50 lb uplift at joint 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



July 17, 2025

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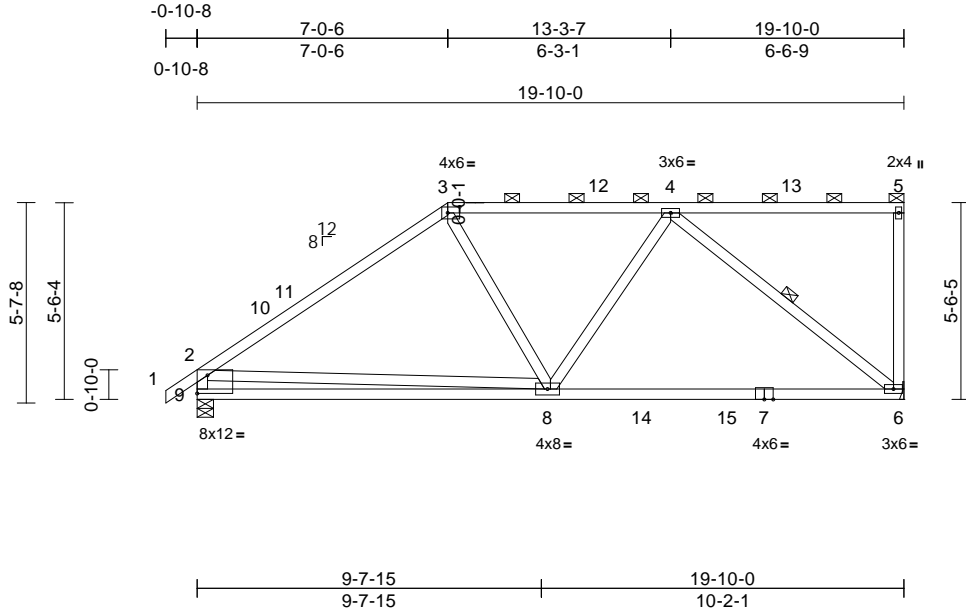
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944970
P04059-27851	C09	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:37  
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Page: 1



Scale = 1:64.7

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	-0.31	6-8	>750	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.53	6-8	>443	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.30	Horz(CT)	0.01	6	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 114 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP DSS \*Except\* 7-6:2x4 SP No.1  
WEBS 2x4 SP No.2

#### BRACING

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

#### REACTIONS

(size) 6= Mechanical, 9=0-5-8  
Max Horiz 9=143 (LC 14)  
Max Uplift 6=-101 (LC 11), 9=-47 (LC 14)  
Max Grav 6=854 (LC 3), 9=894 (LC 3)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/34, 2-3=-1002/82, 3-4=-856/72, 4-5=0/0, 2-9=-763/73  
BOT CHORD 8-9=-282/607, 6-8=-101/716  
WEBS 5-6=-150/42, 3-8=-6/280, 4-8=-6/307, 4-6=-924/130, 2-8=-139/345

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 7-0-6, Exterior(2R) 7-0-6 to 11-3-5, Interior (1) 11-3-5 to 19-8-4 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 47 lb uplift at joint 9 and 101 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 17, 2025

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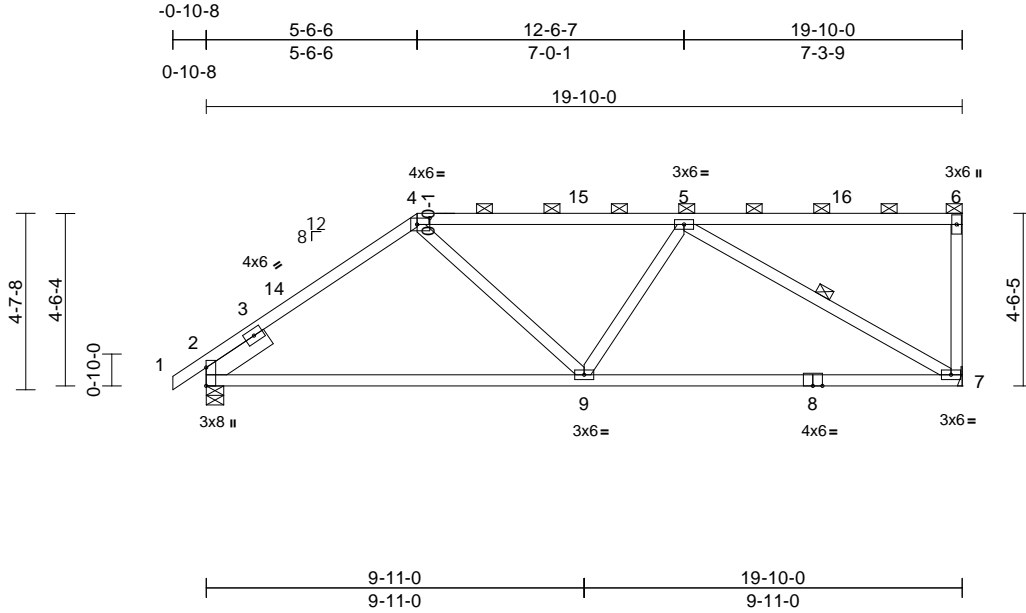


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944971
P04059-27851	C10	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:38  
ID:IQEo8Mn2uy61SOPK3j2bBxxXRP-RFC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:60.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.21	7-9	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.94	Vert(CT)	-0.43	7-9	>548	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.03	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 101 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x6 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-15 oc purlins, except end verticals, and 2-0-0 oc purlins (5-2-3 max.): 4-6.  
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.

WEBS 1 Row at midpt 5-7

#### REACTIONS

(size) 2=0-5-8, 7= Mechanical  
Max Horiz 2=121 (LC 14)  
Max Uplift 2=-40 (LC 14), 7=-103 (LC 11)  
Max Grav 2=841 (LC 2), 7=786 (LC 2)

#### FORCES

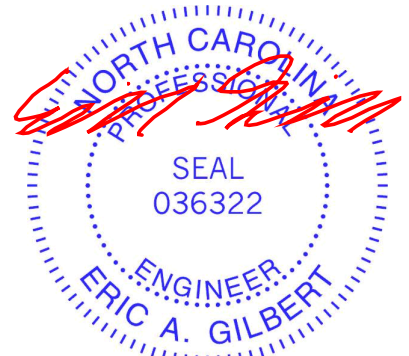
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/29, 2-4=-957/108, 4-5=-930/96, 5-6=-38/2, 6-7=-182/50  
BOT CHORD 2-9=-154/741, 7-9=-134/912  
WEBS 4-9=-24/327, 5-9=-10/237, 5-7=-1016/154

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 5-6-6, Exterior(2R) 5-6-6 to 9-9-5, Interior (1) 9-9-5 to 19-8-4 zone; cantilever left and right exposed ; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 40 lb uplift at joint 2 and 103 lb uplift at joint 7.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 17,2025

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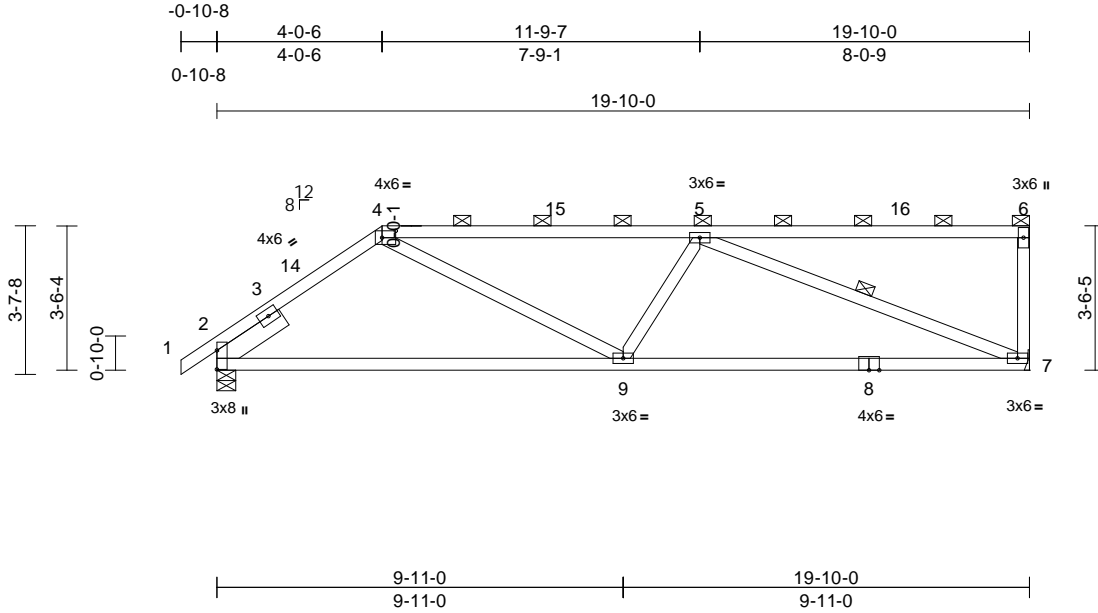


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944972
P04059-27851	C11	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:38  
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Page: 1



Scale = 1:56.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.22	7-9	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.45	7-9	>525	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.03	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 98 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x6 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 5-8-6 oc purlins, except end verticals, and 2-0-0 oc purlins (3-8-11 max.): 4-6.  
BOT CHORD Rigid ceiling directly applied or 2-2-0 oc bracing.  
WEBS 1 Row at midpt 5-7

**REACTIONS** (size) 2=0-5-8, 7= Mechanical  
Max Horiz 2=92 (LC 14)  
Max Uplift 2=-56 (LC 11), 7=-105 (LC 11)  
Max Grav 2=841 (LC 2), 7=786 (LC 2)

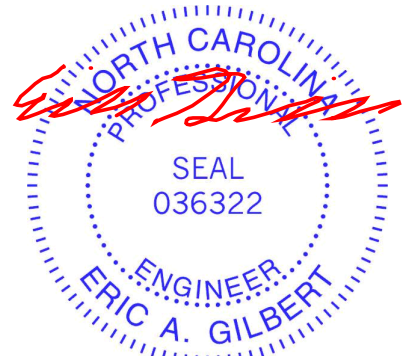
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/29, 2-4=-993/132, 4-5=-1241/139, 5-6=-62/4, 6-7=-203/55  
BOT CHORD 2-9=-115/788, 7-9=-185/1268  
WEBS 4-9=-52/549, 5-9=-76/201, 5-7=-1304/195

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 4-0-6, Exterior(2R) 4-0-6 to 8-3-5, Interior (1) 8-3-5 to 19-8-4 zone; cantilever left and right exposed; end vertical left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 56 lb uplift at joint 2 and 105 lb uplift at joint 7.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



