

RE: P05609-30822  
913 Serenity

Trenco  
818 Soundside Rd  
Edenton, NC 27932

**Site Information:**

Customer: David Weekly Project Name: P05609-30822  
Lot/Block: Model: A669 Kipling / Elev B / LH  
Address: 63 Rainbrook Cove Subdivision:  
City: FUQUAY VARINA State: NC

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

Design Code: IRC2021/TPI2014 Design Program: MiTek 20/20 8.8  
Wind Code: ASCE 7-16 Wind Speed: 130 mph  
Roof Load: 40.0 psf Floor Load: N/A psf

This package includes 45 individual, dated Truss Design Drawings and 0 Additional Drawings.

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I74960867	A01	7/17/2025	21	I74960887	BG01	7/17/2025
2	I74960868	A01H	7/17/2025	22	I74960888	BSE01	7/17/2025
3	I74960869	A01HA	7/17/2025	23	I74960889	BSE02	7/17/2025
4	I74960870	A02	7/17/2025	24	I74960890	C1	7/17/2025
5	I74960871	A03	7/17/2025	25	I74960891	C2	7/17/2025
6	I74960872	A04	7/17/2025	26	I74960892	C3	7/17/2025
7	I74960873	ACJ01	7/17/2025	27	I74960893	C4	7/17/2025
8	I74960874	AE01	7/17/2025	28	I74960894	C5	7/17/2025
9	I74960875	AG01	7/17/2025	29	I74960895	C6G	7/17/2025
10	I74960876	AJ01	7/17/2025	30	I74960896	CJ1	7/17/2025
11	I74960877	AJ02	7/17/2025	31	I74960897	CJ2	7/17/2025
12	I74960878	AJ03	7/17/2025	32	I74960898	D1	7/17/2025
13	I74960879	AJ04	7/17/2025	33	I74960899	D1SE	7/17/2025
14	I74960880	AV1	7/17/2025	34	I74960900	D2	7/17/2025
15	I74960881	AV2	7/17/2025	35	I74960901	D3	7/17/2025
16	I74960882	AV3	7/17/2025	36	I74960902	D4	7/17/2025
17	I74960883	AV4	7/17/2025	37	I74960903	M1	7/17/2025
18	I74960884	AV5	7/17/2025	38	I74960904	M1E	7/17/2025
19	I74960885	AV6	7/17/2025	39	I74960905	MG	7/17/2025
20	I74960886	B01	7/17/2025	40	I74960906	P10	7/17/2025

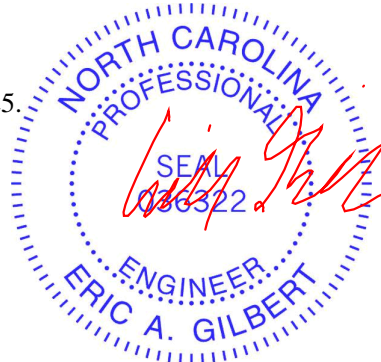
The truss drawing(s) referenced above have been prepared by  
Truss Engineering Co. under my direct supervision  
based on the parameters provided by 84 Lumber 2383 (Dunn, NC).

Truss Design Engineer's Name: Gilbert, Eric

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

North Carolina COA: C-0844

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



July 17, 2025



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Lot/Block:                                  Subdivision:  
Address: 63 Rainbrook Cove  
City, County: FUQUAY VARINA                                  State: NC

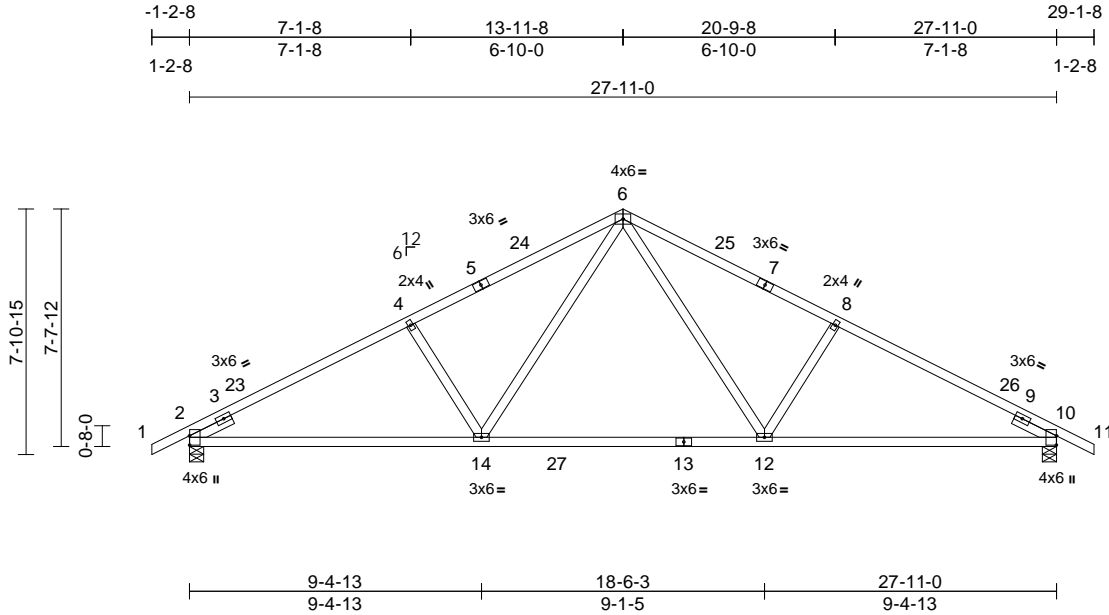
No.	Seal#	Truss Name	Date
41	I74960907	PCJ02	7/17/2025
42	I74960908	PG03	7/17/2025
43	I74960909	PJ02	7/17/2025
44	I74960910	PJ03	7/17/2025
45	I74960911	PJ04	7/17/2025

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960867
P05609-30822	A01	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 14:44:41  
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Page: 1



Scale = 1:74.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.63	Vert(LL)	-0.29	12-14	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.90	Vert(CT)	-0.45	12-14	>739	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.06	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS								
Weight: 134 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 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-4-15 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS	(size) 2=0-5-8, 10=0-5-8
	Max Horiz 2=-94 (LC 17)
	Max Uplift 2=-110 (LC 12), 10=-110 (LC 13)
	Max Grav 2=1278 (LC 2), 10=1277 (LC 2)

#### FORCES

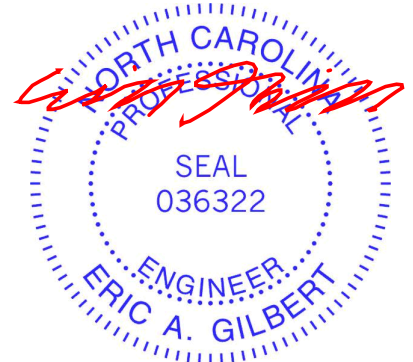
	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/32, 2-4=-1963/185, 4-6=-1806/213, 6-8=-1805/213, 8-10=-1962/185, 10-11=0/32
BOT CHORD	2-14=-167/1699, 12-14=-28/1166, 10-12=-94/1698
WEBS	6-14=-100/735, 4-14=-384/160, 8-12=-384/160, 6-12=-100/733

#### 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 13-11-8, Exterior(2R) 13-11-8 to 16-11-8, Interior (1) 16-11-8 to 29-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 110 lb uplift at joint 2 and 110 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.
- ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

LOAD CASE(S) Standard



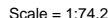
July 17, 2025

**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](http://www.tpinst.org)) and **BCSI Building Component Safety Information** available from the Structural Building Component Association ([www.sbcacomponents.com](http://www.sbcacomponents.com))

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Edenton, NC 27932

Page: 1

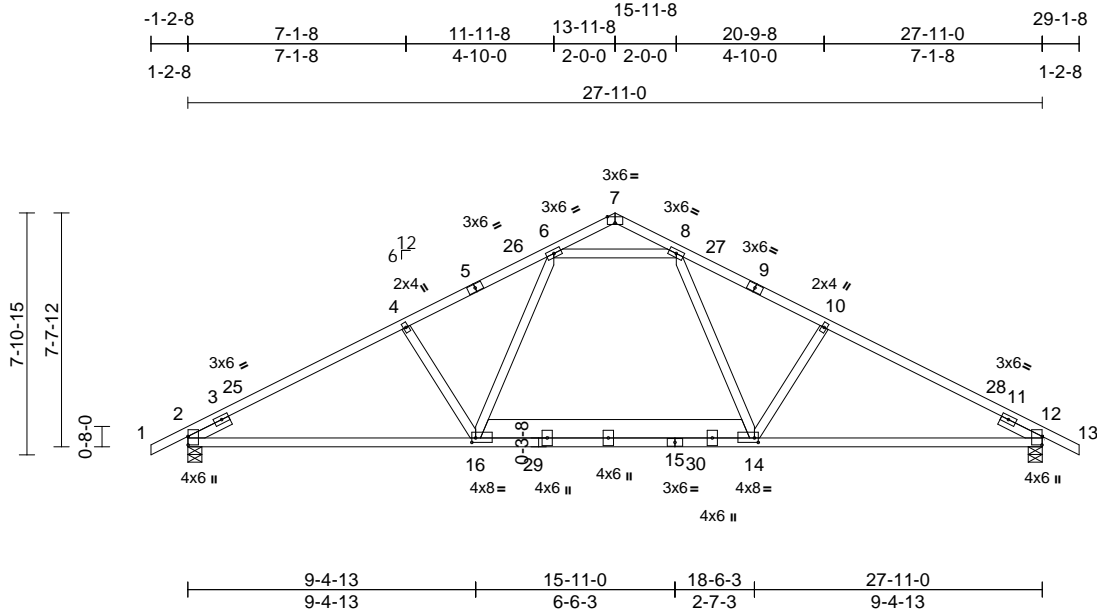
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960869
P05609-30822	A01HA	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 14:44:43  
ID:pr4A4?lavojbgrPBjiG1vuzJXsd-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?r

Page: 1



Scale = 1:75.3

Plate Offsets (X, Y): [2:0-3-5,0-0-1], [7:0-3-0,Edge], [12:0-3-5,0-0-1], [14:0-1-8,0-1-12], [16:0-1-8,0-1-12]

Loading	(psf)	Spacing	2-3-8	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.68	Vert(LL)	-0.25	14-23	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.77	Vert(CT)	-0.38	16-19	>889	180		
BCLL	0.0 *	Rep Stress Incr	NO	WB	0.48	Horz(CT)	0.05	12	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 162 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.1 \*Except\* 16-14:2x8 SP DSS  
WEBS 2x4 SP No.2  
SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-4-8 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 12=0-5-8  
Max Horiz 2=-108 (LC 17)  
Max Uplift 2=-126 (LC 12), 12=-126 (LC 13)  
Max Grav 2=1474 (LC 2), 12=1474 (LC 2)

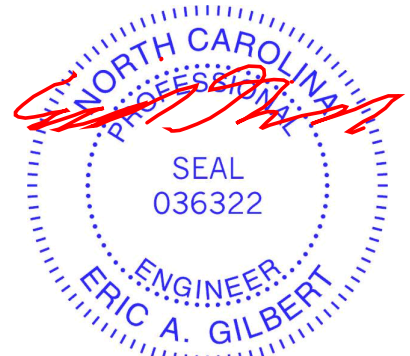
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/37, 2-4=-2245/208, 4-6=-2069/230, 6-7=-117/38, 7-8=-117/38, 8-10=-2069/230, 10-12=-2245/208, 12-13=0/37  
BOT CHORD 2-16=-181/1939, 14-16=-51/1526, 12-14=-102/1939  
WEBS 8-14=-89/738, 10-14=-435/182, 6-16=-89/738, 4-16=-435/182, 6-8=-1474/215

#### 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 13-11-8, Exterior(2R) 13-11-8 to 16-11-8, Interior (1) 16-11-8 to 29-1-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- 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 126 lb uplift at joint 2 and 126 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.
- ATTIC SPACE SHOWN IS DESIGNED AS UNINHABITABLE.

**LOAD CASE(S)** Standard



July 17, 2025

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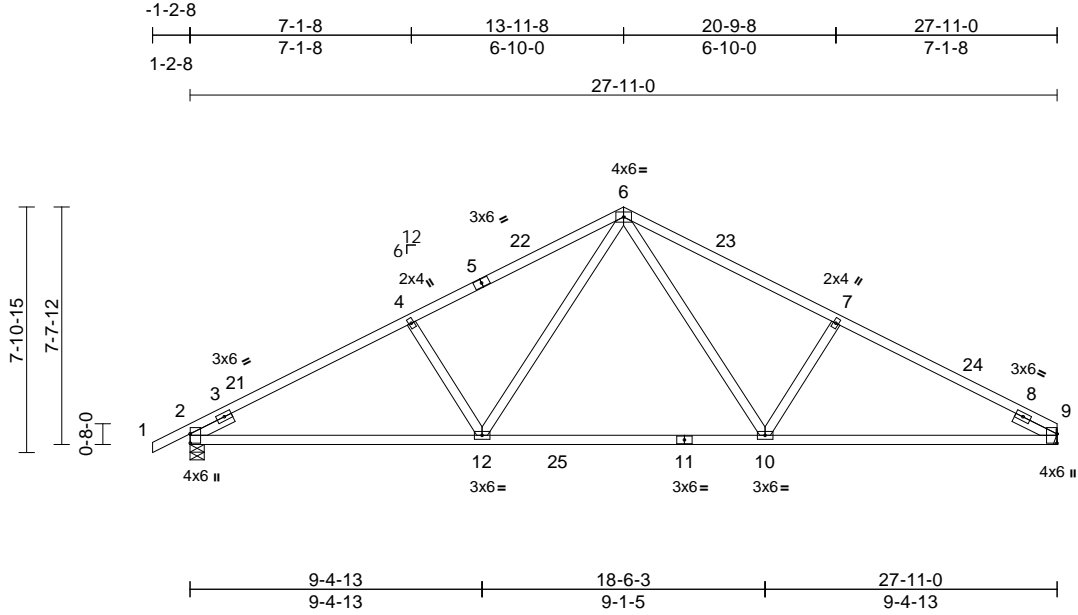
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	A02	Common	6	1	Job Reference (optional)	I74960870

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

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Page: 1



Scale = 1:74.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.63	Vert(LL)	-0.28	10-12	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.90	Vert(CT)	-0.45	10-12	>747	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.17	Horz(CT)	0.06	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 132 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 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-4-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS	(size) 2=0-5-8, 9= Mechanical
	Max Horiz 2=101 (LC 12)
	Max Uplift 2=-110 (LC 12), 9=-94 (LC 13)
	Max Grav 2=1279 (LC 2), 9=1216 (LC 2)

#### FORCES

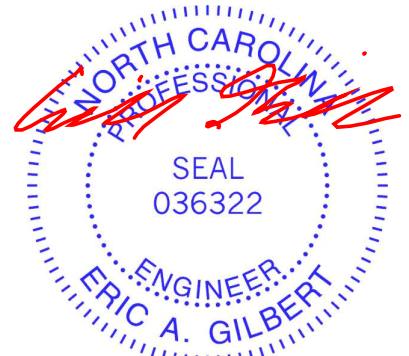
	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-2=0/32, 2-4=-1966/185, 4-6=-1809/214, 6-7=-1813/221, 7-9=-1970/193
BOT CHORD	2-12=-173/1701, 10-12=-36/1169, 9-10=-114/1706
WEBS	6-10=-102/740, 7-10=-389/161, 6-12=-100/734, 4-12=-384/160

#### 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 13-11-8, Exterior(2R) 13-11-8 to 16-11-8, Interior (1) 16-11-8 to 27-11-0 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
- 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 94 lb uplift at joint 9 and 110 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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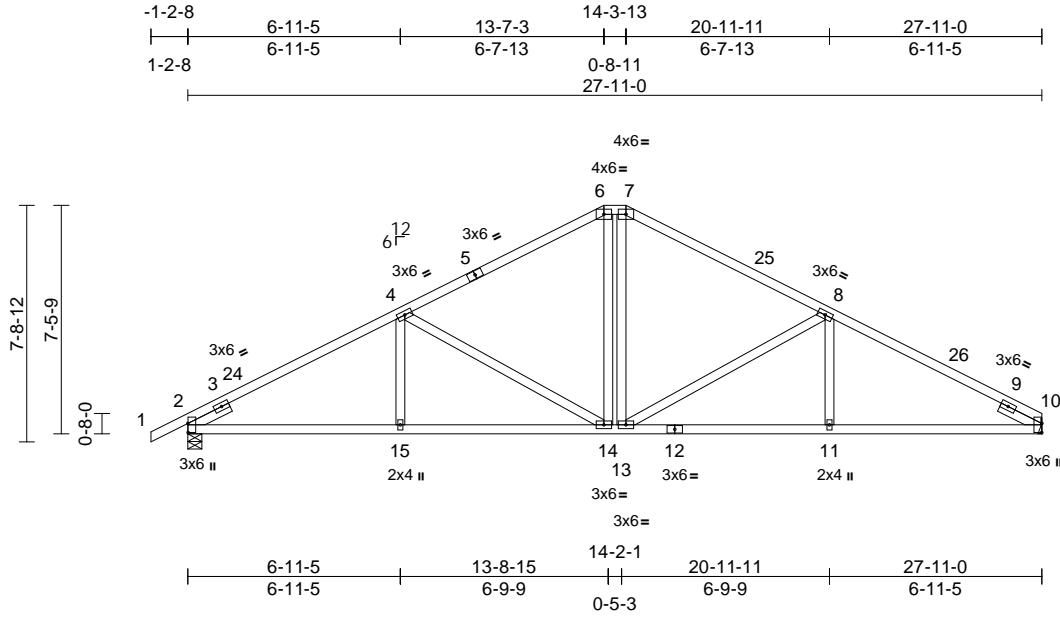


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960871
P05609-30822	A03	Hip	1	1	Job Reference (optional)	

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 14:44:43  
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Page: 1



Scale = 1:75.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.54	Vert(LL)	-0.09	14-15	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.60	Vert(CT)	-0.20	14-15	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.07	10	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 148 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 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-8-6 oc purlins, except 2-0-0 oc purlins (5-2-11 max.): 6-7.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size)	2=0-5-8, 10= Mechanical
Max Horiz	2=99 (LC 12)
Max Uplift	2=-108 (LC 12), 10=-93 (LC 13)
Max Grav	2=1191 (LC 1), 10=1115 (LC 1)

#### FORCES

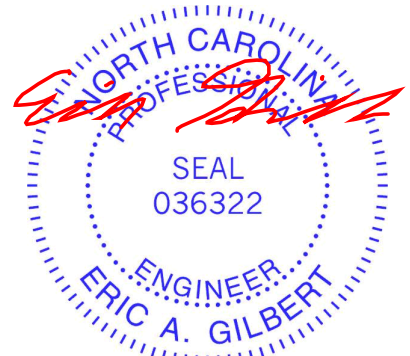
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/32, 2-4=-1836/161, 4-6=-1331/162, 6-7=-1111/168, 7-8=-1331/165, 8-10=-1843/163
BOT CHORD	2-15=-162/1573, 14-15=-162/1573, 13-14=-26/1111, 11-13=-84/1581, 10-11=-105/1581
WEBS	4-15=0/250, 4-14=-572/155, 6-14=-64/391, 7-13=-64/394, 8-13=-582/158, 8-11=0/251

#### 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 13-7-3, Exterior(2E) 13-7-3 to 14-3-13, Exterior(2R) 14-3-13 to 18-6-12, Interior (1) 18-6-12 to 27-11-0 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
- 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 93 lb uplift at joint 10 and 108 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.

