

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: P05686-30974
911 Serenity

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

Pages or sheets covered by this seal: I77282274 thru I77282333

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

North Carolina COA: C-0844



October 24, 2025

Gilbert, Eric

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

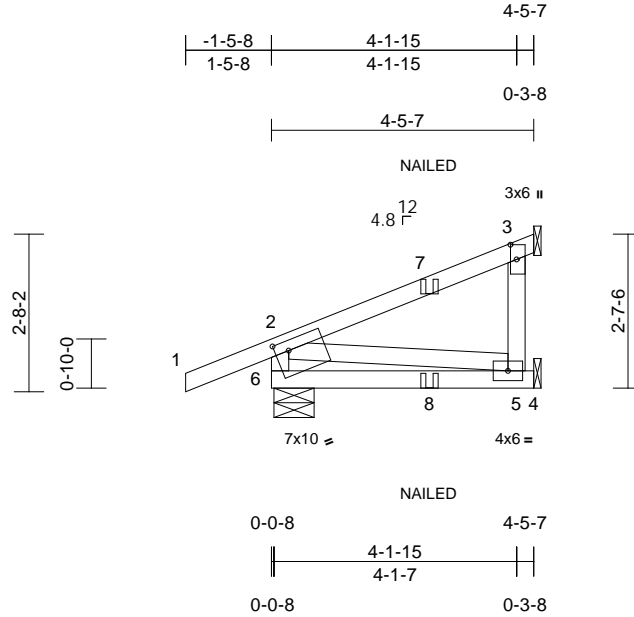
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282274
P05686-30974	J2	Diagonal Hip Girder	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:49

Page: 1

ID:g8ocZ_uwhMXoYXUaqivh6?yQalb-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f



Scale = 1:39.1

Plate Offsets (X, Y): [3:0-3-0,0-1-4], [6:0-2-12,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.23	Vert(LL)	-0.02	5-6	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	5-6	>999	180	
TCDL	7.0	Rep Stress Incr	NO	WB	0.01	Horz(CT)	0.00	3	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 25 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 3= Mechanical, 5= Mechanical, 6=0-8-3
Max Horiz 6=56 (LC 12)
Max Uplift 3=-44 (LC 12), 6=-54 (LC 8)
Max Grav 3=91 (LC 2), 5=92 (LC 7), 6=255 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-6=-212/63, 1-2=0/32, 2-3=-49/26
BOT CHORD 5-6=-59/10, 4-5=0/0
WEBS 3-5=0/0, 2-5=-10/60

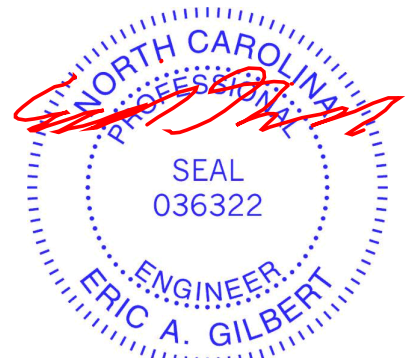
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 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 54 lb uplift at joint 6 and 44 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.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
- "NAILED" indicates 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=-29, 2-3=-29, 4-6=-20
Concentrated Loads (lb)
Vert: 7=-4 (B), 8=-6 (B)



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

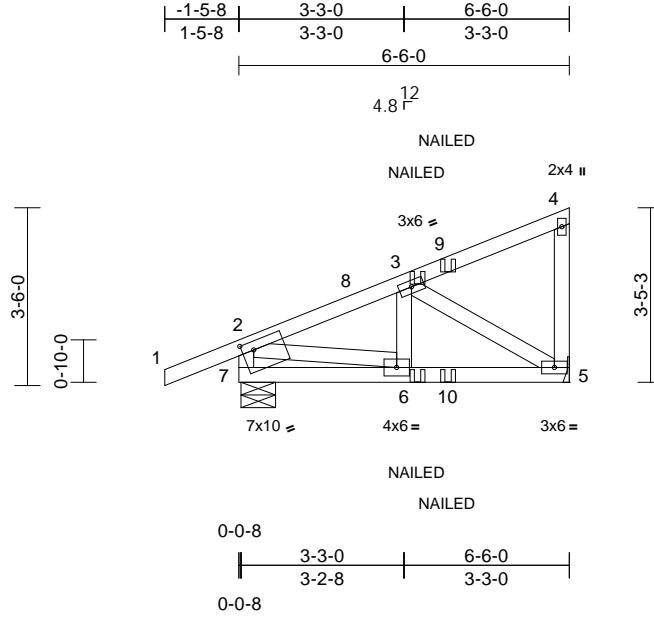
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J6	Diagonal Hip Girder	1	1	177282275
Job Reference (optional)					

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:50

Page: 1

ID:lvjdjhAGgEAttEV18d_I2xEyQa1J-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?fi



Scale = 1:45.3

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

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	0.18	Vert(LL)	0.00	6-7	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	6-7	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 39 lb	FT = 20%

LUMBER

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

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) 5= Mechanical, 7=0-8-3

Max Horiz 7=103 (LC 9)
Max Uplift 5=-68 (LC 9), 7=-83 (LC 8)
Max Grav 5=223 (LC 2), 7=332 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-7=-307/91, 1-2=0/32, 2-3=-267/59,
3-4=-66/20, 4-5=-70/27
BOT CHORD 6-7=-101/12, 5-6=-94/216
WEBS 2-6=-37/234, 3-6=-1/119, 3-5=-251/95

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 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 83 lb uplift at joint 7 and 68 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.
- "NAILED" indicates 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=-29, 2-4=-29, 5-7=-20
Concentrated Loads (lb)
Vert: 6=-8 (F), 3=-13 (F)



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

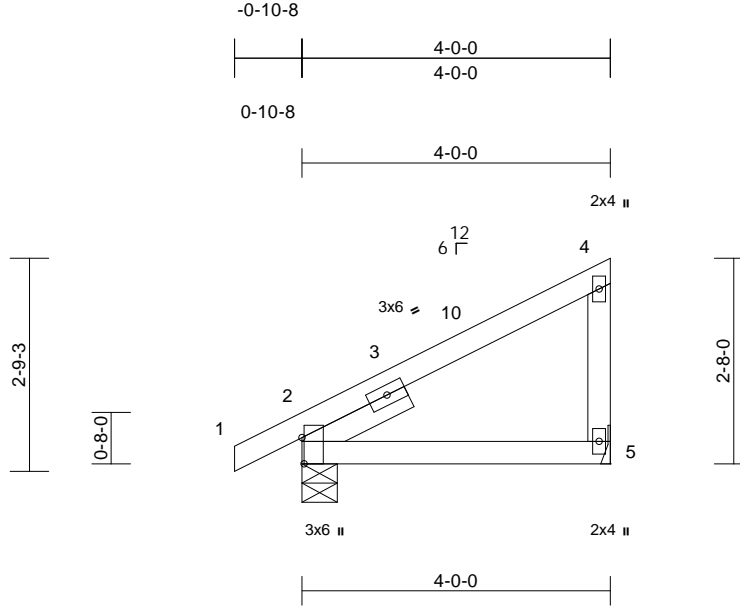
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282276
P05686-30974	J5	Half Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:50
ID:F6EmJM?QXogRgfdQ6WhuJlzPUaZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 1



Scale = 1:29.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	0.01	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	5-8	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 20 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

BRACING

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

REACTIONS (size) 2=0-5-8, 5= Mechanical
Max Horiz 2=69 (LC 15)
Max Uplift 2=33 (LC 16), 5=36 (LC 16)
Max Grav 2=195 (LC 2), 5=137 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

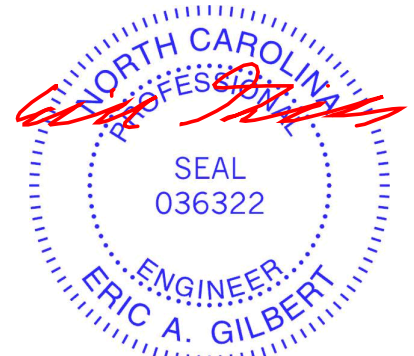
TOP CHORD 1-2=0/21, 2-4=-127/57, 4-5=-89/99
BOT CHORD 2-5=-148/106

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 3-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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 36 lb uplift at joint 5 and 33 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

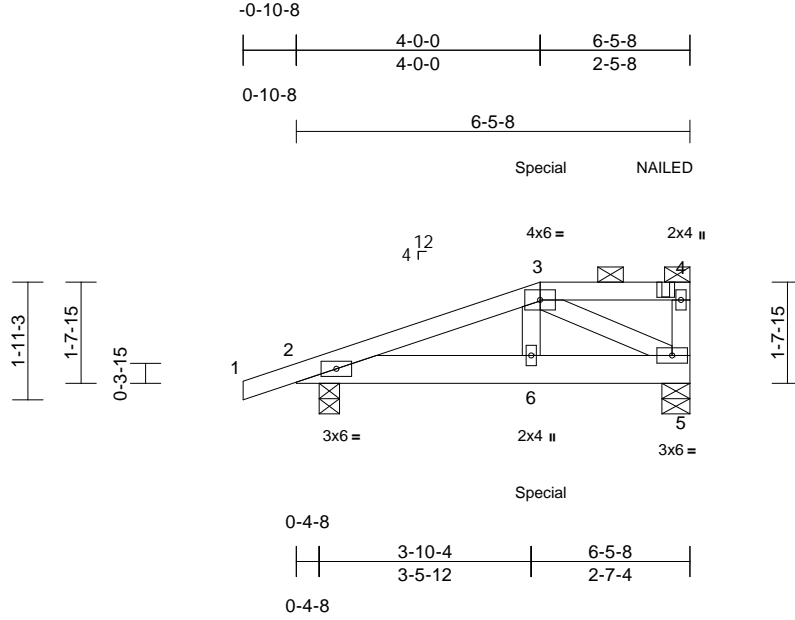
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	MF4	Half Hip Girder	1	1	177282277
Job Reference (optional)					

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:54

Page: 1

ID:o2fqBRprkCruBIKzAPtROuzPSPB-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f



Scale = 1:37.8

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	0.10	Vert(LL)	0.00	6-10	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	6-10	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.06	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 33 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: 3-4.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	2=0-4-0, 5=0-5-8
Max Horiz	2=50 (LC 8)
Max Uplift	2=-88 (LC 8), 5=-53 (LC 8)
Max Grav	2=363 (LC 2), 5=299 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/15, 2-3=-392/65, 3-4=0/0
BOT CHORD	2-6=-70/346, 5-6=-69/329
WEBS	4-5=-86/18, 3-6=-7/188, 3-5=-376/79

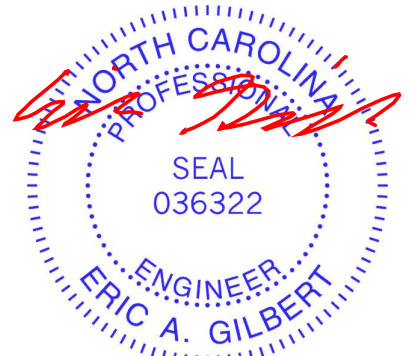
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 53 lb uplift at joint 5 and 88 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 79 lb down and 64 lb up at 4-0-0 on top chord, and 98 lb down and 18 lb up at 4-0-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-3=-29, 3-4=-39, 2-5=-20
Concentrated Loads (lb)
Vert: 4=-24 (B), 6=-93 (B), 3=-35 (B)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

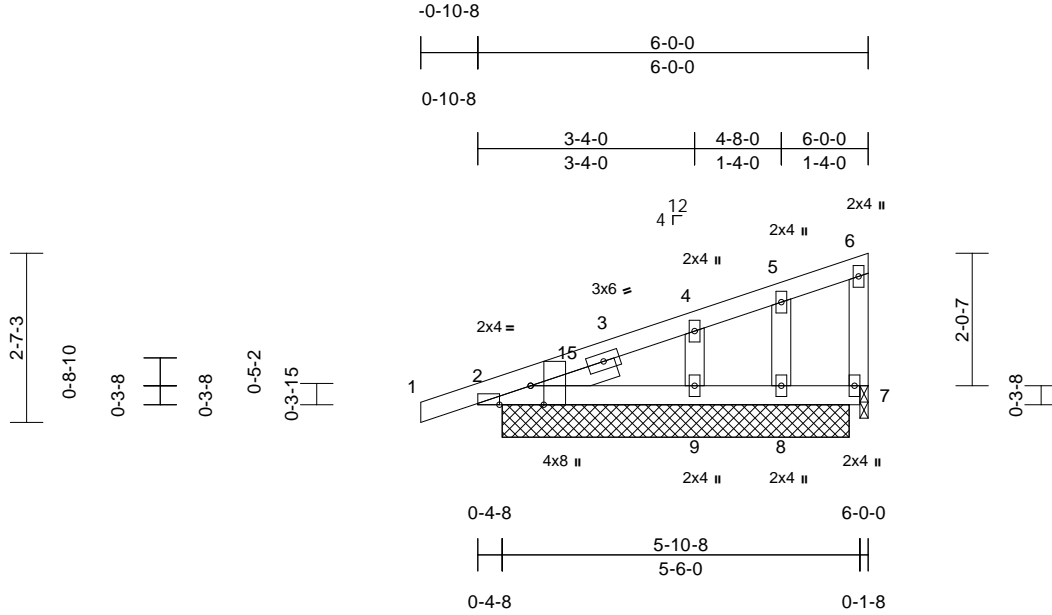
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282278
P05686-30974	MF1	Monopitch Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.83 E Nov 14 2024 Print: 8.830 E Nov 14 2024 MiTek Industries, Inc. Fri Oct 24 14:32:26

Page: 1

ID:Zxn_iExBqnZir2xr7R1FfVzPSnk-Oll1uC44a67gDyLYIFxTNhQH6dqRF_b73Cl9llyQL1p



Scale = 1:23.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	9-12	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.05	Vert(CT)	0.00	9-12	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	7	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 28 lb	FT = 20%

LUMBER

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

REACTIONS	(size)	2=5-4-0, 7=5-4-0, 8=5-4-0, 9=5-4-0, 12=5-4-0
	Max Horiz	2=66 (LC 15), 12=66 (LC 15)
	Max Uplift	2=-48 (LC 12), 7=-8 (LC 13), 8=-19 (LC 12), 9=-45 (LC 16), 12=-48 (LC 12)
	Max Grav	2=185 (LC 2), 7=40 (LC 2), 8=69 (LC 2), 9=186 (LC 2), 12=185 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension

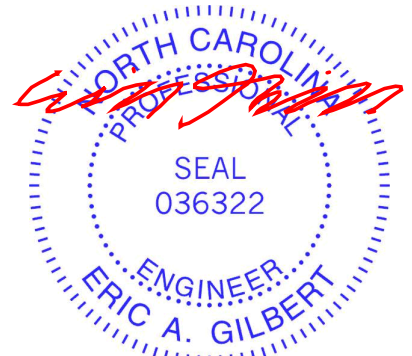
TOP CHORD	1-2=0/15, 2-15=-86/45, 2-15=-84/14, 2-3=-115/63, 3-4=-118/67, 4-5=-60/39, 5-6=-35/35, 6-7=-29/44
BOT CHORD	2-9=-38/74, 8-9=-27/36, 7-8=-27/36
WEBS	5-8=-54/74, 4-9=-130/171

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 5-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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.
- Gable studs spaced at 1-4-0 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.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 8 lb uplift at joint 7, 48 lb uplift at joint 2, 19 lb uplift at joint 8, 45 lb uplift at joint 9 and 48 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

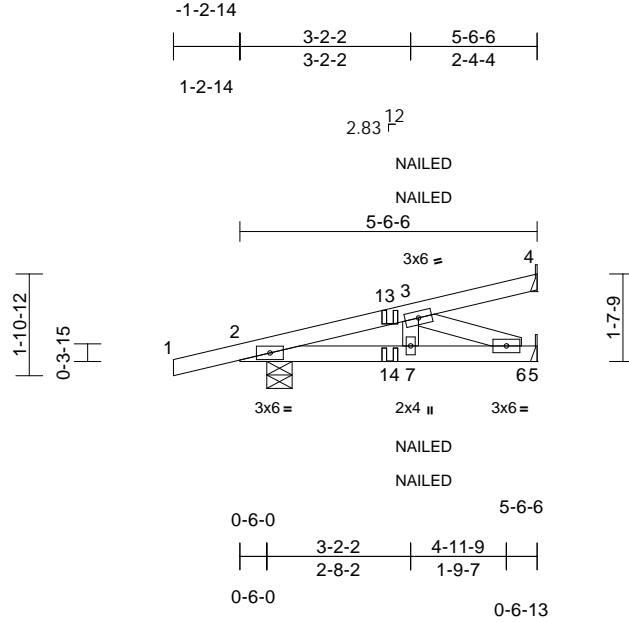
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J13	Diagonal Hip Girder	1	1	177282279
Job Reference (optional)					

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:51

Page: 1

ID:Js6Sz5pDzvj1ZclndILCrgzPSPc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f



Scale = 1:42.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	0.00	6-7	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.01	6-7	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.04	Horz(CT)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 22 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	2=0-5-11, 4= Mechanical, 5= Mechanical
Max Horiz	2=48 (LC 8)
Max Uplift	2=-83 (LC 8), 4=-22 (LC 8), 5=-14 (LC 12)
Max Grav	2=301 (LC 2), 4=58 (LC 2), 5=114 (LC 7)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/15, 2-3=-259/163, 3-4=-15/10
BOT CHORD	2-7=-163/237, 6-7=-53/237, 5-6=0/0
WEBS	3-7=0/104, 3-6=-254/57

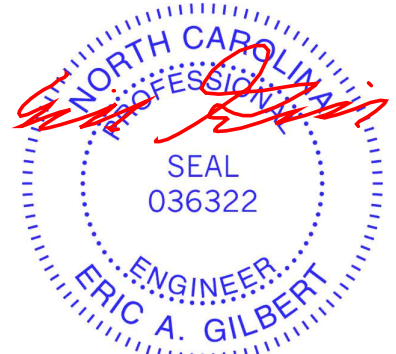
NOTES

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 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 22 lb uplift at joint 4, 14 lb uplift at joint 5 and 83 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.
- "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: 1-4=-29, 5-8=-20
Concentrated Loads (lb)
Vert: 14=1 (F=0, B=0)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

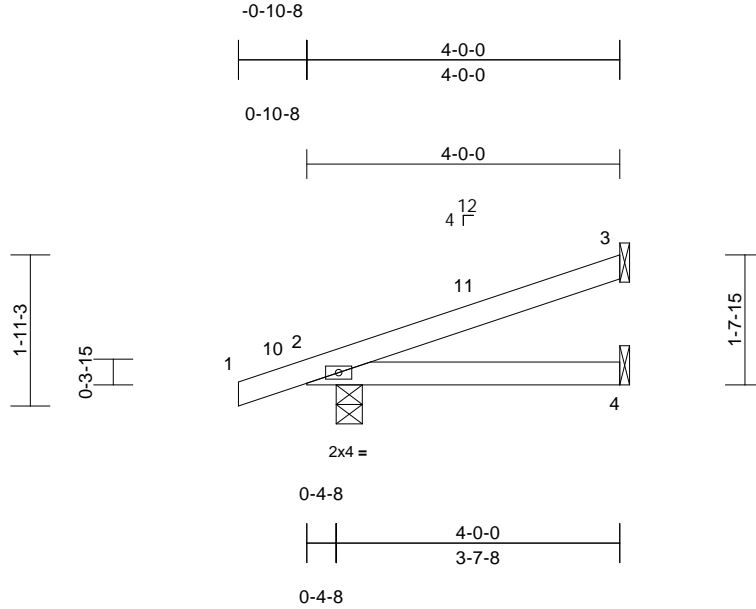
Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282280
P05686-30974	J11	Jack-Open	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:51

Page: 1

ID:Js6Sz5pDzvj1ZcndiLCrgzPSpC-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?i



Scale = 1:29.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	0.01	4-9	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	4-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 14 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=0-4-0, 3= Mechanical, 4= Mechanical
Max Horiz 2=49 (LC 12)
Max Uplift 2=-56 (LC 12), 3=-32 (LC 16)
Max Grav 2=219 (LC 2), 3=80 (LC 2), 4=62 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/15, 2-3=-68/82
BOT CHORD 2-4=-82/90

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; 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
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.

- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
 - 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 3 and 56 lb uplift at joint 2.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

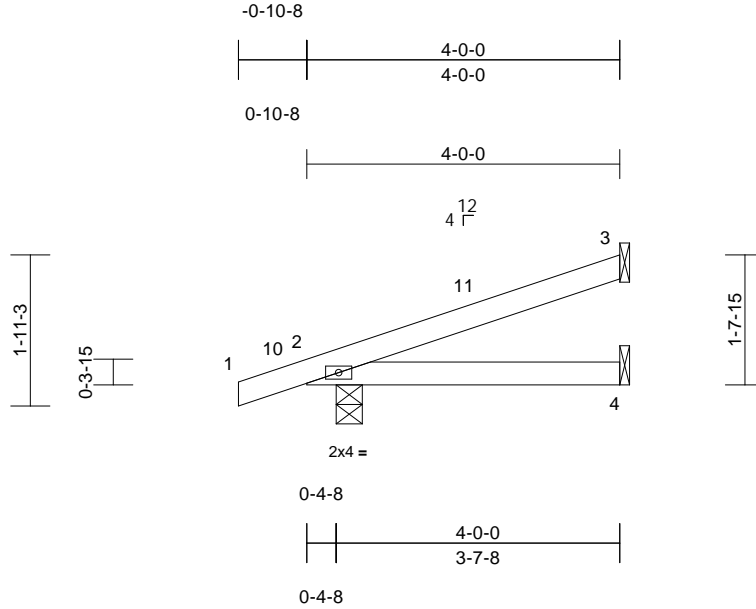
Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282281
P05686-30974	J14	Jack-Open	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:52

Page: 1

ID:Js6Sz5pDzvj1ZcndiLCrgzPspC-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrcDoi7J4zJC?i



Scale = 1:29.5

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.14	Vert(LL)	0.01	4-9	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	-0.01	4-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 14 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2

BOT CHORD 2x4 SP No.2

BRACING

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

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

REACTIONS (size) 2=0-4-0, 3= Mechanical, 4= Mechanical
Max Horiz 2=49 (LC 12)
Max Uplift 2=-56 (LC 12), 3=-32 (LC 16)
Max Grav 2=219 (LC 2), 3=80 (LC 2), 4=62 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/15, 2-3=-68/82

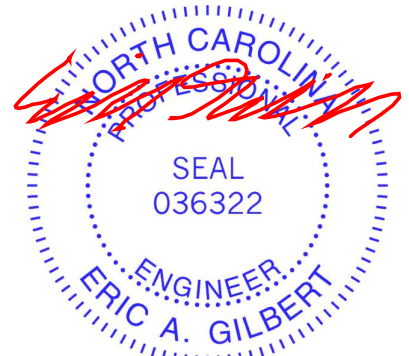
BOT CHORD 2-4=-82/90

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 4) Unbalanced snow loads have been considered for this design.

- 5) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- 6) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 7) Gable studs spaced at 2-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) Refer to girder(s) for truss to truss connections.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 3 and 56 lb uplift at joint 2.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

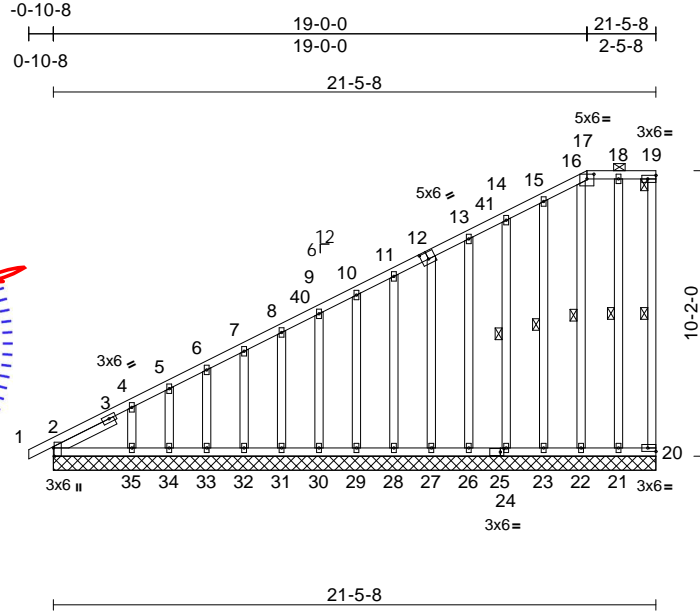
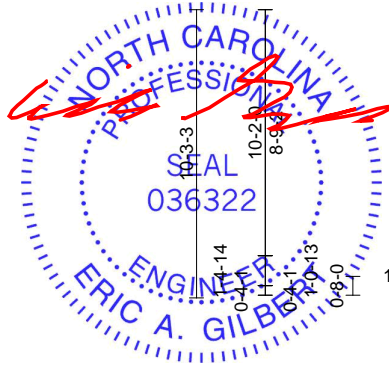
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282282
P05686-30974	M1	Half Hip Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:53

Page: 1

ID:zMkpa4u5nrT3RhODliY6FTzPZ5w-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:82.1

Plate Offsets (X, Y): [2:0-3-8,Edge], [12:0-3-0,0-3-0], [17:0-3-0,0-2-0], [19:Edge,0-1-8], [20:Edge,0-1-8], [25:0-1-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.59	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.28	Vert(CT)	n/a	-	n/a	999	
TCDL	7.0	Rep Stress Incr	YES	WB	0.09	Horz(CT)	0.00	20	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 208 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
OTHERS 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 (6-0-0 max.): 17-19.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 19-20, 18-21, 16-22, 15-23, 14-24

REACTIONS

(size) 2=21-5-8, 20=21-5-8, 21=21-5-8, 22=21-5-8, 23=21-5-8, 24=21-5-8, 26=21-5-8, 27=21-5-8, 28=21-5-8, 29=21-5-8, 30=21-5-8, 31=21-5-8, 32=21-5-8, 33=21-5-8, 34=21-5-8, 35=21-5-8
Max Horiz 2=292 (LC 15)
Max Uplift 2=-1 (LC 12), 20=-19 (LC 13), 21=-40 (LC 12), 22=-56 (LC 13), 23=-36 (LC 16), 24=-28 (LC 16), 26=-30 (LC 16), 27=-31 (LC 16), 28=-24 (LC 16), 29=-29 (LC 16), 30=-29 (LC 16), 31=-29 (LC 16), 32=-28 (LC 16), 33=-34 (LC 16), 34=-4 (LC 16), 35=-98 (LC 16)
Max Grav 2=195 (LC 31), 20=41 (LC 37), 21=102 (LC 37), 22=100 (LC 2), 23=106 (LC 38), 24=103 (LC 38), 26=109 (LC 38), 27=104 (LC 38), 28=97 (LC 38), 29=106 (LC 38), 30=99 (LC 2), 31=99 (LC 2), 32=97 (LC 2), 33=104 (LC 2), 34=73 (LC 2), 35=178 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-4=-422/266, 4-5=-361/227, 5-6=-347/223, 6-7=-322/214, 7-8=-298/206, 8-9=-275/197, 9-10=-251/189, 10-11=-227/181, 11-13=-206/173, 13-14=-158/157, 14-15=-135/150, 15-16=-138/165, 16-17=-121/155, 17-18=-123/158, 18-19=-123/158, 19-20=-124/162
BOT CHORD 2-35=-123/158, 34-35=-123/158, 33-34=-123/158, 32-33=-123/158, 31-32=-123/158, 30-31=-123/158, 29-30=-123/158, 28-29=-123/158, 27-28=-123/158, 26-27=-124/159, 24-26=-124/159, 23-24=-124/159, 22-23=-124/159, 21-22=-124/159, 20-21=-124/159
WEBS 18-21=-152/132, 16-22=-84/79, 15-23=-79/44, 14-24=-77/43, 13-26=-83/43, 12-27=-77/45, 11-28=-70/36, 10-29=-79/43, 9-30=-72/42, 8-31=-72/42, 7-32=-72/41, 6-33=-74/45, 5-34=-59/26, 4-35=-123/118

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 19-0-0, Corner(3E) 19-0-0 to 21-3-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- All plates are 2x4 (||) MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 1-4-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

October 24,2025

Continued on page 2

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	M1	Half Hip Supported Gable	1	1	I77282282
					Job Reference (optional)

- 13) * 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.
- 14) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 1 lb uplift at joint 2, 19 lb uplift at joint 20, 40 lb uplift at joint 21, 56 lb uplift at joint 22, 36 lb uplift at joint 23, 28 lb uplift at joint 24, 30 lb uplift at joint 26, 31 lb uplift at joint 27, 24 lb uplift at joint 28, 29 lb uplift at joint 29, 29 lb uplift at joint 30, 29 lb uplift at joint 31, 28 lb uplift at joint 32, 34 lb uplift at joint 33, 4 lb uplift at joint 34, 98 lb uplift at joint 35 and 1 lb uplift at joint 2.
- 15) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 16) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard

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

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



818 Soundside Road
Edenton, NC 27932

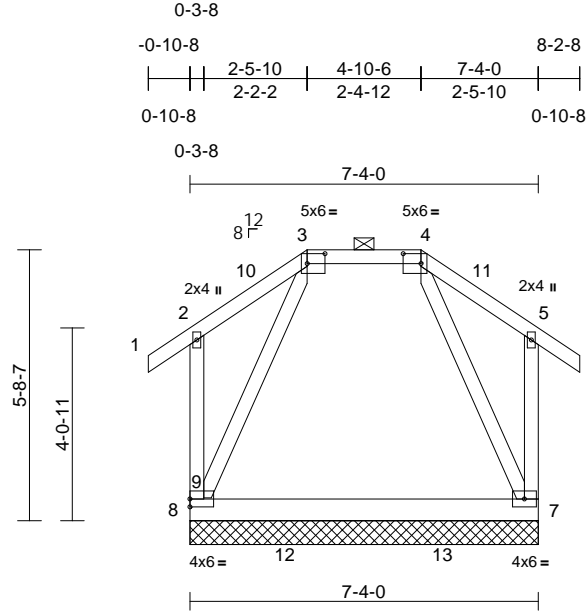
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	VD2	Roof Special Girder	1	1	Job Reference (optional)
					I77282283

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:56

Page: 1

ID:NzdbJgiyb3U6wcnXMQyxmYzPa_z-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f



Scale = 1:48.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	999	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.33	Vert(CT)	n/a	-	999		
TCDL	7.0	Rep Stress Incr	NO	WB	0.08	Horz(CT)	0.00	7	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 59 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 end verticals, and 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) 7=7-4-0, 8=7-4-0
Max Horiz 8=142 (LC 11)
Max Uplift 7=55 (LC 13), 8=55 (LC 12)
Max Grav 7=349 (LC 29), 8=349 (LC 30)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 8-9=-243/74, 2-9=-201/70, 1-2=0/35,
2-3=-121/72, 3-4=-58/51, 4-5=-115/75,
5-6=0/35, 5-7=-195/72

BOT CHORD 7-8=-78/86

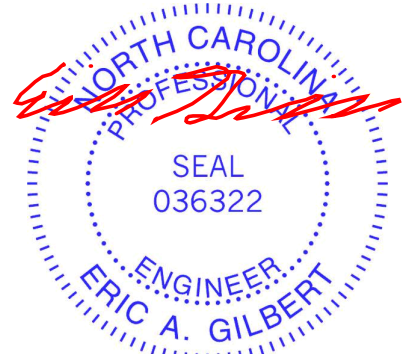
WEBS 3-9=-133/115, 4-7=-144/110

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- Gable requires continuous bottom chord bearing.
- 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 55 lb uplift at joint 8 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.
- 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

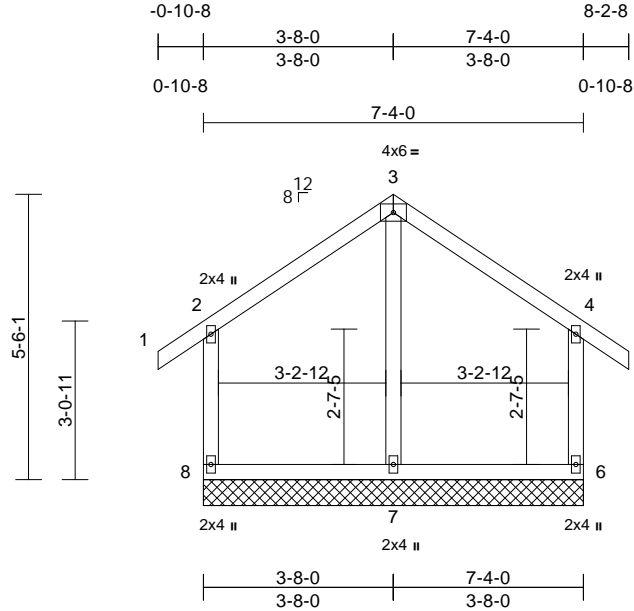
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282284
P05686-30974	VD3	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:56
ID:cBZgfTwcDBobBm8Ow0uUBjzPZYH-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:44.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.15	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.13	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.08	Horz(CT)	0.00	6	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0									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 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size)	6=7-4-0, 7=7-4-0, 8=7-4-0
Max Horiz	8=132 (LC 13)
Max Uplift	6=-69 (LC 15), 8=-69 (LC 14)
Max Grav	6=190 (LC 2), 7=250 (LC 2), 8=190 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension

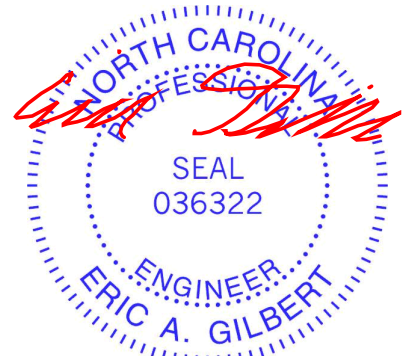
TOP CHORD	2-8=-161/176, 1-2=0/31, 2-3=-80/124, 3-4=-80/123, 4-5=0/31, 4-6=-161/176
BOT CHORD	7-8=-70/65, 6-7=-70/65
WEBS	3-7=-169/0

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 3-8-0, Exterior(2R) 3-8-0 to 6-8-0, Interior (1) 6-8-0 to 8-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- 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 69 lb uplift at joint 8 and 69 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

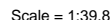
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

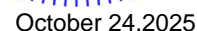
84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:56 Page: 1
ID:kMICZYDkY N 1Xa4eYPsawzPaCV-RfC?PsB70Hg3NSaPanL8w3uITXbGKWrcDoi7J4zJC?f



- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 6) Gable requires continuous bottom chord bearing.
- 7) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 8) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 8 and 68 lb uplift at joint 6.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=115mph (3-second gust)
 Vasd=91mph; TCDL=4.2psf; 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 3-8-0, Corner(3R) 3-8-0 to 6-8-0, Exterior(2N) 6-8-0 to 8-2-8 zone; cantilever left and right exposed ; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber
 DOL=1.60 plate grip DOL=1.60
- 3) 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.; C_e=1.0; C_s=1.00; C_t=1.10



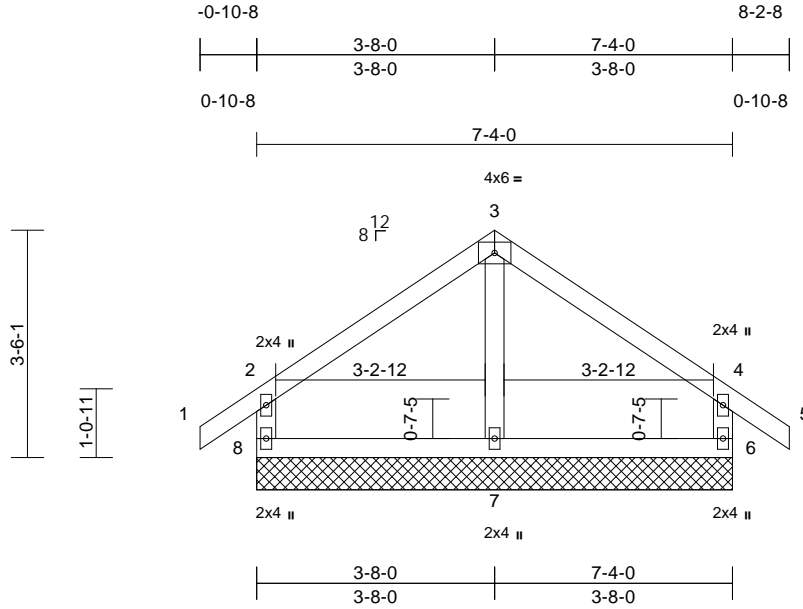
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282286
P05686-30974	VD5	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:57

Page: 1

ID:99Di_dZiQforRtWyKktP89BzPZWA-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.11	Vert(CT)	n/a	-	n/a	999	244/190
TCDL	7.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	6	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
										Weight: 34 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)	6=7-4-0, 7=7-4-0, 8=7-4-0
Max Horiz	8=78 (LC 13)
Max Uplift	6=-72 (LC 15), 8=-72 (LC 14)
Max Grav	6=218 (LC 2), 7=196 (LC 2), 8=218 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension

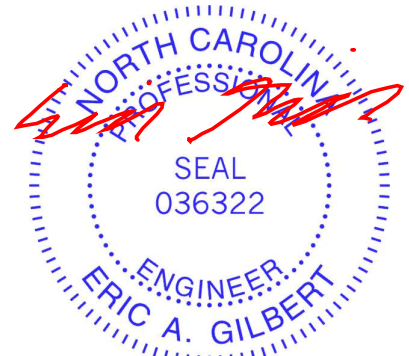
TOP CHORD	2-8=-187/173, 1-2=0/31, 2-3=-111/129, 3-4=-111/128, 4-5=0/31, 4-6=-187/173
BOT CHORD	7-8=-29/67, 6-7=-29/67
WEBS	3-7=-116/0

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 3-8-0, Exterior(2R) 3-8-0 to 6-8-0, Interior (1) 6-8-0 to 8-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- 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 72 lb uplift at joint 8 and 72 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

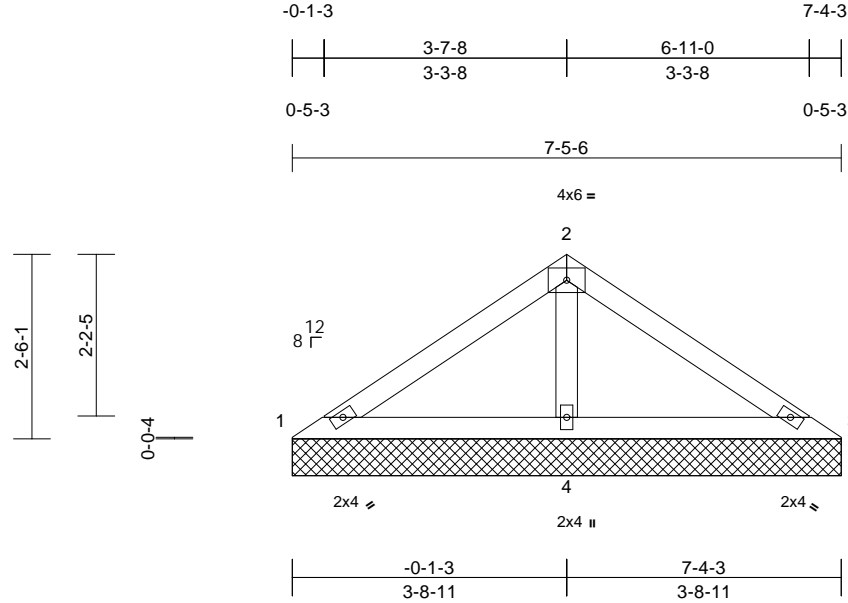
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282287
P05686-30974	VD6	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:57

Page: 1

ID: _reqNI2O?ymhf00gGXXndzPZVY-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrcDoi7J4zJC?f



Scale = 1:31.3

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.18	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.16	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 26 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	Structural wood sheathing directly applied or 7-3-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=7-5-6, 3=7-5-6, 4=7-5-6
Max Horiz	1=-43 (LC 10)
Max Uplift	1=-76 (LC 32), 3=-1 (LC 15), 4=-74 (LC 15)
Max Grav	1=74 (LC 31), 3=1 (LC 32), 4=551 (LC 2)

FORCES

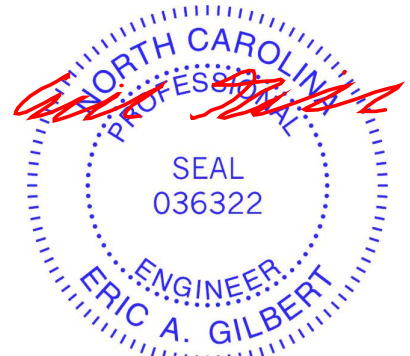
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-82/284, 2-3=-136/294
BOT CHORD	1-4=-218/122, 3-4=-230/131
WEBS	2-4=-422/162

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-1-3 to 2-10-13, Interior (1) 2-10-13 to 3-7-8, Exterior(2R) 3-7-8 to 6-5-0, Interior (1) 6-5-0 to 7-4-3 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- 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 76 lb uplift at joint 1, 1 lb uplift at joint 3, 74 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

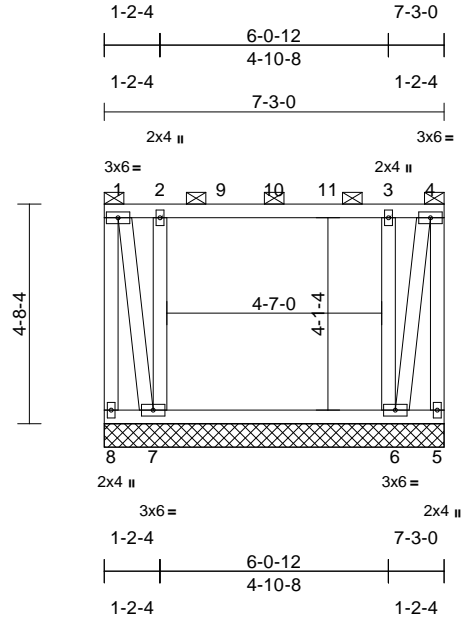
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	VD1	Roof Special	1	1	177282288
					Job Reference (optional)