July 17, 2025

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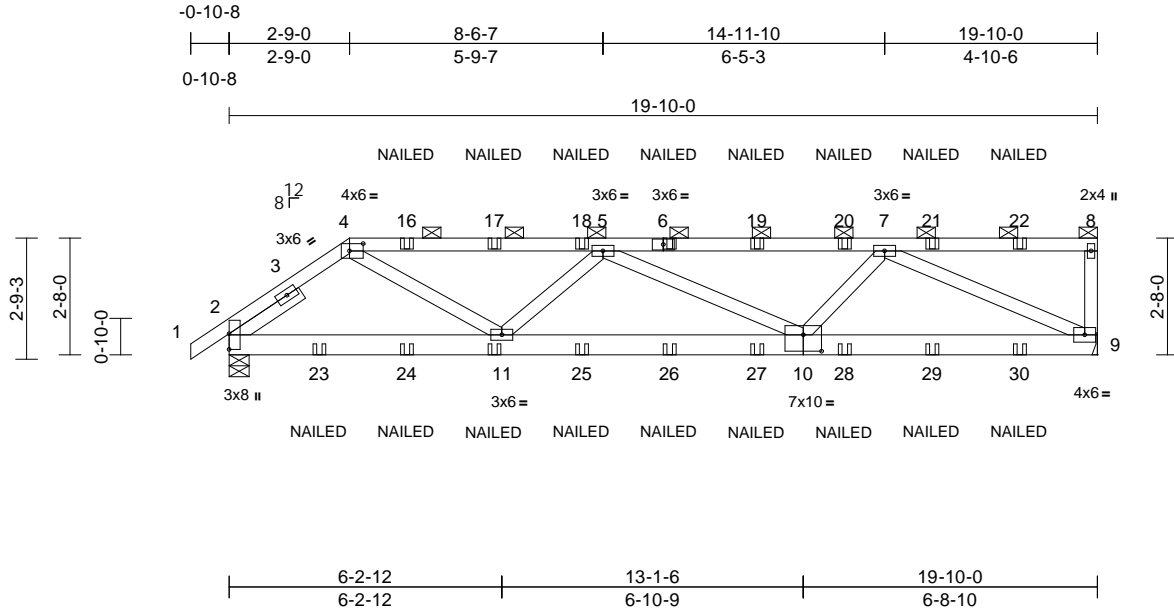
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944973
P04059-27851	C12G	Half Hip Girder	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:38  
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Page: 1



Scale = 1:52.6

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

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	0.74	Vert(LL)	-0.08	10-11	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.17	10-11	>999	180	
TCDL	10.0	Rep Stress Incr	NO	WB	0.94	Horz(CT)	0.04	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 113 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x4 SP No.2 -- 1-11-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-8-15 oc purlins, except end verticals, and 2-0-0 oc purlins (3-4-9 max.): 4-8.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 9= Mechanical  
Max Horiz 2=68 (LC 10)  
Max Uplift 2=-163 (LC 7), 9=-190 (LC 7)  
Max Grav 2=1167 (LC 2), 9=1083 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/29, 2-4=-1435/260, 4-5=-2030/331, 5-7=-2098/337, 7-8=-47/7, 8-9=-143/47  
BOT CHORD 2-11=-220/1163, 9-11=-463/2413  
WEBS 5-11=-552/197, 4-11=-137/1047, 5-10=-353/141, 7-10=0/577, 7-9=-1940/374

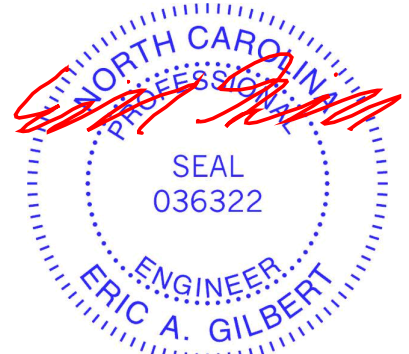
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed ; end vertical left 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); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 190 lb uplift at joint 9 and 163 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-35, 4-8=-45, 9-12=-20  
Concentrated Loads (lb)  
Vert: 6=-47 (F), 11=-23 (F), 16=-47 (F), 17=-47 (F), 18=-47 (F), 19=-47 (F), 20=-47 (F), 21=-47 (F), 22=-47 (F), 23=-98 (F), 24=-23 (F), 25=-23 (F), 26=-23 (F), 27=-23 (F), 28=-23 (F), 29=-23 (F), 30=-23 (F)



July 17, 2025

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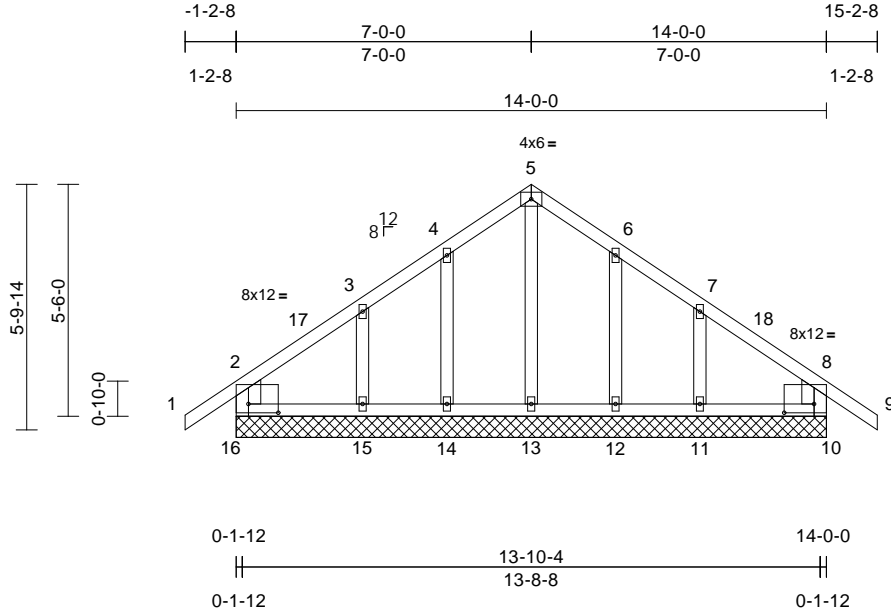
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944974
P04059-27851	D01E	Common Supported Gable	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:39

Page: 1

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Scale = 1:54.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.08	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	10	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
										Weight: 78 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size)	10=14-0-0, 11=14-0-0, 12=14-0-0, 13=14-0-0, 14=14-0-0, 15=14-0-0, 16=14-0-0
	Max Horiz	16=120 (LC 12)
	Max Uplift	10=30 (LC 14), 11=81 (LC 15), 12=42 (LC 15), 14=40 (LC 14), 15=78 (LC 14), 16=33 (LC 15)
	Max Grav	10=241 (LC 2), 11=263 (LC 27), 12=179 (LC 33), 13=167 (LC 29), 14=172 (LC 32), 15=227 (LC 26), 16=218 (LC 2)

#### FORCES

TOP CHORD	(lb) - Maximum Compression/Maximum Tension	2-16=-190/116, 1-2=0/50, 2-3=-106/65, 3-4=-91/120, 4-5=-115/173, 5-6=-115/172, 6-7=-92/121, 7-8=-90/56, 8-9=0/50, 8-10=-188/115
		15-16=-38/67, 14-15=-38/67, 13-14=-38/67, 12-13=-38/67, 11-12=-38/67, 10-11=-38/67
BOT CHORD		5-13=-134/42, 4-14=-123/71, 3-15=-154/107, 6-12=-122/71, 7-11=-154/108

#### NOTES

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -1-2-8 to 1-9-8, Exterior(2N) 1-9-8 to 7-0-0, Corner(3R) 7-0-0 to 10-0-0, Exterior(2N) 10-0-0 to 15-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Bearing at joint(s) 16, 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 33 lb uplift at joint 16, 30 lb uplift at joint 10, 40 lb uplift at joint 14, 78 lb uplift at joint 15, 42 lb uplift at joint 12 and 81 lb uplift at joint 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.
  - In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-2=-35, 2-5=-35, 5-8=-35, 8-9=-35  
Trapezoidal Loads (lb/ft)  
Vert: 16=-20-to-15=-23 (F=-3), 15=-23 (F=-3)-to-14=-25 (F=-5), 14=-25 (F=-5)-to-13=-27 (F=-7), 13=-27 (F=-7)-to-12=-30 (F=-10), 12=-30 (F=-10)-to-11=-32 (F=-12), 11=-32 (F=-12)-to-10=-35 (F=-15)



July 17, 2025

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818 Soundside Road  
Edenton, NC 27932

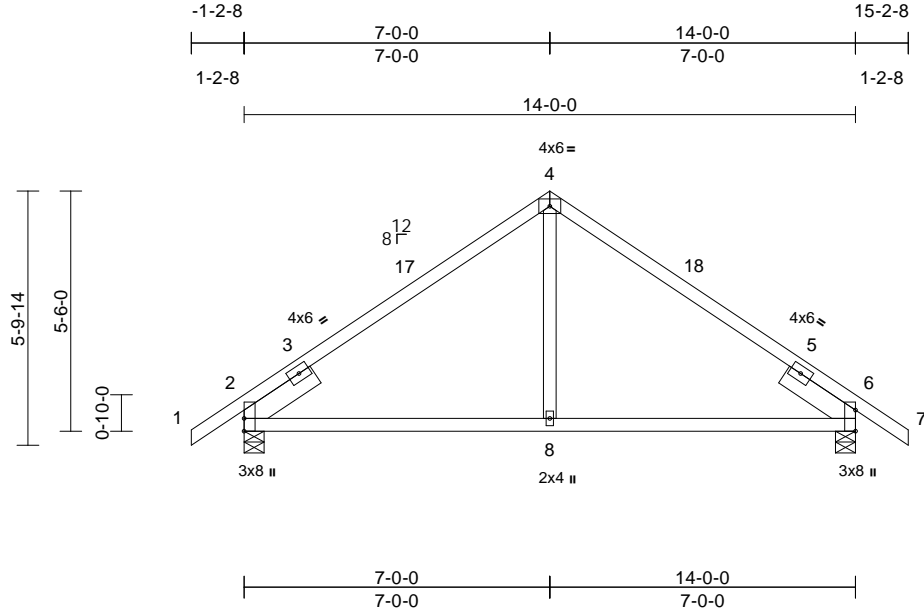
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944975
P04059-27851	D02	Common	4	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:39

Page: 1

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Scale = 1:52.8

Plate Offsets (X, Y): [2:Edge,0-0-0], [6:Edge,0-0-0]

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	0.55	Vert(LL)	-0.07	8-11	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	-0.11	8-11	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 67 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2
SLIDER	Left 2x6 SP No.2 -- 1-11-0, Right 2x6 SP No.2 -- 1-11-0

#### BRACING

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

#### REACTIONS

(size)	2=0-5-8, 6=0-5-8
Max Horiz	2=-101 (LC 12)
Max Uplift	2=-57 (LC 14), 6=-57 (LC 15)
Max Grav	2=633 (LC 2), 6=633 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
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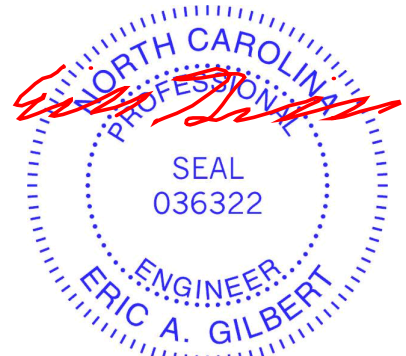
TOP CHORD	1-2=0/40, 2-4=-510/112, 4-6=-510/112, 6-7=0/40
BOT CHORD	2-8=-150/424, 6-8=-100/424
WEBS	4-8=0/302