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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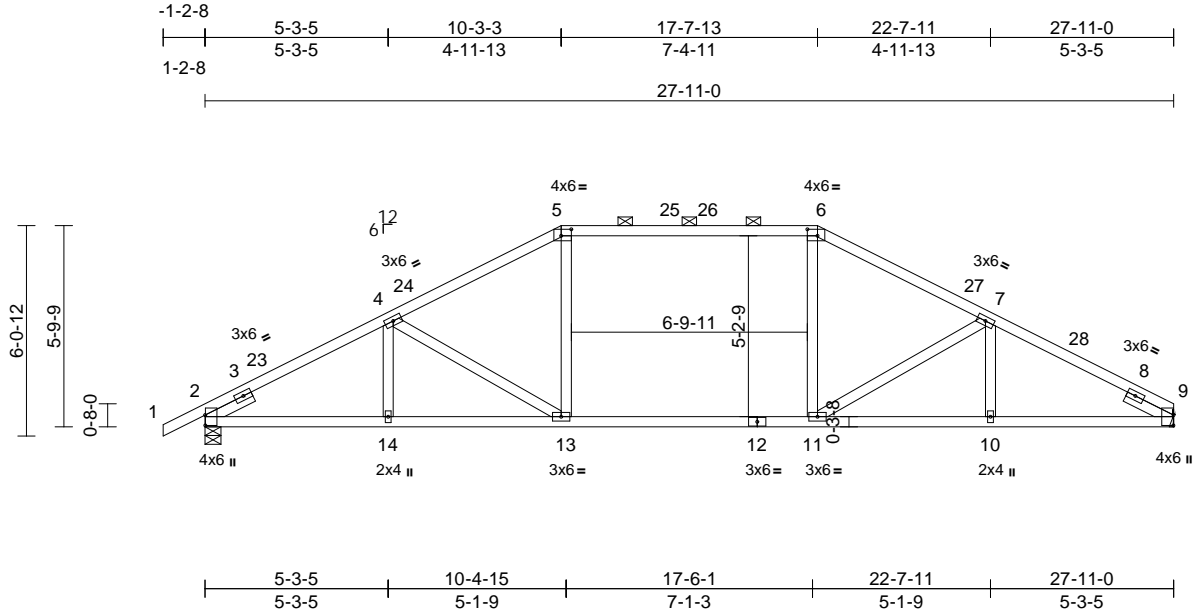
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960872
P05609-30822	A04	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 14:44:44  
ID:YBLNdX8odioEoGtfE9AzbmzJY19-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:66.4

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.77	Vert(LL)	-0.40	10-11	>848	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.94	Vert(CT)	-0.47	10-11	>707	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.08	9	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 134 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2 *Except* 5-6:2x4 SP No.1
BOT CHORD	2x4 SP No.2
WEBS	2x4 SP No.2
SLIDER	Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 3-3-3 oc purlins, except 2-0-0 oc purlins (3-8-0 max.): 5-6.
BOT CHORD	Rigid ceiling directly applied or 2-2-0 oc bracing.

#### REACTIONS

(size)	2=0-5-8, 9= Mechanical
Max Horiz	2=79 (LC 12)
Max Uplift	2=-89 (LC 12), 9=-74 (LC 13)
Max Grav	2=1301 (LC 2), 9=1238 (LC 2)

#### FORCES

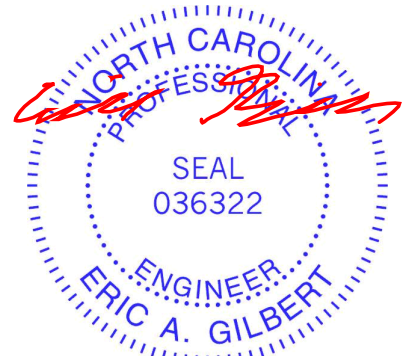
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/32, 2-4=-2051/172, 4-5=-1761/175, 5-6=-1553/176, 6-7=-1773/179, 7-9=-2061/171
BOT CHORD	2-14=-133/1776, 13-14=-133/1776, 11-13=-53/1553, 10-11=-109/1788, 9-10=-109/1788
WEBS	4-14=-12/142, 4-13=-378/146, 5-13=0/446, 6-11=0/448, 7-11=-392/149, 7-10=-8/144

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 10-3-3, Exterior(2R) 10-3-3 to 14-6-1, Interior (1) 14-6-1 to 17-7-13, Exterior(2R) 17-7-13 to 21-10-12, Interior (1) 21-10-12 to 27-11-0 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) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 4) Provide adequate drainage to prevent water ponding.
- 5) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 6) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 7) Refer to girder(s) for truss to truss connections.
- 8) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 9 and 89 lb uplift at joint 2.
- 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.
- 10) 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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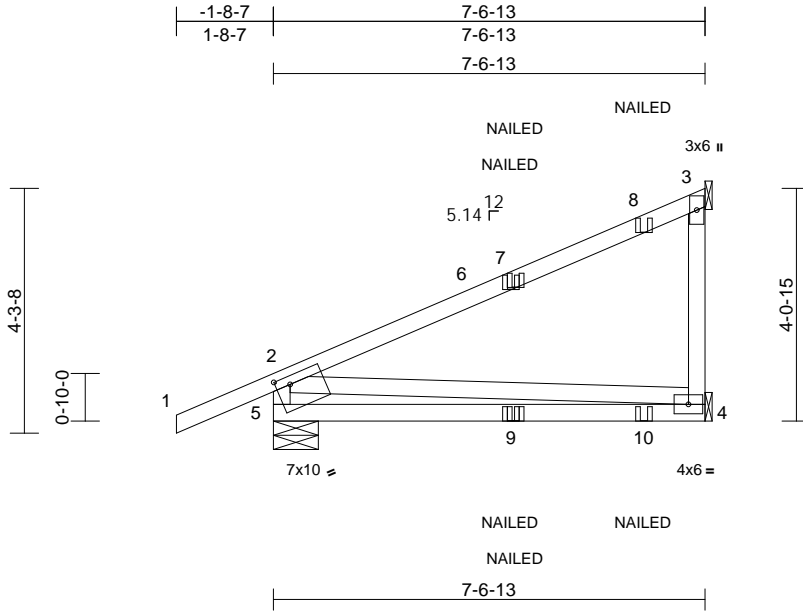


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960873
P05609-30822	ACJ01	Jack-Closed	1	1	Job Reference (optional)	

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 14:44:44  
ID:nesLyo2nWFOmr1G6mU15G4zJY1H-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:40.4

Plate Offsets (X, Y): [5:0-3-0,0-1-12]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.17	4-5	>504	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.35	4-5	>251	180		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 42 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, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 3= Mechanical, 4= Mechanical,  
5=0-9-7  
Max Horiz 5=132 (LC 16)  
Max Uplift 3=135 (LC 16), 4=5 (LC 16),  
5=85 (LC 16)  
Max Grav 3=219 (LC 2), 4=160 (LC 7), 5=424 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-5=-345/256, 1-2=0/44, 2-3=-137/69,  
3-4=0/0  
BOT CHORD 4-5=-237/76  
WEBS 2-4=-76/237

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=130mph (3-second gust) Vasd=103mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-8-7 to 2-6-8, Exterior(2R) 2-6-8 to 7-5-1 zone; end vertical left exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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 85 lb uplift at joint 5, 135 lb uplift at joint 3 and 5 lb uplift at joint 4.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
- "NAILED" indicates 3-10d (0.148"x3") or 2-12d (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: 1-2=-35, 2-3=-35, 4-5=-20  
Concentrated Loads (lb)  
Vert: 8=-7 (F), 10=-9 (F)



July 17,2025

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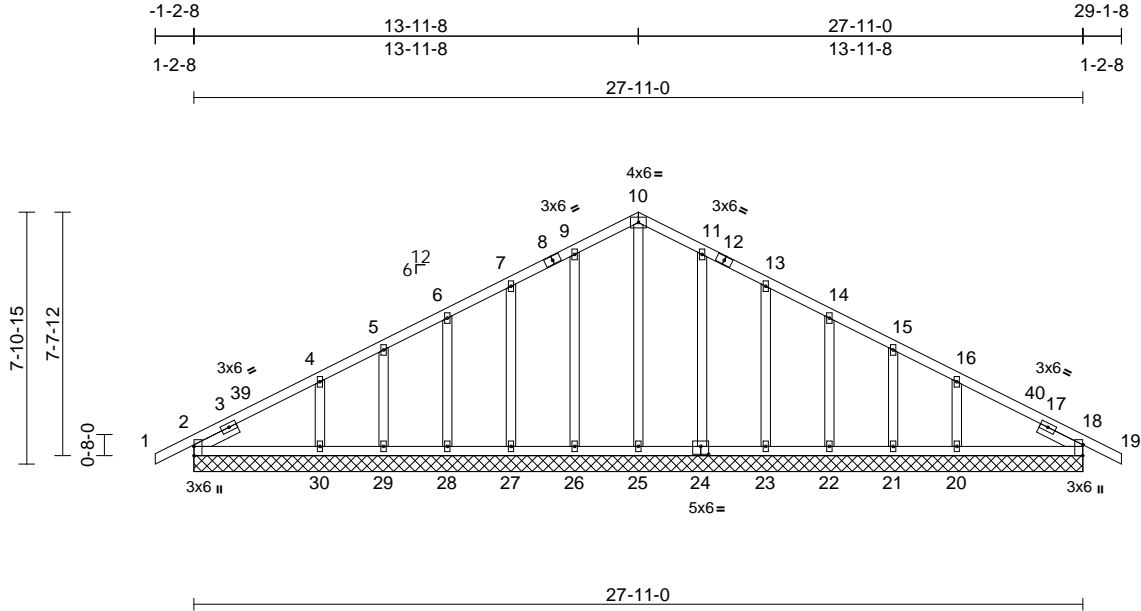
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	AE01	Common Supported Gable	1	1	Job Reference (optional)	I74960874

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 14:44:44  
ID:5llqaiXJHnCuEdrf9BFmNHZjXuN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:72.3

Plate Offsets (X, Y): [2:0-3-8,Edge], [18:0-4-1,Edge], [24:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.14	Vert(LL)	n/a	-	n/a	999	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.14	Vert(CT)	n/a	-	n/a	999	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.13	Horz(CT)	0.01	18	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
Weight: 168 lb FT = 20%											

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

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

**REACTIONS** (size)  
2=27-11-0, 18=27-11-0,  
20=27-11-0, 21=27-11-0,  
22=27-11-0, 23=27-11-0,  
24=27-11-0, 25=27-11-0,  
26=27-11-0, 27=27-11-0,  
28=27-11-0, 29=27-11-0,  
30=27-11-0  
Max Horiz 2=-94 (LC 17)  
Max Uplift 2=-21 (LC 13), 18=-13 (LC 13),  
20=-86 (LC 13), 21=-19 (LC 13),  
22=-43 (LC 13), 23=-39 (LC 13),  
24=-36 (LC 13), 26=-37 (LC 12),  
27=-37 (LC 12), 28=-42 (LC 12),  
29=-15 (LC 12), 30=-86 (LC 12)  
Max Grav 2=262 (LC 1), 18=285 (LC 1),  
20=343 (LC 26), 21=120 (LC 1),  
22=198 (LC 26), 23=176 (LC 1),  
24=184 (LC 26), 25=133 (LC 22),  
26=180 (LC 25), 27=167 (LC 1),  
28=182 (LC 25), 29=114 (LC 1),  
30=295 (LC 25)

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

**TOP CHORD** 1-2=0/32, 2-4=-119/60, 4-5=-120/81,  
5-6=-105/99, 6-7=-108/134, 7-9=-114/170,  
9-10=-132/204, 10-11=-132/204,  
11-13=-114/170, 13-14=-109/134,  
14-15=-105/97, 15-16=-120/70,  
16-18=-134/25, 18-19=0/32  
**BOT CHORD** 2-30=-3/104, 29-30=-3/104, 28-29=-3/104,  
27-28=-3/104, 26-27=-3/104, 25-26=-3/104,  
23-25=-3/104, 22-23=-2/104, 21-22=-2/104,  
20-21=-2/104, 18-20=-2/104  
**WEBS** 10-25=-134/56, 9-26=-127/51, 7-27=-118/57,  
6-28=-127/59, 5-29=-90/41, 4-30=-199/97,  
11-24=-127/51, 13-23=-118/57,  
14-22=-128/59, 15-21=-86/40, 16-20=-207/99

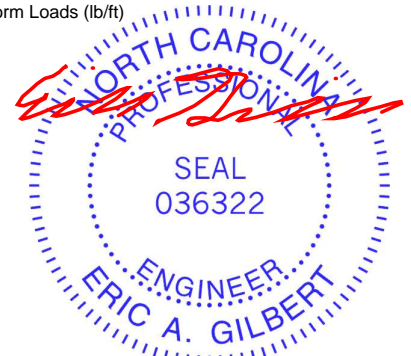
#### NOTES

- 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 13-11-8, Corner(3R) 13-11-8 to 16-11-8, Exterior(2N) 16-11-8 to 29-1-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- 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 21 lb uplift at joint 2, 13 lb uplift at joint 18, 37 lb uplift at joint 26, 37 lb uplift at joint 27, 42 lb uplift at joint 28, 15 lb uplift at joint 29, 86 lb uplift at joint 30, 36 lb uplift at joint 24, 39 lb uplift at joint 23, 43 lb uplift at joint 22, 19 lb uplift at joint 21, 86 lb uplift at joint 20, 21 lb uplift at joint 2 and 13 lb uplift at joint 18.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 31.
- 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 + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)



July 17,2025

Continued on page 2

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818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity
P05609-30822	AE01	Common Supported Gable	1	1	Job Reference (optional)
					I74960874

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 14:44:44  
ID:5llqaiXJHNcUEdrf9BFmNHZJXuN-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 2

Vert: 1-10=-60, 10-19=-60

Trapezoidal Loads (lb/ft)

Vert: 31=-20-to-33=-20 (F=0), 33=-20 (F=0)-  
to-30=-22 (F=-2), 30=-22 (F=-2)-to-29=-23 (F=-3),  
29=-23 (F=-3)-to-28=-24 (F=-4), 28=-24 (F=-4)-  
to-27=-25 (F=-5), 27=-25 (F=-5)-to-26=-26 (F=-6),  
26=-26 (F=-6)-to-25=-28 (F=-7), 25=-28 (F=-7)-  
to-24=-29 (F=-9), 24=-29 (F=-9)-to-23=-30 (F=-10),  
23=-30 (F=-10)-to-22=-31 (F=-11), 22=-31 (F=-11)-  
to-21=-32 (F=-12), 21=-32 (F=-12)-to-20=-33  
(F=-13), 20=-33 (F=-13)-to-37=-35 (F=-15), 37=-35  
(F=-15)-to-35=-35 (F=-15)



July 17, 2025

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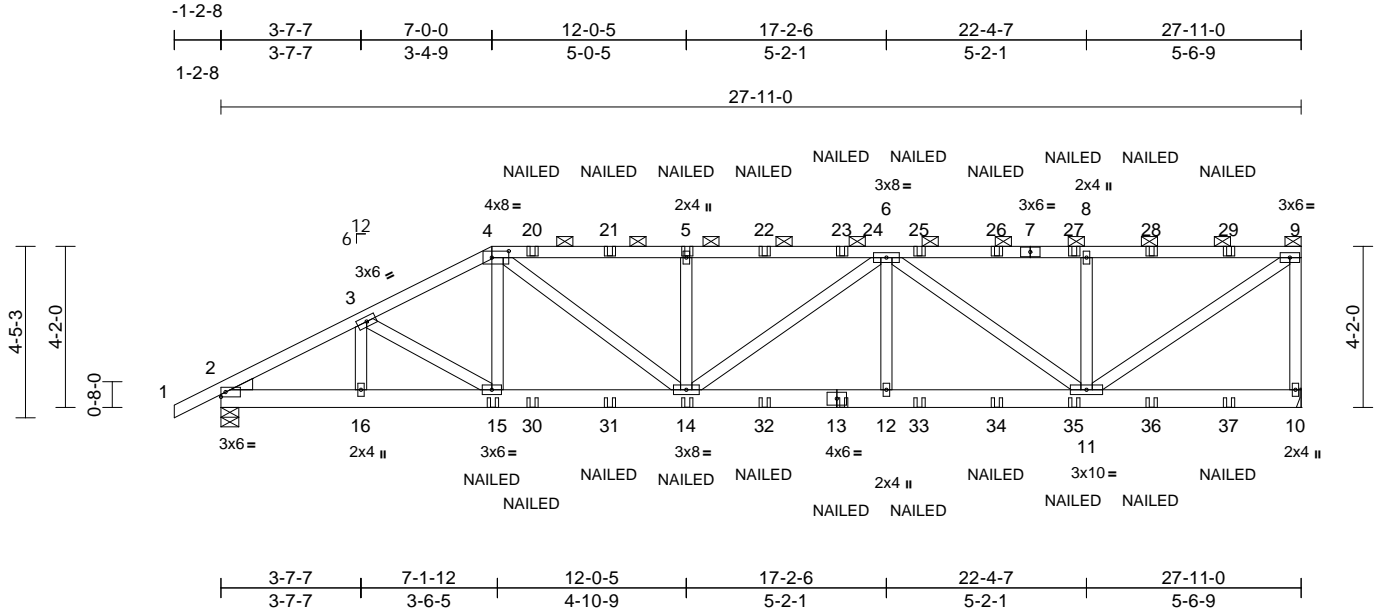
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960875
P05609-30822	AG01	Half Hip 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 14:44:45  
ID:FP6sn95HZUloKeat?J51RwzJY1D-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:59.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	0.07	12-14	>999	240	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.36	Vert(CT)	-0.12	12-14	>999	180	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.25	Horz(CT)	0.03	10	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
Weight: 360 lb FT = 20%											

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.2
WEDGE	Left: 2x4 SP No.3

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-9.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size)	2=0-5-8, 10= Mechanical
Max Horiz	2=116 (LC 36)
Max Uplift	2=-357 (LC 10), 10=-522 (LC 7)
Max Grav	2=1468 (LC 2), 10=1512 (LC 2)

#### FORCES

TOP CHORD	(lb) - Maximum Compression/Maximum Tension 1-2=0/34, 2-3=-2352/608, 3-4=-2363/712, 4-5=-2767/932, 5-6=-2767/932, 6-8=-1824/641, 8-9=-1824/641
BOT CHORD	2-16=-604/2044, 15-16=-604/2044, 14-15=-647/2095, 12-14=-929/2683, 11-12=-929/2683, 10-11=0/0
WEBS	3-16=-190/89, 3-15=-127/227, 4-15=-24/347, 5-14=-438/230, 4-14=-375/904, 6-12=-6/288, 6-14=-26/119, 8-11=-477/248, 9-11=-783/2228, 6-11=-1066/356, 9-10=-1440/523

#### 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.

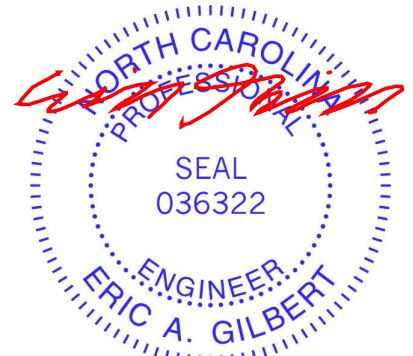
- All loads are considered equally applied to all plies, except if noted as front (F) or back (B) face in the LOAD CASE(S) section. Ply to ply connections have been provided to distribute only loads noted as (F) or (B), unless otherwise indicated.
- Unbalanced roof live loads have been considered for 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 and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 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 357 lb uplift at joint 2 and 522 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.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.