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:56

Page: 1

ID: B2u9lTy3C0gvU41ckPqOGTzPa?x-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:49.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.62	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.24	Vert(TL)	n/a	-	n/a	999	244/190
TCDL	7.0	Rep Stress Incr	YES	WB	0.23	Horiz(TL)	0.00	6	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 58 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD	2-0-0 oc purlins (6-0-0 max.): 1-4.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	5=7-3-0, 6=7-3-0, 7=7-3-0, 8=7-3-0
Max Uplift	5=-142 (LC 25), 6=-80 (LC 10), 7=-80 (LC 10), 8=-140 (LC 25)
Max Grav	5=-6 (LC 10), 6=781 (LC 3), 7=781 (LC 3), 8=-3 (LC 10)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-5/4, 2-3=-26/12, 3-4=-5/4
BOT CHORD	7-8=-2/1, 6-7=-12/26, 5-6=-2/1
WEBS	1-8=-38/46, 4-5=-30/46, 2-7=-656/229, 3-6=-656/229, 1-7=-31/41, 4-6=-30/40

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 3) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- 4) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

- 5) Provide adequate drainage to prevent water ponding.
- 6) Gable requires continuous bottom chord bearing.
- 7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 8) Gable studs spaced at 4-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 140 lb uplift at joint 8, 142 lb uplift at joint 5, 80 lb uplift at joint 7 and 80 lb uplift at joint 6.
- 12) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- 14) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 205 lb down and 63 lb up at 0-3-8, 145 lb down and 45 lb up at 2-5-14, 145 lb down and 45 lb up at 3-7-8, and 145 lb down and 45 lb up at 4-9-2, and 205 lb down and 61 lb up at 6-11-8 on top chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-39, 5-8=-20
Concentrated Loads (lb)
Vert: 1=-157, 4=-157, 9=-76, 10=-76, 11=-76



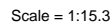
October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Page: 1

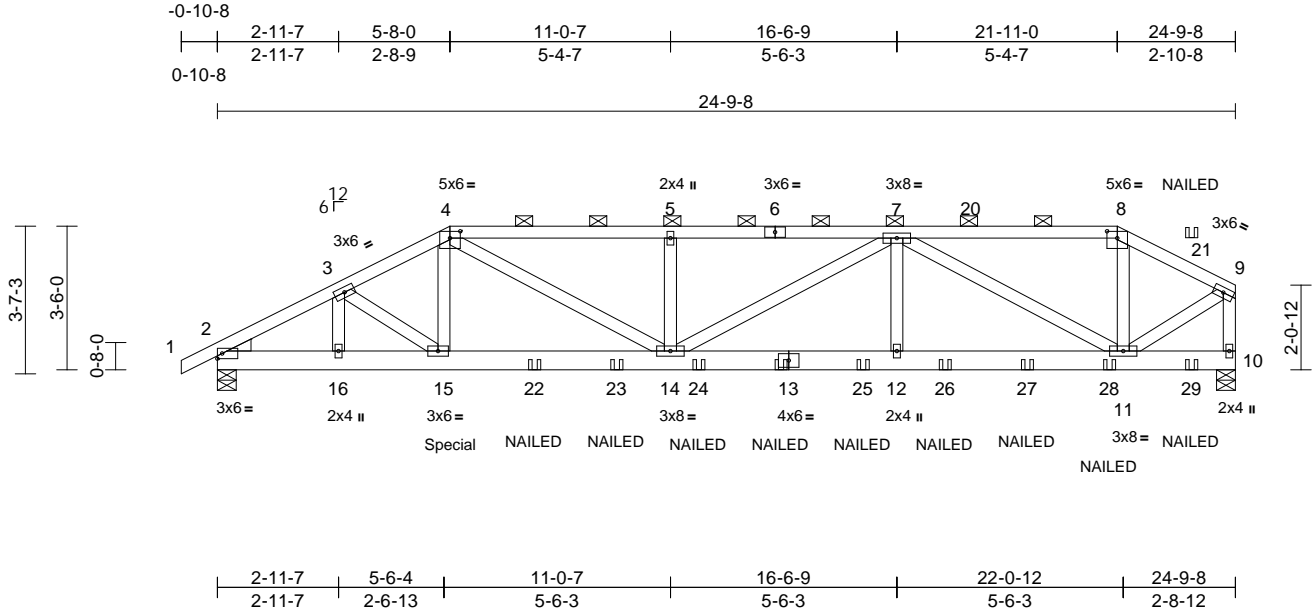
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282290
P05686-30974	B2	Hip Girder	1	2	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:47
ID:2okunY02aVMTuXR1?X7VDYzPUVO-RFC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:56.1

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.24	Vert(LL)	0.07	12-14	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.40	Vert(CT)	-0.13	12-14	>999	180	
TCDL	7.0	Rep Stress Incr	NO	WB	0.29	Horz(CT)	0.03	10	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 308 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 end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-8.
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=67 (LC 11)
Max Uplift 2=-466 (LC 9), 10=-539 (LC 8)
Max Grav 2=1566 (LC 2), 10=1600 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/23, 2-3=-2499/804, 3-4=-2738/959, 4-5=-3282/1203, 5-7=-3282/1203, 7-8=-1270/476, 8-9=-1473/531, 9-10=-1568/545

BOT CHORD 2-16=-750/2179, 15-16=-750/2179, 14-15=-870/2412, 12-14=-1093/2940, 11-12=-1093/2940, 10-11=-18/22

WEBS 3-16=-358/155, 3-15=-185/393, 4-15=-190/495, 4-14=-419/1061, 5-14=-326/120, 7-14=-137/403, 7-12=-172/471, 7-11=-1931/724, 8-11=-172/463, 9-11=-550/1530

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=4.2psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 466 lb uplift at joint 2 and 539 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.
- Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 307 lb down and 150 lb up at 5-8-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-29, 4-8=-39, 8-9=-29, 10-17=-20
Concentrated Loads (lb)
Vert: 13=-79 (B), 15=-248 (B), 21=-16 (B), 22=-79 (B), 23=-79 (B), 24=-79 (B), 25=-79 (B), 26=-79 (B), 27=-79 (B), 28=-79 (B), 29=-67 (B)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282291
P05686-30974	B3	Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:47
ID:2okunY02aVMTuXR1X7V7DYzPUVO-RFC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?i

Page: 1

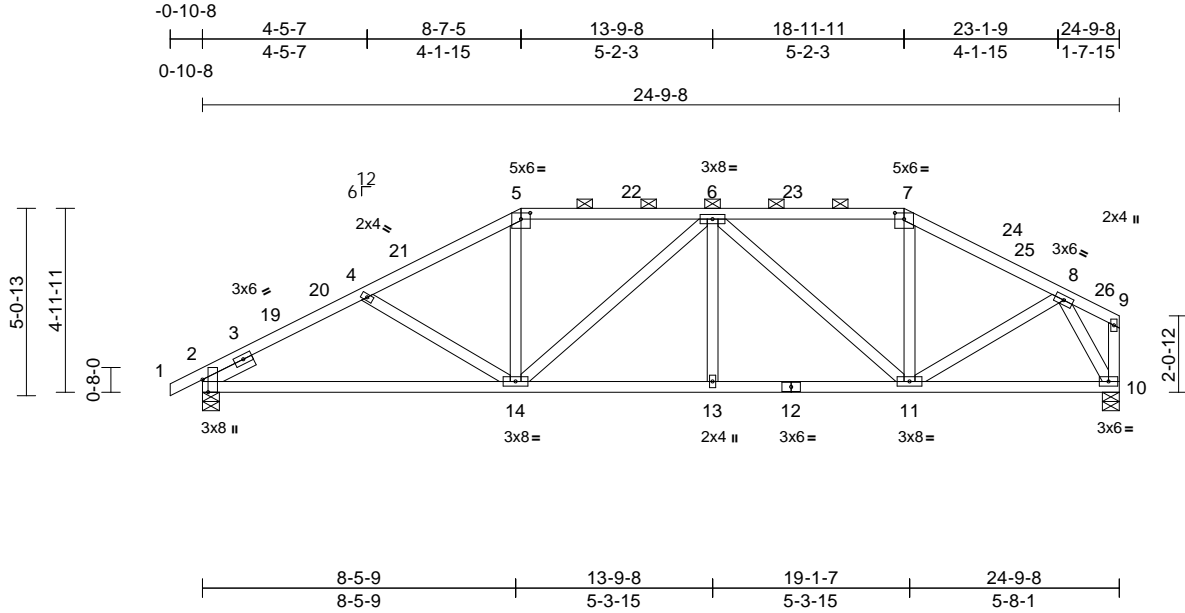


Plate Offsets (X, Y): [2:0-4-1,Edge], [5:0-3-0,0-2-0], [7:0-3-0,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	-0.09	14-17	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.61	Vert(CT)	-0.18	14-17	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.45	Horz(CT)	0.04	10	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 139 lb FT = 20%											

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-4-6 oc purlins, except end verticals, and 2-0-0 oc purlins (5-3-11 max.): 5-7.
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=82 (LC 15)
Max Uplift 2=-120 (LC 16), 10=-86 (LC 12)
Max Grav 2=960 (LC 2), 10=911 (LC 2)

FORCES

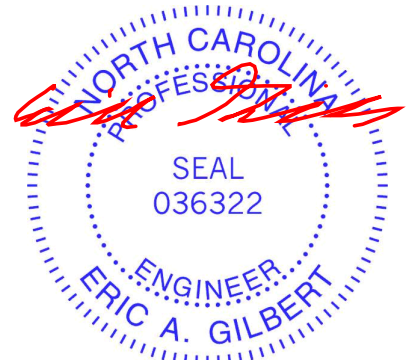
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/23, 2-4=-1475/275, 4-5=-1303/248, 5-6=-1110/242, 6-7=-862/209, 7-8=-1026/207, 8-9=-48/25, 9-10=-37/11
BOT CHORD 2-14=-282/1274, 13-14=-221/1219, 11-13=-221/1219, 10-11=-117/484
WEBS 4-14=-231/117, 5-14=-18/360, 6-14=-240/84, 6-13=0/185, 6-11=-520/106, 7-11=-7/262, 8-11=-61/461, 8-10=-974/218

NOTES

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-7-5, Exterior(2R) 8-7-5 to 11-7-5, Interior (1) 11-7-5 to 18-11-11, Exterior(2R) 18-11-11 to 21-11-11, Interior (1) 21-11-11 to 24-7-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 120 lb uplift at joint 2 and 86 lb uplift at joint 10.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

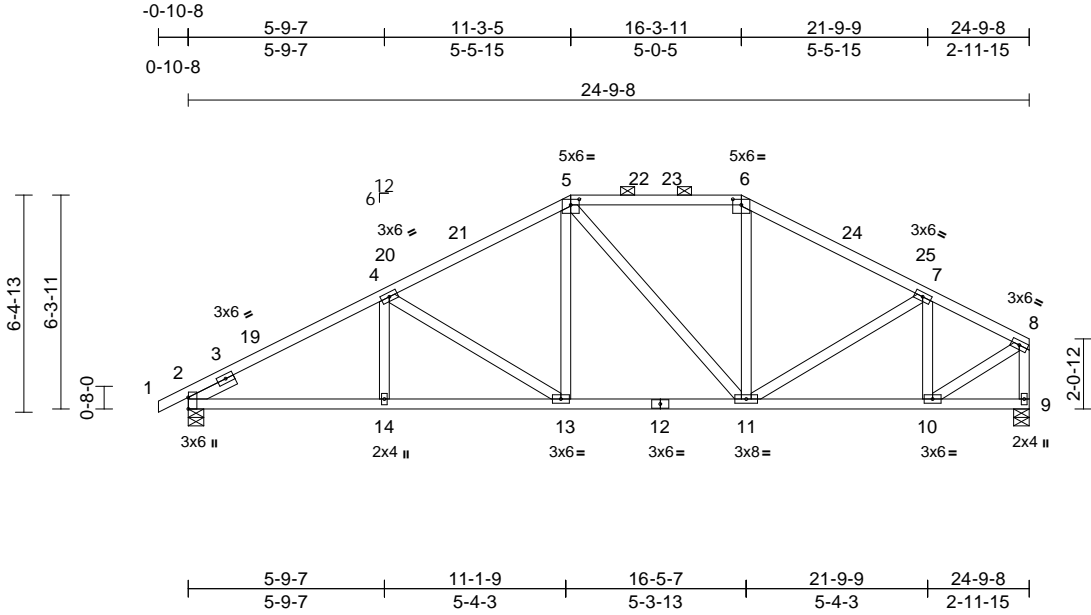
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282292
P05686-30974	B4	Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:48
ID:2okunY02aVMTuXR1?X7VDYzPUVO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?i

Page: 1



Scale = 1:67.9

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.06	13-14	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.54	Vert(CT)	-0.11	13-14	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.04	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 143 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

BRACING

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

REACTIONS

(size) 2=0-5-8, 9=0-5-8
Max Horiz 2=94 (LC 15)
Max Uplift 2=-137 (LC 16), 9=-103 (LC 17)
Max Grav 2=960 (LC 2), 9=911 (LC 2)

FORCES

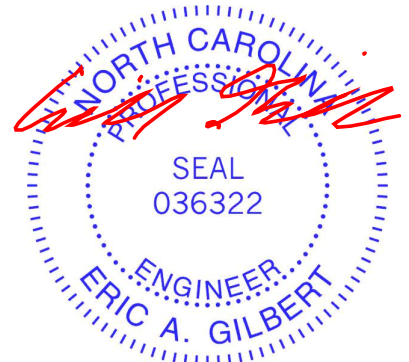
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-4=-1480/262, 4-5=-1137/245, 5-6=-852/232, 6-7=-1028/226, 7-8=-849/174, 8-9=-889/162
BOT CHORD 2-14=-263/1271, 13-14=-263/1271, 11-13=-170/947, 10-11=-152/751, 9-10=-20/27
WEBS 4-14=0/192, 4-13=-412/144, 5-13=-42/356, 5-11=-227/61, 6-11=-16/246, 7-11=-35/198, 7-10=-392/116, 8-10=-159/884

NOTES

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 11-3-5, Exterior(2R) 11-3-5 to 14-3-5, Interior (1) 14-3-5 to 16-3-11, Exterior(2R) 16-3-11 to 19-3-11, Interior (1) 19-3-11 to 24-7-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 137 lb uplift at joint 2 and 103 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

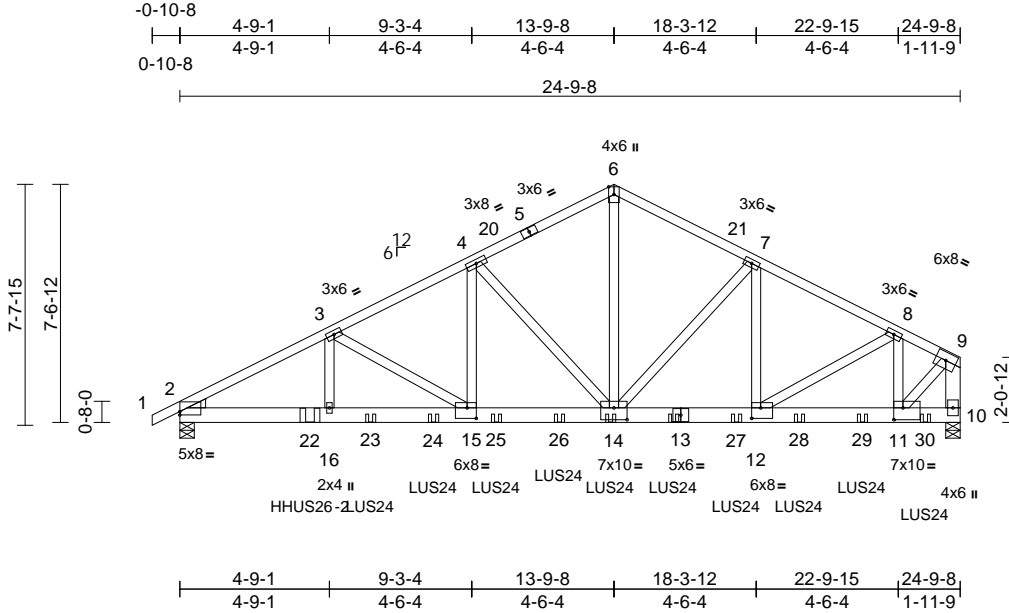
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282293
P05686-30974	B7	Common Girder	1	2	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:49
ID:c98MdKuCLEs4xtiSuMV?m8zPUZQ-RfC?PsB70Hq3NSgPqnl8w3ulTXbGKwCDoi7J4zJC?f

Page: 1



Scale = 1:73.2

Plate Offsets (X, Y): [2:Edge,0-1-5], [11:0-3-8,0-4-8], [12:0-3-8,0-4-0], [14:0-5-0,0-4-8], [15:0-3-8,0-4-0]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.75	Vert(LL)	-0.14	15-16	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.25	15-16	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.59	Horz(CT)	0.06	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
Weight: 344 lb											FT = 20%	

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP DSS *Except* 13-10:2x6 SP No.2
WEBS 2x4 SP No.2 *Except* 10-9:2x6 SP No.2
WEDGE Left: 2x4 SP No.3

BRACING

TOP CHORD Structural wood sheathing directly applied or 3-4-9 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-5-8, 10=0-5-8
Max Horiz 2=104 (LC 11)
Max Uplift 2=-725 (LC 12), 10=-689 (LC 13)
Max Grav 2=4641 (LC 2), 10=5476 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-3=-8514/1296, 3-4=-7220/1033, 4-6=-5242/762, 6-7=-5240/774, 7-8=-5938/801, 8-9=-3925/492, 9-10=-5250/659
BOT CHORD 2-16=-1196/7526, 15-16=-1196/7526, 14-15=-904/6434, 12-14=-671/5266, 11-12=-448/3484, 10-11=-27/142
WEBS 6-14=-621/4401, 7-14=-987/175, 7-12=-74/854, 8-12=-287/2066, 8-11=-2077/336, 4-14=-2663/462, 4-15=-358/2566, 3-15=-1285/338, 3-16=-222/1116, 9-11=-604/4797

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: 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=4.2psf; 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
- 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.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 725 lb uplift at joint 2 and 689 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.

- Use Simpson Strong-Tie HHUS26-2 (14-10d Girder, 4-10d Truss) or equivalent at 4-1-10 from the left end to connect truss(es) to front face of bottom chord.
 - Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss) or equivalent spaced at 2-0-0 oc max. starting at 6-0-12 from the left end to 23-8-4 to connect truss(es) to front face of bottom chord.
 - Fill all nail holes where hanger is in contact with lumber.
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-6=-29, 6-9=-29, 10-17=-20
Concentrated Loads (lb)
Vert: 13=-463 (F), 14=-463 (F), 22=-915 (F), 23=-519 (F), 24=-504 (F), 25=-489 (F), 26=-475 (F), 27=-463 (F), 28=-509 (F), 29=-509 (F), 30=-510 (F)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

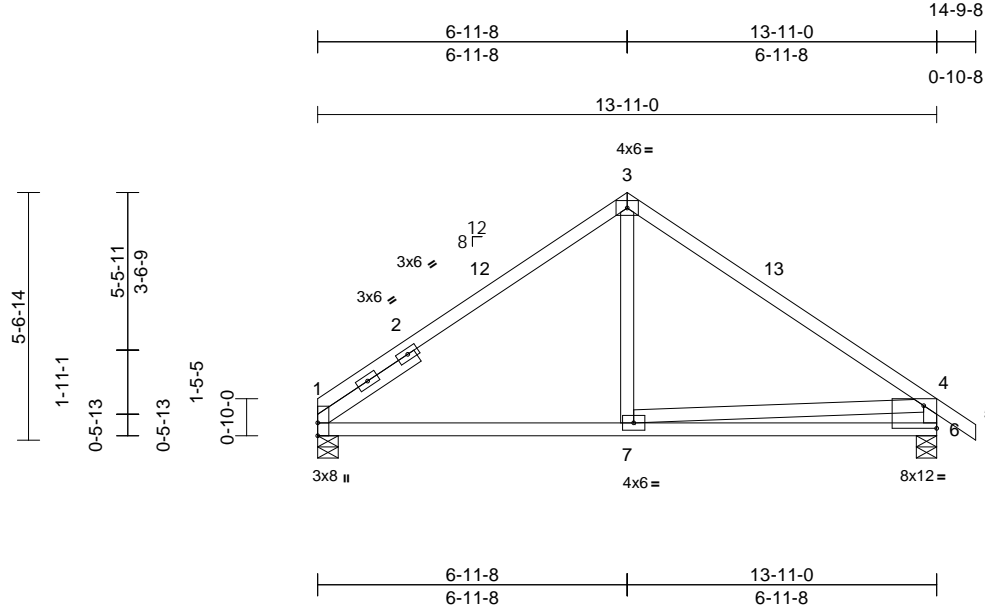
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282294
P05686-30974	A14	Common	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:46
ID:rOFXQrrzHShNfnCSJaH0syZPVXS-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?i

Page: 1



Scale = 1:51.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	0.06	7-10	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.09	7-10	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.03	1	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 69 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) 1=0-5-8, 6=0-5-8
Max Horiz 1=-101 (LC 10)
Max Uplift 1=-66 (LC 14), 6=-82 (LC 15)
Max Grav 1=507 (LC 2), 6=567 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-3=-567/120, 3-4=-572/121, 4-5=0/31, 4-6=-512/149
BOT CHORD 1-7=-155/384, 6-7=-175/396

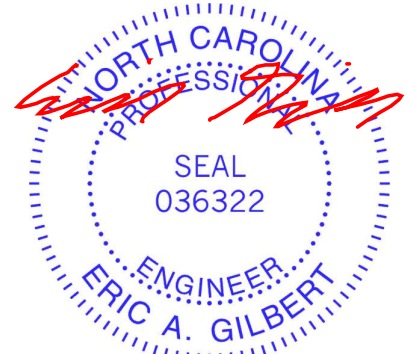
WEBS 3-7=0/294, 4-7=-121/216

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 6-11-8, Exterior(2R) 6-11-8 to 9-11-8, Interior (1) 9-11-8 to 14-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Solid blocking is required on both sides of the truss at joint(s), 1.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 1 and 82 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