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 7-0-0, Exterior(2R) 7-0-0 to 10-0-0, Interior (1) 10-0-0 to 15-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.0

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 57 lb uplift at joint 2 and 57 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



July 17, 2025

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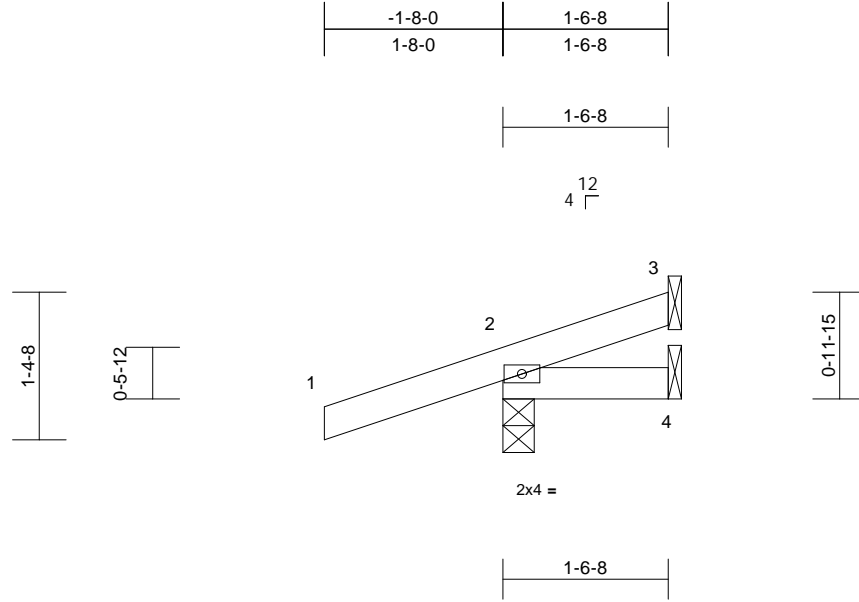
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944976
P04059-27851	J01	Jack-Open	2	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:39  
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Scale = 1:21.5

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	0.19	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	4-7	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 7 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size) 2=0-3-8, 3= Mechanical, 4= Mechanical  
Max Horiz 2=36 (LC 12)  
Max Uplift 2=-83 (LC 12), 3=-6 (LC 16), 4=-6 (LC 2)  
Max Grav 2=216 (LC 2), 3=13 (LC 2), 4=18 (LC 7)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-103/130  
BOT CHORD 2-4=-95/61

#### NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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; porch left exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.

- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 2, 6 lb uplift at joint 4 and 6 lb uplift at joint 3.
- 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



July 17, 2025

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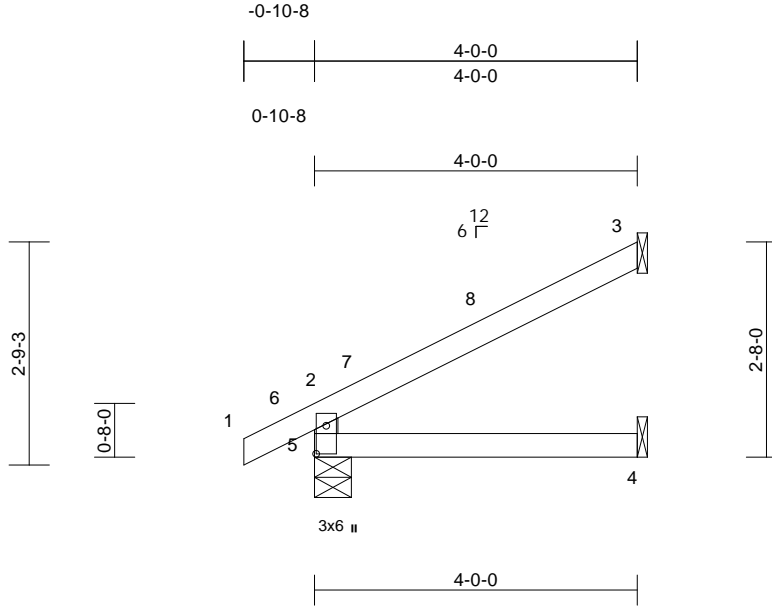


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944977
P04059-27851	J02	Jack-Open	8	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:39  
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Page: 1



Scale = 1:28.5

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

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	0.21	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	4-5	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 15 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

**REACTIONS** (size) 3= Mechanical, 4= Mechanical, 5=0-5-8  
Max Horiz 5=63 (LC 16)  
Max Uplift 3=-41 (LC 16), 5=-15 (LC 16)  
Max Grav 3=100 (LC 2), 4=71 (LC 7), 5=221 (LC 2)

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

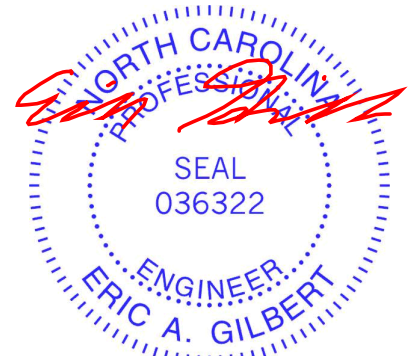
TOP CHORD 1-2=0/27, 2-3=-62/35, 2-5=-189/103  
BOT CHORD 4-5=0/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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 3-11-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 41 lb uplift at joint 3 and 15 lb uplift at joint 5.
- 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



July 17, 2025

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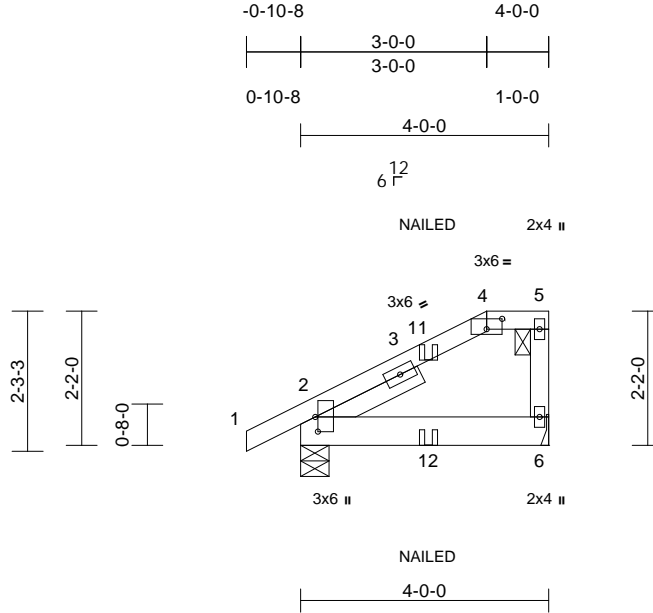


Job	Truss	Truss Type	Qty	Ply	902 Serenity
P04059-27851	J03	Half Hip Girder	1	1	174944978
Job Reference (optional)					

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:40  
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Page: 1



Scale = 1:37.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.34	Vert(LL)	-0.01	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.02	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 22 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.2  
SLIDER Left 2x4 SP No.2 -- 1-10-1

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-0-0 oc purlins, except 2-0-0 oc purlins: 4-5.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-5-8, 6= Mechanical  
Max Horiz 2=54 (LC 12)  
Max Uplift 2=-25 (LC 12), 6=-23 (LC 12)  
Max Grav 2=229 (LC 34), 6=135 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/31, 2-4=-189/505, 4-5=0/0  
BOT CHORD 2-6=0/0  
WEBS 5-6=-27/7

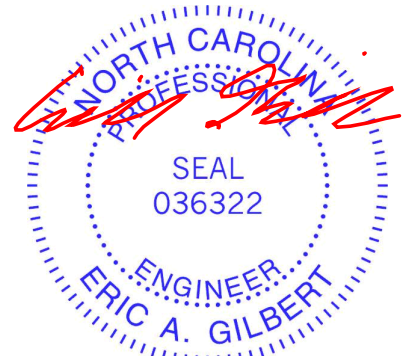
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left 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); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 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 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 25 lb uplift at joint 2 and 23 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-35, 4-5=-45, 6-7=-20  
Concentrated Loads (lb)  
Vert: 11=-12 (B), 12=-1 (B)



July 17, 2025

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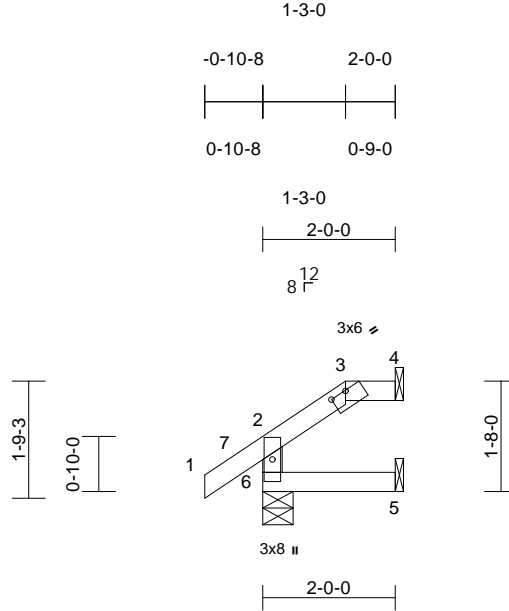
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944979
P04059-27851	J04	Jack-Open	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:40  
ID:3zjpp5t30P7uPc0sXPBTWdzxXRH-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:34.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.08	Vert(LL)	0.00	5-6	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0											
											Weight: 9 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 4= Mechanical, 5= Mechanical, 6=0-5-8  
Max Horiz 6=33 (LC 16)  
Max Uplift 4=15 (LC 13), 5=-1 (LC 16), 6=-11 (LC 16)  
Max Grav 4=42 (LC 37), 5=33 (LC 7), 6=163 (LC 38)

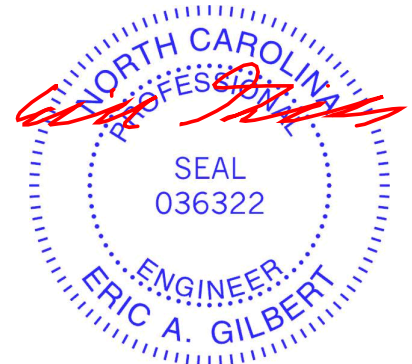
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-6=-141/81, 1-2=0/39, 2-3=-41/5, 3-4=0/0  
BOT CHORD 5-6=0/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 6, 15 lb uplift at joint 4 and 1 lb uplift at joint 5.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