#### LOAD CASE(S)

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-35, 4-9=-45, 10-17=-20

#### Concentrated Loads (lb)

Vert: 13=-18 (F), 15=-42 (F), 5=-15 (F), 14=-18 (F), 20=-15 (F), 21=-15 (F), 22=-15 (F), 23=-15 (F), 25=-15 (F), 26=-15 (F), 27=-15 (F), 28=-15 (F), 29=-15 (F), 30=-18 (F), 31=-18 (F), 32=-18 (F), 33=-18 (F), 34=-18 (F), 35=-18 (F), 36=-18 (F), 37=-18 (F)



July 17, 2025

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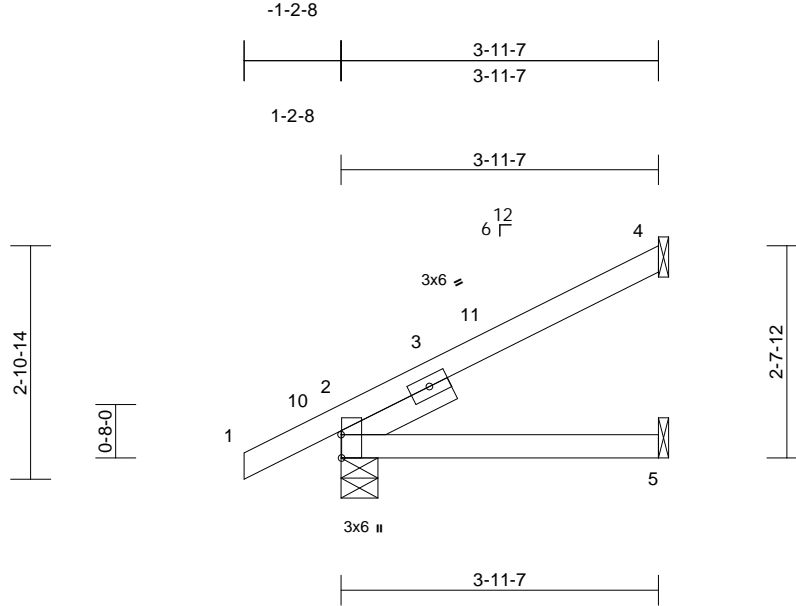
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960876
P05609-30822	AJ01	Jack-Open	1	1	Job Reference (optional)	

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 14:44:46

Page: 1

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Scale = 1:28.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.18	Vert(LL)	0.01	5-8	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.14	Vert(CT)	-0.02	5-8	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 17 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
SLIDER Left 2x4 SP No.2 -- 1-6-0

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-11-7 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-8, 4= Mechanical, 5= Mechanical  
Max Horiz 2=71 (LC 12)  
Max Uplift 2=-19 (LC 12), 4=-38 (LC 12)  
Max Grav 2=239 (LC 1), 4=97 (LC 1), 5=69 (LC 3)

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

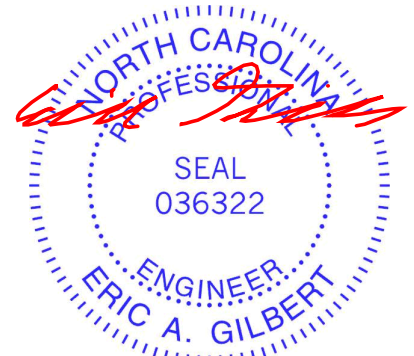
TOP CHORD 1-2=0/32, 2-4=-117/34  
BOT CHORD 2-5=-116/84

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-10-11 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 38 lb uplift at joint 4 and 19 lb uplift at joint 2.
- 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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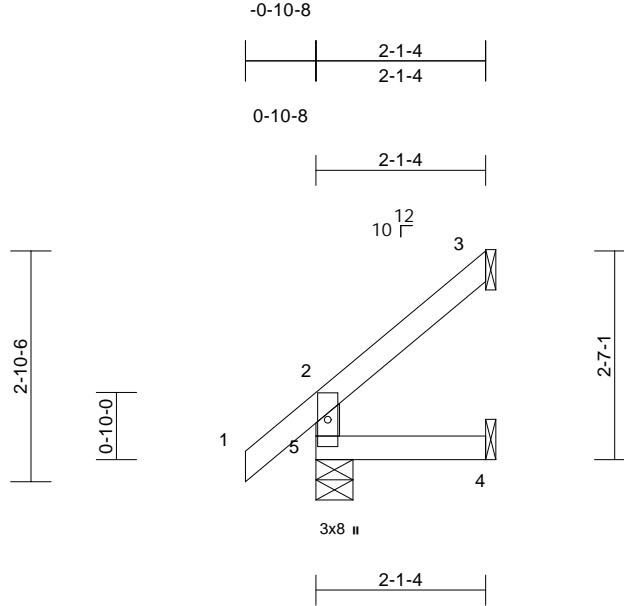


Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	AJ02	Jack-Open	1	1	Job Reference (optional)	I74960877

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

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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	1.25	TC	0.08	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.08	Vert(CT)	0.00	4-5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 10 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 2-1-4 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=60 (LC 12)  
Max Uplift 3=-35 (LC 12), 4=-6 (LC 12)  
Max Grav 3=49 (LC 19), 4=35 (LC 3), 5=154 (LC 1)

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

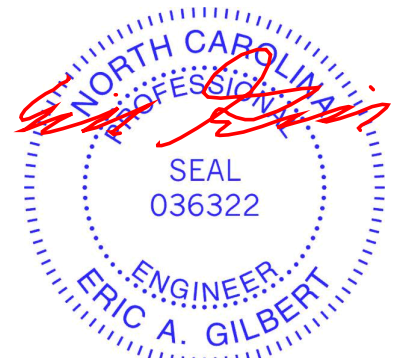
TOP CHORD 2-5=-132/65, 1-2=0/39, 2-3=-64/34  
BOT CHORD 4-5=0/0

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=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
- 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 35 lb uplift at joint 3 and 6 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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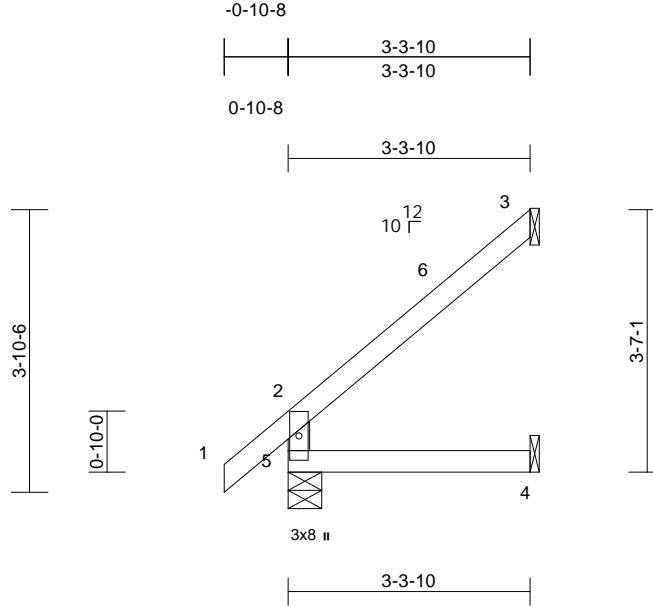
Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	AJ03	Jack-Open	1	1	Job Reference (optional)	I74960878

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

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Page: 1

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Scale = 1:31.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.16	Vert(LL)	0.01	4-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.17	Vert(CT)	-0.01	4-5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.01	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 14 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 3-3-10 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=89 (LC 12)  
Max Uplift 3=-55 (LC 12), 4=-6 (LC 12)  
Max Grav 3=87 (LC 19), 4=59 (LC 3), 5=195 (LC 1)

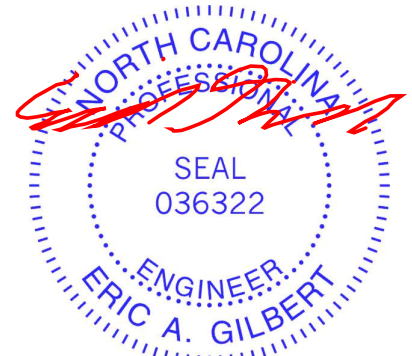
**FORCES** (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-5=-167/68, 1-2=0/39, 2-3=-97/49  
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 3-2-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 55 lb uplift at joint 3 and 6 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



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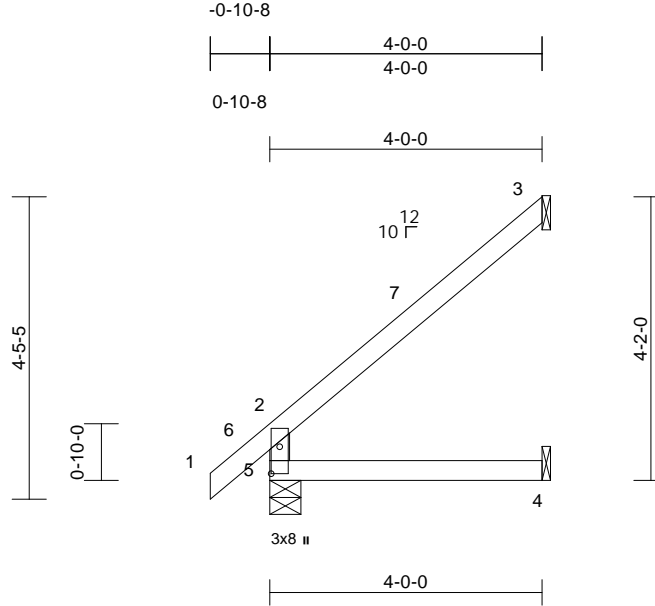
Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	AJ04	Jack-Open	10	1	Job Reference (optional)	I74960879

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

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Page: 1

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Scale = 1:33.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.24	Vert(LL)	0.02	4-5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.23	Vert(CT)	-0.02	4-5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.00	Horz(CT)	-0.02	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 16 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" oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

**REACTIONS** (size) 3= Mechanical, 4= Mechanical, 5=0-5-8  
Max Horiz 5=105 (LC 12)  
Max Uplift 3=66 (LC 12), 4=6 (LC 12)  
Max Grav 3=107 (LC 19), 4=72 (LC 3), 5=221 (LC 1)

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

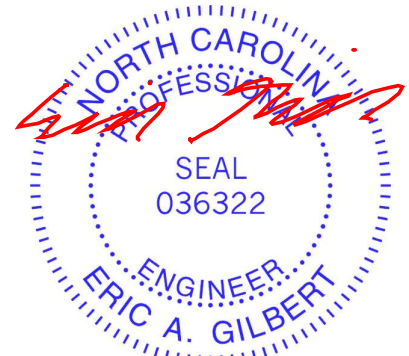
TOP CHORD 2-5=-189/67, 1-2=0/39, 2-3=-114/58  
BOT CHORD 4-5=0/0

#### 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
- 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 66 lb uplift at joint 3 and 6 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



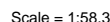
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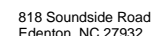
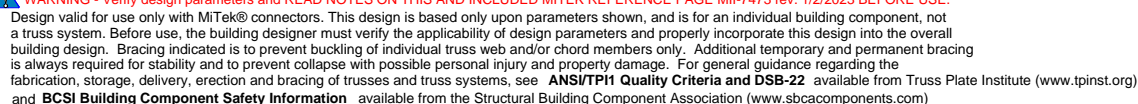
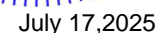
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Page: 1

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)  
 Vasd=91mph; TCFL=6.0psf; BCFL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 3-11-0, Exterior(2R) 3-11-0 to 6-11-0, Interior (1) 6-11-0 to 12-5-11 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- LOAD CASE(S) Standard



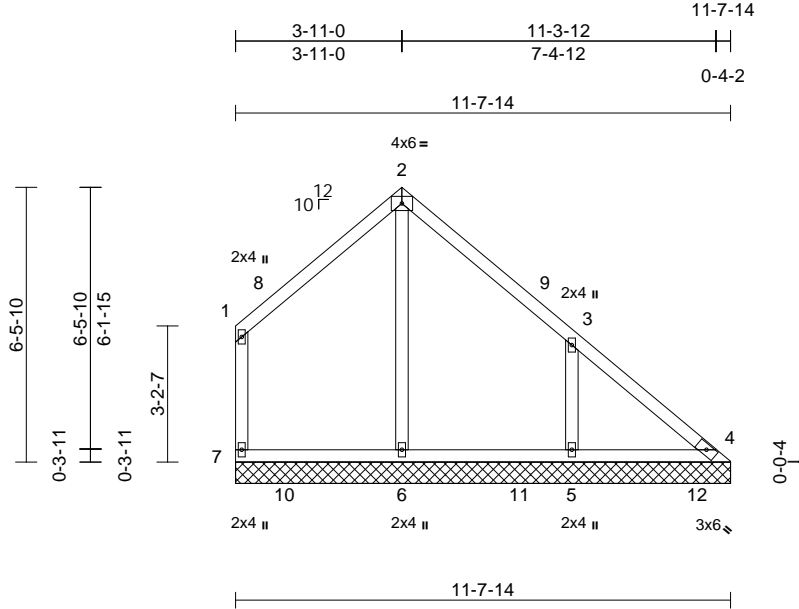
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960881
P05609-30822	AV2	Valley	1	1	Job Reference (optional)	

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 14:44:46

Page: 1

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Scale = 1:54.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.19	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.18	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	4	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S						Weight: 56 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)	4=11-7-14, 5=11-7-14, 6=11-7-14, 7=11-7-14
Max Horiz	7=-125 (LC 13)
Max Uplift	4=-29 (LC 9), 5=-137 (LC 13), 7=-64 (LC 12)
Max Grav	4=153 (LC 19), 5=430 (LC 20), 6=407 (LC 20), 7=199 (LC 19)

#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-7=-132/87, 1-2=-98/90, 2-3=-134/104, 3-4=-130/125
BOT CHORD	6-7=-84/122, 5-6=-84/122, 4-5=-84/122
WEBS	2-6=-203/13, 3-5=-273/176

#### 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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 3-11-0, Exterior(2R) 3-11-0 to 6-11-0, Interior (1) 6-11-0 to 11-3-5 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 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 64 lb uplift at joint 7, 29 lb uplift at joint 4 and 137 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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818 Soundside Road  
Edenton, NC 27932

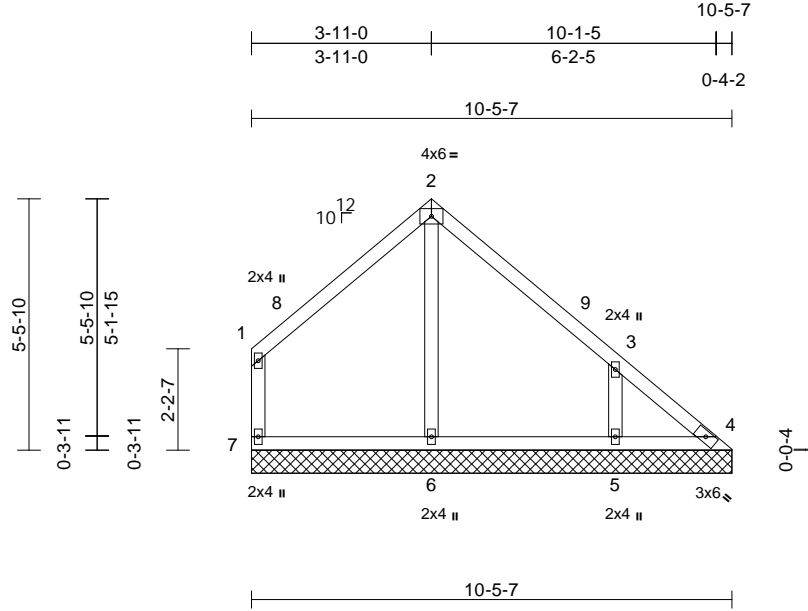


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960882
P05609-30822	AV3	Valley	1	1	Job Reference (optional)	

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 14:44:47  
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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	1.25	TC	0.17	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.13	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							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)	4=10-5-7, 5=10-5-7, 6=10-5-7, 7=10-5-7
Max Horiz	7=-96 (LC 13)
Max Uplift	4=-44 (LC 9), 5=-121 (LC 13), 7=-66 (LC 12)
Max Grav	4=100 (LC 19), 5=311 (LC 20), 6=282 (LC 20), 7=170 (LC 19)

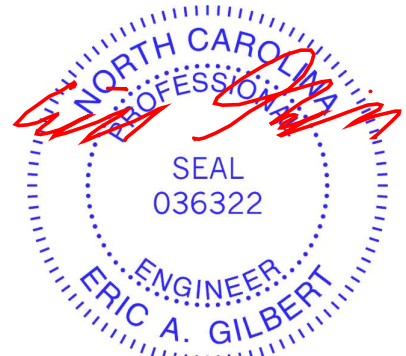
#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-7=-137/98, 1-2=-106/102, 2-3=-140/111, 3-4=-119/109
BOT CHORD	6-7=-71/95, 5-6=-71/95, 4-5=-71/95
WEBS	2-6=-197/18, 3-5=-243/174

#### 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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 3-11-0, Exterior(2R) 3-11-0 to 6-11-0, Interior (1) 6-11-0 to 10-0-15 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 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 66 lb uplift at joint 7, 44 lb uplift at joint 4 and 121 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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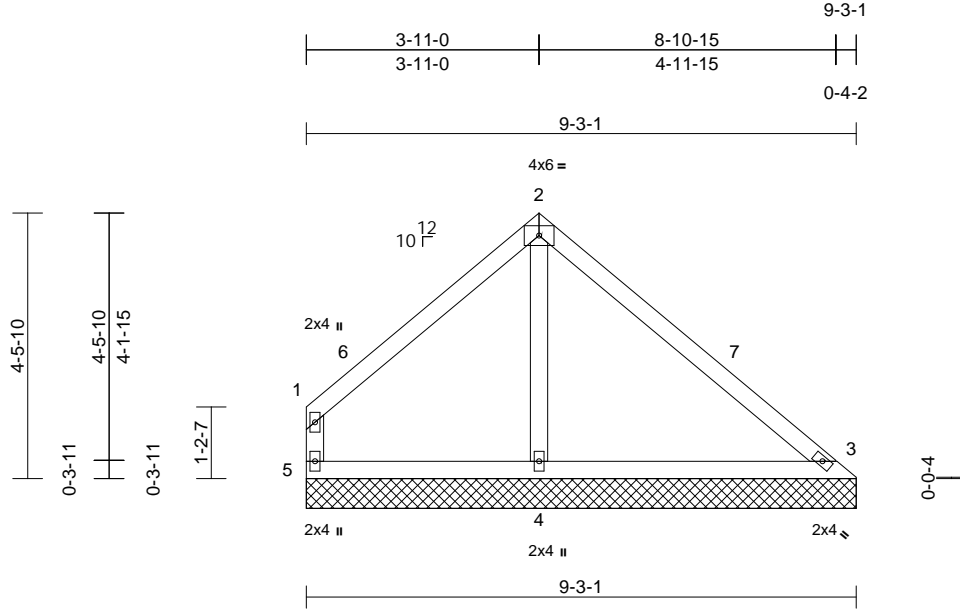
Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	AV4	Valley	1	1	Job Reference (optional)	I74960883

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 14:44:47

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Scale = 1:38.8

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.33	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.21	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-S							Weight: 38 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.