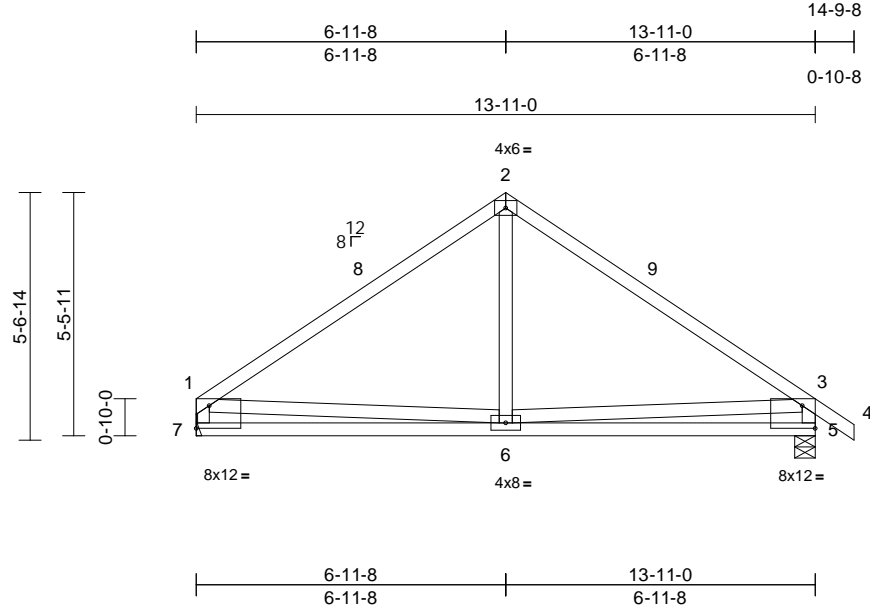
Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282295
P05686-30974	A13	Common	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:46

Page: 1

ID:60s2Blna_PqwspHspWxAZtzPVFS-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?fi



Scale = 1:51.8

Plate Offsets (X, Y): [5:Edge,0-6-2], [7:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.61	Vert(LL)	-0.04	5-6	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.09	5-6	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 75 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 5=0-5-8, 7= Mechanical
Max Horiz 7=108 (LC 10)
Max Uplift 5=-82 (LC 15), 7=-65 (LC 14)
Max Grav 5=561 (LC 2), 7=502 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension

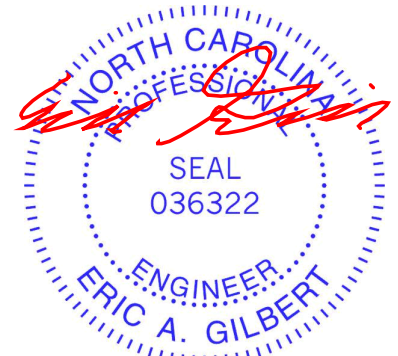
TOP CHORD 1-2=-552/111, 2-3=-559/114, 3-4=0/31,
1-7=-443/108, 3-5=-502/143
BOT CHORD 6-7=-146/353, 5-6=-177/390
WEBS 2-6=0/290, 1-6=-58/172, 3-6=-116/221

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; 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 6-11-8, Exterior(2R) 6-11-8 to 9-11-8, Interior (1) 9-11-8 to 14-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 7 and 82 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

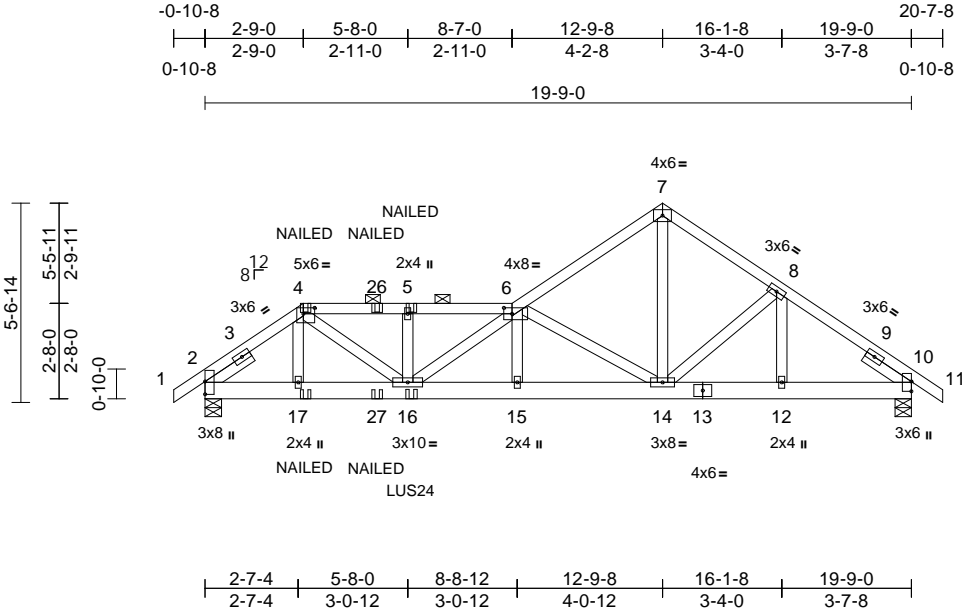
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282296
P05686-30974	A12	Roof Special Girder	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:45
ID:bIUgYjCXi9EyZBSaMN4NTGzPVEv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:64.4

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

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	0.33	Vert(LL)	-0.07	15-16	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.49	Vert(CT)	-0.14	15-16	>999	180		
TCDL	7.0	Rep Stress Incr	NO	WB	0.59	Horz(CT)	0.03	10	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 130 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.2
SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-4-9 oc purlins, except 2-0-0 oc purlins (3-8-13 max.): 4-6.
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=-96 (LC 8)
Max Uplift 2=-302 (LC 10), 10=-152 (LC 11)
Max Grav 2=1257 (LC 2), 10=931 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-4=-1603/402, 4-5=-2222/518, 5-6=-2222/518, 6-7=-1110/215, 7-8=-1087/234, 8-10=-1157/199, 10-11=0/26
BOT CHORD 2-17=-340/1280, 16-17=-341/1283, 15-16=-471/2260, 14-15=-469/2262, 12-14=-127/920, 10-12=-127/920
WEBS 4-17=-38/87, 4-16=-220/1194, 5-16=-277/139, 6-16=-166/236, 6-15=0/103, 6-14=-1576/390, 7-14=-176/940, 8-14=-99/115, 8-12=-60/35

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 302 lb uplift at joint 2 and 152 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.
- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent at 5-9-4 from the left end to connect truss(es) to front face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

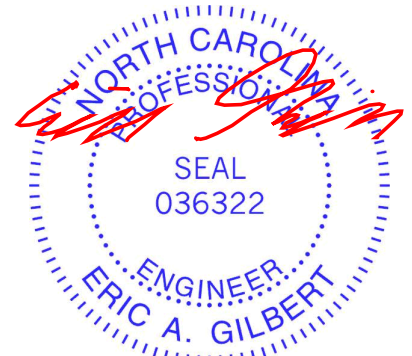
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15

Uniform Loads (lb/ft)

Vert: 1-4=-29, 4-6=-39, 6-7=-29, 7-11=-29, 18-22=-20

Concentrated Loads (lb)

Vert: 17=-61 (F), 16=-203 (F), 4=-96 (F), 5=-40 (F), 26=-91 (F), 27=-61 (F)



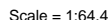
October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Page: 1

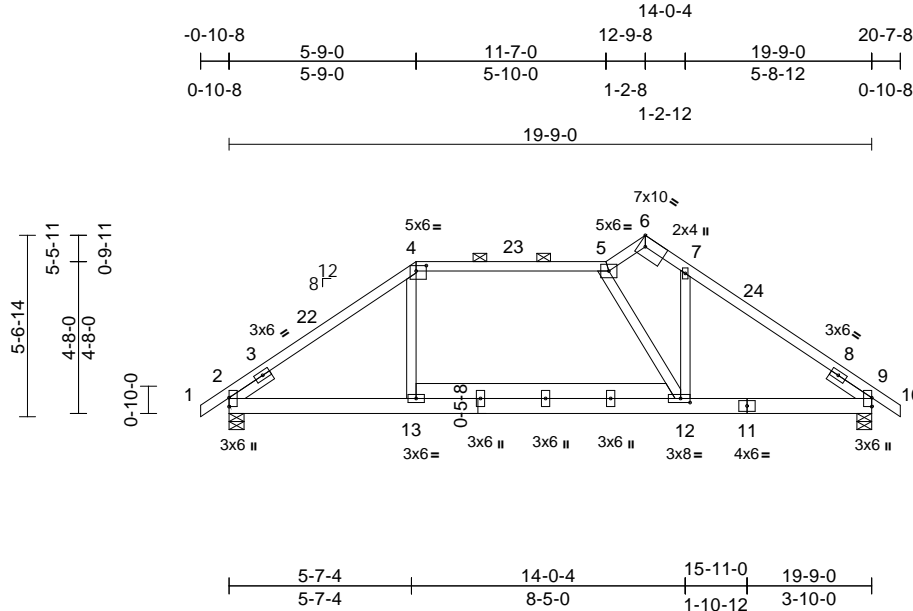
- 818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282298
P05686-30974	A10	Attic	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:45
ID:vogBhELY3XXrIOUbd2u8bzPVC8-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:70.8

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.81	Vert(LL)	-0.10	12-20	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.34	Vert(CT)	-0.16	12-20	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	-0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 125 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.1 *Except* 5-12:2x4 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 5-0-8 oc purlins, except 2-0-0 oc purlins (4-11-11 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-5-8, 9=0-5-8
Max Horiz 2=-96 (LC 12)
Max Uplift 2=-132 (LC 14), 9=-96 (LC 15)
Max Grav 2=778 (LC 2), 9=778 (LC 2)

FORCES

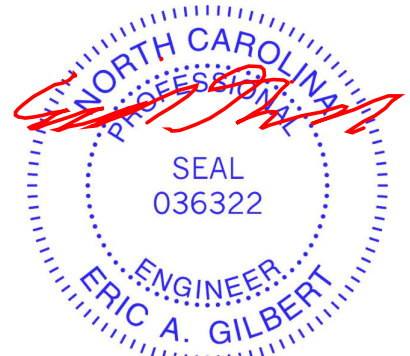
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-4=-976/158, 4-5=-746/166, 5-6=-567/122, 6-7=-540/126, 7-9=-757/134, 9-10=0/26
BOT CHORD 2-13=-126/753, 12-13=-106/746, 9-12=-57/622
WEBS 4-13=-2/277, 7-12=-61/388, 5-12=-304/104

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 5-9-0, Exterior(2R) 5-9-0 to 8-9-0, Interior (1) 8-9-0 to 12-9-8, Exterior(2R) 12-9-8 to 15-9-8, Interior (1) 15-9-8 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

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 132 lb uplift at joint 2 and 96 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

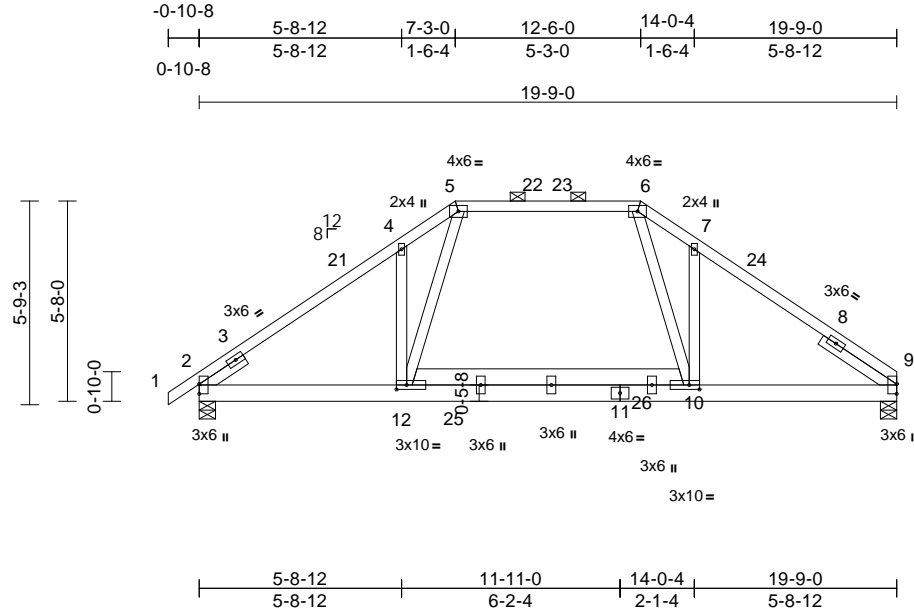
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282299
P05686-30974	A9	Attic	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:44
ID:vogBhELY3XXrIOUbd2lu8bzPVC8-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:65.2

Plate Offsets (X, Y): [10:0-3-8,0-1-8], [12:0-3-8,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.35	Vert(LL)	-0.07	10-15	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.32	Vert(CT)	-0.08	10-15	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 133 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x6 SP No.2
WEBS 2x4 SP No.2 *Except* 7-10:2x4 SP No.1
SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 2-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-2-13 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 5-6.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-5-8, 9=0-5-8
Max Horiz 2=96 (LC 11)
Max Uplift 2=-98 (LC 14), 9=-84 (LC 15)
Max Grav 2=859 (LC 3), 9=819 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/26, 2-4=-1063/149, 4-5=-1011/213, 5-6=-715/158, 6-7=-1013/212, 7-9=-1003/151
BOT CHORD 2-12=-106/832, 10-12=-49/715, 9-10=-73/833
WEBS 7-10=-210/167, 4-12=-213/167, 5-12=-119/485, 6-10=-120/490

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-3-8, Exterior(2R) 7-3-8 to 10-3-8, Interior (1) 10-3-8 to 12-5-8, Exterior(2R) 12-5-8 to 15-5-8, Interior (1) 15-5-8 to 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 84 lb uplift at joint 9 and 98 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.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

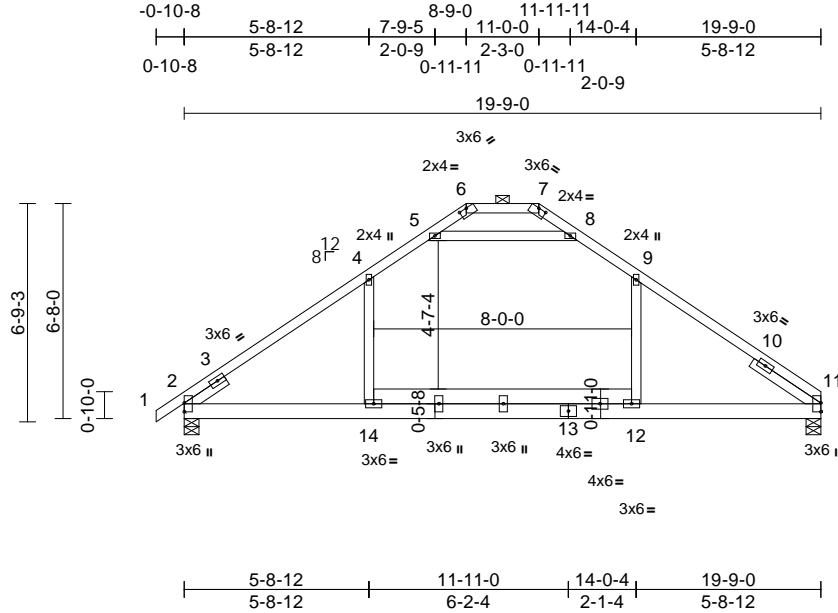
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282300
P05686-30974	A8	Attic	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:44

Page: 1

ID:vogBhELY3XXrOUbD2lu8bzPVC8-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f



Scale = 1:71.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.96	Vert(LL)	-0.13	12-17	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.23	12-14	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.03	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.08	12-14	>999	360	
BCDL	10.0										
										Weight: 126 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.1
SLIDER	Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 2-6-0

BRACING

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

REACTIONS

(size)	2=0-5-8, 11=0-5-8
Max Horiz	2=115 (LC 11)
Max Uplift	2=-80 (LC 14), 11=-66 (LC 15)
Max Grav	2=851 (LC 27), 11=807 (LC 28)

FORCES

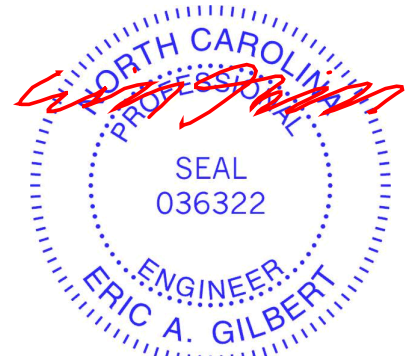
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/26, 2-4=-938/91, 4-5=-742/131, 5-6=-26/350, 6-7=-25/443, 7-8=-27/352, 8-9=-740/135, 9-11=-944/119
BOT CHORD	2-14=-109/791, 12-14=-29/791, 11-12=-63/791
WEBS	4-14=0/375, 9-12=0/386, 5-8=-1199/157

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-9-0, Exterior(2E) 8-9-0 to 11-0-0, Exterior(2R) 11-0-0 to 14-0-4, Interior (1) 14-0-4 to 19-9-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bottom chord live load (20.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 12-14
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 66 lb uplift at joint 11 and 80 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.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

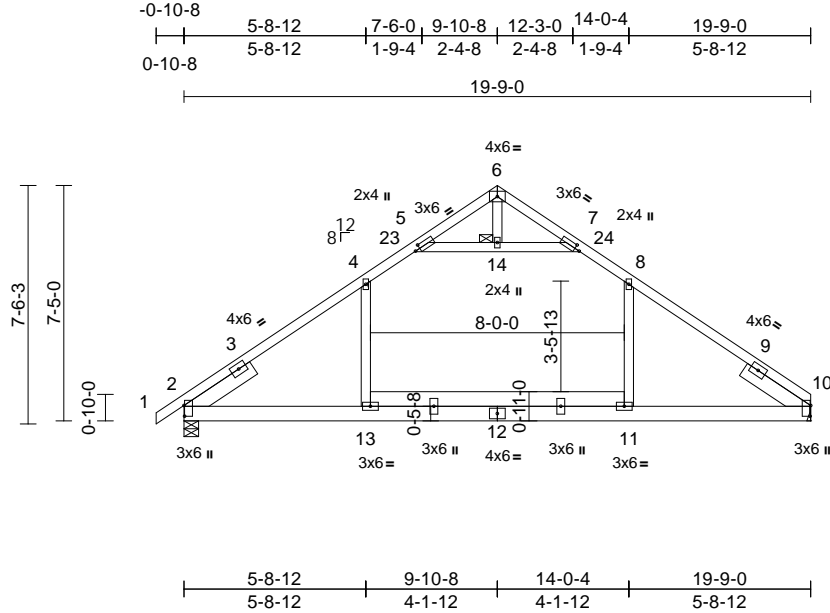
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282301
P05686-30974	A7	Attic	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:43
ID: k4GR38SxvDF5ctQbMJR0uzPV3N-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC7f

Page: 1



Scale = 1:72.6

Plate Offsets (X, Y): [2:0-4-1,0-0-4], [5:0-1-15,0-1-8], [7:0-1-15,0-1-8], [10:0-4-1,0-0-4]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.80	Vert(LL)	-0.12	11-17	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.42	Vert(CT)	-0.19	11-13	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.07	Horz(CT)	0.03	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.08	11-13	>999	360		
BCDL	10.0										Weight: 135 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.1 *Except* 6-14:2x4 SP No.2
SLIDER	Left 2x6 SP No.2 -- 2-6-0, Right 2x6 SP No.2 -- 2-4-14

BRACING

TOP CHORD	Structural wood sheathing directly applied or 4-10-5 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
JOINTS	1 Brace at Jt(s): 14

REACTIONS

(size)	2=0-5-8, 10= Mechanical
Max Horiz	2=128 (LC 13)
Max Uplift	2=-85 (LC 14), 10=-70 (LC 15)
Max Grav	2=867 (LC 27), 10=823 (LC 28)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/26, 2-4=-1002/115, 4-5=-775/129, 5-6=-20/124, 6-7=-21/124, 7-8=-775/129, 8-10=-1000/114
BOT CHORD	2-13=-122/836, 11-13=-45/836, 10-11=-62/836
WEBS	8-11=0/399, 4-13=0/402, 5-14=-926/133, 7-14=-926/133, 6-14=-1/9

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bottom chord live load (20.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 11-13
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 70 lb uplift at joint 10 and 85 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.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