**LOAD CASE(S)** Standard



July 17, 2025

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

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

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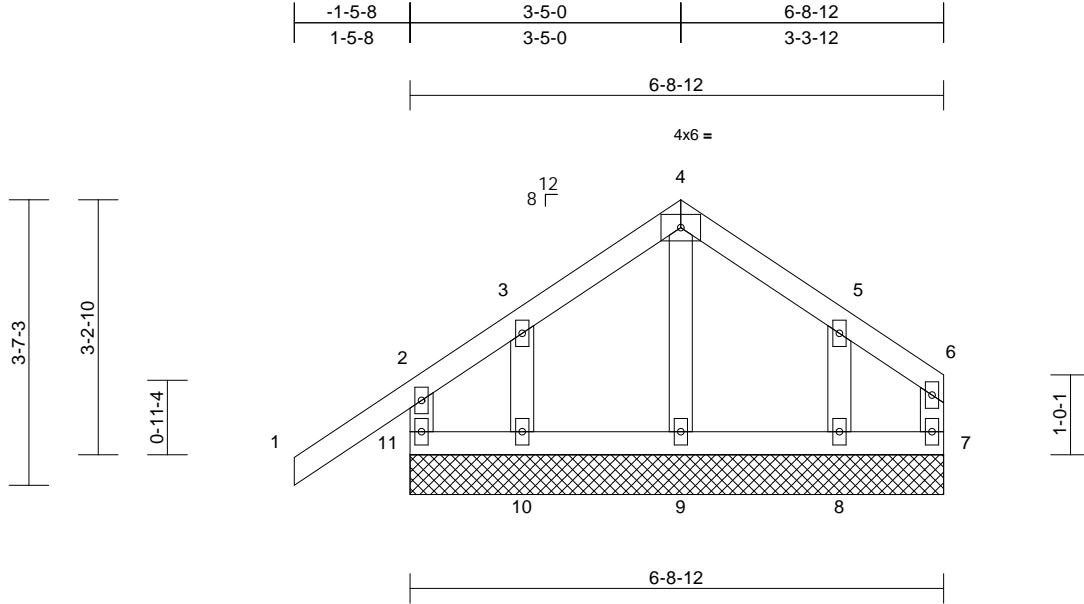
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944980
P04059-27851	P01E	Common Supported Gable	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:40  
ID:mSJQ5HG4b8UbEwvxtPDex8EA-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
BCDL	10.0										Weight: 35 lb	FT = 20%

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

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

**REACTIONS** (size) 7=6-8-12, 8=6-8-12, 9=6-8-12, 10=6-8-12, 11=6-8-12  
Max Horiz 11=73 (LC 11)  
Max Uplift 7=20 (LC 11), 8=56 (LC 15), 10=47 (LC 14), 11=19 (LC 14)  
Max Grav 7=34 (LC 12), 8=204 (LC 27), 9=203 (LC 2), 10=120 (LC 26), 11=180 (LC 2)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/53, 2-3=-45/58, 3-4=-47/99, 4-5=-46/95, 5-6=-18/50, 6-7=-16/14, 2-11=-161/188  
BOT CHORD 10-11=-31/39, 9-10=-31/39, 8-9=-31/39, 7-8=-31/39  
WEBS 4-9=-137/0, 3-10=-108/73, 5-8=-127/140

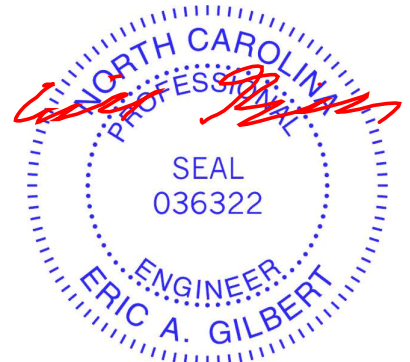
**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner(3E) -1-5-8 to 1-5-0, Exterior(2N) 1-5-0 to 3-5-0, Corner(3E) 3-5-0 to 6-7-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 19 lb uplift at joint 11, 20 lb uplift at joint 7, 47 lb uplift at joint 10 and 56 lb uplift at joint 8.
- Non Standard bearing condition. Review required.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-2=-35, 2-4=-35, 4-6=-35

Trapezoidal Loads (lb/ft)  
Vert: 11=-20-to-10=-23 (F=-3), 10=-23 (F=-3)-to-9=-28 (F=-8), 9=-28 (F=-8)-to-8=-32 (F=-12), 8=-32 (F=-12)-to-7=-35 (F=-15)



July 17, 2025

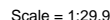
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

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84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:41 Page: 1  
ID:EftodRluruGLDOUmTeOemszx8E9-RfC?PsB70Hq3NSaPqnL8w3uITXbGKWrcDoi7J4zJC?i



- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 40 lb uplift at joint 7 and 18 lb uplift at joint 5.
- 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

July 17, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITER REFERENCE PAGE MIT-7473 Rev. 1/2/2023 BEFORE USE.**

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A MULTI-SECTOR

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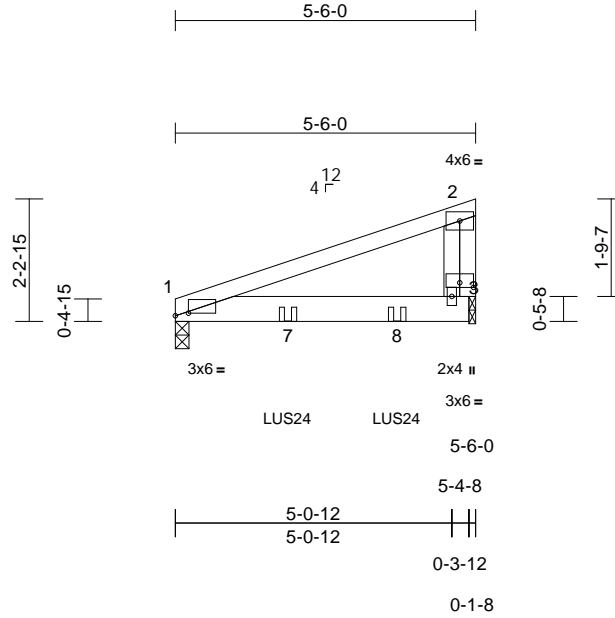
Job	Truss	Truss Type	Qty	Ply	902 Serenity
P04059-27851	P03G	Monopitch Girder	1	1	Job Reference (optional)
					I74944982

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:41

Page: 1

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Scale = 1:42.2

Plate Offsets (X, Y): [1:0-2-14,0-0-9], [3:0-3-0,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.04	3-6	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.62	Vert(CT)	-0.08	3-6	>760	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.00	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 26 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size)	1=0-3-0, 3=0-1-8
	Max Horiz	1=50 (LC 12)
	Max Uplift	1=-64 (LC 8), 3=-84 (LC 8)
	Max Grav	1=394 (LC 2), 3=474 (LC 2)

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

TOP CHORD	1-2=-196/34, 2-3=-134/38
BOT CHORD	1-3=-43/220

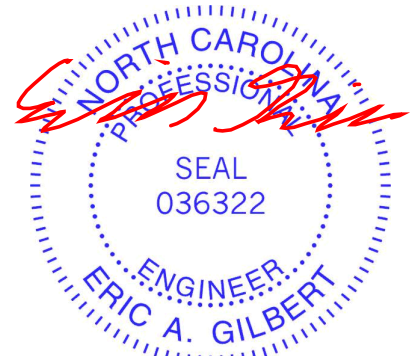
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

- 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.
- Bearing at joint(s) 3 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) 3.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 64 lb uplift at joint 1 and 84 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.
- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent spaced at 2-0-0 oc max. starting at 2-0-12 from the left end to 4-0-12 to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-2=-35, 3-4=-20  
Concentrated Loads (lb)  
Vert: 7=-151 (B), 8=-151 (B)



July 17, 2025

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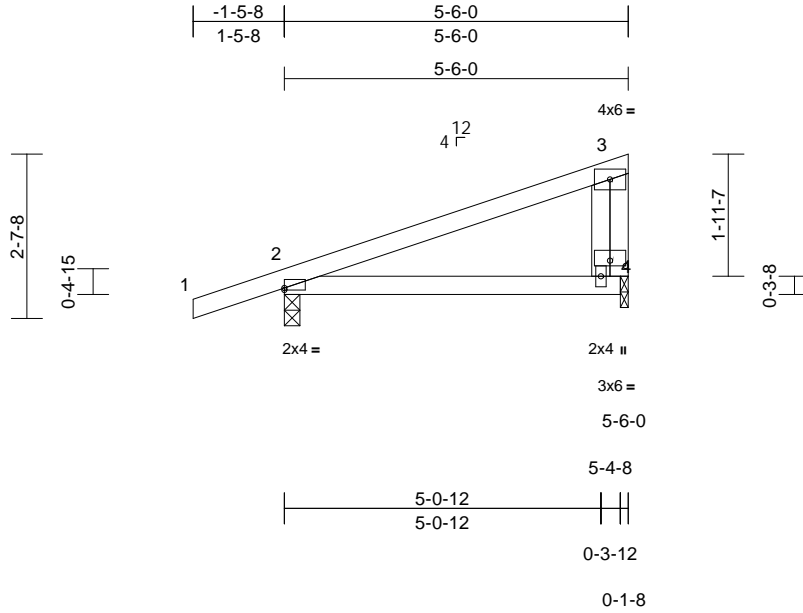
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944983
P04059-27851	P04	Monopitch	3	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:41

Page: 1

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Scale = 1:36.8

Plate Offsets (X, Y): [2:Edge,0-0-6], [4:0-3-0,0-1-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.38	Vert(LL)	0.05	4-7	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	-0.07	4-7	>911	180	
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 24 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size) 2=0-3-0, 4=0-1-8
	Max Horiz 2=64 (LC 15)
	Max Uplift 2=-103 (LC 12), 4=-62 (LC 12)
	Max Grav 2=308 (LC 2), 4=196 (LC 2)

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

TOP CHORD	1-2=0/28, 2-3=-66/47, 3-4=-133/105
BOT CHORD	2-4=-43/74

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-5-8 to 1-6-8, Interior (1) 1-6-8 to 5-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 103 lb uplift at joint 2 and 62 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



July 17,2025

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Edenton, NC 27932



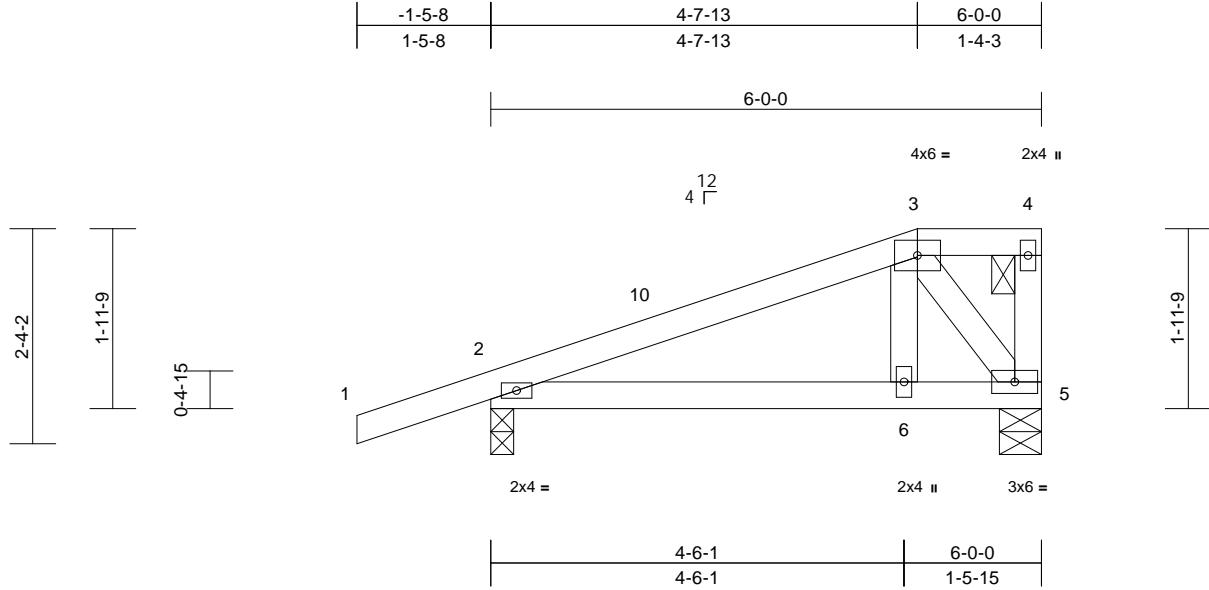
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944984
P04059-27851	P05	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:41