#### REACTIONS

(size)	3=9'-3-1, 4=9'-3-1, 5=9'-3-1
Max Horiz	5=-74 (LC 8)
Max Uplift	3=-50 (LC 12), 4=-16 (LC 13), 5=-67 (LC 12)
Max Grav	3=204 (LC 1), 4=355 (LC 20), 5=177 (LC 25)

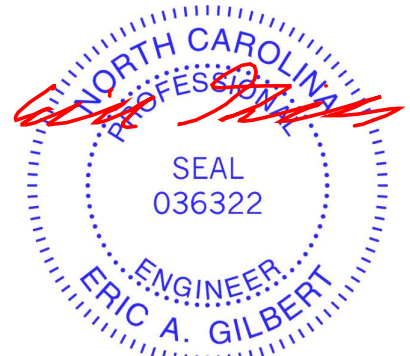
#### FORCES

	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-5=-151/106, 1-2=-132/113, 2-3=-174/108
BOT CHORD	4-5=-64/90, 3-4=-64/90
WEBS	2-4=-232/40

#### 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) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 3-11-0, Exterior(2R) 3-11-0 to 6-11-0, Interior (1) 6-11-0 to 8-10-8 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 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" 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 67 lb uplift at joint 5, 50 lb uplift at joint 3 and 16 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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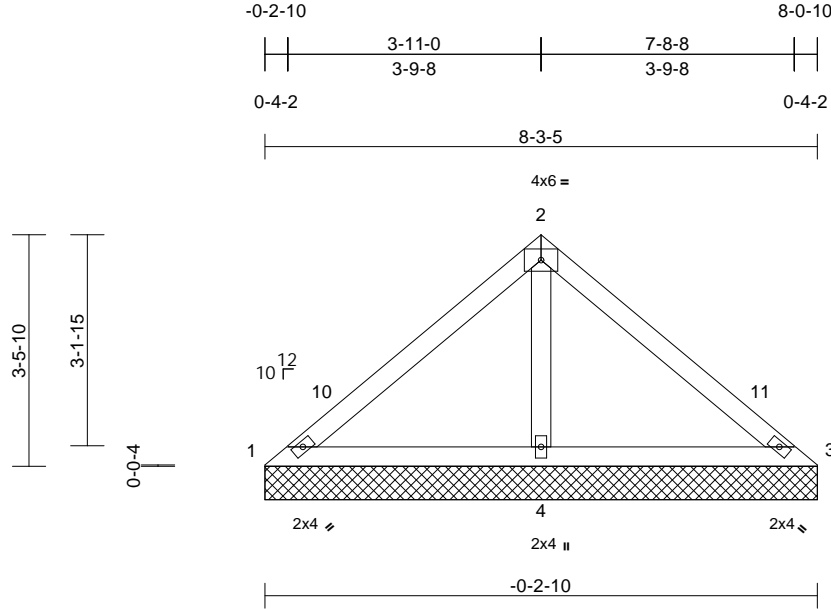
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960884
P05609-30822	AV5	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 14:44:47  
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Scale = 1:34.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.22	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.20	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	3	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 31 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 8-0-15 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

#### REACTIONS

(size)	1=8-3-5, 3=8-3-5, 4=8-3-5
Max Horiz	1=-60 (LC 8)
Max Uplift	1=-85 (LC 26), 3=-1 (LC 13), 4=-47 (LC 13)
Max Grav	1=82 (LC 25), 3=3 (LC 20), 4=662 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

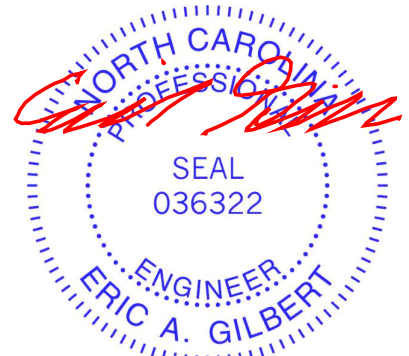
TOP CHORD	1-2=-69/303, 2-3=-161/312
BOT CHORD	1-4=-208/122, 3-4=-230/141
WEBS	2-4=-512/144

#### 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) 0-2-10 to 2-9-6, Interior (1) 2-9-6 to 3-11-0, Exterior(2R) 3-11-0 to 6-11-0, Interior (1) 6-11-0 to 8-0-10 zone; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 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 85 lb uplift at joint 1, 1 lb uplift at joint 3, 47 lb uplift at joint 4 and 1 lb uplift at joint 3.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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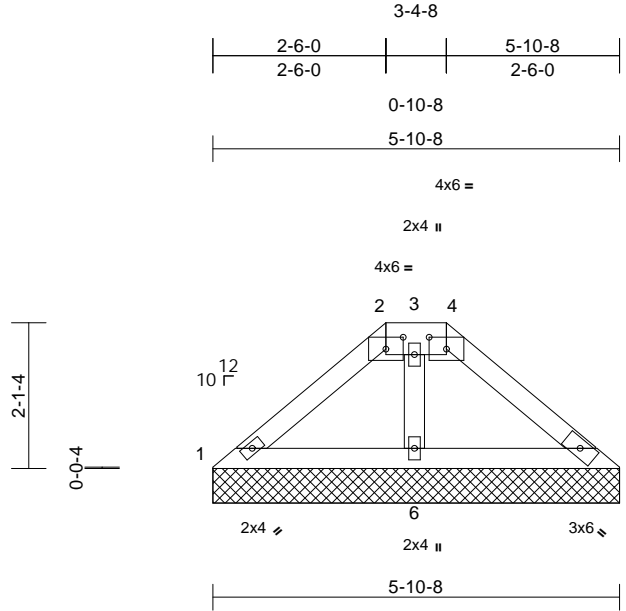
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960885
P05609-30822	AV6	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 14:44:47  
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Page: 1



Scale = 1:33.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.09	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.18	Vert(TL)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 21 lb FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2 *Except* 2-4:2x6 SP No.2
BOT CHORD	2x4 SP No.2
OTHERS	2x4 SP No.2

#### BRACING

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

REACTIONS	(size) 1=5-10-8, 5=5-10-8, 6=5-10-8
	Max Horiz 1=-35 (LC 8)
	Max Uplift 1=-13 (LC 13), 5=-25 (LC 8), 6=-55 (LC 12)
	Max Grav 1=71 (LC 20), 5=110 (LC 26), 6=334 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

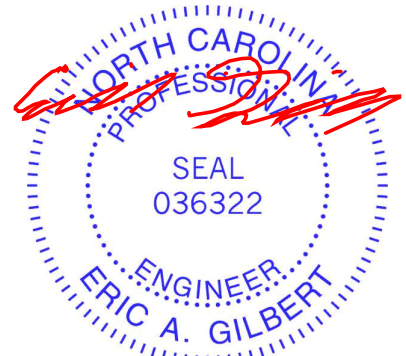
TOP CHORD	1-2=-82/110, 2-3=-21/58, 3-4=-21/60, 4-5=-120/106
BOT CHORD	1-6=-68/70, 5-6=-68/93
WEBS	3-6=-240/117

#### 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;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.
- 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.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 1, 25 lb uplift at joint 5 and 55 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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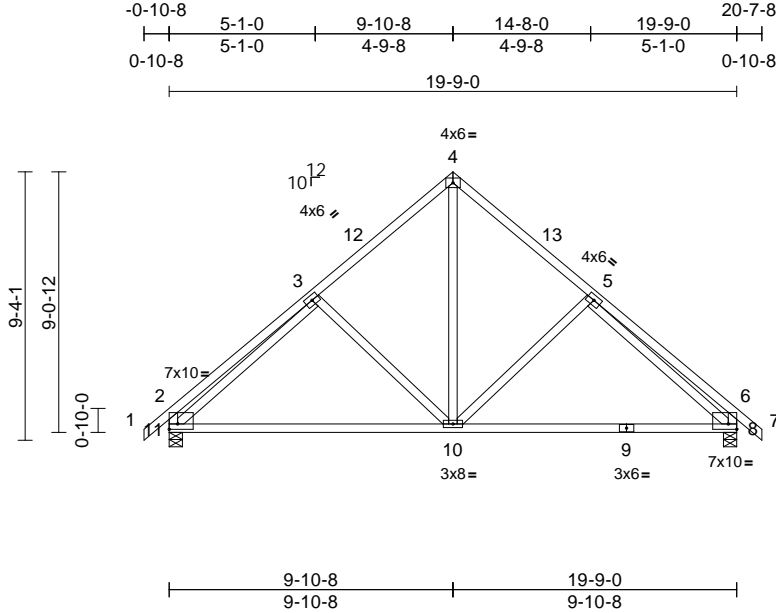
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960886
P05609-30822	B01	Common	5	1	Job Reference (optional)	

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 14:44:47

Page: 1

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Scale = 1:80.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.29	Vert(LL)	-0.17	8-10	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.91	Vert(CT)	-0.35	8-10	>662	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.02	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 123 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" oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

**REACTIONS** (size) 8=0-5-8, 11=0-5-8  
Max Horiz 11=181 (LC 11)  
Max Uplift 8=63 (LC 13), 11=63 (LC 12)  
Max Grav 8=840 (LC 1), 11=840 (LC 1)

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

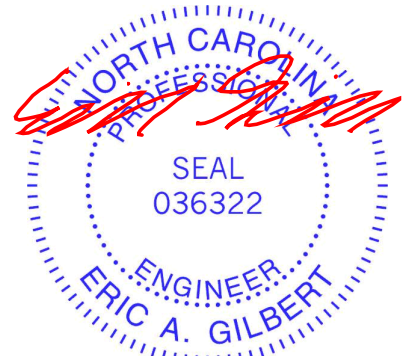
TOP CHORD 1-2=0/39, 2-3=-417/125, 3-4=-701/132, 4-5=-701/132, 5-6=-417/125, 6-7=0/39, 2-11=-410/116, 6-8=-410/116  
BOT CHORD 10-11=-82/642, 8-10=-10/608  
WEBS 4-10=-84/529, 5-10=-230/157, 3-10=-229/157, 3-11=-497/29, 5-8=-497/29

#### 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 9-10-8, Exterior(2R) 9-10-8 to 12-10-8, Interior (1) 12-10-8 to 20-7-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 63 lb uplift at joint 11 and 63 lb uplift at joint 8.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



July 17, 2025

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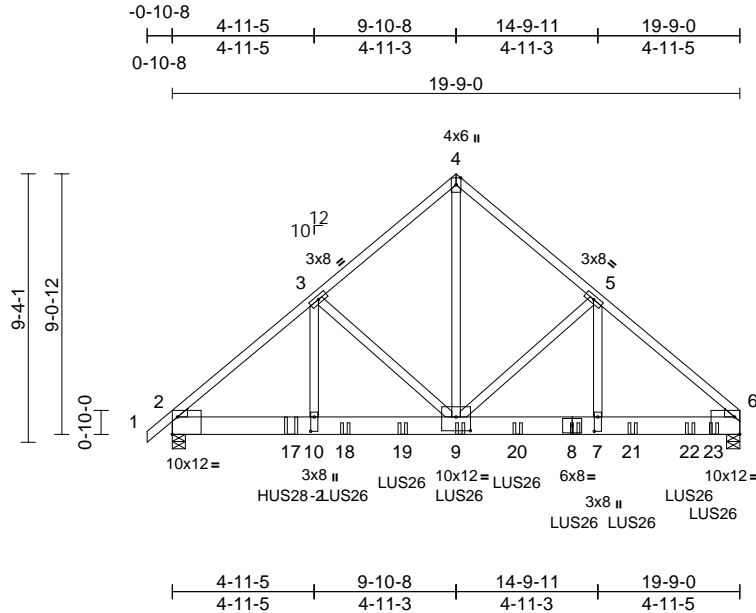


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960887
P05609-30822	BG01	Common Girder	1	2	Job Reference (optional)	

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 14:44:48  
ID:UZT72D929K2x2a11MaCRgBzJY17-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:80.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.43	Vert(LL)	-0.08	7-9	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.16	9-10	>999	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.02	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 290 lb	FT = 20%

#### LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x8 SP DSS
WEBS	2x4 SP No.2
WEDGE	Left: 2x4 SP No.2 Right: 2x4 SP No.2

#### BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-5-8 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=160 (LC 9)
Max Uplift	2=-746 (LC 10), 6=-677 (LC 11)
Max Grav	2=5086 (LC 2), 6=7094 (LC 3)

#### FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/34, 2-3=-6750/965, 3-4=-5017/637, 4-5=-5037/637, 5-6=-7323/756
BOT CHORD	2-10=-764/5171, 9-10=-764/5171, 7-9=-531/5571, 6-7=-531/5571
WEBS	4-9=-726/6086, 5-9=-2382/312, 5-7=-214/2837, 3-9=-1828/524, 3-10=-491/2109

#### 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: 2x8 - 2 rows staggered at 0-6-0 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.

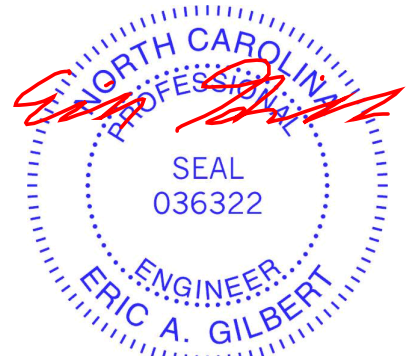
- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=6.0psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone; cantilever left and right exposed; end vertical left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 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 746 lb uplift at joint 2 and 677 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.
- Use Simpson Strong-Tie HUS28-2 (6-10d Girder, 6-10d Truss) or equivalent at 4-1-10 from the left end to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS26 (4-SD9112 Girder, 4-SD9212 Truss, Single Ply Girder) or equivalent spaced at 4-0-0 oc max. starting at 6-0-4 from the left end to 18-10-4 to connect truss(es) to back face of bottom chord.
- Use Simpson Strong-Tie LUS26 (4-10d Girder, 4-10d Truss) or equivalent at 8-0-4 from the left end to connect truss(es) to back face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.

#### LOAD CASE(S)

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15  
Uniform Loads (lb/ft)  
Vert: 1-4=-35, 4-6=-35, 11-14=-20

#### Concentrated Loads (lb)

Vert: 8=-538 (B), 9=-538 (B), 17=-1300 (B), 18=-538 (B), 19=-538 (B), 20=-538 (B), 21=-538 (B), 22=-538 (B), 23=-539 (B)



July 17, 2025

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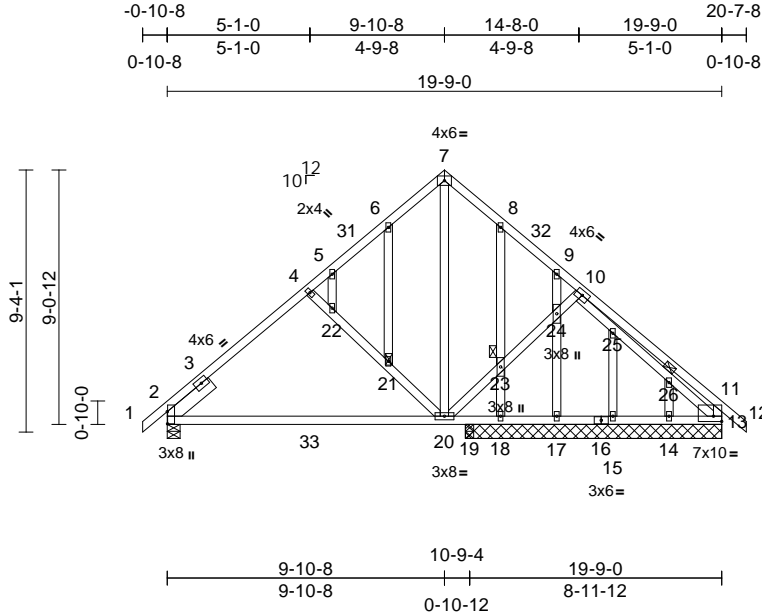
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960888
P05609-30822	BSE01	Common Structural Gable	1	1	Job Reference (optional)	

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 14:44:48

Page: 1

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Scale = 1:82.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.33	Vert(LL)	-0.15	20-29	>886	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.76	Vert(CT)	-0.30	20-29	>426	180		
BCLL	0.0*	Rep Stress Incr	NO	WB	0.14	Horz(CT)	0.02	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							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 2x6 SP No.2 -- 2-0-0

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-10-11 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
JOINTS 1 Brace at Jt(s): 21, 23, 26

**REACTIONS** (size) 2=0-5-8, 13=9-1-8, 14=9-1-8, 15=9-1-8, 17=9-1-8, 18=9-1-8, 19=0-3-8  
Max Horiz 2=176 (LC 11)  
Max Uplift 2=50 (LC 12), 13=57 (LC 13), 14=6 (LC 13), 18=52 (LC 13), 19=195 (LC 3)  
Max Grav 2=713 (LC 1), 13=527 (LC 1), 14=81 (LC 3), 15=204 (LC 3), 17=216 (LC 3), 18=85 (LC 26), 19=96 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/34, 2-4=835/71, 4-5=521/65, 5-6=456/73, 6-7=440/104, 7-8=448/122, 8-9=456/95, 9-10=441/80, 10-11=274/156, 11-12=0/39, 11-13=325/139  
BOT CHORD 2-20=-136/559, 19-20=0/333, 18-19=0/333, 17-18=0/333, 15-17=0/333, 14-15=0/333, 13-14=0/333

**WEBS** 7-20=89/510, 20-23=77/165, 23-24=74/163, 10-24=96/160, 4-22=279/152, 21-22=249/138, 20-21=291/162, 10-25=368/4, 25-26=278/8, 13-26=294/6, 6-21=61/35, 5-22=21/44, 8-23=121/74, 18-23=113/71, 9-24=82/0, 17-24=129/0, 15-25=125/0, 14-26=-1/27

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCCL=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 9-10-8, Exterior(2R) 9-10-8 to 12-10-8, Interior (1) 12-10-8 to 20-7-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- 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 50 lb uplift at joint 2, 57 lb uplift at joint 13, 52 lb uplift at joint 18, 6 lb uplift at joint 14 and 195 lb uplift at joint 19.

- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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 + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-7=-60, 7-11=-60, 11-12=-60, 27-33=-20  
Trapezoidal Loads (lb/ft)  
Vert: 33=-20-to-20=-25 (F=-5), 20=-25 (F=-5)-to-19=-26 (F=-6), 19=-26 (F=-6)-to-18=-27 (F=-7), 18=-27 (F=-7)-to-17=-29 (F=-9), 17=-29 (F=-9)-to-16=-31 (F=-11), 16=-31 (F=-11)-to-15=-31 (F=-11), 15=-31 (F=-11)-to-14=-33 (F=-13), 14=-33 (F=-13)-to-13=-35 (F=-15)



July 17, 2025

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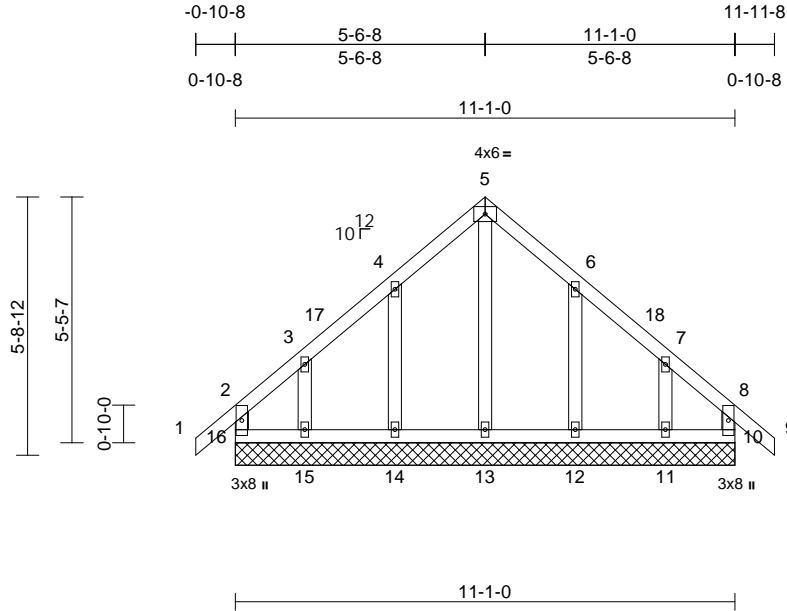
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960889
P05609-30822	BSE02	Common Supported Gable	1	1	Job Reference (optional)	

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 14:44:48

Page: 1

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Scale = 1:51.1

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.04	Vert(CT)	n/a	-	n/a	999	244/190
BCLL	0.0*	Rep Stress Incr	NO	WB	0.07	Horz(CT)	0.00	10	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MR							
Weight: 65 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=11-1-0, 11=11-1-0, 12=11-1-0, 13=11-1-0, 14=11-1-0, 15=11-1-0, 16=11-1-0
	Max Horiz 16=115 (LC 10)
	Max Uplift 10=27 (LC 9), 11=82 (LC 13), 12=63 (LC 13), 14=61 (LC 12), 15=83 (LC 12), 16=42 (LC 8)
	Max Grav 10=132 (LC 26), 11=172 (LC 20), 12=199 (LC 20), 13=180 (LC 22), 14=188 (LC 19), 15=157 (LC 19), 16=137 (LC 20)

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

TOP CHORD	2-16=-113/65, 1-2=0/39, 2-3=-74/72, 3-4=-56/81, 4-5=-87/167, 5-6=-87/167, 6-7=-44/81, 7-8=-57/56, 8-9=0/39, 8-10=-110/65
BOT CHORD	15-16=-53/76, 14-15=-53/76, 13-14=-53/76, 12-13=-53/76, 11-12=-53/76, 10-11=-53/76
WEBS	5-13=-152/26, 4-14=-139/112, 3-15=-108/112, 6-12=-139/112, 7-11=-105/112

#### 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 5-6-8, Corner(3R) 5-6-8 to 8-6-8, Exterior(2N) 8-6-8 to 11-11-8 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.
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 16, 27 lb uplift at joint 10, 61 lb uplift at joint 14, 83 lb uplift at joint 15, 63 lb uplift at joint 12 and 82 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 + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25

#### Uniform Loads (lb/ft)

Vert: 1-2=-60, 2-5=-60, 5-8=-60, 8-9=-60

#### Trapezoidal Loads (lb/ft)

Vert: 16=-20-to-15=-22 (F=-2), 15=-22 (F=-2)-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=-33 (F=-13), 11=-33 (F=-13)-to-10=-35 (F=-15)



July 17, 2025

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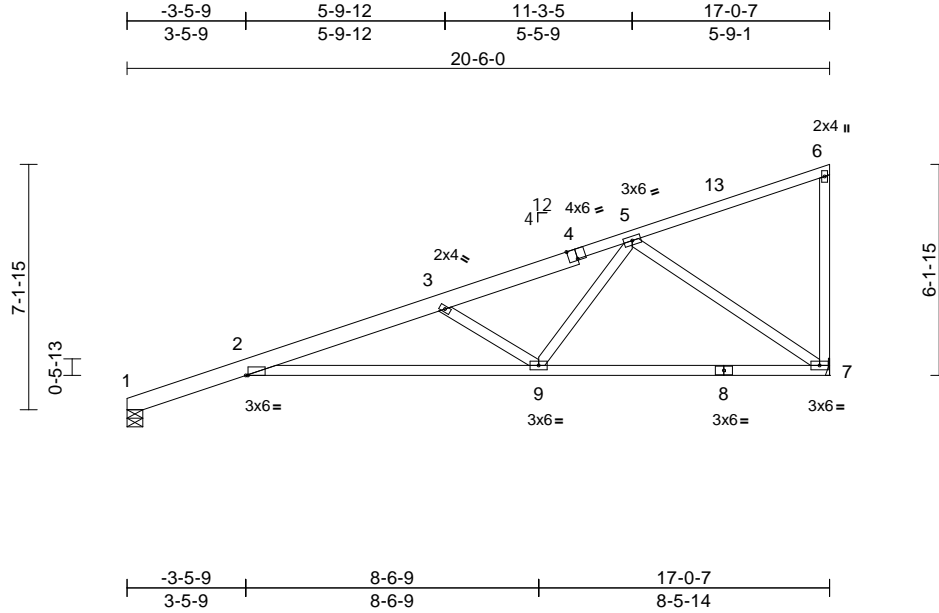
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960890
P05609-30822	C1	Monopitch	3	1	Job Reference (optional)	

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 14:44:49

Page: 1

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Scale = 1:67.2

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.86	Vert(LL)	-0.41	9-12	>583	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.72	Vert(CT)	-0.88	9-12	>276	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.85	Horz(CT)	0.27	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 99 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 1-4:2x6 SP DSS  
BOT CHORD 2x4 SP No.1 \*Except\* 8-7:2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 9-5-12 oc bracing.

#### REACTIONS

(size) 1=0-5-8, 7= Mechanical  
Max Horiz 1=201 (LC 9)  
Max Uplift 1=-86 (LC 8), 7=-124 (LC 12)  
Max Grav 1=823 (LC 1), 7=809 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-340/115, 2-3=-3613/482,  
3-5=-1574/214, 5-6=-113/75, 6-7=-152/77  
BOT CHORD 2-9=-508/2813, 7-9=-214/858  
WEBS 3-9=-1038/215, 5-9=-89/969, 5-7=-1030/194

#### 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) -1-9-7 to 1-5-6, Interior (1) 1-5-6 to 18-4-1 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
- 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.
- Bearing at joint(s) 1 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 124 lb uplift at joint 7 and 86 lb uplift at joint 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



July 17, 2025

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Edenton, NC 27932



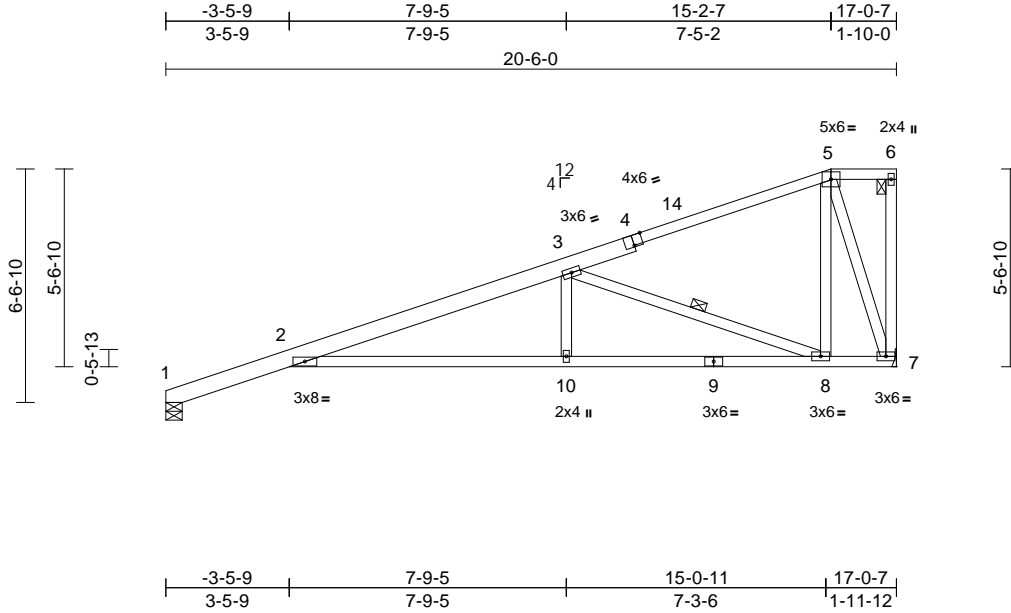
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960891
P05609-30822	C2	Half Hip	1	1	Job Reference (optional)	

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 14:44:49

Page: 1

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Scale = 1:64.7

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.86	Vert(LL)	-0.52	10-13	>463	240	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.99	Vert(CT)	-1.09	10-13	>221	180	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.32	7	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
Weight: 106 lb FT = 20%											

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 1-4:2x6 SP DSS  
 BOT CHORD 2x4 SP No.1 \*Except\* 9-7:2x4 SP No.2  
 WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-0 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 5-6.

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

WEBS 1 Row at midpt 3-8

REACTIONS (size) 1=0-5-8, 7= Mechanical  
 Max Horiz 1=184 (LC 9)  
 Max Uplift 1=-89 (LC 8), 7=-120 (LC 8)  
 Max Grav 1=823 (LC 1), 7=809 (LC 1)

#### FORCES

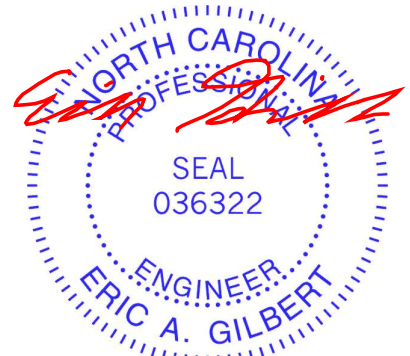
(lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=-326/96, 2-3=-3546/502, 3-5=-392/99, 5-6=-73/78, 6-7=-52/30  
 BOT CHORD 2-10=-547/2788, 8-10=-421/1848, 7-8=-111/248  
 WEBS 3-10=0/376, 3-8=-1687/329, 5-8=-67/653, 5-7=-801/201

#### 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) -2-9-4 to 0-5-9, Interior (1) 0-5-9 to 15-8-0, Exterior(2E) 15-8-0 to 17-4-4 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
- 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.
- Bearing at joint(s) 1 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 120 lb uplift at joint 7 and 89 lb uplift at joint 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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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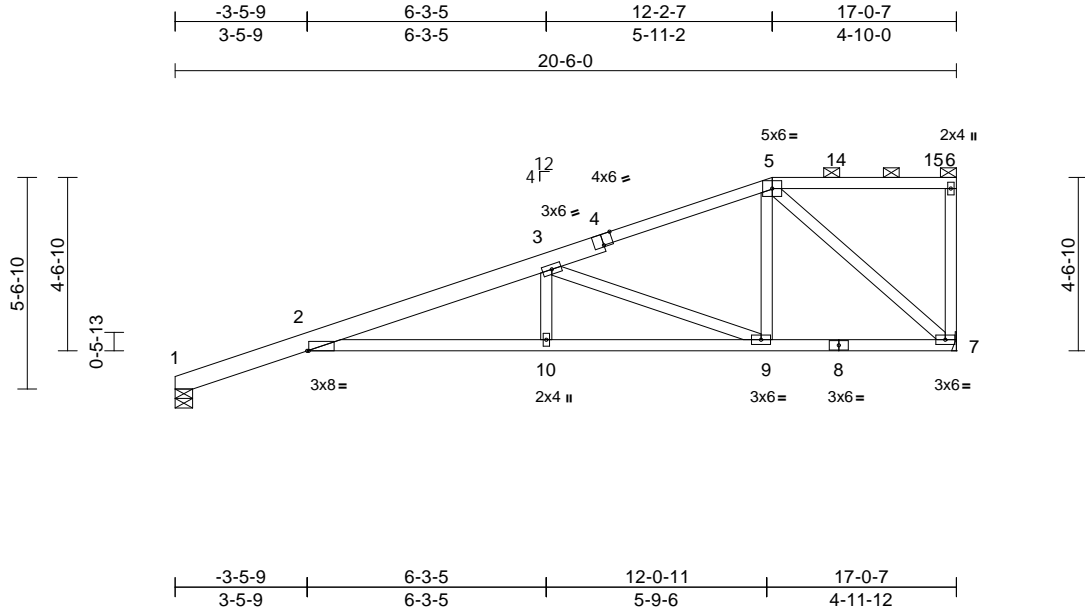
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960892
P05609-30822	C3	Half Hip	1	1	Job Reference (optional)	

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 14:44:49

Page: 1

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Scale = 1:60.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.86	Vert(LL)	-0.43	10-13	>558	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.99	Vert(CT)	-0.90	10-13	>269	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.99	Horz(CT)	0.29	7	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 99 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2 \*Except\* 1-4:2x6 SP DSS  
BOT CHORD 2x4 SP No.1 \*Except\* 8-7:2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

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

**REACTIONS** (size) 1=0-5-8, 7= Mechanical  
Max Horiz 1=153 (LC 9)  
Max Uplift 1=-93 (LC 8), 7=-116 (LC 8)  
Max Grav 1=823 (LC 1), 7=809 (LC 1)

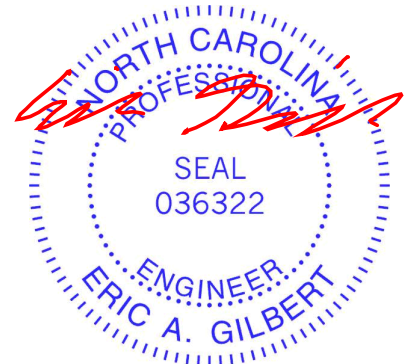
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-301/62, 2-3=-3607/594, 3-5=-850/168, 5-6=-68/67, 6-7=-144/63  
BOT CHORD 2-10=-594/2845, 9-10=-514/2141, 7-9=-206/697  
WEBS 3-10=0/316, 3-9=-1521/326, 5-9=-72/620, 5-7=-919/220

#### 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 and C-C Exterior(2E) -2-9-4 to 0-5-9, Interior (1) 0-5-9 to 12-8-0, Exterior(2R) 12-8-0 to 16-10-15, Interior (1) 16-10-15 to 17-4-4 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
- 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.
- Bearing at joint(s) 1 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 116 lb uplift at joint 7 and 93 lb uplift at joint 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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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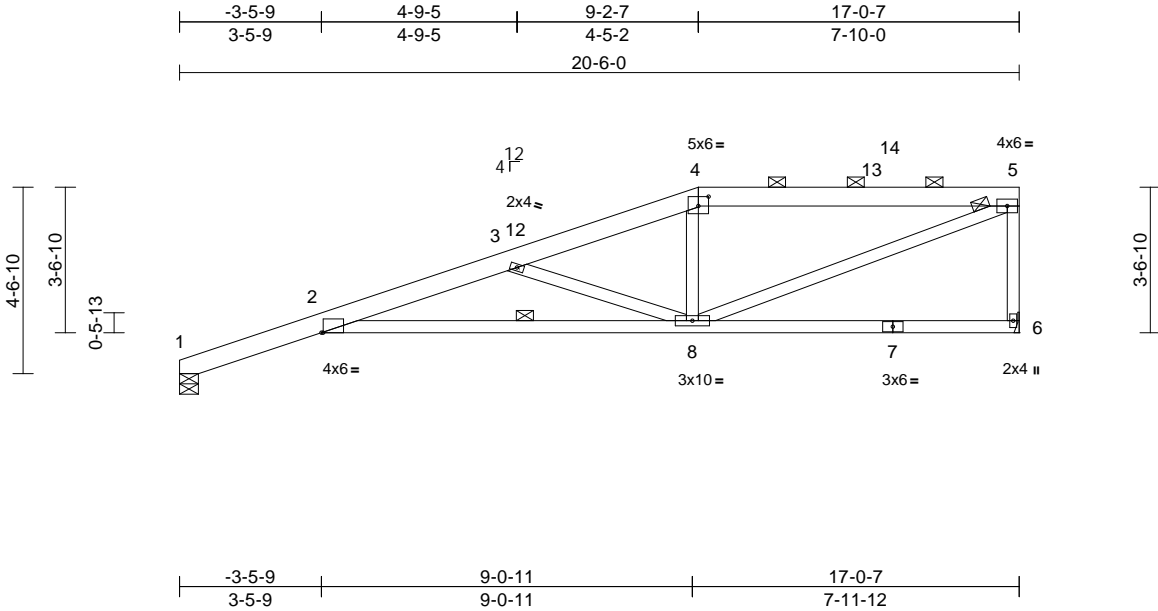
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960893
P05609-30822	C4	Half Hip	1	1	Job Reference (optional)	

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 14:44:49

Page: 1

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Scale = 1:56.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.86	Vert(LL)	-0.38	8-11	>637	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.76	Vert(CT)	-0.81	8-11	>297	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.50	Horz(CT)	0.25	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 102 lb	FT = 20%

#### LUMBER

TOP CHORD 2x6 SP DSS \*Except\* 4-5:2x6 SP No.2  
BOT CHORD 2x4 SP No.1 \*Except\* 7-6:2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

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

#### REACTIONS

(size) 1=0-5-8, 6= Mechanical  
Max Horiz 1=119 (LC 9)  
Max Uplift 1=-96 (LC 8), 6=-113 (LC 8)  
Max Grav 1=823 (LC 1), 6=809 (LC 1)

#### FORCES

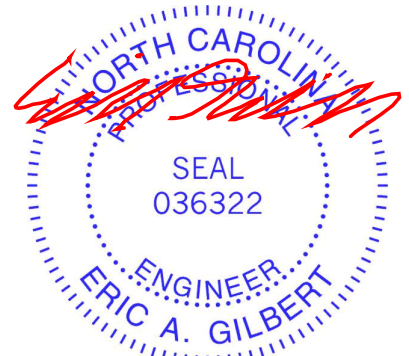
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-273/32, 2-3=-3667/658, 3-4=-1466/258, 4-5=-1325/261, 5-6=-746/184  
BOT CHORD 2-8=-613/2846, 6-8=-34/62  
WEBS 3-8=-1332/314, 4-8=0/278, 5-8=-296/1382