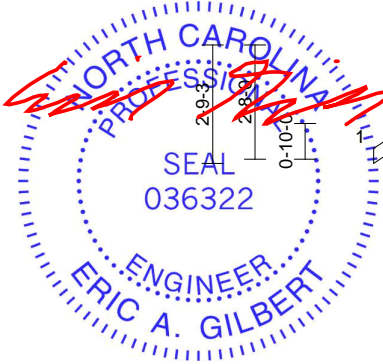
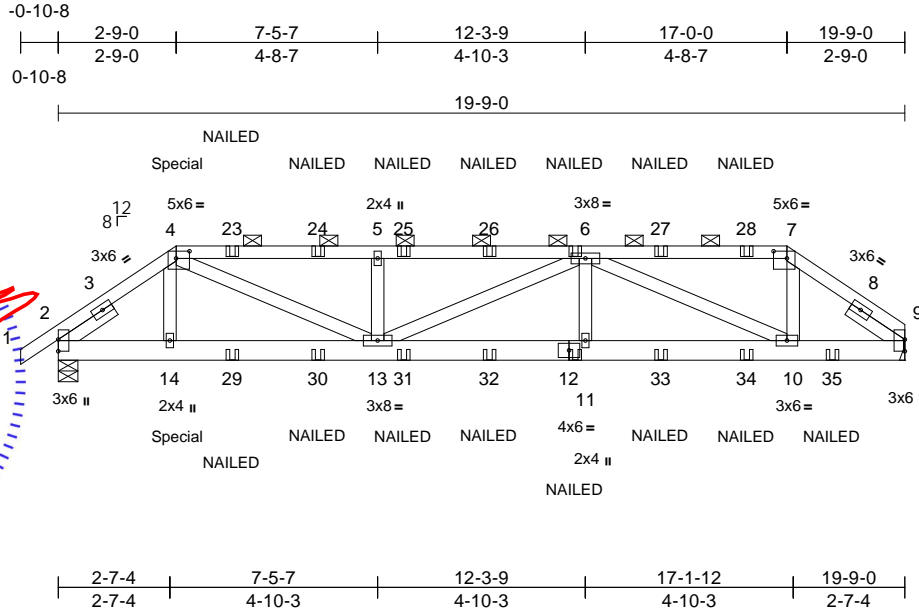
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282302
P05686-30974	A1	Hip Girder	1	2	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:40

Page: 1

ID:fhvxxO2Iqj20X7M?nfFbXNzPUaW-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:53.7

Plate Offsets (X, Y): [4:0-3-12,0-2-0], [7:0-3-12,0-2-0]

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	0.20	Vert(LL)	-0.04	11-13	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.08	11-13	>999	180	
TCDL	7.0	Rep Stress Incr	NO	WB	0.15	Horz(CT)	0.01	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 234 lb FT = 20%											

LUMBER

TOP CHORD 2x4 SP No.2
 BOT CHORD 2x6 SP No.2
 WEBS 2x4 SP No.2
 SLIDER Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except 2-0-0 oc purlins (6-0-0 max.): 4-7.
 BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 2=0-5-8, 9= Mechanical
 Max Horiz 2=41 (LC 9)
 Max Uplift 2=-281 (LC 10), 9=-267 (LC 6)
 Max Grav 2=1117 (LC 2), 9=1090 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/26, 2-4=-1438/406, 4-5=-2250/638, 5-6=-2250/638, 6-7=-1105/307, 7-9=-1417/372
 BOT CHORD 2-14=-345/1155, 13-14=-348/1153, 11-13=-622/2262, 10-11=-622/2262, 9-10=-285/1143
 WEBS 4-14=0/153, 4-13=-349/1228, 5-13=-366/164, 6-13=-23/41, 6-11=0/279, 6-10=-1302/392, 7-10=-131/598

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=4.2psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 267 lb uplift at joint 9 and 281 lb uplift at joint 2.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
 - "NAILED" indicates 3-10d (0.148"x3") or 3-12d (0.148"x3.25") toe-nails per NDS guidelines.
 - Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 104 lb down and 93 lb up at 2-9-0 on top chord, and 73 lb down and 16 lb up at 2-9-0 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- LOAD CASE(S)** Standard
- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
 Uniform Loads (lb/ft)
 Vert: 1-4=-29, 4-7=-39, 7-9=-29, 15-19=-20
 Concentrated Loads (lb)
 Vert: 12=-28 (B), 14=-53 (B), 4=-93 (B), 6=-44 (B), 23=-44 (B), 24=-44 (B), 25=-44 (B), 26=-44 (B), 27=-44 (B), 28=-45 (B), 29=-28 (B), 30=-28 (B), 31=-28 (B), 32=-28 (B), 33=-28 (B), 34=-28 (B), 35=-108 (B)

October 24,2025

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

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

ENGINEERING BY
TRENCO
 A MiTek Affiliate

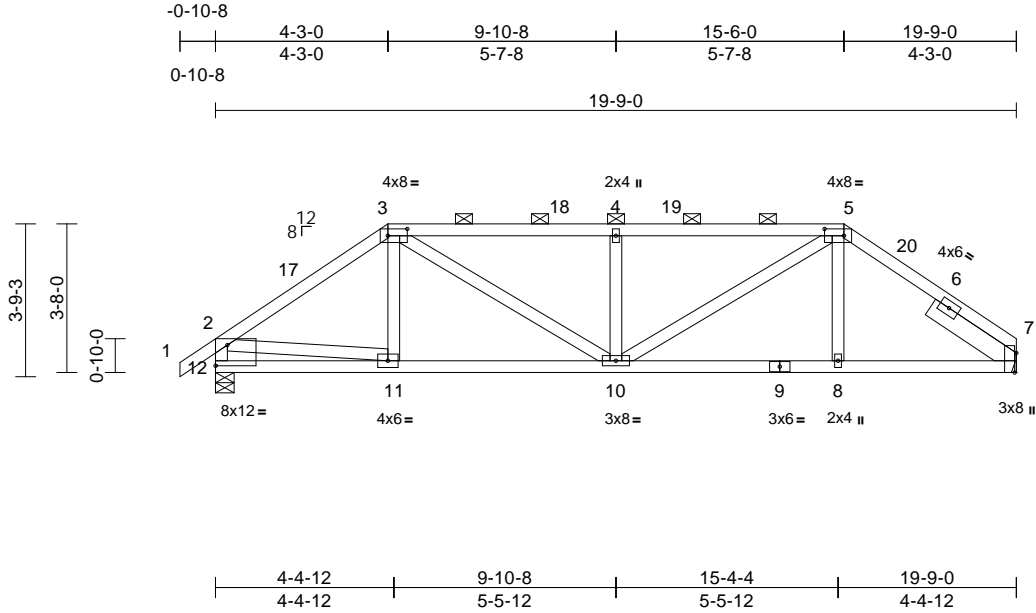
818 Soundside Road
 Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282303
P05686-30974	A2	Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:42
ID:L_L7dwwbVSS3V_KJOKb0CzzPby-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:56.8

Plate Offsets (X, Y): [3:0-5-12,0-2-0], [5:0-5-12,0-2-0], [7:0-5-13,Edge], [12:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.41	Vert(LL)	-0.04	8-10	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.35	Vert(CT)	-0.08	8-10	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 107 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
SLIDER Right 2x6 SP No.2 -- 2-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-10-12 oc purlins, except end verticals, and 2-0-0 oc purlins (5-1-10 max.): 3-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 7= Mechanical, 12=0-5-8
Max Horiz 12=69 (LC 11)
Max Uplift 7=-75 (LC 10), 12=-79 (LC 11)
Max Grav 7=724 (LC 2), 12=782 (LC 2)

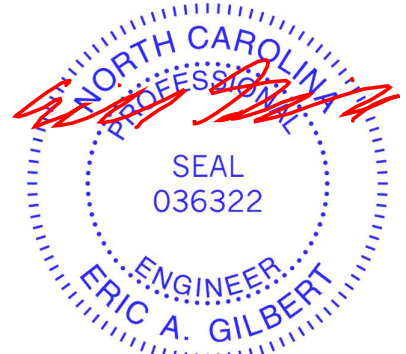
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-934/123, 3-4=-1116/176, 4-5=-1116/176, 5-7=-925/128, 2-12=-743/118
BOT CHORD 11-12=-95/180, 10-11=-121/721, 8-10=-71/734, 7-8=-72/731
WEBS 3-11=0/139, 3-10=-125/498, 4-10=-355/135, 5-10=-130/493, 5-8=0/178, 2-11=-110/591

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 4-3-0, Exterior(2R) 4-3-0 to 8-5-15, Interior (1) 8-5-15 to 15-6-0, Exterior(2E) 15-6-0 to 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 75 lb uplift at joint 7 and 79 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.
- 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



October 24, 2025

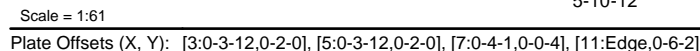
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:42 Page: 1
ID:OAUW5w2M?aw3PazXpHJqJzPUeN-RfC?PsB70Hq3NSaPanL8w3uITXbGKWRcDoi7J4zJC?f



LUMBER		3)	TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
TOP CHORD	2x4 SP No.2	4)	This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
BOT CHORD	2x4 SP No.2	5)	Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
WEBS	2x4 SP No.2	6)	Provide adequate drainage to prevent water ponding.
SLIDER	Right 2x6 SP No.2 -- 2-6-0	7)	This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
BRACING		8)	* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
TOP CHORD	Structural wood sheathing directly applied or 5-9-11 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-5.	9)	Refer to girder(s) for truss to truss connections.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	10)	Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 74 lb uplift at joint 7 and 89 lb uplift at joint 11.
REACTIONS	(size) 7= Mechanical, 11=5-8	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.
	Max Horiz 11=87 (LC 11)	12)	Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.
	Max Uplift 7=-74 (LC 15), 11=-89 (LC 14)		
	Max Grav 7=724 (LC 2), 11=782 (LC 2)		
FORCES	(lb) - Maximum Compression/Maximum Tension		
TOP CHORD	1-2=0/31, 2-3=-928/119, 3-4=-704/133, 4-5=-709/136, 5-7=-866/129, 2-11=-734/124		
BOT CHORD	10-11=-172/324, 8-10=-113/813, 7-8=-95/700		
WEBS	3-10=-21/293, 4-10=-220/105, 4-8=-221/108, 5-8=-25/312, 2-10=-98/474		
NOTES			
1)	Unbalanced roof live loads have been considered for this design.		
2)	Wind: ASCE 7-16; Vult-115mph (3 second gust)		

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

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



818 Soundside Road
Edenton, NC 27932

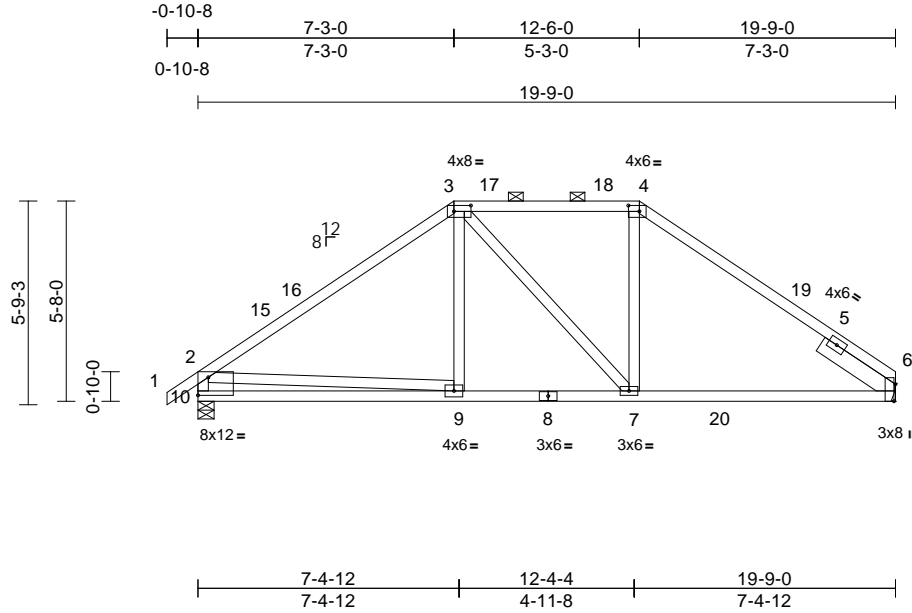
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282305
P05686-30974	A4	Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:42

Page: 1

ID:Bq17_mXeJk99r1?TBystPezPV0H-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:65.2

Plate Offsets (X, Y): [3:0-5-12,0-2-0], [4:0-3-12,0-2-0], [6:0-5-13,Edge], [10:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.56	Vert(LL)	-0.08	7-13	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.16	9-10	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horz(CT)	0.02	6	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 107 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
SLIDER Right 2x6 SP No.2 -- 2-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-3-11 oc purlins, except end verticals, and 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) 6= Mechanical, 10=0-5-8
Max Horiz 10=105 (LC 11)
Max Uplift 6=-83 (LC 15), 10=-99 (LC 14)
Max Grav 6=798 (LC 3), 10=832 (LC 3)

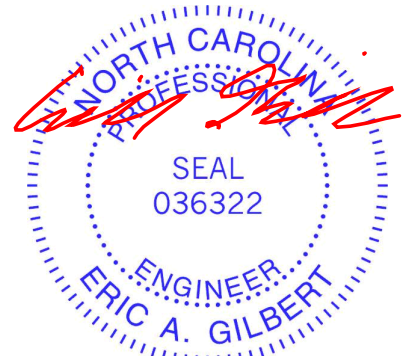
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-939/127, 3-4=-728/154, 4-6=-898/138, 2-10=-711/133
BOT CHORD 9-10=-264/598, 7-9=-67/705, 6-7=-156/722
WEBS 3-9=0/237, 3-7=-90/106, 4-7=-4/263, 2-9=-124/356

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 7-3-0, Exterior(2R) 7-3-0 to 11-5-15, Interior (1) 11-5-15 to 12-6-0, Exterior(2R) 12-6-0 to 16-8-15, Interior (1) 16-8-15 to 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 83 lb uplift at joint 6 and 99 lb uplift at joint 10.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

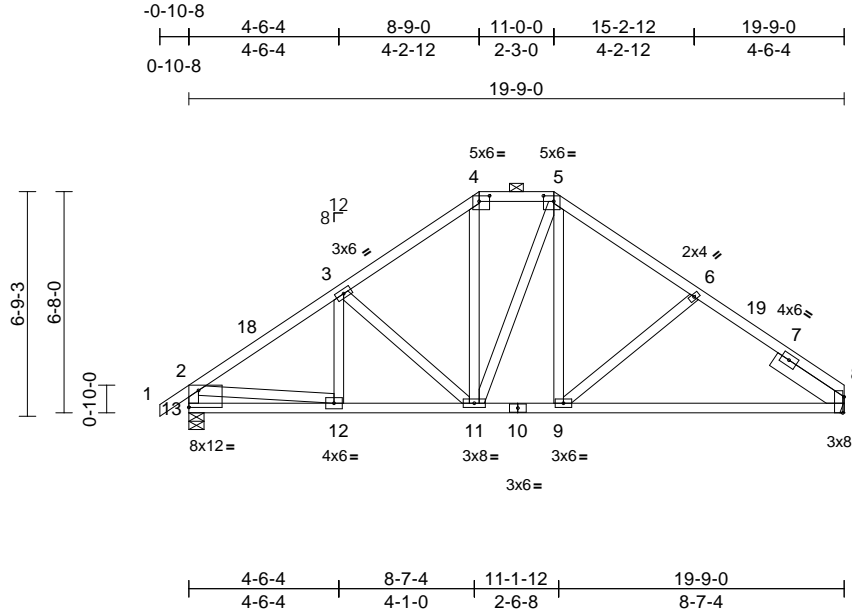
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282306
P05686-30974	A5	Hip	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:42

Page: 1

ID:AfpiRGuLLy1SX8ckDOQ_uzzPV2P-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f



Scale = 1:69.4

Plate Offsets (X, Y): [4:0-3-12,0-2-0], [5:0-3-12,0-2-0], [8:0-5-13,Edge], [13:Edge,0-6-2]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.21	Vert(LL)	-0.09	9-16	>999	240	MT20	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.53	Vert(CT)	-0.17	9-16	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.01	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 126 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
SLIDER Right 2x6 SP No.2 -- 2-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-11-14 oc purlins, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS

(size) 8= Mechanical, 13=0-5-8
Max Horiz 13=124 (LC 11)
Max Uplift 8=-90 (LC 15), 13=-106 (LC 14)
Max Grav 8=724 (LC 2), 13=782 (LC 2)

FORCES

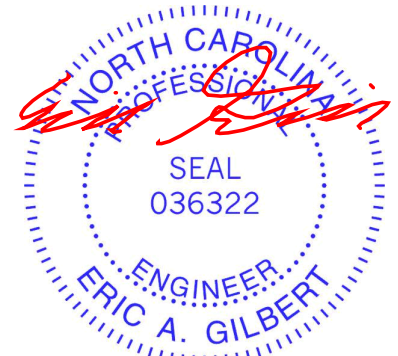
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-937/120, 3-4=-743/140, 4-5=-553/143, 5-6=-759/138, 6-8=-892/138, 2-13=-738/117
BOT CHORD 12-13=-122/218, 11-12=-120/725, 9-11=-17/566, 8-9=-82/718
WEBS 3-11=-243/110, 4-11=-48/227, 5-11=-128/57, 5-9=-41/323, 6-9=-209/128, 2-12=-33/589, 3-12=-2/131

NOTES

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 8-9-0, Exterior(2E) 8-9-0 to 11-0-0, Exterior(2R) 11-0-0 to 15-4-3, Interior (1) 15-4-3 to 19-9-0 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 90 lb uplift at joint 8 and 106 lb uplift at joint 13.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

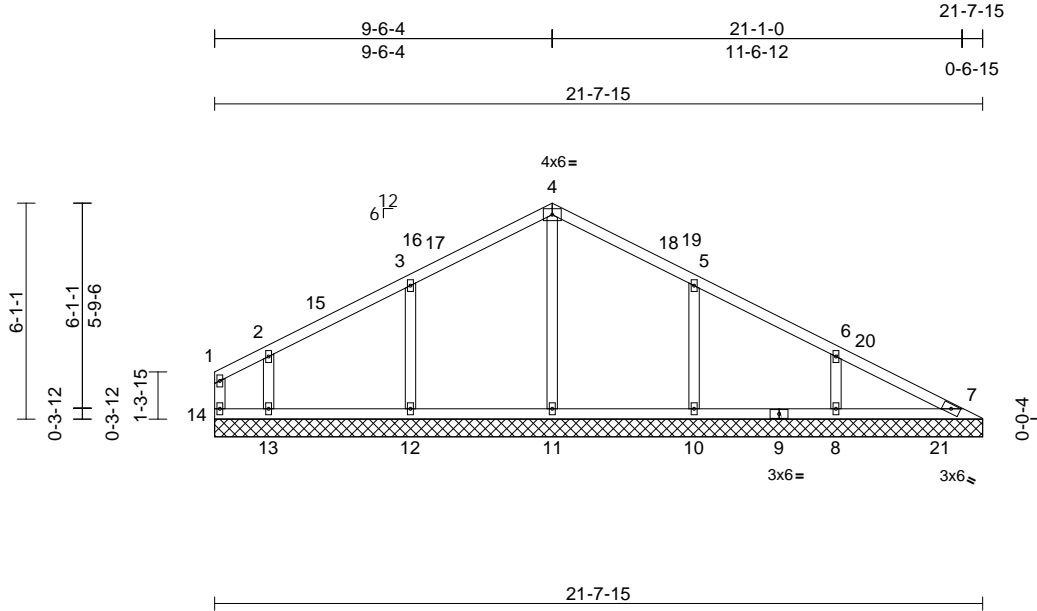
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282307
P05686-30974	V1	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:55
ID:gZXTfMww7auOnT?jsMDqzzPULk-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWrCDoi7J4zJC?i

Page: 1



Scale = 1:65

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.20	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.17	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.11	Horiz(TL)	0.00	7	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-S							
BCDL	10.0									Weight: 92 lb	FT = 20%

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

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

REACTIONS (size)
7=21-7-15, 8=21-7-15, 10=21-7-15,
11=21-7-15, 12=21-7-15,
13=21-7-15, 14=21-7-15
Max Horiz 14=-74 (LC 12)
Max Uplift 7=-16 (LC 16), 8=-89 (LC 17),
10=-93 (LC 17), 12=-96 (LC 16),
13=-87 (LC 16), 14=-17 (LC 21)
Max Grav 7=109 (LC 29), 8=326 (LC 3),
10=357 (LC 38), 11=372 (LC 30),
12=371 (LC 37), 13=259 (LC 29),
14=30 (LC 16)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-22/10, 1-2=-33/37, 2-3=-48/62,
3-4=-79/124, 4-5=-79/129, 5-6=-62/76,
6-7=-67/67
BOT CHORD 13-14=-32/76, 12-13=-32/76, 11-12=-32/76,
10-11=-32/76, 8-10=-32/76, 7-8=-32/76
WEBS 4-11=-190/0, 3-12=-242/121, 2-13=-173/98,
5-10=-233/118, 6-8=-220/110

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 9-6-4, Exterior(2R) 9-6-4 to 12-6-4, Interior (1) 12-6-4 to 21-0-14 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- All plates are 2x4 (||) MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 17 lb uplift at joint 14, 16 lb uplift at joint 7, 96 lb uplift at joint 12, 87 lb uplift at joint 13, 93 lb uplift at joint 10 and 89 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