Page: 1

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Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	0.02	6-9	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.02	6-9	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	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.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-3-0, 5=0-5-8  
Max Horiz 2=63 (LC 12)  
Max Uplift 2=-108 (LC 12), 5=-73 (LC 12)  
Max Grav 2=333 (LC 2), 5=223 (LC 2)

#### FORCES

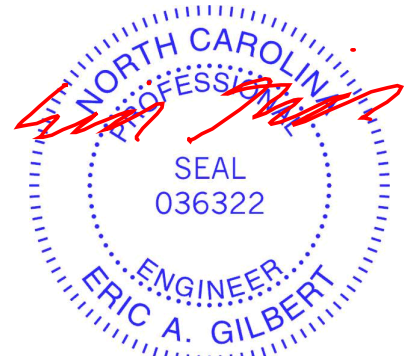
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/28, 2-3=-219/124, 3-4=0/0, 4-5=-36/22  
BOT CHORD 2-6=-148/167, 5-6=-138/156  
WEBS 3-6=-121/177, 3-5=-266/236

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-5-8 to 1-6-8, Interior (1) 1-6-8 to 4-7-13, Exterior(2E) 4-7-13 to 5-10-4 zone; cantilever left and right exposed; end vertical left exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 108 lb uplift at joint 2 and 73 lb uplift at joint 5.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 17, 2025

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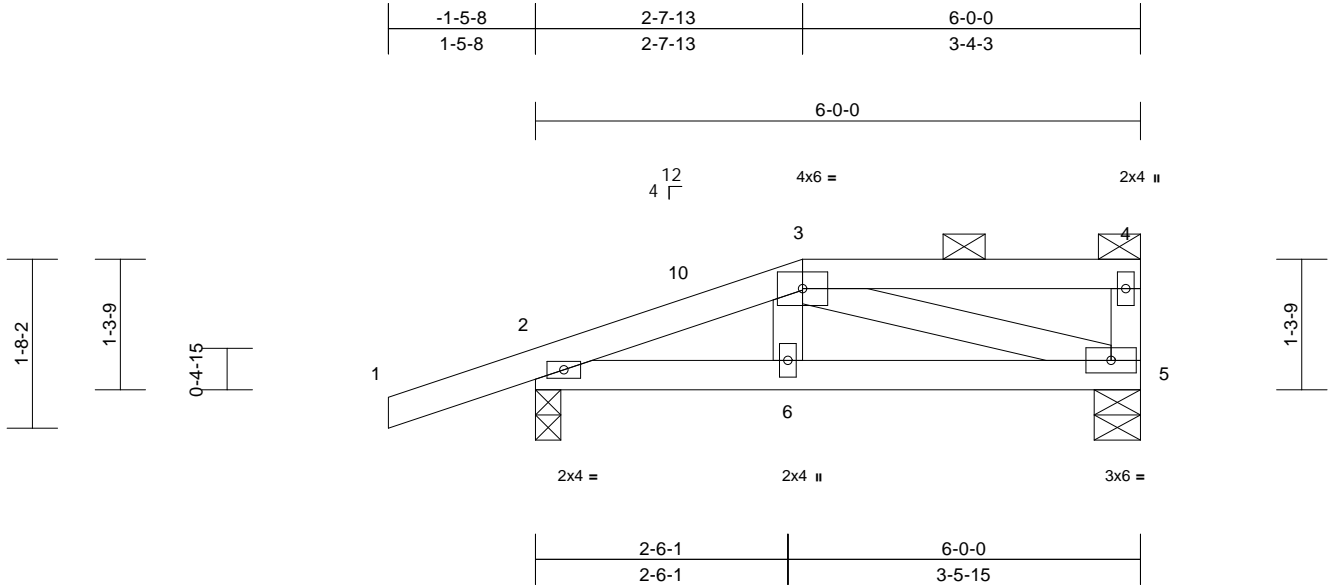
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944985
P04059-27851	P06	Half Hip	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:42  
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Page: 1



Scale = 1:22.9

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	0.20	Vert(LL)	0.01	5-6	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.01	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 27 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-3-0, 5=0-5-8  
Max Horiz 2=44 (LC 12)  
Max Uplift 2=-112 (LC 12), 5=-69 (LC 12)  
Max Grav 2=333 (LC 2), 5=223 (LC 2)

#### FORCES

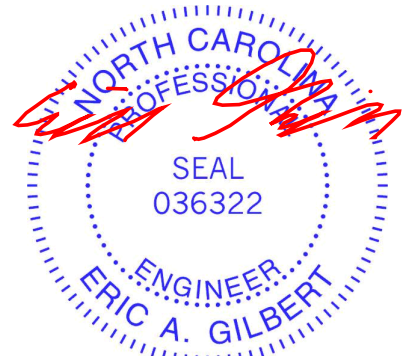
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/28, 2-3=-354/240, 3-4=0/0, 4-5=-96/57  
BOT CHORD 2-6=-242/313, 5-6=-235/305  
WEBS 3-6=-53/128, 3-5=-319/246

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)  
Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-5-8 to 1-6-8, Interior (1) 1-6-8 to 2-7-13, Exterior(2E) 2-7-13 to 5-10-4 zone; cantilever left and right exposed; end vertical left exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 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 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 112 lb uplift at joint 2 and 69 lb uplift at joint 5.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



July 17, 2025

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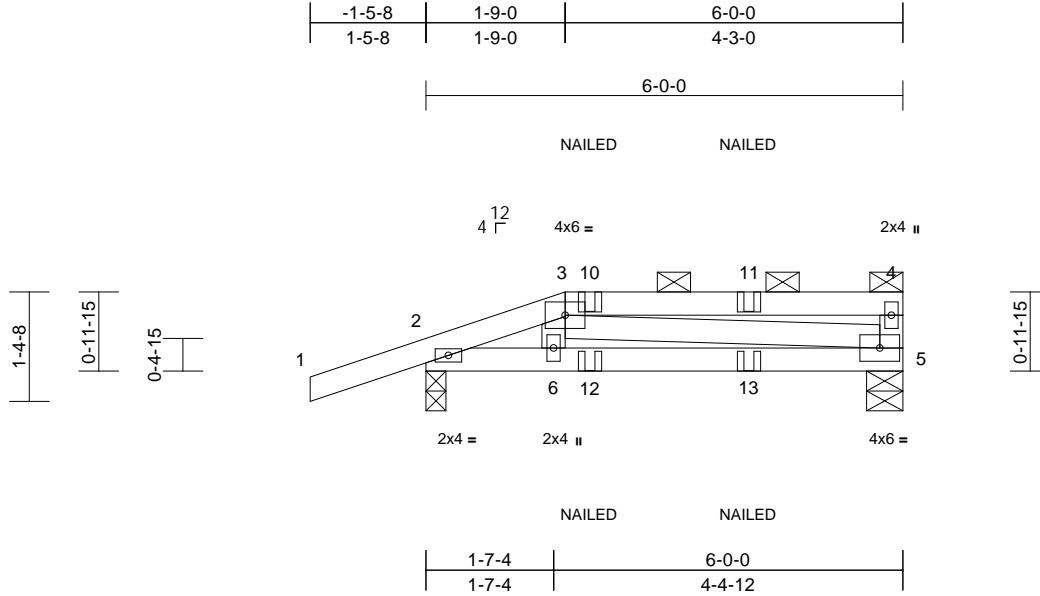
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944986
P04059-27851	P07G	Half Hip Girder	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:42  
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Page: 1



Scale = 1:29

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.37	Vert(LL)	-0.02	5-6	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.03	5-6	>999	180		
TCDL	10.0	Rep Stress Incr	NO	WB	0.11	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 28 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals, and 2-0-0 oc purlins: 3-4.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=0-3-0, 5=0-5-8  
Max Horiz 2=36 (LC 8)  
Max Uplift 2=-120 (LC 8), 5=-76 (LC 9)  
Max Grav 2=333 (LC 2), 5=223 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/28, 2-3=-400/151, 3-4=0/0,  
4-5=-123/34  
BOT CHORD 2-6=-144/369, 5-6=-136/350  
WEBS 3-6=-38/149, 3-5=-355/138

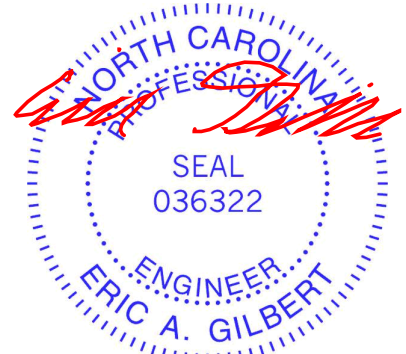
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 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 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 5 and 120 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

#### LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-3=-35, 3-4=-45, 5-7=-20  
Concentrated Loads (lb)  
Vert: 12=1 (F), 13=1 (F)



July 17, 2025

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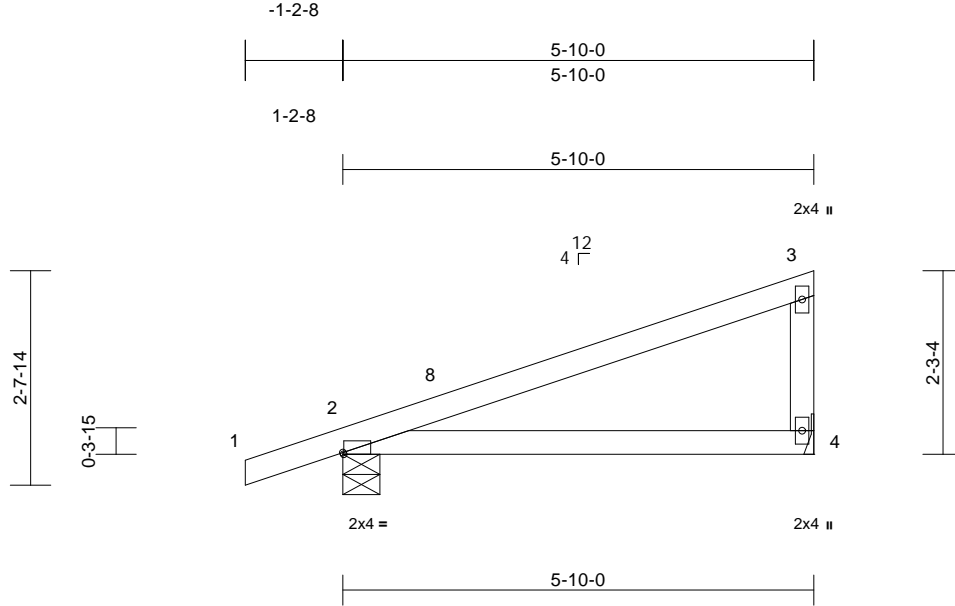
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	
P04059-27851	P08	Monopitch	5	1	Job Reference (optional)	I74944987