#### 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) -2-9-4 to 0-5-9, Interior (1) 0-5-9 to 9-8-0, Exterior(2R) 9-8-0 to 13-10-15, Interior (1) 13-10-15 to 17-4-4 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
- 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.
- Bearing at joint(s) 1 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 96 lb uplift at joint 1 and 113 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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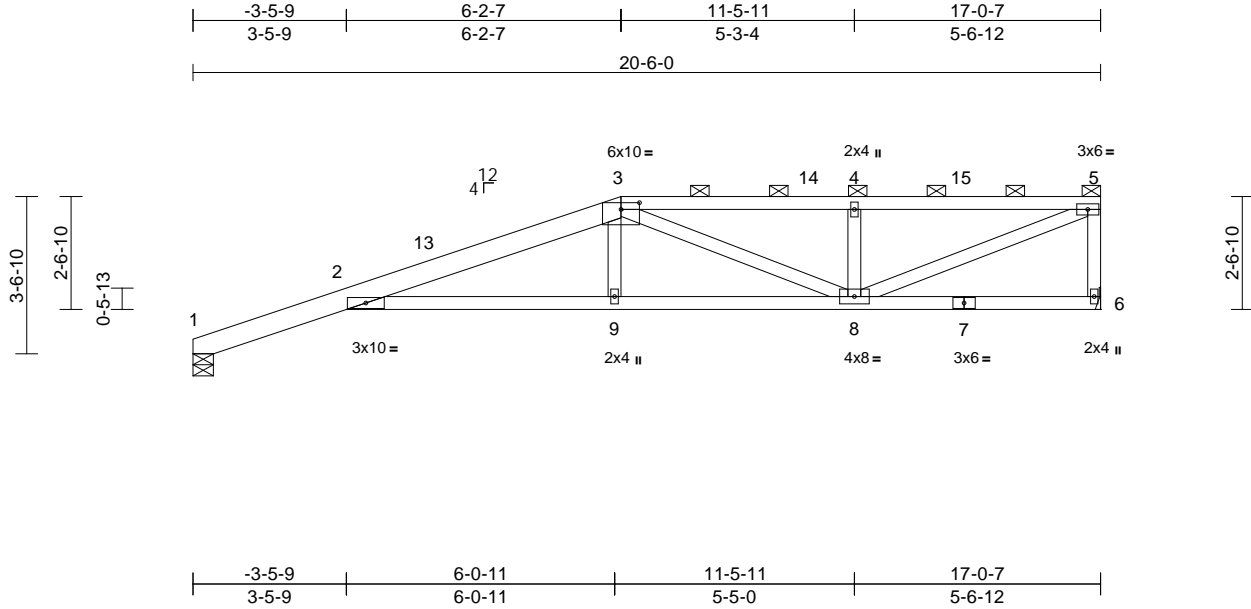
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960894
P05609-30822	C5	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 14:44:50  
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Page: 1



Scale = 1:52

Plate Offsets (X, Y): [3:0-5-0,0-1-13]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.86	Vert(LL)	-0.44	9-12	>552	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.72	Vert(CT)	-0.90	9-12	>269	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.27	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 90 lb	FT = 20%

#### LUMBER

TOP CHORD 2x6 SP DSS \*Except\* 3-5:2x4 SP No.2  
BOT CHORD 2x4 SP DSS \*Except\* 7-6:2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

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

**REACTIONS** (size) 1=0-5-8, 6= Mechanical  
Max Horiz 1=90 (LC 9)  
Max Uplift 1=-98 (LC 8), 6=-111 (LC 8)  
Max Grav 1=823 (LC 1), 6=809 (LC 1)

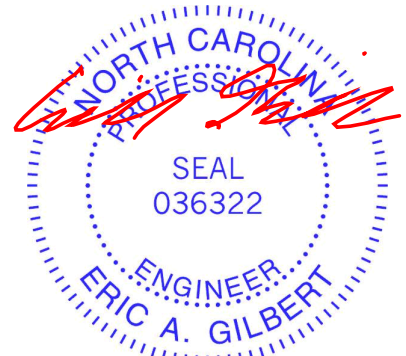
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-252/32, 2-3=-3598/670, 3-4=-1474/286, 4-5=-1474/286, 5-6=-744/157  
BOT CHORD 2-9=-653/3077, 8-9=-419/1962, 6-8=-32/57  
WEBS 3-9=-9/335, 3-8=-531/152, 4-8=-341/111, 5-8=-269/1541

#### 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) -2-9-4 to 0-5-9, Interior (1) 0-5-9 to 6-8-0, Exterior(2R) 6-8-0 to 10-10-15, Interior (1) 10-10-15 to 17-4-4 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
- 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.
- Bearing at joint(s) 1 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 98 lb uplift at joint 1 and 111 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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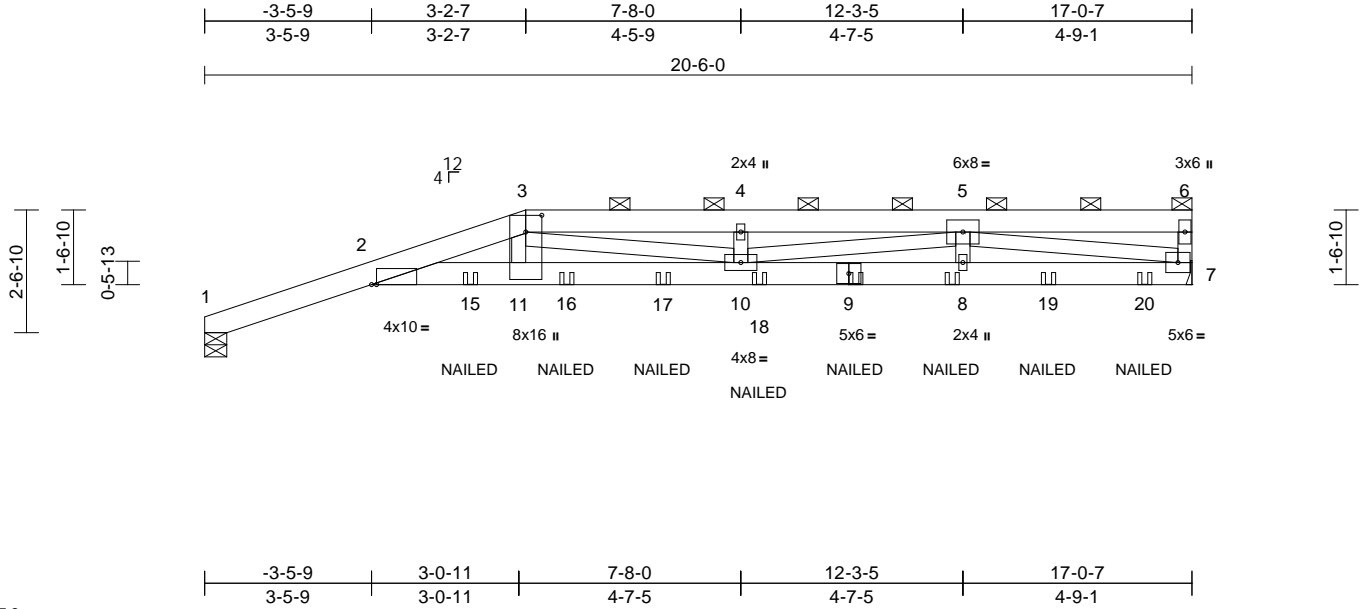
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960895
P05609-30822	C6G	Half Hip 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 14:44:50  
ID:mcuE4fUoxmd\_qJUdBWkQp0zlaJ5-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 1



Scale = 1:47.8

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TOP CHORD	20.0	Plate Grip DOL	1.25	TC	0.92	Vert(LL)	-0.32	11-14	>749	240	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.72	Vert(CT)	-0.64	11-14	>377	180	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.46	Horz(CT)	0.24	7	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
Weight: 224 lb FT = 20%											

#### LUMBER

TOP CHORD 2x6 SP DSS \*Except\* 3-6:2x6 SP No.2  
BOT CHORD 2x6 SP DSS \*Except\* 9-7:2x6 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 (5-6-9 max.): 3-6.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 1=0-5-8, 7= Mechanical  
Max Horiz 1=62 (LC 4)  
Max Uplift 1=167 (LC 4), 7=220 (LC 4)  
Max Grav 1=1420 (LC 1), 7=1737 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=441/16, 2-3=7324/925, 3-4=7207/919, 4-5=7207/919, 5-6=436/55, 6-7=229/47  
BOT CHORD 2-11=902/7070, 10-11=880/6862, 8-10=677/5320, 7-8=677/5320  
WEBS 3-11=167/1569, 3-10=95/570, 4-10=187/102, 5-10=249/1939, 5-8=23/510, 5-7=5019/639

#### NOTES

- 2-ply truss to be connected together with 10d (0.131"x3") nails as follows:  
Top chords connected as follows: 2x6 - 2 rows staggered at 0-9-0 oc, 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; Lumber DOL=1.60 plate grip DOL=1.60
- 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.
- Bearing at joint(s) 1 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 220 lb uplift at joint 7 and 167 lb uplift at joint 1.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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.

#### LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-13=-81, 3-13=-60, 3-6=-60, 7-12=-20  
Concentrated Loads (lb)  
Vert: 9=-189 (F), 8=-189 (F), 15=-189 (F), 16=-189 (F), 17=-189 (F), 18=-189 (F), 19=-189 (F), 20=-191 (F)



July 17, 2025

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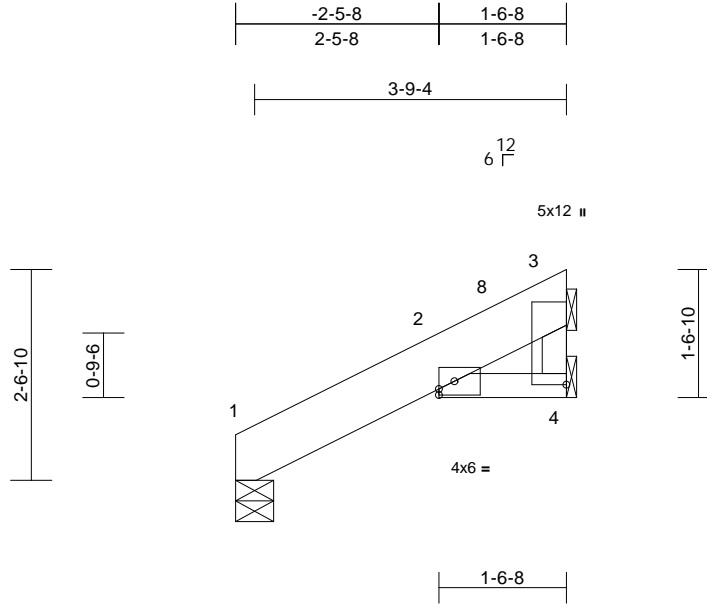
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960896
P05609-30822	CJ1	Jack-Open	7	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 14:44:50  
ID:Y0\_q3uuR8cAKfCC9bP?x1zlaUB-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:27.9

Plate Offsets (X, Y): [3:Edge,1-6-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.02	Vert(LL)	0.00	5	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	0.00	5	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	1	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 18 lb	FT = 20%

#### LUMBER

TOP CHORD 2x8 SP DSS  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 3-1-3 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

**REACTIONS** (size) 1=0-5-8, 3= Mechanical, 4= Mechanical  
Max Horiz 3=207 (LC 1), 4=-207 (LC 1)  
Max Uplift 1=-18 (LC 12), 4=-17 (LC 12)  
Max Grav 1=95 (LC 1), 4=209 (LC 1)

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

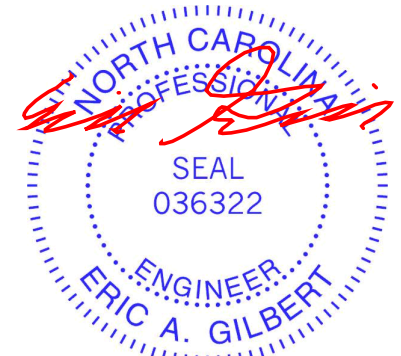
TOP CHORD 1-2=-34/38, 2-3=-54/266  
BOT CHORD 2-4=-207/115  
WEBS 3-4=-187/61

#### 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) -0-8-1 to 2-3-15, Interior (1) 2-3-15 to 2-11-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Bearing at joint(s) 1 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 18 lb uplift at joint 1 and 17 lb uplift at joint 4.
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 9) Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

**LOAD CASE(S)** Standard



July 17, 2025

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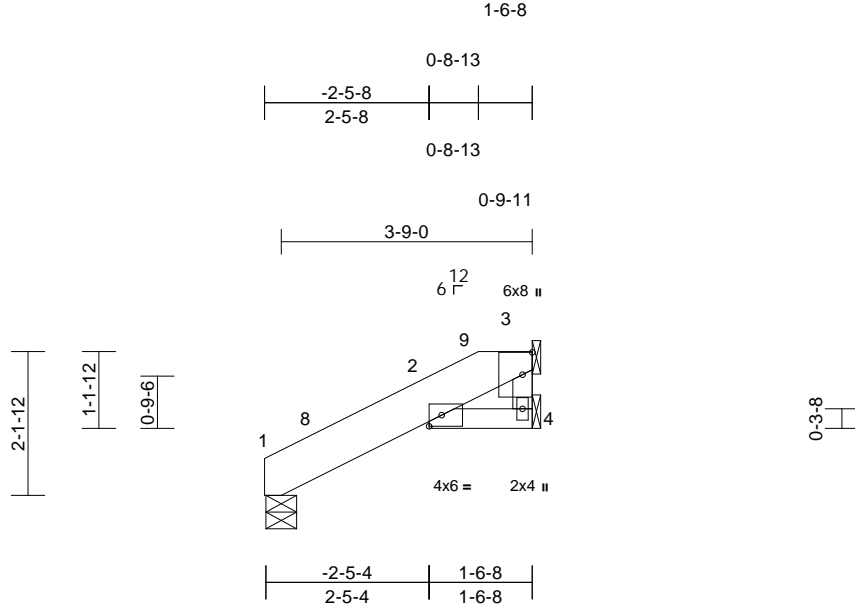


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960897
P05609-30822	CJ2	Half Hip	1	1	Job Reference (optional)	

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 14:44:50  
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Page: 1



Scale = 1:34.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.02	Vert(LL)	0.00	5	>999	240	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	0.00	5	>999	180	244/190
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	1	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 17 lb FT = 20%

#### LUMBER

TOP CHORD	2x8 SP DSS
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.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

<b>REACTIONS</b>	(size)	1=0-5-8, 3= Mechanical, 4= Mechanical
	Max Horiz	3=207 (LC 1), 4=207 (LC 1)
	Max Uplift	1=18 (LC 12), 4=17 (LC 12)
	Max Grav	1=95 (LC 1), 4=209 (LC 1)

#### FORCES

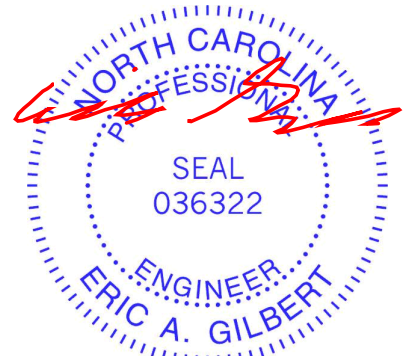
(lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=-34/38, 2-3=-55/266, 3-4=-187/61
BOT CHORD	2-4=-207/112

#### NOTES

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

- Bearing at joint(s) 1 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 18 lb uplift at joint 1 and 17 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.
  - Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
  - Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
- LOAD CASE(S)** Standard



July 17, 2025

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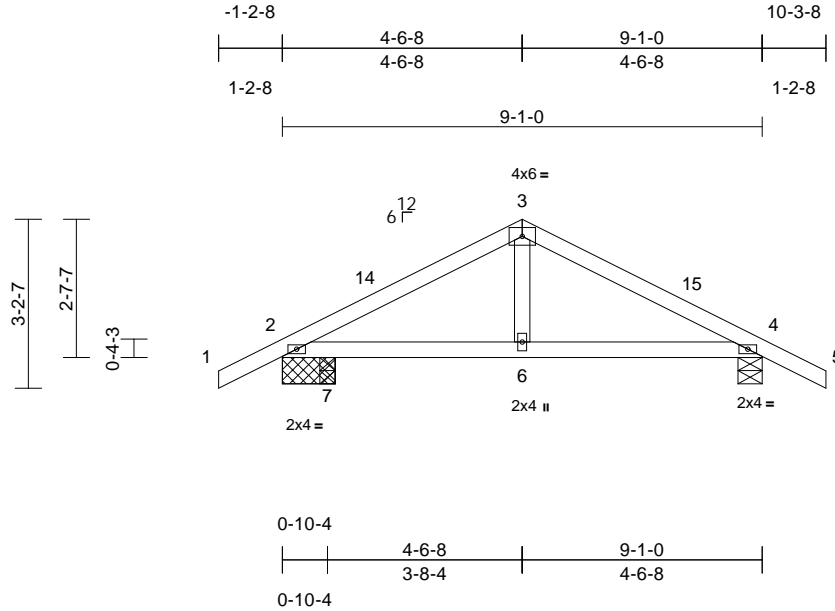
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960898
P05609-30822	D1	Common	1	1	Job Reference (optional)	

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 14:44:50

Page: 1

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Scale = 1:43.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.21	Vert(LL)	0.02	6-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.21	Vert(CT)	-0.03	6-13	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 36 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.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS

(size) 2=1-0-0, 4=0-5-8, 7=0-3-8  
Max Horiz 2=-36 (LC 13)  
Max Uplift 2=-34 (LC 8), 4=-48 (LC 8), 7=-55 (LC 9)  
Max Grav 2=244 (LC 1), 4=416 (LC 1), 7=236 (LC 25)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-437/260, 3-4=-430/242, 4-5=0/32  
BOT CHORD 2-7=-135/339, 6-7=-135/339, 4-6=-135/339  
WEBS 3-6=-88/179

#### 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 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 10-3-8 zone; porch right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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 34 lb uplift at joint 2, 48 lb uplift at joint 4 and 55 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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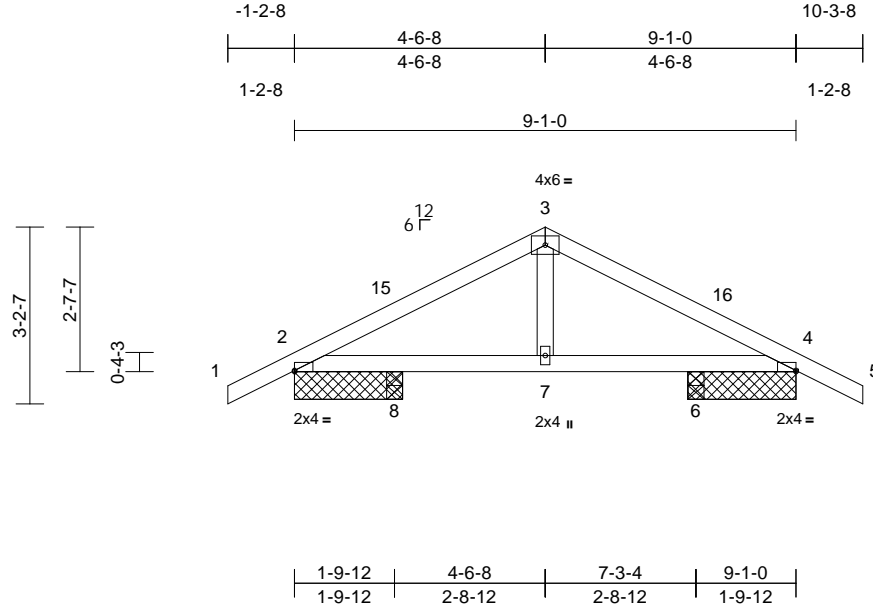
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960899
P05609-30822	D1SE	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 14:44:51  
ID:21vw6HIIIHhVCSphH1\_3N4zIYba-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWwCDoi7J4zJC?f

Page: 1



Scale = 1:41.7

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.20	Vert(LL)	0.00	7	>999	240	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.22	Vert(CT)	-0.01	7	>999	180	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.02	Horz(CT)	0.00	4	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
										Weight: 36 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.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS	(size)	2=1-11-8, 4=1-11-8, 6=0-3-8, 8=0-3-8
	Max Horiz	2=36 (LC 12)
	Max Uplift	2=-30 (LC 12), 4=-33 (LC 13), 6=-26 (LC 13), 8=-25 (LC 12)
	Max Grav	2=289 (LC 1), 4=299 (LC 1), 6=187 (LC 1), 8=165 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/32, 2-3=-334/114, 3-4=-334/114, 4-5=0/32
BOT CHORD	2-8=-8/246, 7-8=-8/246, 6-7=-8/246, 4-6=-8/246
WEBS	3-7=-3/102

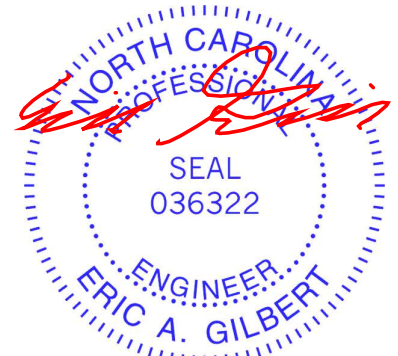
#### NOTES

- 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 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 10-3-8 zone;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 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 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 30 lb uplift at joint 2, 33 lb uplift at joint 4, 25 lb uplift at joint 8 and 26 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.
- 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 + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 3-5=-60  
Trapezoidal Loads (lb/ft)  
Vert: 9=-20-to-11=-21 (F=-1), 11=-21 (F=-1)-to-8=-23 (F=-3), 8=-23 (F=-3)-to-7=-27 (F=-7), 7=-27 (F=-7)-to-6=-32 (F=-12), 6=-32 (F=-12)-to-14=-34 (F=-14), 14=-34 (F=-14)-to-12=-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.