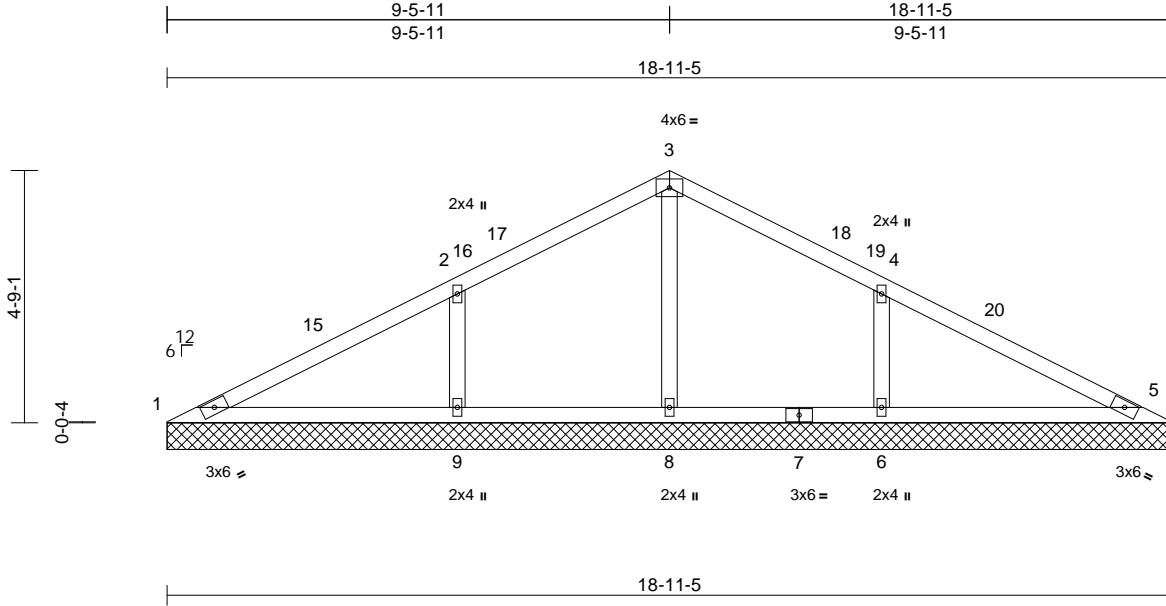
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282308
P05686-30974	V2	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:55
ID:8I4rSDMYhQil0x2CHZtSNAzPUlj-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?i

Page: 1



Scale = 1:43.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.36	Vert(LL)	n/a	-	n/a	999	MT20
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.23	Vert(TL)	n/a	-	n/a	999	244/190
TCDL	7.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	-0.01	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 70 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 10-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=18-11-5, 5=18-11-5, 6=18-11-5, 8=18-11-5, 9=18-11-5
Max Horiz	1=59 (LC 16)
Max Uplift	1=-47 (LC 36), 6=-120 (LC 17), 9=-124 (LC 16)
Max Grav	1=105 (LC 35), 5=1 (LC 2), 6=414 (LC 36), 8=498 (LC 2), 9=426 (LC 35)

FORCES

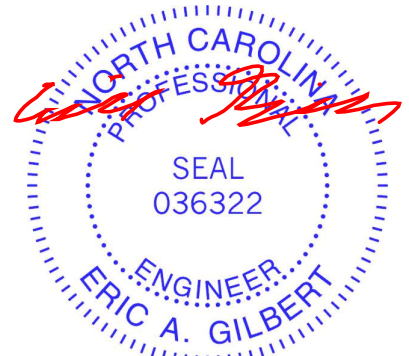
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-144/384, 2-3=-2/356, 3-4=0/356, 4-5=-120/384
BOT CHORD	1-9=-285/124, 8-9=-285/94, 6-8=-285/94, 5-6=-285/94
WEBS	3-8=-451/68, 2-9=-289/138, 4-6=-285/138

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 9-6-3, Exterior(2R) 9-6-3 to 12-6-3, Interior (1) 12-6-3 to 18-4-15 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 47 lb uplift at joint 1, 124 lb uplift at joint 9 and 120 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

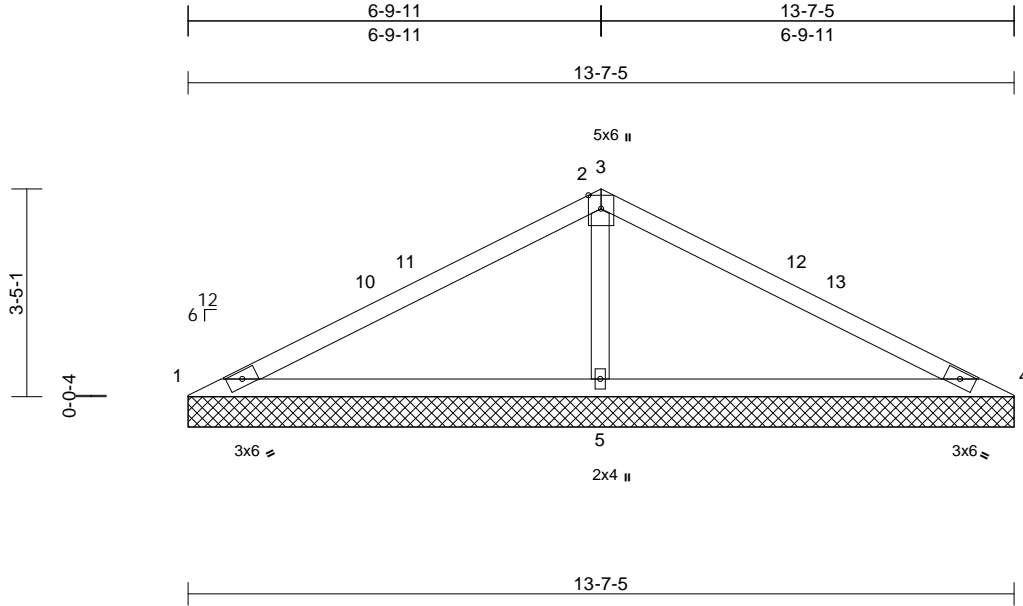
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282309
P05686-30974	V3	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:55

Page: 1

ID:8I4rSDMYhQil0x2CHZtSNAzPUij-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?i



Scale = 1:38

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	0.51	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.43	Vert(TL)	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.15	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0										Weight: 45 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 10-0-0 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size)	1=13-7-5, 4=13-7-5, 5=13-7-5
Max Horiz	1=-40 (LC 17)
Max Uplift	1=-50 (LC 36), 4=-82 (LC 35), 5=-153 (LC 16)
Max Grav	1=53 (LC 35), 4=87 (LC 36), 5=1003 (LC 2)

FORCES

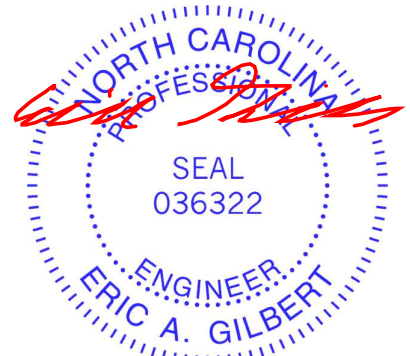
(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-184/566, 2-3=-26/226, 3-4=-179/581
BOT CHORD	1-5=-434/206, 4-5=-451/213
WEBS	2-5=-796/319

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 6-10-3, Exterior(2R) 6-10-3 to 9-10-3, Interior (1) 9-10-3 to 13-7-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 50 lb uplift at joint 1, 82 lb uplift at joint 4 and 153 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

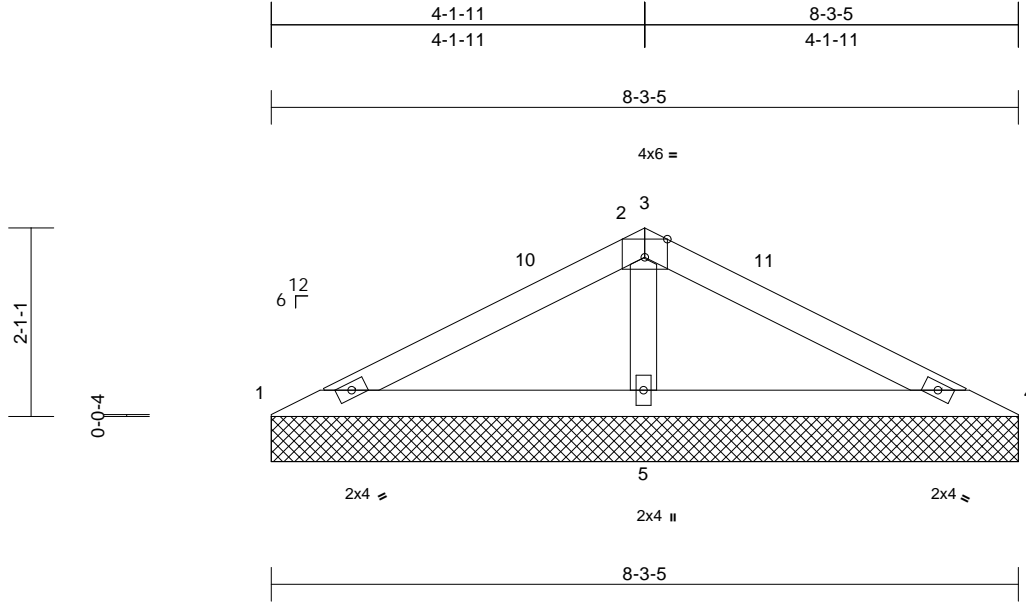
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282310
P05686-30974	V4	Valley	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:55
ID:8I4rSDMYhQil0x2CHZtSNAzPUij-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?i

Page: 1



Scale = 1:25.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	n/a	-	n/a	999	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.19	Vert(TL)	n/a	-	n/a	999	
TCDL	7.0	Rep Stress Incr	YES	WB	0.05	Horiz(TL)	0.00	5	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 26 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 8-3-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS

(size) 1=8-3-5, 4=8-3-5, 5=8-3-5
Max Horiz 1=24 (LC 16)
Max Uplift 1=66 (LC 36), 4=15 (LC 35), 5=76 (LC 16)
Max Grav 1=66 (LC 35), 4=78 (LC 36), 5=530 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension

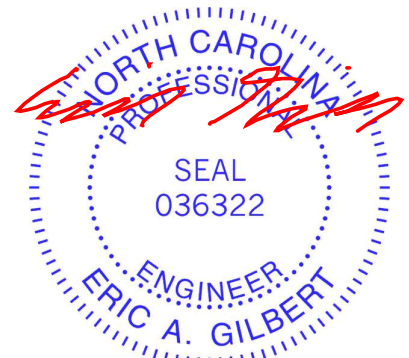
TOP CHORD 1-2=-131/268, 2-3=-30/112, 3-4=-127/274
BOT CHORD 1-5=-205/156, 4-5=-220/164
WEBS 2-5=-382/217

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) 0-0-8 to 3-0-8, Interior (1) 3-0-8 to 4-2-3, Exterior(2R) 4-2-3 to 7-1-8, Interior (1) 7-1-8 to 8-3-13 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 4-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 6 lb uplift at joint 1, 15 lb uplift at joint 4 and 76 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

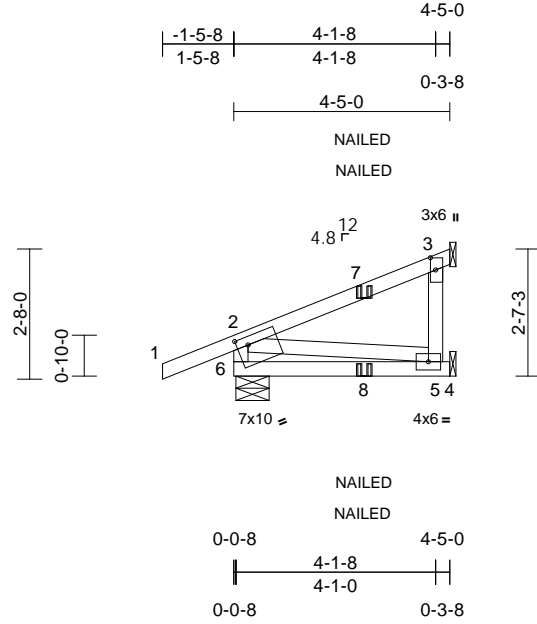
818 Soundside Road
Edenton, NC 27932

Job P05686-30974	Truss J9	Truss Type Jack-Partial Girder	Qty 1	Ply 1	911 Serenity Job Reference (optional)	177282311
---------------------	-------------	-----------------------------------	----------	----------	--	-----------

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:50
ID:PmgfLX3qlfCG8CFANV7uPyyQaFn-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrcDoi7J4zJC?f

Page: 1



Scale = 1:47.1

Plate Offsets (X, Y): [3:0-3-0,0-1-4], [6:0-2-12,0-2-0]

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	0.22	Vert(LL)	-0.01	5-6	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.21	Vert(CT)	-0.03	5-6	>999	180	
TCDL	7.0	Rep Stress Incr	NO	WB	0.01	Horz(CT)	0.00	3	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 25 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 3= Mechanical, 5= Mechanical,
6=0-8-3
Max Horiz 6=56 (LC 12)
Max Uplift 3=-43 (LC 12), 5=-12 (LC 12),
6=-60 (LC 8)
Max Grav 3=90 (LC 2), 5=92 (LC 7), 6=254 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 2-6=-212/63, 1-2=0/32, 2-3=-53/25
BOT CHORD 5-6=-59/10, 4-5=0/0
WEBS 3-5=0/0, 2-5=-10/59

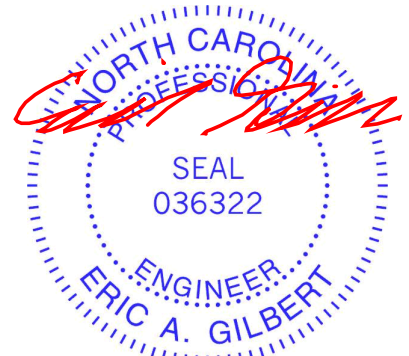
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 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 60 lb uplift at joint 6, 12 lb uplift at joint 5 and 43 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.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
- "NAILED" indicates 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=-29, 2-3=-29, 4-6=-20
Concentrated Loads (lb)
Vert: 7=-4 (F), 8=-6 (F)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

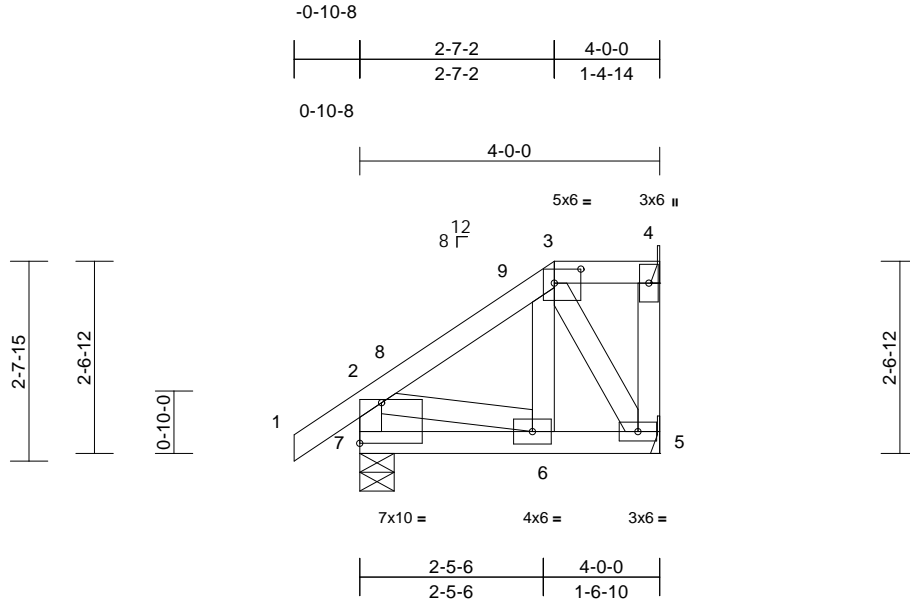
Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J17	Half Hip	1	1	Job Reference (optional)
					I77282312

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:52

Page: 1

ID:lvdjhAGgEAttEV18d_l2xEyQa1J-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f



Scale = 1:30.7

Plate Offsets (X, Y): [3:0-4-4,0-2-4], [7: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	1.15	TC	0.07	Vert(LL)	0.00	6-7	>999	240	244/190
Snow (Pf/Pg)	12.7/10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	6-7	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	4	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 27 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 4= Mechanical, 5= Mechanical, 7=0-5-8
Max Horiz 7=71 (LC 13)
Max Uplift 4=13 (LC 12), 5=23 (LC 13), 7=33 (LC 16)
Max Grav 4=39 (LC 37), 5=96 (LC 2), 7=215 (LC 38)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/35, 2-3=-105/34, 3-4=-31/33, 4-5=0/0, 2-7=-195/102
BOT CHORD 6-7=-147/79, 5-6=-61/79
WEBS 3-6=-7/82, 3-5=-112/81, 2-6=-7/89

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 2-7-2, Exterior(2E) 2-7-2 to 3-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=12.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10, Lu=50-0-0
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- Provide adequate drainage to prevent water ponding.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 13 lb uplift at joint 4, 33 lb uplift at joint 7 and 23 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.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.

LOAD CASE(S) Standard



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

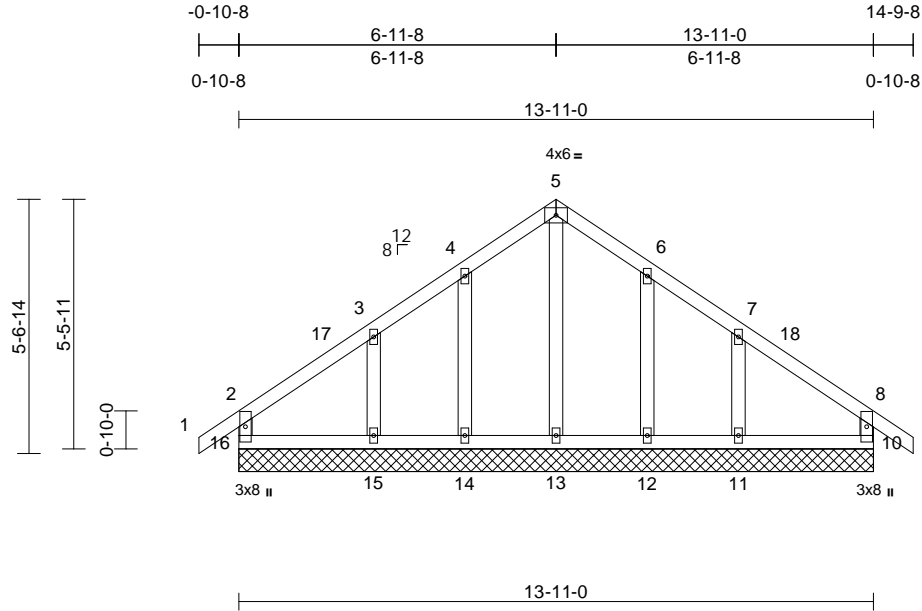
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282313
P05686-30974	A16	Common Supported Gable	1	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:46

Page: 1

ID:Dx6LHnGcngPcmBFBF2la3kyQa2c-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f



Scale = 1:50.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.07	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.06	n/a	-	n/a	999		
TCDL	7.0	Rep Stress Incr	YES	WB	0.06	Horz(CT)	0.00	10	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MR							
BCDL	10.0										
										Weight: 75 lb	FT = 20%

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

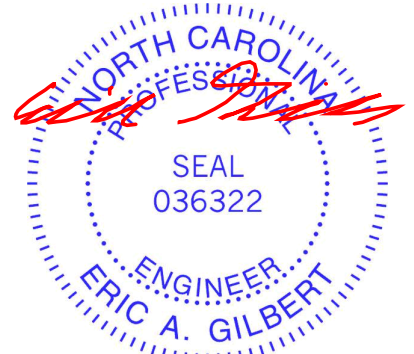
REACTIONS (size)
10=13-11-0, 11=13-11-0,
12=13-11-0, 13=13-11-0,
14=13-11-0, 15=13-11-0,
16=13-11-0
Max Horiz 16=112 (LC 12)
Max Uplift 10=36 (LC 14), 11=86 (LC 15),
12=45 (LC 15), 14=44 (LC 14),
15=88 (LC 14), 16=42 (LC 15)
Max Grav 10=173 (LC 2), 11=207 (LC 27),
12=142 (LC 33), 13=137 (LC 29),
14=142 (LC 32), 15=210 (LC 26),
16=173 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 2-16=-148/122, 1-2=0/31, 2-3=-99/62,
3-4=-82/128, 4-5=-107/179, 5-6=-106/179,
6-7=-83/128, 7-8=-87/55, 8-9=0/31,
8-10=-148/121
BOT CHORD 15-16=-39/61, 14-15=-39/61, 13-14=-39/61,
12-13=-39/61, 11-12=-39/61, 10-11=-39/61
WEBS 5-13=-136/47, 4-14=-108/76, 3-15=-147/120,
6-12=-108/76, 7-11=-145/121

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

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 6-11-8, Corner(3R) 6-11-8 to 9-11-8, Exterior(2N) 9-11-8 to 14-9-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- All plates are 2x4 (||) MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 42 lb uplift at joint 16, 36 lb uplift at joint 10, 44 lb uplift at joint 14, 88 lb uplift at joint 15, 45 lb uplift at joint 12 and 86 lb uplift at joint 11.