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:42  
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Page: 1



Scale = 1:28.5

Plate Offsets (X, Y): [2:0-0-2,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	0.46	Vert(LL)	-0.04	4-7	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.37	Vert(CT)	-0.10	4-7	>654	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 22 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size) 2=0-5-8, 4= Mechanical  
Max Horiz 2=66 (LC 15)  
Max Uplift 2=-62 (LC 12), 4=-33 (LC 16)  
Max Grav 2=308 (LC 2), 4=220 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

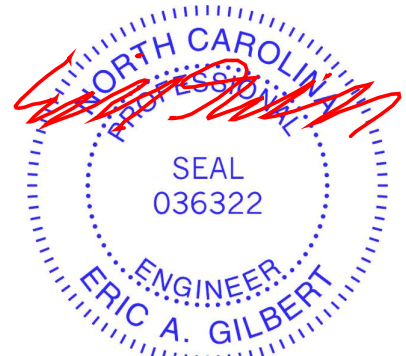
TOP CHORD 1-2=0/23, 2-3=-94/52, 3-4=-146/103  
BOT CHORD 2-4=-49/111

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 5-8-4 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; 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 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 33 lb uplift at joint 4 and 62 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17,2025

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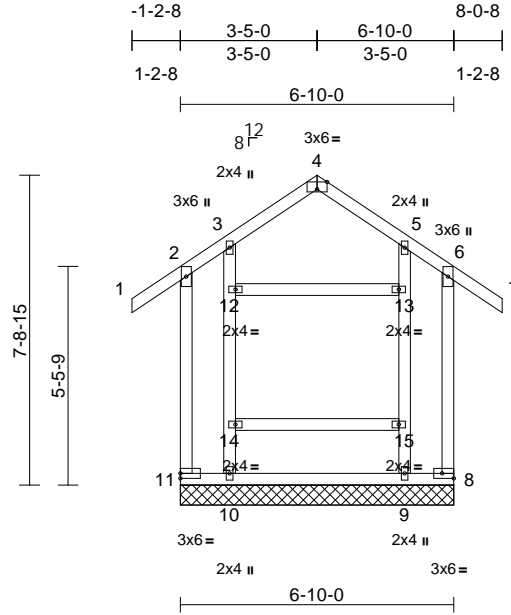
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity
P04059-27851	V01	Valley	1	1	Job Reference (optional)
					I74944988

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:42  
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Page: 1



Scale = 1:57.6

Plate Offsets (X, Y): [4:0-3-0,Edge], [8: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	0.43	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.31	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.12	Horz(CT)	0.00	8	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 71 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size)	8=6-10-0, 9=6-10-0, 10=6-10-0, 11=6-10-0
	Max Horiz	11=197 (LC 12)
	Max Uplift	8=340 (LC 11), 9=295 (LC 10), 10=296 (LC 11), 11=341 (LC 10)
	Max Grav	8=360 (LC 12), 9=514 (LC 13), 10=515 (LC 12), 11=361 (LC 13)

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	2-11=-201/305, 1-2=0/45, 2-3=-127/188, 3-4=-101/102, 4-5=-101/102, 5-6=-127/187, 6-7=0/45, 6-8=-201/304
BOT CHORD	10-11=-117/134, 9-10=-114/140, 8-9=-117/134
WEBS	10-14=-264/132, 12-14=-264/132, 3-12=-264/132, 9-15=-264/132, 13-15=-264/132, 5-13=-264/132, 12-13=0/52, 14-15=-28/0

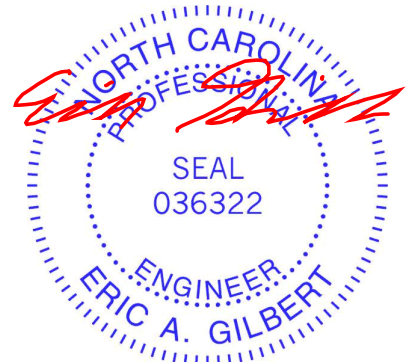
#### NOTES

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-5-0, Exterior(2R) 3-5-0 to 6-8-4, Interior (1) 6-8-4 to 8-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Vertical gable studs spaced at 4-0-0 oc and horizontal gable studs spaced at 3-4-8 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 341 lb uplift at joint 11, 340 lb uplift at joint 8, 296 lb uplift at joint 10 and 295 lb uplift at joint 9.

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

LOAD CASE(S) Standard



July 17,2025

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

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818 Soundside Road  
Edenton, NC 27932

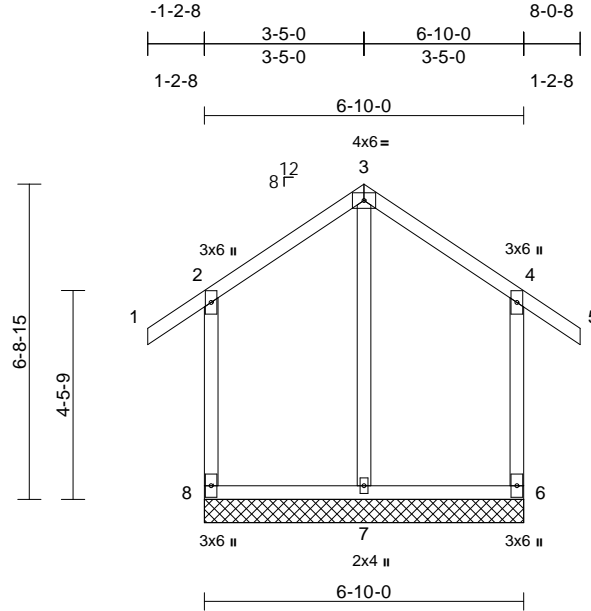


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944989
P04059-27851	V02	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:43  
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Page: 1



Scale = 1:49.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.27	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.23	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.00	6	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
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.2
OTHERS	2x4 SP No.2

#### BRACING

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

<b>REACTIONS</b>	(size)	6=6-10-0, 7=6-10-0, 8=6-10-0
	Max Horiz	8=171 (LC 13)
	Max Uplift	6=74 (LC 15), 8=74 (LC 14)
	Max Grav	6=267 (LC 26), 7=337 (LC 3), 8=267 (LC 27)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
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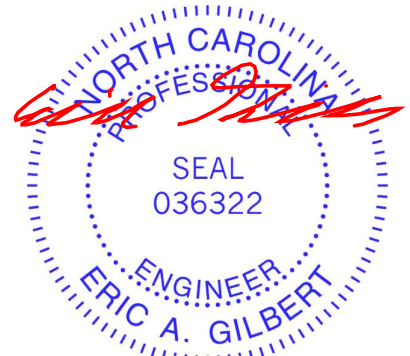
TOP CHORD	2-8=-193/208, 1-2=0/45, 2-3=-89/148, 3-4=-89/148, 4-5=0/45, 4-6=-193/208
BOT CHORD	7-8=-97/106, 6-7=-97/106
WEBS	3-7=-174/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-5-0, Exterior(2R) 3-5-0 to 6-8-4, Interior (1) 6-8-4 to 8-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 8 and 74 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



July 17, 2025

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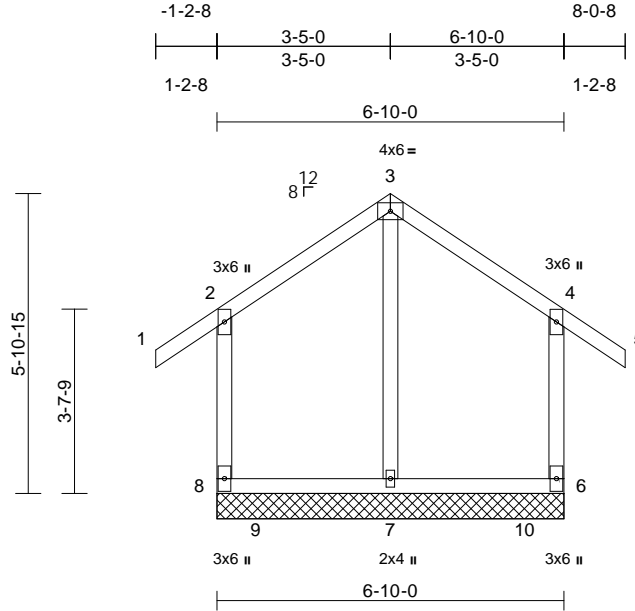
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944990
P04059-27851	V03	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:43  
ID:71c5XbODvjjj9YdtNYZi5WzxBi5-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC7f

Page: 1



<b>Loading</b>	(psf)	<b>Spacing</b>	2-0-0	<b>CSI</b>		<b>DEFL</b>	in	(loc)	l/defl	L/d	<b>PLATES</b>	<b>GRIP</b>
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.17	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR								
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.2
OTHERS	2x4 SP No.2

#### BRACING

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

<b>REACTIONS</b>	(size)	6=6-10-0, 7=6-10-0, 8=6-10-0
	Max Horiz	8=148 (LC 13)
	Max Uplift	6=67 (LC 15), 8=67 (LC 14)
	Max Grav	6=244 (LC 26), 7=332 (LC 3), 8=244 (LC 27)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
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TOP CHORD	2-8=-194/197, 1-2=0/45, 2-3=-84/140, 3-4=-84/140, 4-5=0/45, 4-6=-194/196
BOT CHORD	7-8=-82/84, 6-7=-82/84
WEBS	3-7=-172/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-5-0, Exterior(2R) 3-5-0 to 6-8-4, Interior (1) 6-8-4 to 8-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 67 lb uplift at joint 8 and 67 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



July 17, 2025

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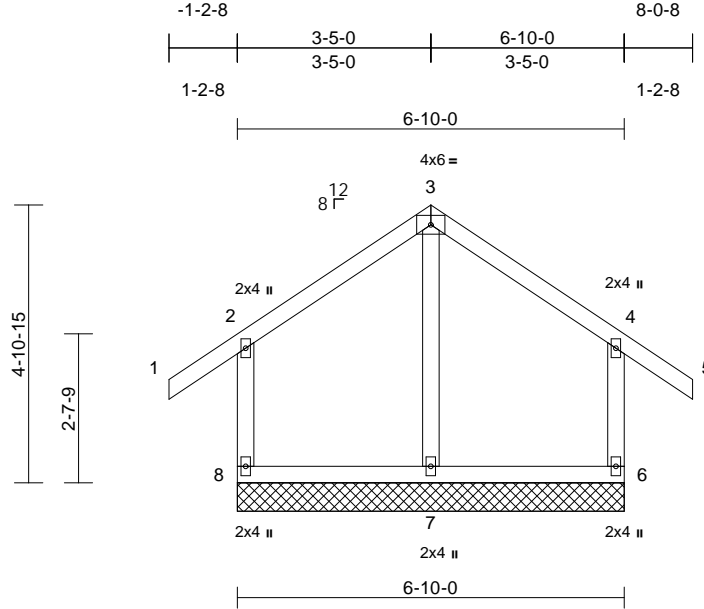
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944991
P04059-27851	V04	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:43