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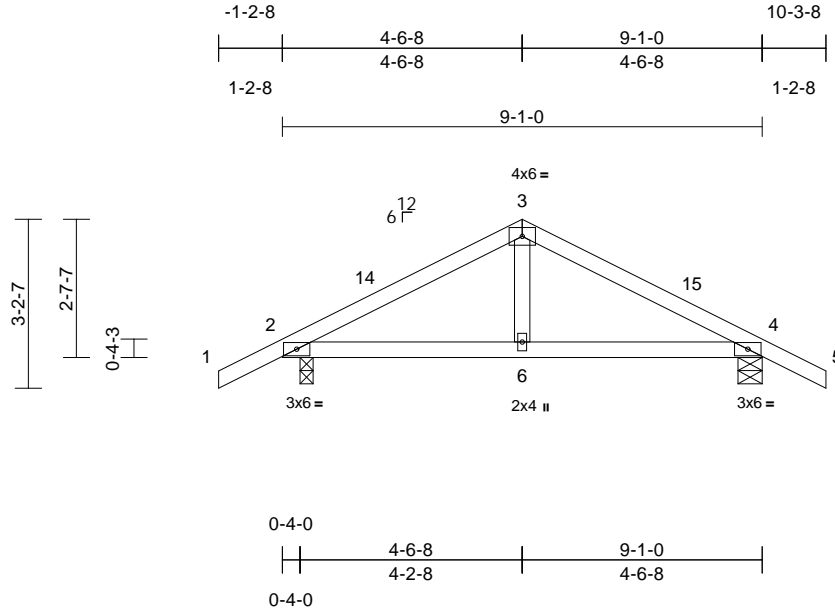
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960900
P05609-30822	D2	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 14:44:51  
ID:pNzDVS0lPP77nWp1FwYvGWzIYaf-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:43.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	0.02	6-13	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.21	Vert(CT)	-0.03	6-13	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 36 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.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS (size) 2=0-3-0, 4=0-5-8

Max Horiz 2=-36 (LC 13)  
Max Uplift 2=-51 (LC 9), 4=-47 (LC 13)  
Max Grav 2=459 (LC 1), 4=413 (LC 1)

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

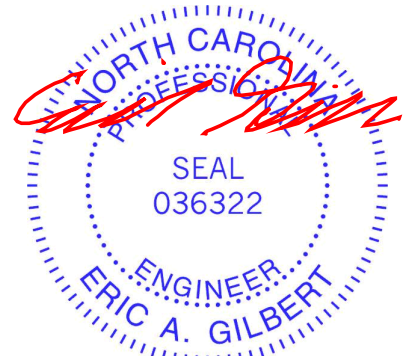
TOP CHORD 1-2=0/32, 2-3=-433/248, 3-4=-418/245, 4-5=0/32  
BOT CHORD 2-6=-128/328, 4-6=-128/328  
WEBS 3-6=-81/181

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 10-3-8 zone; cantilever 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
- 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 51 lb uplift at joint 2 and 47 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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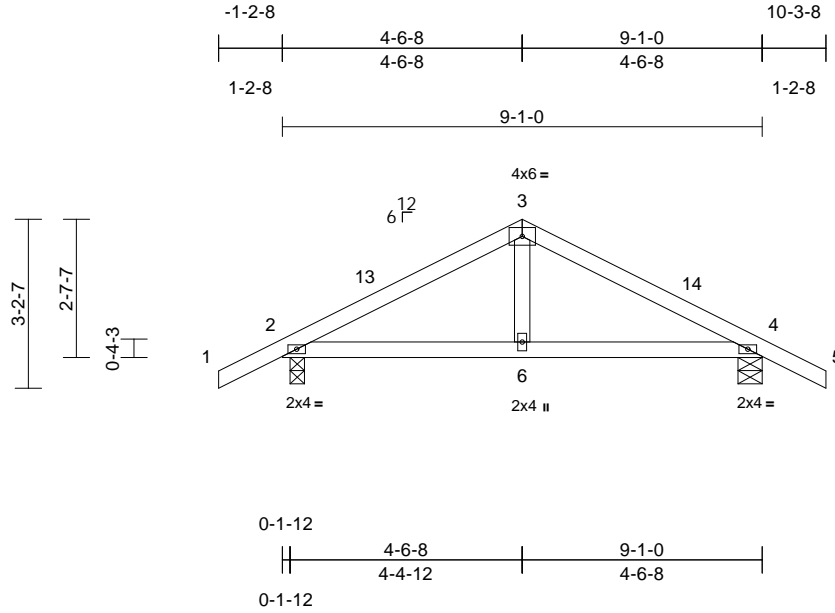
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960901
P05609-30822	D3	Common	1	1	Job Reference (optional)	

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 14:44:51

Page: 1

ID:u4yAL1pishRmifsj6nkNyRzIYZd-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcD0i7J4zJC?f



Scale = 1:43.6

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.20	Vert(LL)	0.02	6-9	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.23	Vert(CT)	-0.03	6-9	>999	180		
BCLL	0.0 *	Rep Stress Incr	YES	WB	0.05	Horz(CT)	0.00	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 36 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.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS (size) 2=0-3-4, 4=0-5-8

Max Horiz 2=-36 (LC 13)  
Max Uplift 2=-48 (LC 9), 4=-48 (LC 8)  
Max Grav 2=436 (LC 1), 4=436 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/32, 2-3=-489/285, 3-4=-489/282, 4-5=0/32

BOT CHORD 2-6=-162/392, 4-6=-162/392

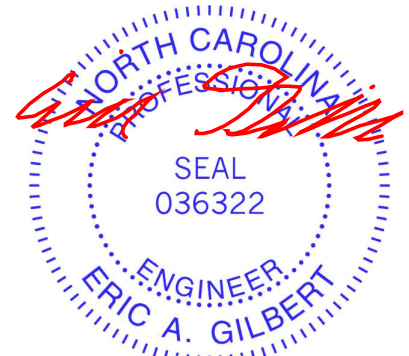
WEBS 3-6=-104/207

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 10-3-8 zone; cantilever 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
- 3) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 5) \* 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.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 48 lb uplift at joint 4 and 48 lb uplift at joint 2.
- 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.**

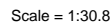
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall 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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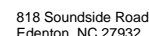
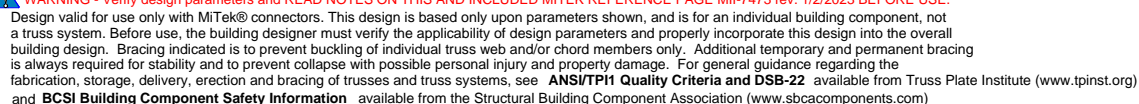
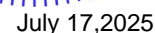
84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Jun 11 2025 Print: 8.830 S Jun 11 2025 MiTek Industries, Inc. Wed Jul 16 14:44:51 Page: 1  
ID:Q9wDiV0k5bSUD75o2807bpzIYZN-RfC?PsB70Ha3NSaPanL8w3uITXbGKWrCDoi7J4zJC?f

[illegible]

- 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) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 4-6-8, Exterior(2R) 4-6-8 to 7-6-8, Interior (1) 7-6-8 to 9-1-0 zone; cantilever 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
- 3) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 4) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- 5) \* 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.
- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 47 lb uplift at joint 1 and 47 lb uplift at joint 3.
- 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

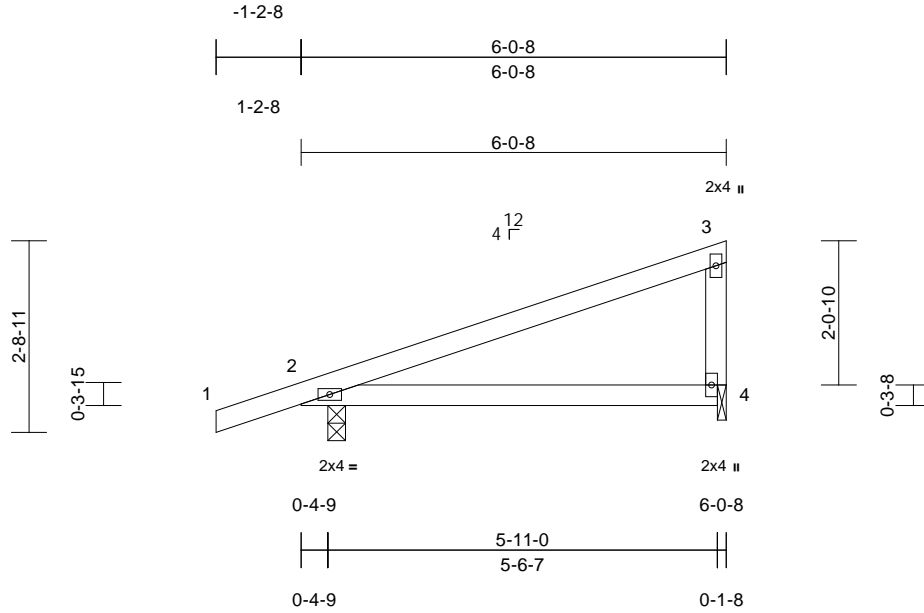


Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960903
P05609-30822	M1	Monopitch	5	1	Job Reference (optional)	

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 14:44:51  
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Page: 1



Scale = 1:32.7

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.40	Vert(LL)	0.06	4-9	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.31	Vert(CT)	-0.09	4-9	>817	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 23 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" oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

**REACTIONS** (size) 2=0-3-0, 4=0-1-8  
Max Horiz 2=72 (LC 8)  
Max Uplift 2=-104 (LC 8), 4=-71 (LC 8)  
Max Grav 2=338 (LC 1), 4=207 (LC 1)

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

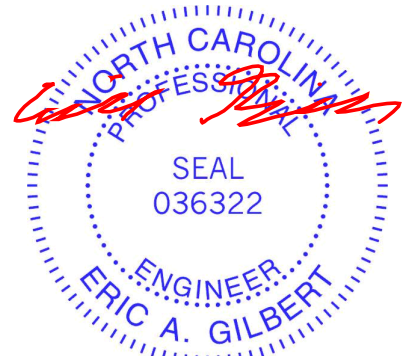
TOP CHORD 1-2=0/23, 2-3=-114/151, 3-4=-141/106  
BOT CHORD 2-4=-158/150

#### 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 5-10-12 zone; cantilever 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
- 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'-0" x 6'-0" tall by 2'-0" 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 71 lb uplift at joint 4 and 104 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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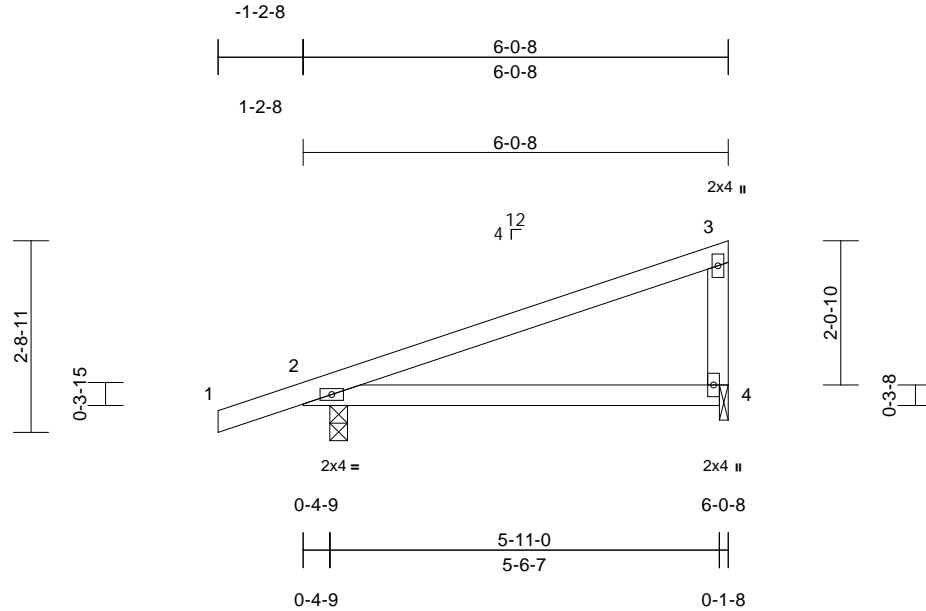
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960904
P05609-30822	M1E	Monopitch	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 14:44:52  
ID:qmh6MEDvIStEyPmvfwO5dqzIZCQ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:32.7

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.40	Vert(LL)	0.06	4-9	>999	240	MT20
TCDL	10.0	Lumber DOL	1.25	BC	0.31	Vert(CT)	-0.09	4-9	>817	180	
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							
										Weight: 23 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 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 4=0-1-8  
Max Horiz 2=72 (LC 8)  
Max Uplift 2=-104 (LC 8), 4=-71 (LC 8)  
Max Grav 2=338 (LC 1), 4=207 (LC 1)

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

TOP CHORD 1-2=0/23, 2-3=-114/151, 3-4=-141/106  
BOT CHORD 2-4=-158/150

#### 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 5-10-12 zone; cantilever 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
- 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.
- 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 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) 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 71 lb uplift at joint 4 and 104 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.**

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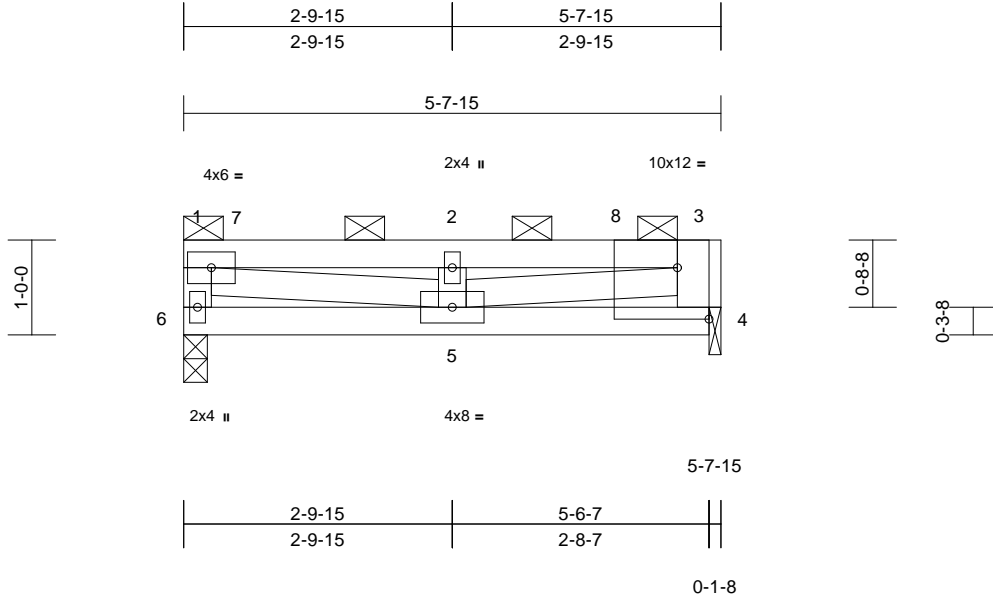
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960905
P05609-30822	MG	Flat 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 14:44:52  
ID:FrLL6AVqguUpQG8UOYkWDFzIYYI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 1



Scale = 1:24.3

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.26	Vert(LL)	-0.01	5	>999	240	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.08	Vert(CT)	-0.02	5	>999	180	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.15	Horz(CT)	0.00	4	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							
										Weight: 52 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD 2-0-0 oc purlins: 1-3, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

#### REACTIONS (size)

4=0-1-8, 6=0-3-0  
Max Horiz 6=-14 (LC 6)  
Max Uplift 4=-149 (LC 5), 6=-117 (LC 4)  
Max Grav 4=988 (LC 1), 6=774 (LC 1)

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

TOP CHORD 1-6=-724/104, 1-2=-1272/214,  
2-3=-1272/214, 3-4=-937/136  
BOT CHORD 5-6=-5/7, 4-5=0/0  
WEBS 1-5=-221/1315, 2-5=-678/102, 3-5=-222/1318

#### 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, 2x6 - 2 rows staggered at 0-9-0 oc.  
Bottom chords connected as follows: 2x4 - 1 row 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; end vertical left exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60

- 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.
- 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 117 lb uplift at joint 6 and 149 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.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 393 lb down and 38 lb up at 0-6-11, 303 lb down and 40 lb up at 2-6-11, and 307 lb down and 40 lb up at 4-6-11, and 336 lb down and 40 lb up at 5-5-3 on top chord. The design/selection of such connection device(s) is the responsibility of others.

#### LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 4-6=-20  
Concentrated Loads (lb)  
Vert: 3=-336, 2=-303, 7=-393, 8=-307



July 17, 2025

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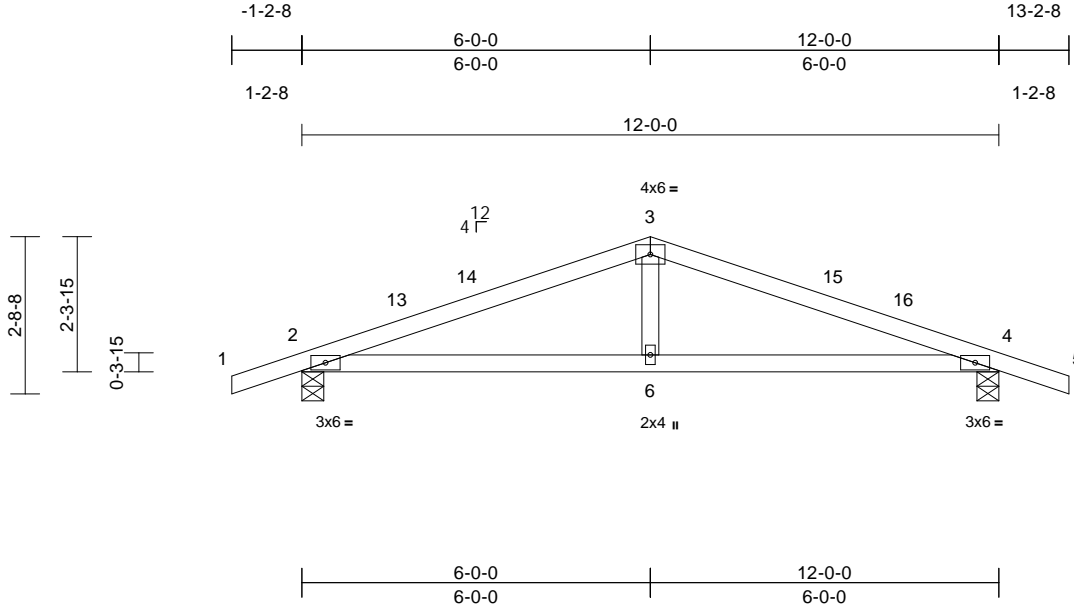
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960906
P05609-30822	P10	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 14:44:52  
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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	1.25	TC	0.39	Vert(LL)	0.05	6-9	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.44	Vert(CT)	-0.09	6-9	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.01	4	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 43 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 5-7-13 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 9-4-8 oc bracing.