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



October 24, 2025

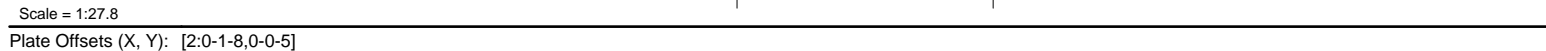
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:52 Page: 1
ID:MzHL2e8Gtn150Qbl19Z6muyQZTK-RfC?PsB70Hg3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC7f



LUMBER		4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads. 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component. 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads. 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members. 8) Refer to girder(s) for truss to truss connections. 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 34 lb uplift at joint 4, 21 lb uplift at joint 2 and 2 lb uplift at joint 5. 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
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 3-1-1 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=54 (LC 16)	
	Max Uplift 2=-21 (LC 16), 4=-34 (LC 16), 5=-2 (LC 16)	
	Max Grav 2=166 (LC 2), 4=69 (LC 2), 5=52 (LC 7)	
FORCES	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/21, 2-4=-85/25	
BOT CHORD	2-5=-78/53	
LOAD CASE(S)		Standard

-

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

Design valid for use only with MITEK® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI 1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbccomponents.com)

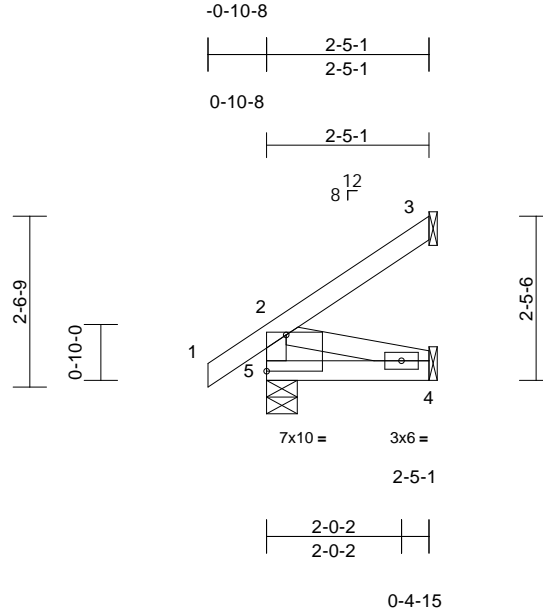


Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J16	Jack-Open	1	1	177282315
Job Reference (optional)					

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:52
ID:MzHL2e8Gtn150Qbl19Z6muyQZTK-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:34.4

Plate Offsets (X, Y): [5: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	1.15	TC	0.07	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	0.00	4-5	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 14 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 2-5-1 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=53 (LC 14)
Max Uplift 3=-30 (LC 14), 4=-8 (LC 14), 5=-9 (LC 14)
Max Grav 3=49 (LC 26), 4=46 (LC 5), 5=150 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

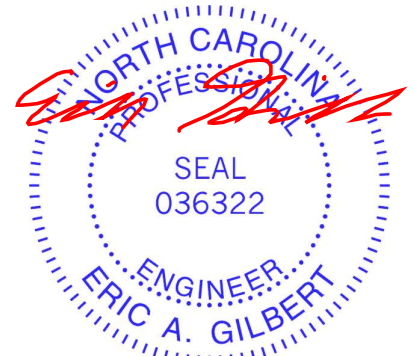
TOP CHORD 2-5=-128/61, 1-2=0/31, 2-3=-43/28
BOT CHORD 4-5=-102/38
WEBS 2-4=-39/106

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 5, 30 lb uplift at joint 3 and 8 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

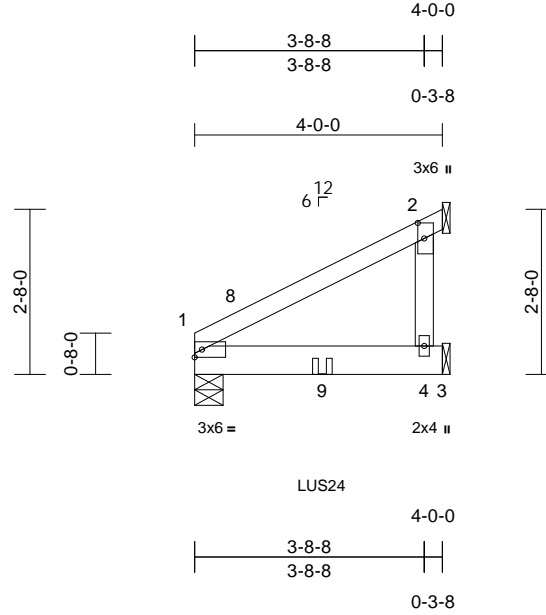
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J1	Jack-Open Girder	1	1	177282316
Job Reference (optional)					

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:49
ID:80iwBSRSPYXJPLLiVMu2rYyQZLC-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWwCdoi7J4zJC7f

Page: 1



Scale = 1:37.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.25	Vert(LL)	-0.02	4-7	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.56	Vert(CT)	-0.03	4-7	>999	180	
TCDL	7.0	Rep Stress Incr	NO	WB	0.00	Horz(CT)	0.01	1	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
Weight: 19 lb FT = 20%											

LUMBER

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

BRACING

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

REACTIONS (size) 1=0-5-8, 2= Mechanical, 4= Mechanical
Max Horiz 1=53 (LC 33)
Max Uplift 1=-41 (LC 12), 2=-42 (LC 12), 4=-39 (LC 12)
Max Grav 1=351 (LC 2), 2=97 (LC 2), 4=314 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-124/35
BOT CHORD 1-4=-79/30, 3-4=0/0
WEBS 2-4=0/0

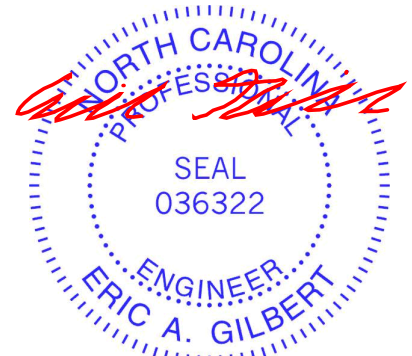
NOTES

- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 41 lb uplift at joint 1, 42 lb uplift at joint 2 and 39 lb uplift at joint 4.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Gap between inside of top chord bearing and first diagonal or vertical web shall not exceed 0.500in.
- Use Simpson Strong-Tie LUS24 (4-10d Girder, 2-10d Truss, Single Ply Girder) or equivalent at 2'-0-12 from the left end to connect truss(es) to front face of bottom chord.
- Fill all nail holes where hanger is in contact with lumber.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-2=-29, 3-5=-20
Concentrated Loads (lb)
Vert: 9=-315 (F)



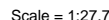
October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Page: 1

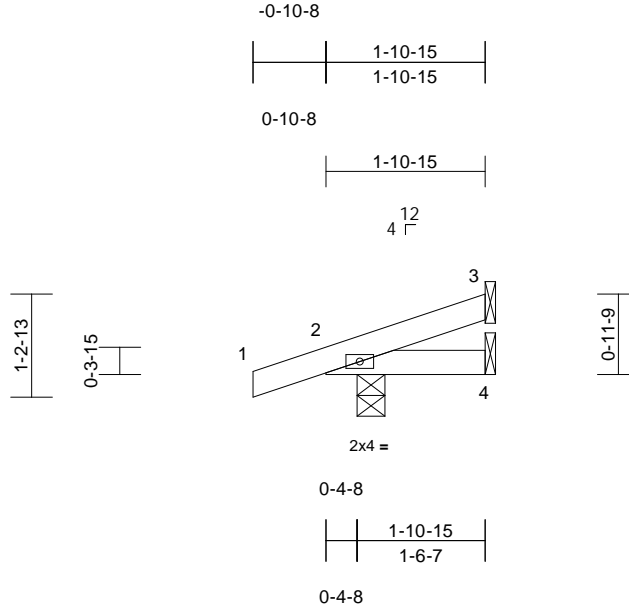
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282318
P05686-30974	J12	Jack-Open	2	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:51
ID:Js6Sz5pDzvj1ZclndiLCrgzPSPc-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 1



Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.06	Vert(LL)	0.00	5	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.04	Vert(CT)	0.00	5	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 7 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-10-15 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-4-0, 3= Mechanical, 4= Mechanical
Max Horiz 2=29 (LC 12)
Max Uplift 2=-54 (LC 12), 3=-9 (LC 16)
Max Grav 2=160 (LC 2), 3=21 (LC 2), 4=22 (LC 7)

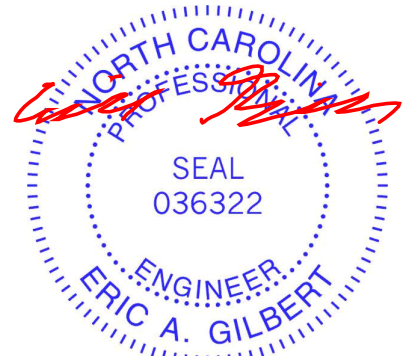
FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/15, 2-3=-68/84
BOT CHORD 2-4=-83/90

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; 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
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.

- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - 8) Refer to girder(s) for truss to truss connections.
 - 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 3 and 54 lb uplift at joint 2.
 - 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

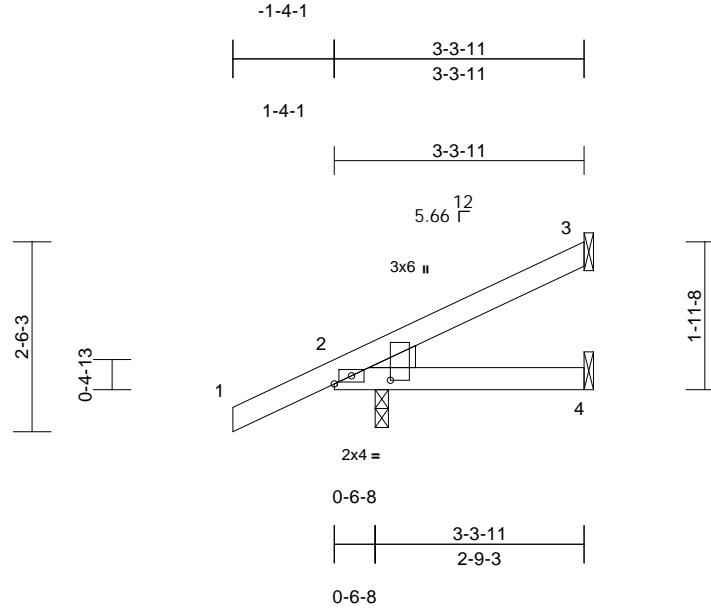
Job	Truss	Truss Type	Qty	Ply	911 Serenity	
P05686-30974	JD1	Jack-Open	2	1	Job Reference (optional)	I77282319

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:52

Page: 1

ID:jrkKm57xRRjY2swTQA9J9jFzPa?y-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWRCDoi7J4zJC?f



Scale = 1:30.5

Plate Offsets (X, Y): [2:0-0-12,0-0-5], [2:0-0-9,0-8-15]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.11	Vert(LL)	0.00	4-9	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.09	Vert(CT)	0.00	4-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 14 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEDGE Left: 2x4 SP No.2

BRACING

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

REACTIONS

(size) 2=0-2-2, 3= Mechanical, 4= Mechanical
Max Horiz 2=59 (LC 16)
Max Uplift 2=-47 (LC 16), 3=-24 (LC 16)
Max Grav 2=249 (LC 2), 3=46 (LC 23), 4=42 (LC 7)

FORCES

(lb) - Maximum Compression/Maximum Tension

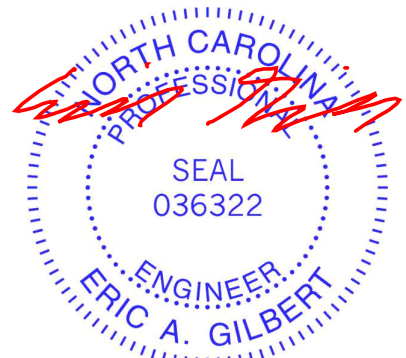
TOP CHORD 1-2=0/31, 2-3=-247/209
BOT CHORD 2-4=-201/301

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Corner (3) -1-4-1 to 2-10-13, Exterior(2R) 2-10-13 to 3-2-15 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.
- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.

- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 2.
- 10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 24 lb uplift at joint 3 and 47 lb uplift at joint 2.
- 11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

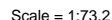
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:48 Page: 1
ID:2okunY02aVMTuXR1?X7VDYzPUVO-RfC?PsB70Hq3NSqPanL8w3uITXbGKWRcDoi?J4zJC?f

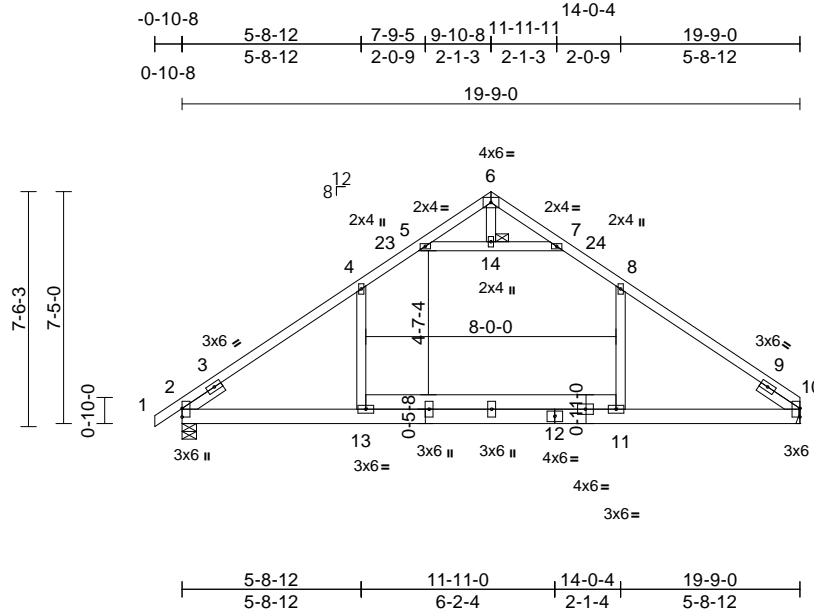
[illegible]

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282321
P05686-30974	A6A	Attic	2	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:43
ID:BPCGoy98tKD8ap38AiuQ0zPV7D-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:73.7

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.95	Vert(LL)	-0.14	11-17	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.25	11-13	>937	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.03	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS		Attic	-0.09	11-13	>999	360	
BCDL	10.0										
										Weight: 127 lb	FT = 20%

LUMBER

TOP CHORD	2x4 SP No.2
BOT CHORD	2x6 SP No.2
WEBS	2x4 SP No.2
SLIDER	Left 2x4 SP No.2 -- 1-6-0, Right 2x4 SP No.2 -- 1-6-0

BRACING

TOP CHORD	Structural wood sheathing directly applied or 1-4-12 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

JOINTS 1 Brace at Jt(s): 14

REACTIONS	(size) 2=0-5-8, 10= Mechanical
	Max Horiz 2=128 (LC 13)
	Max Uplift 2=-85 (LC 14), 10=-70 (LC 15)
	Max Grav 2=867 (LC 27), 10=823 (LC 28)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-2=0/26, 2-4=-964/107, 4-5=-753/127, 5-6=-10/187, 6-7=-11/187, 7-8=-752/128, 8-10=-963/106
-----------	---

BOT CHORD	2-13=-118/809, 11-13=-41/809, 10-11=-56/809
-----------	---

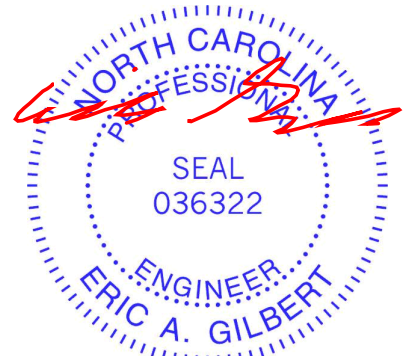
WEBS	8-11=-1/378, 4-13=-1/379, 5-14=-987/144, 7-14=-987/144, 6-14=-1/14
------	--

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bottom chord live load (20.0 psf) and additional bottom chord dead load (5.0 psf) applied only to room. 11-13
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 70 lb uplift at joint 10 and 85 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.
- Attic room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

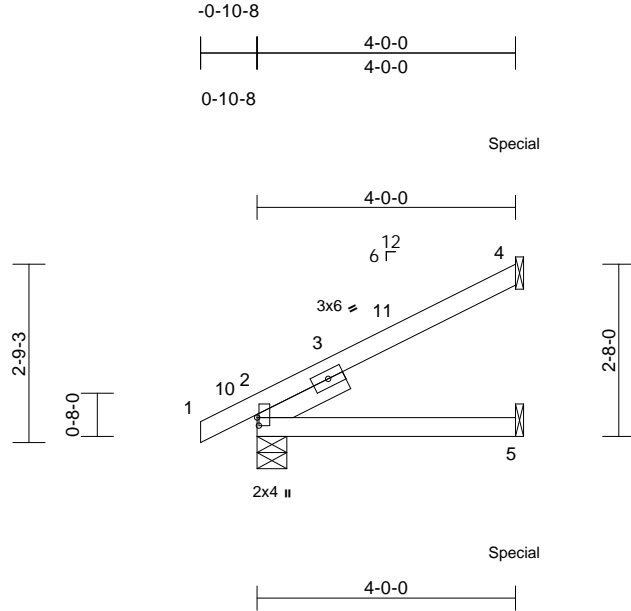
Job	Truss	Truss Type	Qty	Ply	911 Serenity	
P05686-30974	J10	Jack-Open	2	1	Job Reference (optional)	I77282322

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:51

Page: 1

ID:T3vAhUdCh17ikrOmPsXVlyQa8c-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:35.7

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	5-8	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 16 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 4-0-0 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=67 (LC 16)
Max Uplift 2=-24 (LC 16), 4=-71 (LC 16), 5=-18 (LC 16)
Max Grav 2=198 (LC 2), 4=138 (LC 2), 5=129 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/21, 2-4=-132/33
BOT CHORD 2-5=-131/79

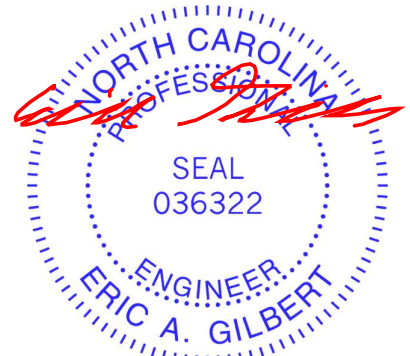
NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.

- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 71 lb uplift at joint 4, 24 lb uplift at joint 2 and 18 lb uplift at joint 5.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 11) Hanger(s) or other connection device(s) shall be provided sufficient to support concentrated load(s) 73 lb down and 53 lb up at 3-11-4 on top chord, and 60 lb down and 16 lb up at 3-11-4 on bottom chord. The design/selection of such connection device(s) is the responsibility of others.
- 12) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard

- 1) Dead + Snow (balanced): Lumber Increase=1.15, Plate Increase=1.15
Uniform Loads (lb/ft)
Vert: 1-4=-29, 5-6=-20
Concentrated Loads (lb)
Vert: 4=-62 (B), 5=-34 (B)



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

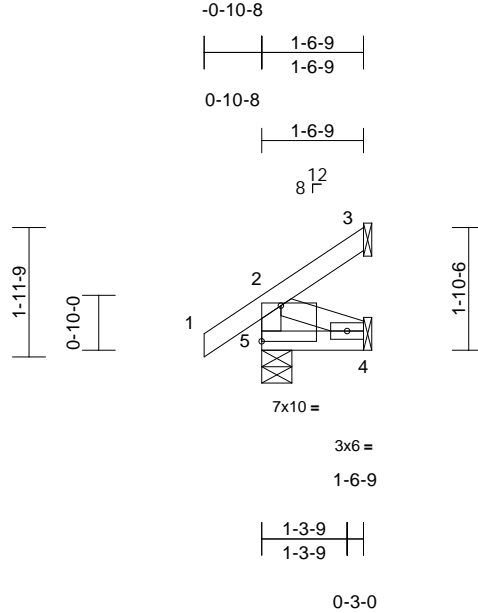
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity
P05686-30974	J8	Jack-Open	2	1	Job Reference (optional)
					I77282323

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:50
ID:2XLKK0o1UvRNVpZx4ukKWKyQaG7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:35

Plate Offsets (X, Y): [5: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	1.15	TC	0.07	Vert(LL)	0.00	4-5	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.02	Vert(CT)	0.00	4-5	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 9 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 1-6-9 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=37 (LC 14)
Max Uplift 3=-13 (LC 14), 4=-13 (LC 14), 5=-10 (LC 14)
Max Grav 3=19 (LC 26), 4=28 (LC 5), 5=127 (LC 2)

FORCES (lb) - Maximum Compression/Maximum Tension

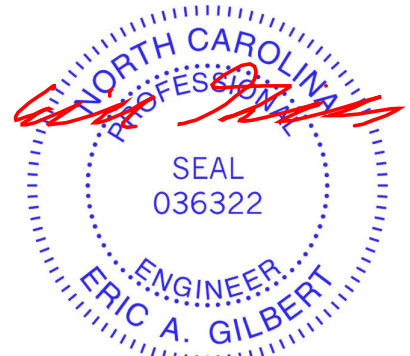
TOP CHORD 2-5=-113/63, 1-2=0/31, 2-3=-32/20
BOT CHORD 4-5=-81/28
WEBS 2-4=-31/89

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 5, 13 lb uplift at joint 4 and 13 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



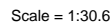
October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Page: 1