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Scale = 1:40.7

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.10	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	6	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0									Weight: 40 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

<b>REACTIONS</b>	(size)	6=6-10-0, 7=6-10-0, 8=6-10-0
	Max Horiz	8=121 (LC 13)
	Max Uplift	6=62 (LC 15), 8=62 (LC 14)
	Max Grav	6=222 (LC 33), 7=245 (LC 2), 8=222 (LC 32)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
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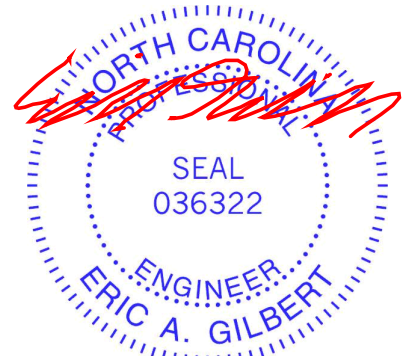
TOP CHORD	2-8=-195/186, 1-2=0/45, 2-3=-77/131, 3-4=-77/131, 4-5=0/45, 4-6=-195/185
BOT CHORD	7-8=-64/58, 6-7=-64/58
WEBS	3-7=-169/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-5-0, Exterior(2R) 3-5-0 to 6-8-4, Interior (1) 6-8-4 to 8-0-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 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 62 lb uplift at joint 8 and 62 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



July 17, 2025

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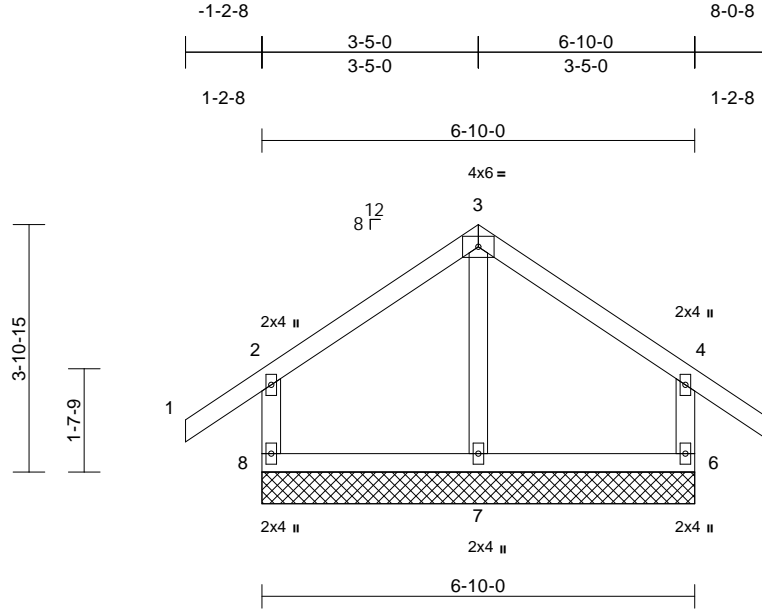
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944992
P04059-27851	V05	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:43  
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Page: 1



Scale = 1:36.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.13	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.10	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	6	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
										Weight: 36 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

<b>REACTIONS</b>	(size)	6=6'-10-0, 7=6'-10-0, 8=6'-10-0
	Max Horiz	8=94 (LC 13)
	Max Uplift	6=60 (LC 15), 8=60 (LC 14)
	Max Grav	6=226 (LC 33), 7=236 (LC 2), 8=226 (LC 32)

<b>FORCES</b>	(lb) - Maximum Compression/Maximum Tension
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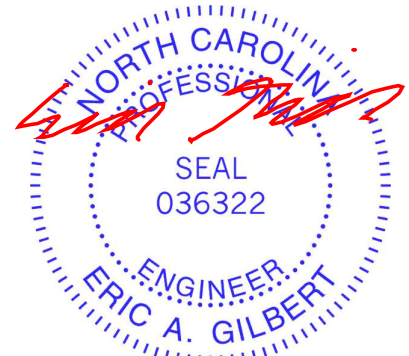
TOP CHORD	2-8=-199/177, 1-2=0/45, 2-3=-83/122, 3-4=-83/121, 4-5=0/45, 4-6=-199/176
BOT CHORD	7-8=-42/51, 6-7=-42/51
WEBS	3-7=-160/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-5-0, Exterior(2R) 3-5-0 to 6-8-4, Interior (1) 6-8-4 to 8-0-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 4'-0" oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-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 60 lb uplift at joint 8 and 60 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



July 17, 2025

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ENGINEERING BY  
**TRENCO**  
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818 Soundside Road  
Edenton, NC 27932

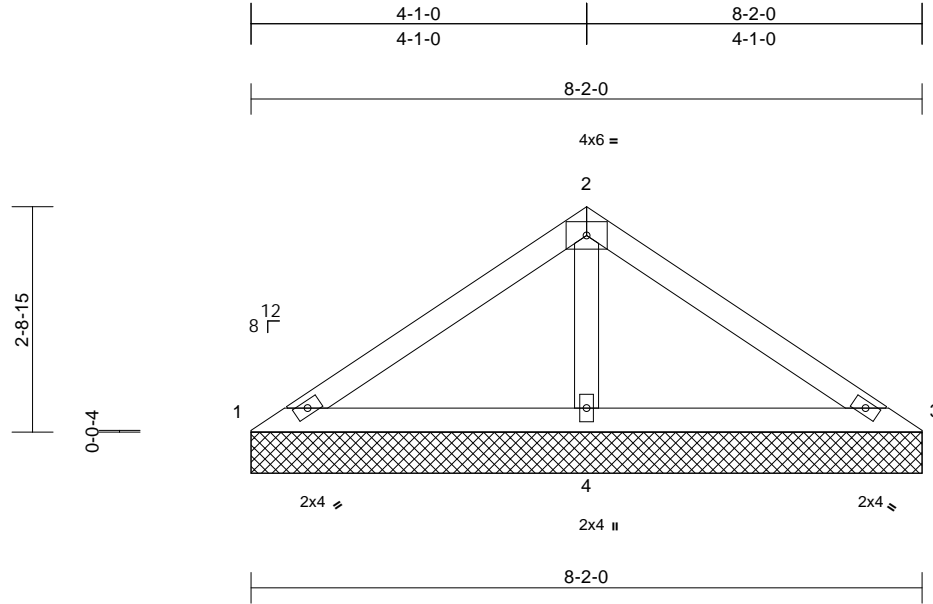
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944993
P04059-27851	V06	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:43

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Scale = 1:28

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.20	Vert(TL)	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	3	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 28 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 8-2-0 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

#### REACTIONS

(size) 1=8-2-0, 3=8-2-0, 4=8-2-0  
Max Horiz 1=-47 (LC 10)  
Max Uplift 1=-15 (LC 32), 3=-15 (LC 31), 4=-58 (LC 14)  
Max Grav 1=67 (LC 31), 3=67 (LC 32), 4=585 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-81/262, 2-3=-81/262  
BOT CHORD 1-4=-185/119, 3-4=-185/119  
WEBS 2-4=-425/148

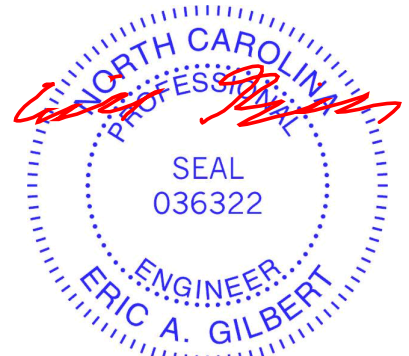
#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-6 to 3-0-6, Interior (1) 3-0-6 to 4-1-6, Exterior(2R) 4-1-6 to 7-3-3, Interior (1) 7-3-3 to 8-2-6 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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, 15 lb uplift at joint 3 and 58 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



July 17, 2025

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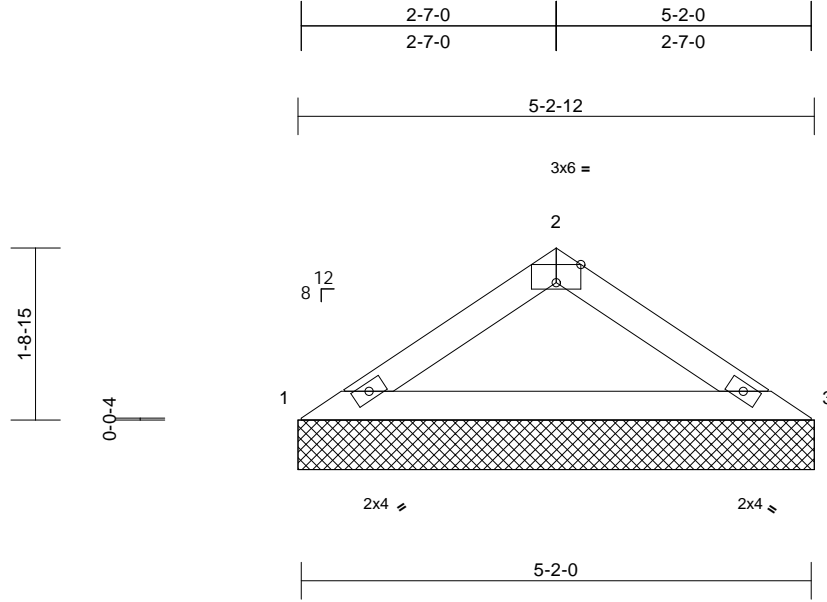


Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944994
P04059-27851	V07	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:44  
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Page: 1



Scale = 1:23.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.17	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 15 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size) 1=5-2-12, 3=5-2-12  
Max Horiz 1=29 (LC 13)  
Max Uplift 1=17 (LC 14), 3=17 (LC 15)  
Max Grav 1=209 (LC 2), 3=209 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

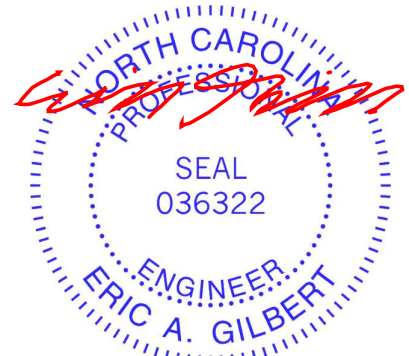
TOP CHORD 1-2=-331/109, 2-3=-331/109  
BOT CHORD 1-3=-81/270