#### REACTIONS (size) 2=0-4-8, 4=0-4-8

Max Horiz 2=30 (LC 12)  
Max Uplift 2=-164 (LC 8), 4=-164 (LC 9)  
Max Grav 2=553 (LC 1), 4=552 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-879/459, 3-4=-879/459, 4-5=0/23

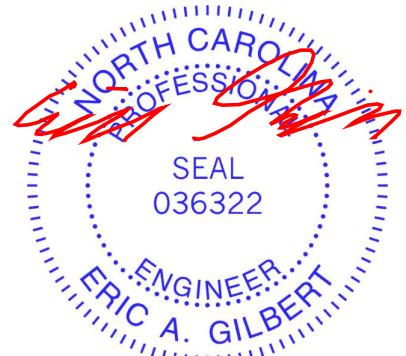
BOT CHORD 2-6=-368/801, 4-6=-368/801  
WEBS 3-6=-121/275

#### 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 6-0-0, Exterior(2R) 6-0-0 to 9-0-0, Interior (1) 9-0-0 to 13-2-8 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
- 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 164 lb uplift at joint 2 and 164 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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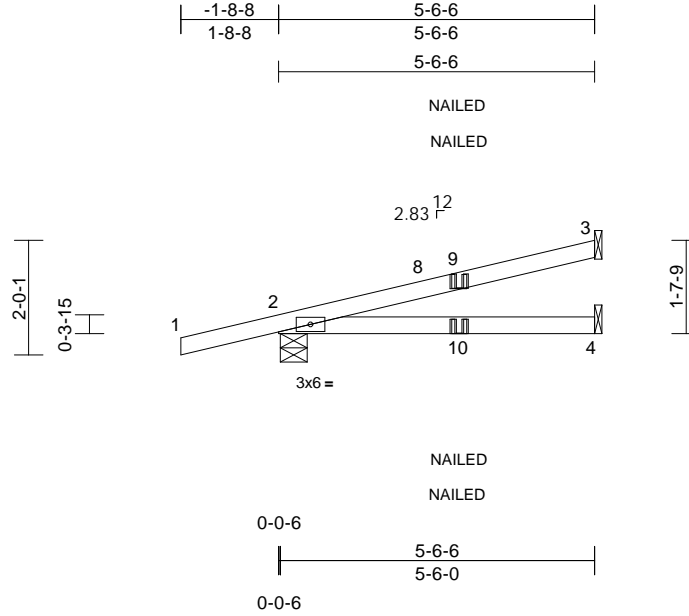
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960907
P05609-30822	PCJ02	Jack-Partial	2	1	Job Reference (optional)	

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 14:44:52

Page: 1

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Scale = 1:40.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.36	Vert(LL)	0.06	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.29	Vert(CT)	-0.08	4-7	>781	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 19 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 5-6-6 oc purlins.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-5-10, 3= Mechanical, 4= Mechanical  
Max Horiz 2=52 (LC 8)  
Max Uplift 2=-116 (LC 8), 3=-41 (LC 8), 4=-24 (LC 8)  
Max Grav 2=341 (LC 1), 3=135 (LC 1), 4=98 (LC 3)

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

TOP CHORD 1-2=0/24, 2-3=-105/42  
BOT CHORD 2-4=-68/92

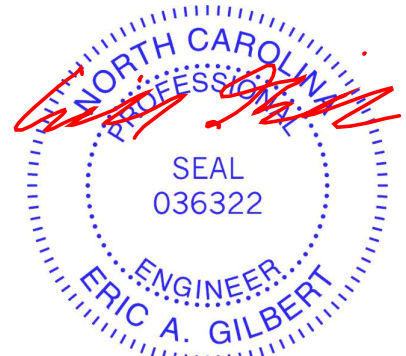
#### NOTES

- 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 Corner (3) -1-8-8 to 2-6-6, Exterior(2R) 2-6-6 to 5-5-10 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 3, 116 lb uplift at joint 2 and 24 lb uplift at joint 4.
- 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.
- 8) "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.
- 9) 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 + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 4-5=-20  
Concentrated Loads (lb)  
Vert: 10=-8 (F=-4, B=-4)



July 17, 2025

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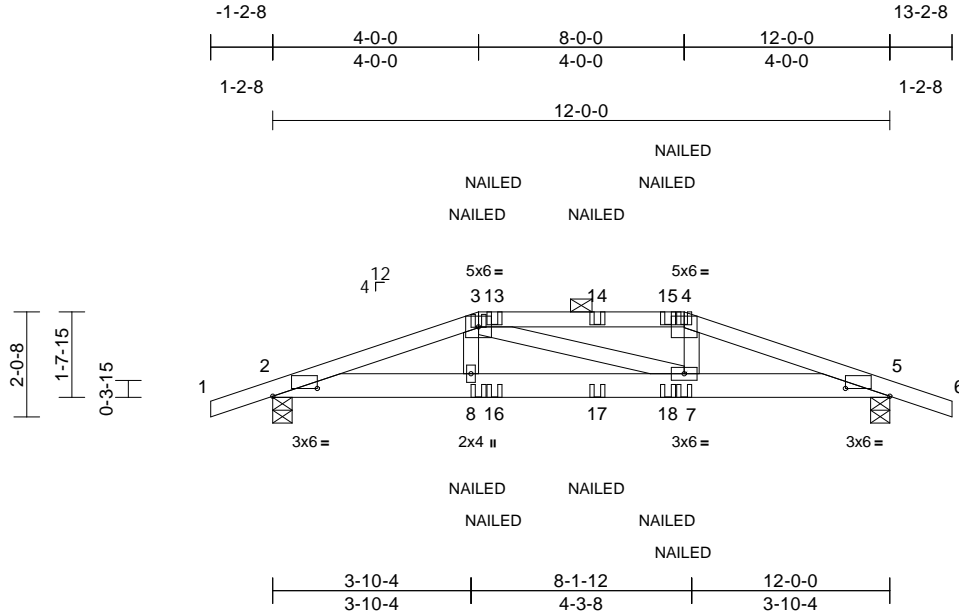
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960908
P05609-30822	PG03	Hip Girder	1	2	Job Reference (optional)	

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 14:44:52

Page: 1

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Scale = 1:44.8

Plate Offsets (X, Y): [2:0-10-6,0-1-13], [5:0-10-6,0-1-13]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.18	Vert(LL)	0.03	7-8	>999	240	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.20	Vert(CT)	-0.05	7-8	>999	180	
BCLL	0.0*	Rep Stress Incr	NO	WB	0.03	Horz(CT)	0.01	5	n/a	n/a	
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							
Weight: 119 lb FT = 20%											

#### LUMBER

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

#### BRACING

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

#### REACTIONS

(size) 2=0-4-8, 5=0-4-8  
Max Horiz 2=22 (LC 8)  
Max Uplift 2=-245 (LC 4), 5=-246 (LC 5)  
Max Grav 2=745 (LC 1), 5=748 (LC 1)

#### FORCES

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/23, 2-3=-1685/542, 3-4=-1555/513, 4-5=-1680/538, 5-6=0/23  
BOT CHORD 2-8=-490/1584, 7-8=-482/1561, 5-7=-478/1577  
WEBS 3-8=-72/275, 3-7=-60/48, 4-7=-66/269

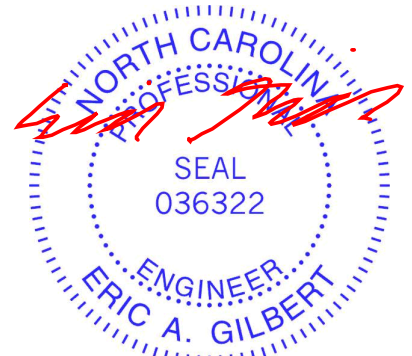
#### NOTES

- 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 and right exposed; porch left and right exposed; Lumber DOL=1.60 plate grip DOL=1.60
- 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 245 lb uplift at joint 2 and 246 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.
- "NAILED" indicates 3-10d (0.148"x3") or 2-12d (0.148"x3.25") toe-nails per NDS guidelines.

#### LOAD CASE(S) Standard

- Dead + Roof Live (balanced): Lumber Increase=1.25, Plate Increase=1.25  
Uniform Loads (lb/ft)  
Vert: 1-3=-60, 3-4=-60, 4-6=-60, 2-5=-20  
Concentrated Loads (lb)  
Vert: 4=-50 (B), 8=-44 (B), 7=-44 (B), 3=-50 (B), 13=-36 (B), 14=-36 (B), 15=-36 (B), 16=-30 (B), 17=-30 (B), 18=-30 (B)



July 17, 2025

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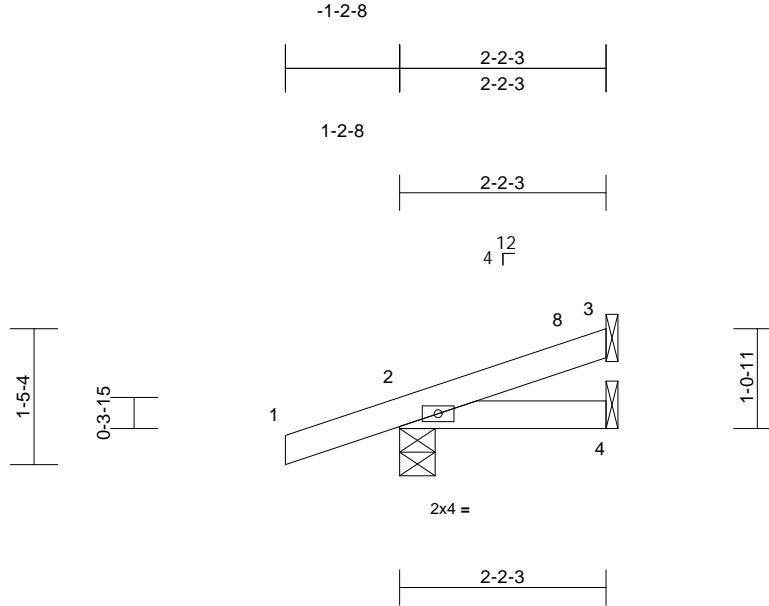
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960909
P05609-30822	PJ02	Jack-Open	2	1	Job Reference (optional)	

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 14:44:53

Page: 1

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<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	1.25	TC	0.09	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	0.00	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 9 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-2-3 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-4-8, 3= Mechanical, 4= Mechanical  
 Max Horiz 2=36 (LC 8)  
 Max Uplift 2=-64 (LC 8), 3=-13 (LC 8), 4=-8 (LC 9)  
 Max Grav 2=178 (LC 1), 3=42 (LC 1), 4=34 (LC 3)

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

TOP CHORD 1-2=0/23, 2-3=-21/11

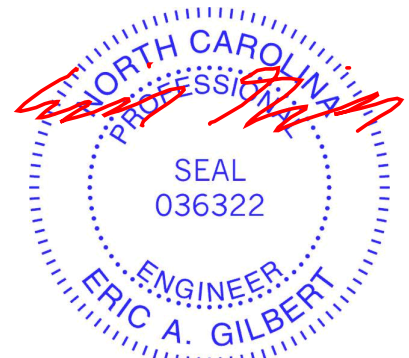
BOT CHORD 2-4=-8/22

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 2-1-7 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 3, 64 lb uplift at joint 2 and 8 lb uplift at joint 4.
- 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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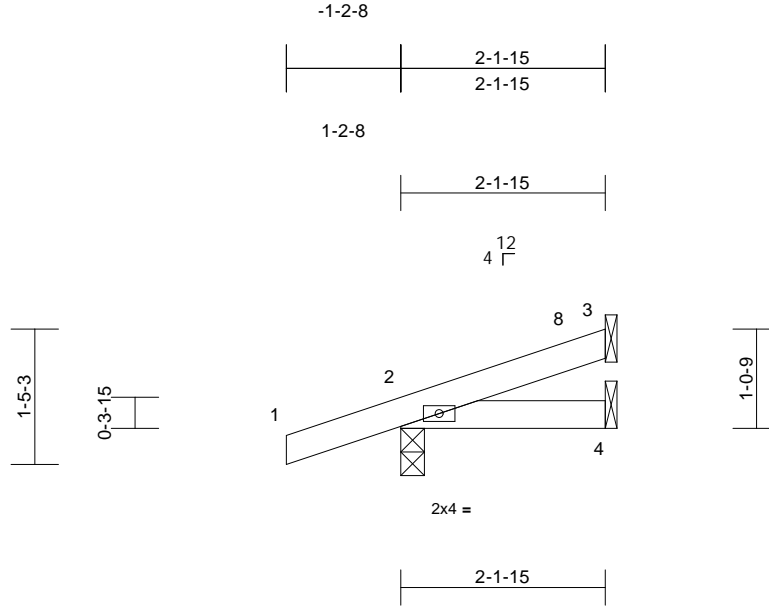
Job	Truss	Truss Type	Qty	Ply	913 Serenity	174960910
P05609-30822	PJ03	Jack-Open	2	1	Job Reference (optional)	

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 14:44:53

Page: 1

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<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	1.25	TC	0.09	Vert(LL)	0.00	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.03	Vert(CT)	0.00	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 9 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 2-1-15 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 3= Mechanical, 4= Mechanical  
 Max Horiz 2=35 (LC 8)  
 Max Uplift 2=-64 (LC 8), 3=-13 (LC 8), 4=-8 (LC 9)  
 Max Grav 2=177 (LC 1), 3=42 (LC 1), 4=33 (LC 3)

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

TOP CHORD 1-2=0/23, 2-3=-21/11

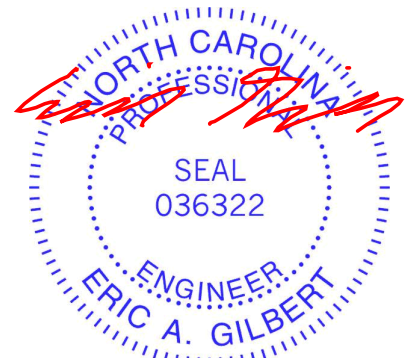
BOT CHORD 2-4=-8/22

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 2-1-3 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 3, 64 lb uplift at joint 2 and 8 lb uplift at joint 4.
- 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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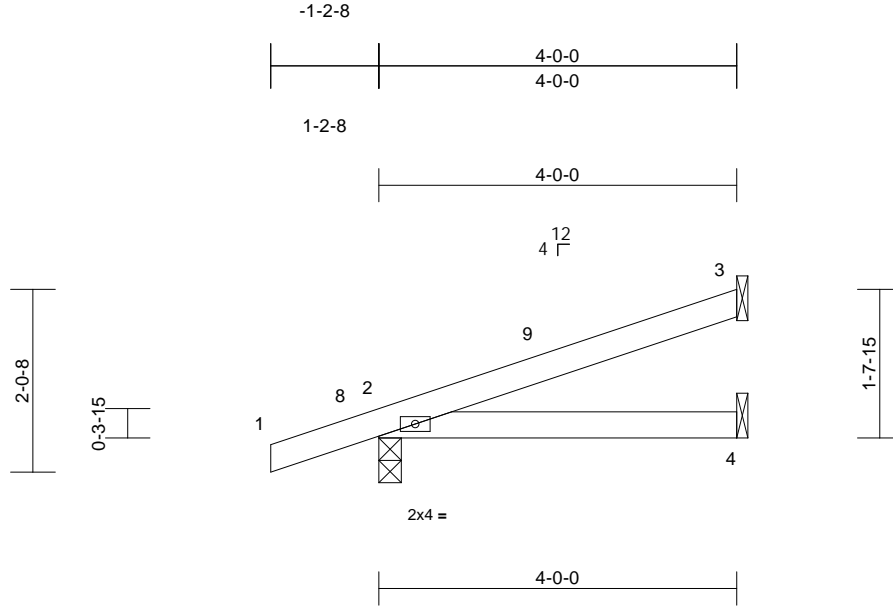
Job	Truss	Truss Type	Qty	Ply	913 Serenity	
P05609-30822	PJ04	Jack-Open	3	1	Job Reference (optional)	I74960911

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

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Scale = 1:25.8

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.17	Vert(LL)	0.02	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.25	BC	0.14	Vert(CT)	-0.02	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 14 lb	FT = 20%

#### LUMBER

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

#### BRACING

TOP CHORD Structural wood sheathing directly applied or 4-0-0 oc purlins.

BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS** (size) 2=0-3-0, 3= Mechanical, 4= Mechanical  
Max Horiz 2=53 (LC 8)  
Max Uplift 2=-79 (LC 8), 3=-32 (LC 8), 4=-17 (LC 8)  
Max Grav 2=241 (LC 1), 3=96 (LC 1), 4=70 (LC 3)

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

TOP CHORD 1-2=0/23, 2-3=-56/31

BOT CHORD 2-4=-62/50

#### 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) -1-2-8 to 1-9-8, Interior (1) 1-9-8 to 3-11-4 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 3) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 4) \* 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.
- 5) Refer to girder(s) for truss to truss connections.

- 6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 3, 79 lb uplift at joint 2 and 17 lb uplift at joint 4.
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

**LOAD CASE(S)** Standard



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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# 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

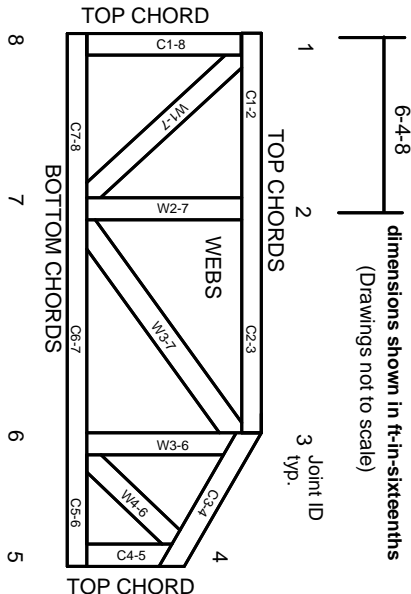


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## 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 1 section 6.3. These truss designs rely on lumber values established by others.

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# General Safety Notes

**Failure to Follow Could Cause Property Damage or Personal Injury**

1. Additional stability bracing for truss system, e.g. diagonal or X-bracing, is always required. See BCSI.
2. Truss bracing must be designed by an engineer. For wide truss spacing, individual lateral braces themselves may require bracing, or alternative Tor I bracing should be considered.
3. Never exceed the design loading shown and never stack materials on inadequately braced trusses.
4. Provide copies of this truss design to the building designer, erection supervisor, property owner and all other interested parties.
5. Cut members to bear tightly against each other.
6. Place plates on each face of truss at each joint and embed fully. Knots and wane at joint locations are regulated by ANSI/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