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

- 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 17 lb uplift at joint 1 and 17 lb uplift at joint 3.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1, 3.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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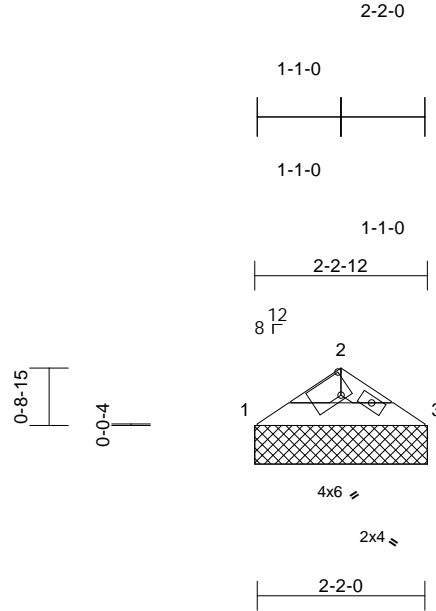
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944995
P04059-27851	V08	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:44  
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Scale = 1:29.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.05	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 6 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

**REACTIONS** (size) 1=2-2-12, 3=2-2-12  
Max Horiz 1=10 (LC 13)  
Max Uplift 1=-8 (LC 14), 3=-8 (LC 15)  
Max Grav 1=89 (LC 2), 3=89 (LC 2)

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

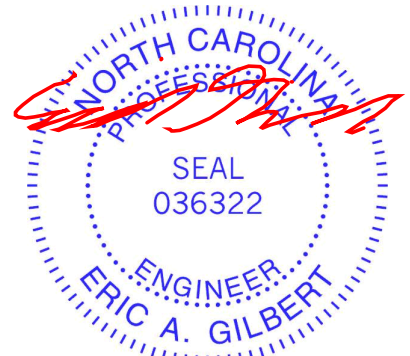
TOP CHORD 1-2=-118/40, 2-3=-118/40  
BOT CHORD 1-3=-24/98

#### NOTES

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

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

**LOAD CASE(S)** Standard



July 17, 2025

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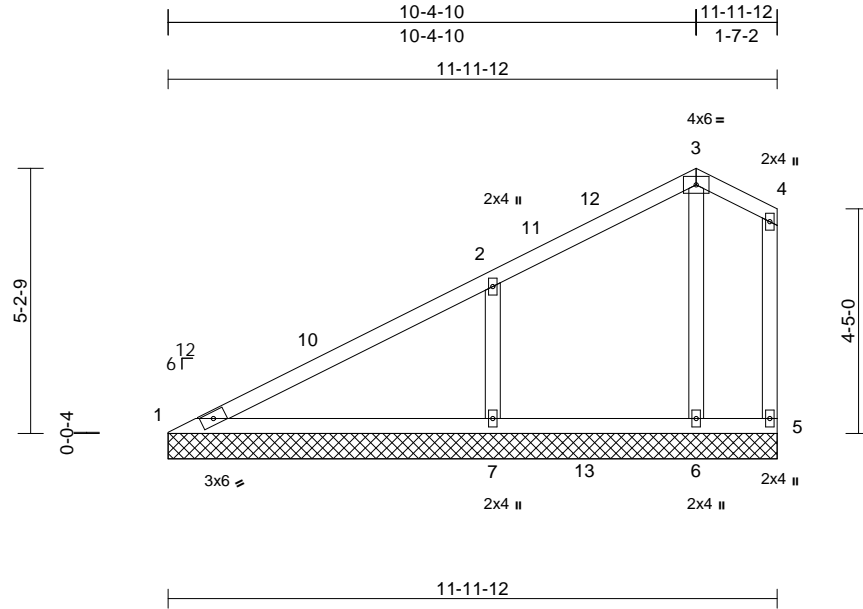
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944996
P04059-27851	V09	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:44

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Scale = 1:45.3

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	0.43	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.41	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.01	7	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0									Weight: 54 lb	FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size)	1=11-11-12, 5=11-11-12, 6=11-11-12, 7=11-11-12
	Max Horiz	1=132 (LC 13)
	Max Uplift	5=-18 (LC 12), 6=-13 (LC 13), 7=-116 (LC 16)
	Max Grav	1=213 (LC 30), 5=53 (LC 30), 6=209 (LC 29), 7=577 (LC 37)

#### FORCES

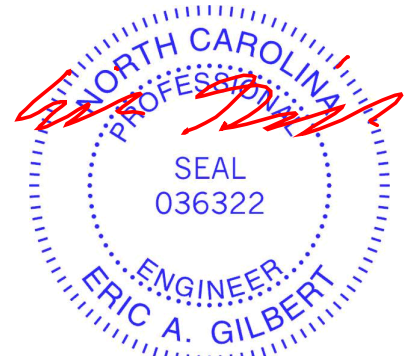
	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=-386/128, 2-3=-100/80, 3-4=-76/90, 4-5=-61/64
BOT CHORD	1-7=-142/325, 6-7=-59/62, 5-6=-59/62
WEBS	3-6=-132/127, 2-7=-365/181

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 10-5-2, Exterior(2E) 10-5-2 to 11-10-8 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 5, 13 lb uplift at joint 6 and 116 lb uplift at joint 7.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



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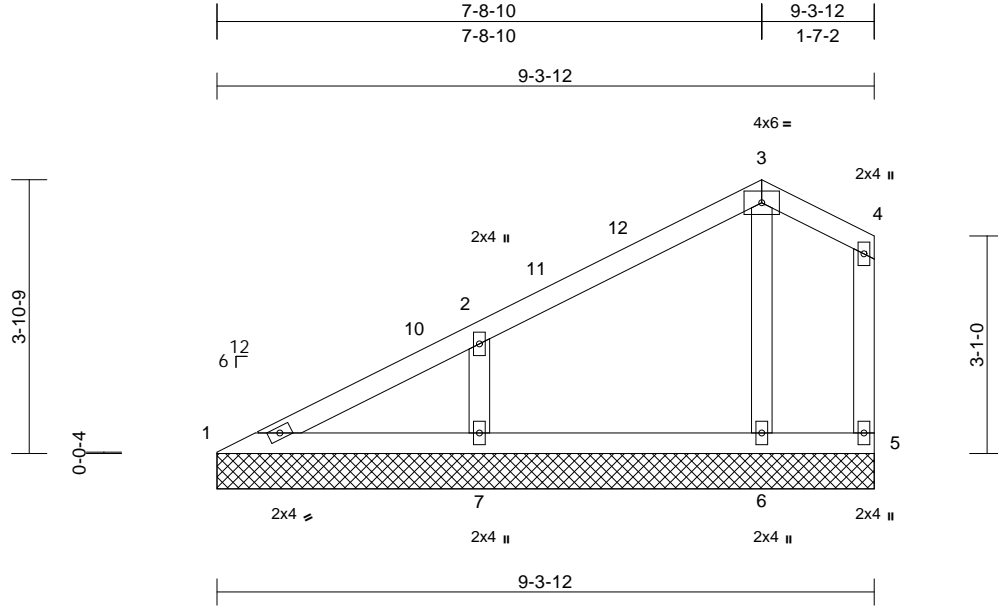
Job	Truss	Truss Type	Qty	Ply	902 Serenity	174944997
P04059-27851	V10	Valley	1	1	Job Reference (optional)	

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334,

Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:44

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Scale = 1:32.6

Loading	(psf)	Spacing	2-0-0	CSI	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.12	n/a	-	n/a	999	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horiz(TL)	0.00	7	n/a	n/a
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS						
BCDL	10.0									
										Weight: 39 lb FT = 20%

#### LUMBER

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

#### BRACING

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

REACTIONS	(size)	1=9-3-12, 5=9-3-12, 6=9-3-12, 7=9-3-12
	Max Horiz	1=92 (LC 13)
	Max Uplift	5=-17 (LC 12), 6=-9 (LC 13), 7=-78 (LC 16)
	Max Grav	1=112 (LC 2), 5=37 (LC 36), 6=231 (LC 2), 7=367 (LC 35)

FORCES	(lb) - Maximum Compression/Maximum Tension
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TOP CHORD	1-2=-174/94, 2-3=-80/54, 3-4=-50/64, 4-5=-38/43
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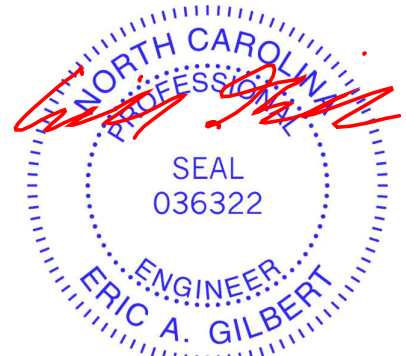
BOT CHORD	1-7=-83/143, 6-7=-40/42, 5-6=-40/42
WEBS	3-6=-171/138, 2-7=-262/162

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 7-9-2, Exterior(2E) 7-9-2 to 9-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 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 17 lb uplift at joint 5, 9 lb uplift at joint 6 and 78 lb uplift at joint 7.
- 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



July 17, 2025

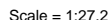
**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**

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

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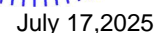
818 Soundside Road  
Edenton, NC 27932

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 10:26:45 Page: 1  
ID:Gh5t8i9pdIMwLj?vXO71P7zxCBO-RfC?PsB70Hg3NSqPqnL8w3ulTXbGKWrCDoi7J4zJC?c



<b>LUMBER</b>		4) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
TOP CHORD	2x4 SP No.2	
BOT CHORD	2x4 SP No.2	
WEBS	2x4 SP No.2	
OTHERS	2x4 SP No.2	5) Unbalanced snow loads have been considered for this design.
<b>BRACING</b>		6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.	7) Gable requires continuous bottom chord bearing.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	8) Gable studs spaced at 4-0-0 oc.
<b>REACTIONS</b>		9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
(size)	1=6-7-12, 4=6-7-12, 5=6-7-12	10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
Max Horiz	1=53 (LC 13)	
Max Uplift	1=19 (LC 16), 4=45 (LC 35), 5=35 (LC 16)	
Max Grav	1=181 (LC 35), 4=16 (LC 36), 5=355 (LC 2)	
<b>FORCES</b>		11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 4, 19 lb uplift at joint 1 and 35 lb uplift at joint 5.
TOP CHORD	1-2=303/110, 2-3=36/47, 3-4=43/45	12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
BOT CHORD	1-5=155/266, 4-5=21/22	
WEBS	2-5=163/119	
<b>NOTES</b>		

LOAD CASE(S) Standard





# Symbols

## PLATE LOCATION AND ORIENTATION



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

## PLATE SIZE

**4 X 4**

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

## LATERAL BRACING LOCATION



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

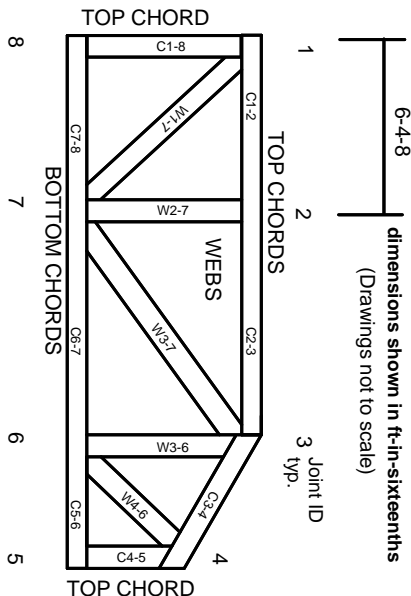
## BEARING



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

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

# Numbering System



**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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# 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.

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