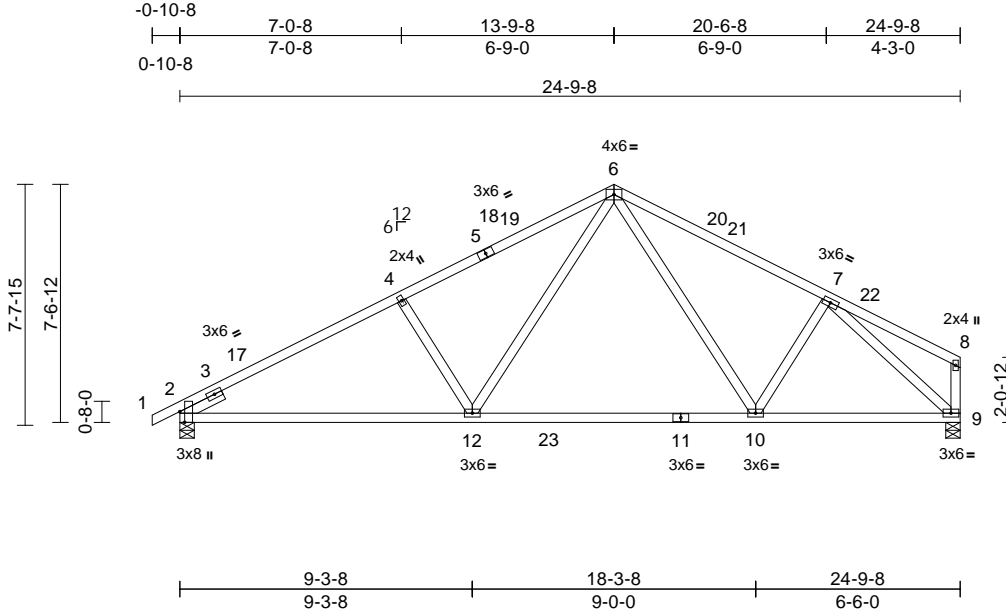
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282325
P05686-30974	B6	Common	3	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:48
ID:2okunY02aVMTuXR1?X7VDYzPUVO-RFC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:73.2

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.25	10-12	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.91	Vert(CT)	-0.39	10-12	>767	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.66	Horz(CT)	0.04	9	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
Weight: 129 lb FT = 20%											

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 4-4-1 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=0-5-8, 9=0-5-8
Max Horiz 2=105 (LC 15)
Max Uplift 2=148 (LC 16), 9=118 (LC 17)
Max Grav 2=1040 (LC 3), 9=1008 (LC 3)

FORCES

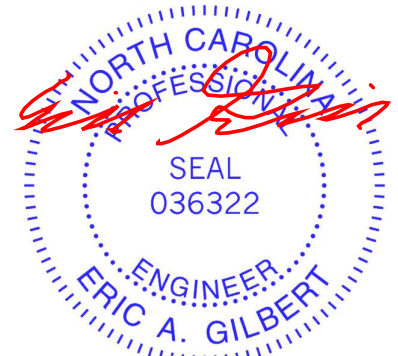
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/21, 2-4=-1565/254, 4-6=-1428/268,
6-7=-1178/232, 7-8=-69/53, 8-9=-79/36
BOT CHORD 2-12=-241/1356, 10-12=-119/848,
9-10=-165/929
WEBS 6-10=-61/326, 7-10=-50/206, 6-12=-120/709,
4-12=-351/181, 7-9=-1246/203

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 13-9-8, Exterior(2R) 13-9-8 to 16-9-8, Interior (1) 16-9-8 to 24-7-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 148 lb uplift at joint 2 and 118 lb uplift at joint 9.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

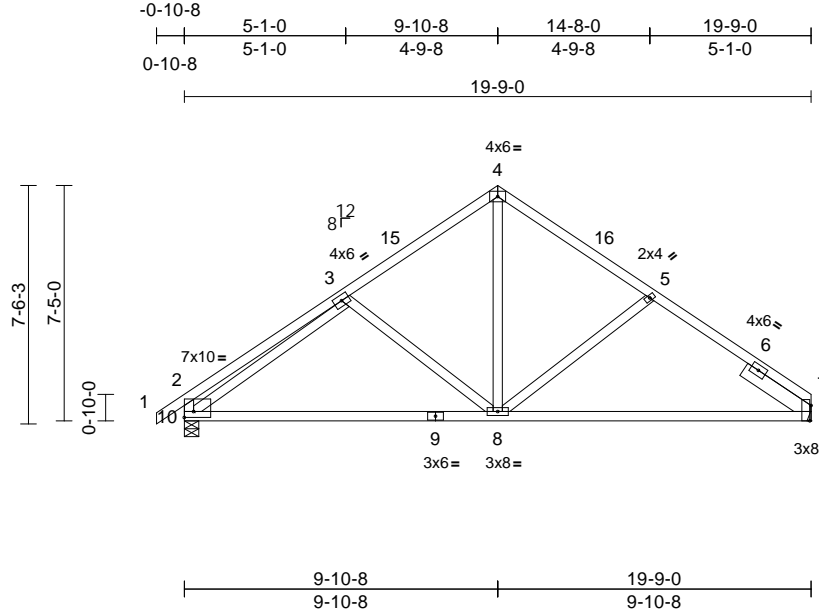
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	
P05686-30974	A6	Common	3	1	Job Reference (optional)	I77282326

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:43
ID:BPGCgoy98tKD8ap38AiuIQ0zPV7D-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:72.6

Plate Offsets (X, Y): [2:Edge,0-2-4], [7:0-5-13,Edge]

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.31	Vert(LL)	-0.19	8-10	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.86	Vert(CT)	-0.39	8-10	>611	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.36	Horz(CT)	0.02	7	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 110 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.2
WEBS 2x4 SP No.2
SLIDER Right 2x6 SP No.2 -- 2-6-0

BRACING

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

REACTIONS (size) 7= Mechanical, 10=0-5-8
Max Horiz 10=137 (LC 11)
Max Uplift 7=95 (LC 15), 10=110 (LC 14)
Max Grav 7=724 (LC 2), 10=782 (LC 2)

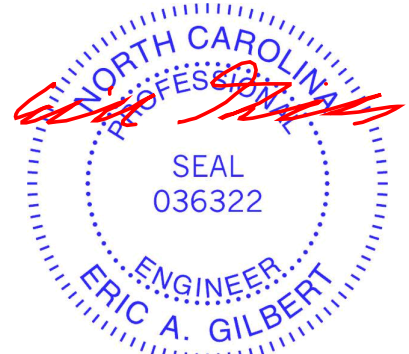
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/31, 2-3=-384/98, 3-4=-719/140, 4-5=-717/141, 5-7=-801/149, 2-10=-357/109
BOT CHORD 8-10=-142/685, 7-8=-89/709
WEBS 4-8=-67/499, 5-8=-243/149, 3-8=-214/152, 3-10=-542/85

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 19-9-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 95 lb uplift at joint 7 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 room checked for L/360 deflection.

LOAD CASE(S) Standard



October 24, 2025

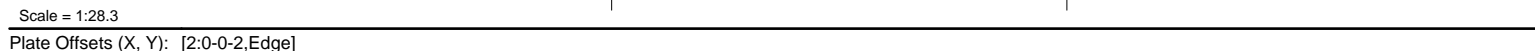
WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.

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


ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

84 Lumber-2383 (Dunn, NC), Dunn, NC - 28334, Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:55 Page: 1
ID:WbRAhkaA6Mdy?dzuUkxtiwVzPSnR-RfC?PsB70Hg3NSaPanL8w3uITxbGKWkRCDoi7J4zJC?f



LUMBER		5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
TOP CHORD	2x4 SP No.2	6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
BOT CHORD	2x4 SP No.2	
WEBS	2x4 SP No.2	
BRACING		7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
TOP CHORD	Structural wood sheathing directly applied or 5-8-8 oc purlins.	
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.	8) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
REACTIONS	(size) 2=0-5-8, 4=0-1-8 Max Horiz 2=68 (LC 12) Max Uplift 2=68 (LC 12), 4=47 (LC 16) Max Grav 2=273 (LC 2), 4=200 (LC 2)	
FORCES	(lb) - Maximum Compression/Maximum Tension	9) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
TOP CHORD	1-2=0/19, 2-3=88/33	
BOT CHORD	2-4=45/93	
WEBS	3-4=130/103	10) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 68 lb uplift at joint 2 and 47 lb uplift at joint 4.
		11) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and

<p>NOTES</p> <p>1) Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -1-1-8 to 1-10-8, Interior (1) 1-10-8 to 5-6-12 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60</p> <p>2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10</p> <p>3) Unbalanced snow loads have been considered for this design.</p> <p>4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.</p>	<p>R802.10.2 and referenced standard ANSI/TPI 1.</p> <p>LOAD CASE(S) Standard</p>	
---	--	---



October 24, 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.tpinet.org) and **BCSI Building Component Safety Information** available from the Structural Building Components Association (www.sbcacomponents.com)

ENGINEERING BY
TRENCO
A MITek Affiliat

818 Soundside Road
Edenton, NC 27932

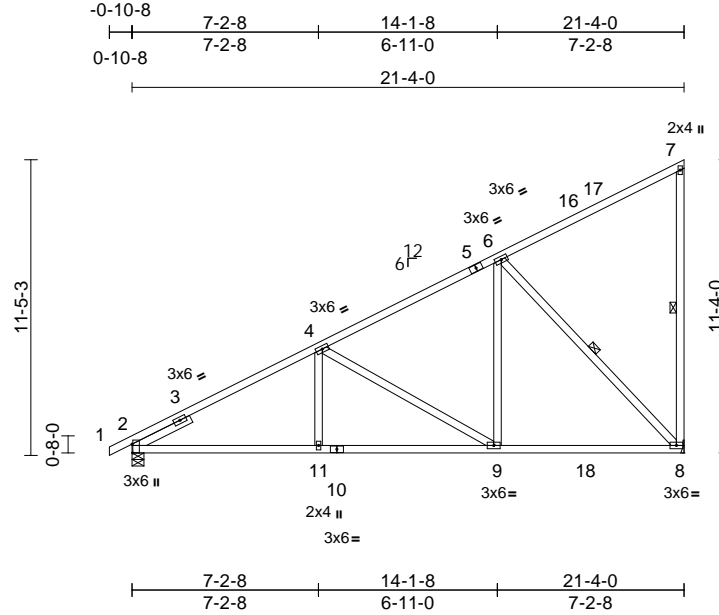
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282328
P05686-30974	M3	Monopitch	4	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:53

Page: 1

ID:qmQCftRqKMwGdzRa2pjMllzPZ2e-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f



Scale = 1:89.1

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.64	Vert(LL)	-0.13	8-9	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.22	8-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.61	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 131 lb	FT = 20%

LUMBER

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

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-5 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-8

REACTIONS

(size) 2=0-5-8, 8= Mechanical
Max Horiz 2=315 (LC 16)
Max Uplift 2=-85 (LC 16), 8=-233 (LC 16)
Max Grav 2=889 (LC 3), 8=874 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

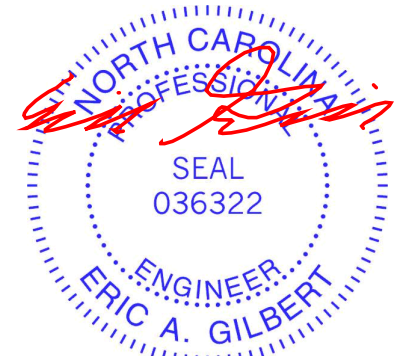
TOP CHORD 1-2=0/21, 2-4=-1223/86, 4-6=-749/25, 6-7=-108/50
BOT CHORD 2-11=-345/1093, 9-11=-317/1093, 8-9=-163/613
WEBS 7-8=-151/77, 4-11=0/267, 6-9=-37/599, 4-9=-553/178, 6-8=-890/237

NOTES

- Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 21-2-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 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 2 and 233 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

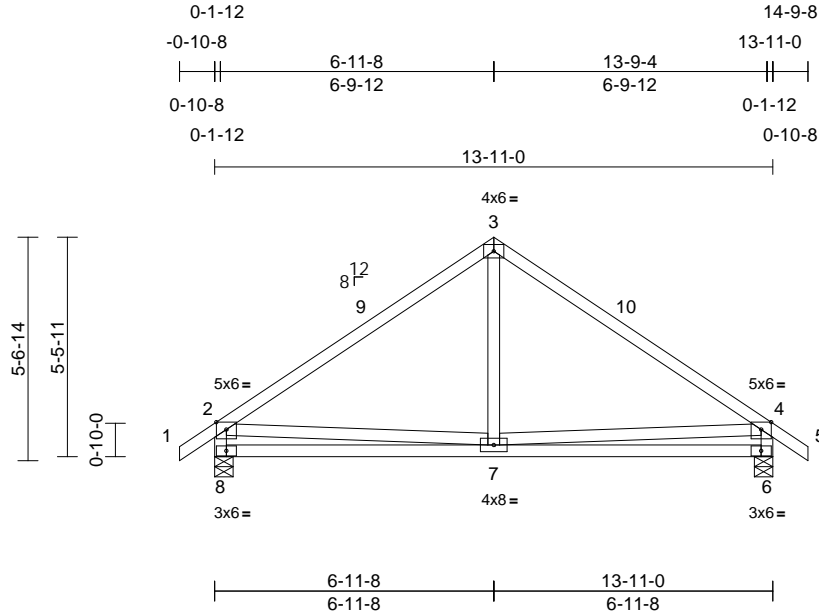
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282329
P05686-30974	A15	Common	4	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:46

Page: 1

ID: rOFXQrrzHShNfnCSJaH0syZPVXS-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?i



Scale = 1:57.4

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.52	Vert(LL)	-0.04	7-8	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.43	Vert(CT)	-0.09	7-8	>999	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.10	Horz(CT)	0.01	6	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS							
BCDL	10.0										
										Weight: 77 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.
BOT CHORD	Rigid ceiling directly applied or 10'-0" oc bracing.

REACTIONS

(size)	6=0-5-8, 8=0-5-8
Max Horiz	8=-112 (LC 12)
Max Uplift	6=-82 (LC 15), 8=-82 (LC 14)
Max Grav	6=559 (LC 2), 8=559 (LC 2)

FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/31, 2-3=-554/113, 3-4=-554/113, 4-5=0/31, 2-8=-500/143, 4-6=-500/143
BOT CHORD	7-8=-226/462, 6-7=-179/391
WEBS	3-7=0/293, 2-7=-119/219, 4-7=-119/223

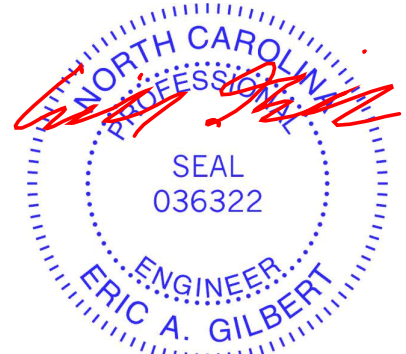
NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; 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 6'-11"-8, Exterior(2R) 6'-11"-8 to 9'-11"-8, Interior (1) 9'-11"-8 to 14'-9"-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL=1.15 Plate DOL=1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members.
- Bearing at joint(s) 8, 6 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 82 lb uplift at joint 8 and 82 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S)

Standard



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

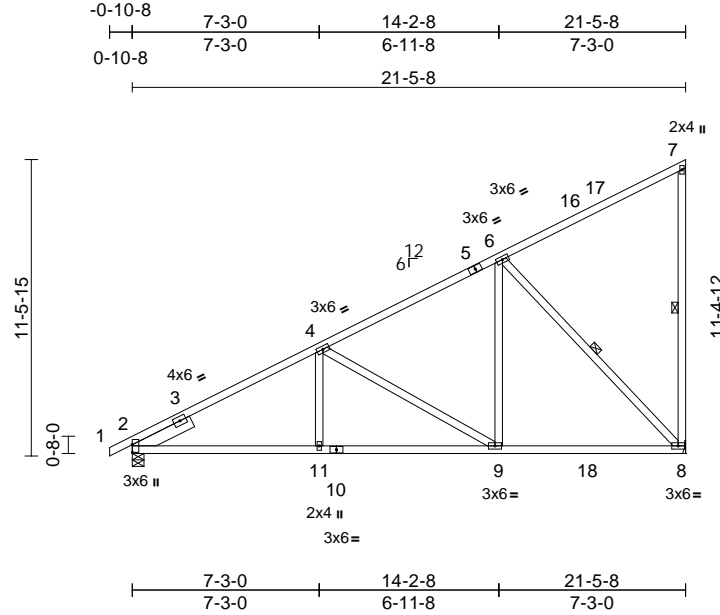
Job	Truss	Truss Type	Qty	Ply	911 Serenity	177282330
P05686-30974	M2	Monopitch	5	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:53

Page: 1

ID: dU2eocfycP7UNikxRaulizPZ4x-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?i



Scale = 1:89.3

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.65	Vert(LL)	-0.13	8-9	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.69	Vert(CT)	-0.22	8-9	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.62	Horz(CT)	0.03	8	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											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 2x6 SP No.2 -- 2-6-0

BRACING

TOP CHORD Structural wood sheathing directly applied or 5-0-2 oc purlins.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.
WEBS 1 Row at midpt 7-8, 6-8

REACTIONS

(size) 2=0-5-8, 8= Mechanical
Max Horiz 2=317 (LC 16)
Max Uplift 2=-85 (LC 16), 8=-234 (LC 16)
Max Grav 2=894 (LC 3), 8=880 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

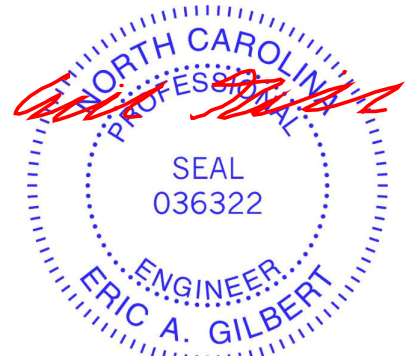
TOP CHORD 1-2=0/21, 2-4=-1231/87, 4-6=-753/25, 6-7=-109/51
BOT CHORD 2-11=-364/1101, 9-11=-319/1101, 8-9=-164/617
WEBS 7-8=-152/78, 4-11=0/266, 6-9=-36/603, 4-9=-558/179, 6-8=-895/238

NOTES

- Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 21-3-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10

- Unbalanced snow loads have been considered for this design.
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Refer to girder(s) for truss to truss connections.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 85 lb uplift at joint 2 and 234 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

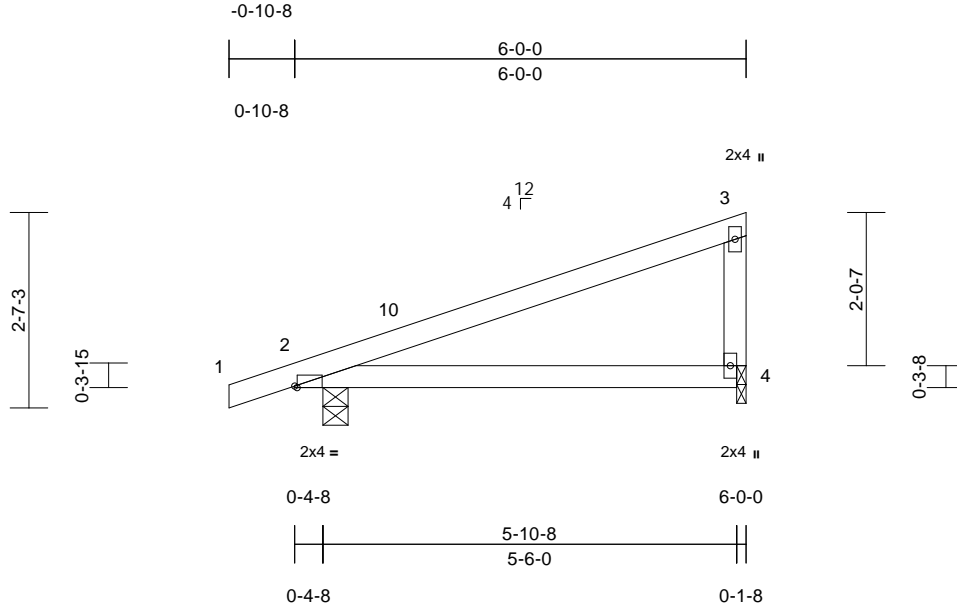
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	
P05686-30974	MF3	Monopitch	7	1	Job Reference (optional)	I77282331

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

Run: 8.83 E Nov 14 2024 Print: 8.830 E Nov 14 2024 MiTek Industries, Inc. Fri Oct 24 14:31:58
ID:d14ya6lxJVuD_vOfWpaq0KzPSoZ-HXUiByiFeuMwdL2nYxPR9MA3MXXUDPei9XUZFUyQL2H

Page: 1



Scale = 1:23.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	0.04	4-9	>999	240	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.30	Vert(CT)	-0.08	4-9	>863	180	
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a	
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP							
BCDL	10.0										
										Weight: 22 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size) 2=0-4-0, 4=0-1-8
Max Horiz 2=66 (LC 15)
Max Uplift 2=-70 (LC 12), 4=-42 (LC 16)
Max Grav 2=286 (LC 2), 4=195 (LC 2)

FORCES

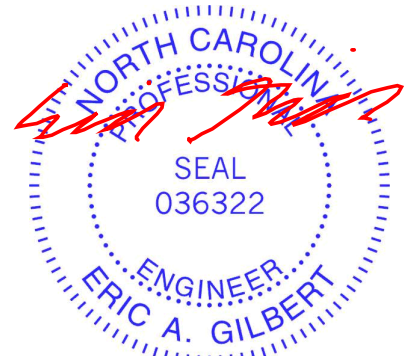
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/15, 2-10=-81/80, 3-10=-59/49,
3-4=-129/112
BOT CHORD 2-4=-80/92

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 5-10-4 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); 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.
- All bearings are assumed to be SP No.2 crushing capacity of 565 psi.
- 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 70 lb uplift at joint 2 and 42 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



October 24, 2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

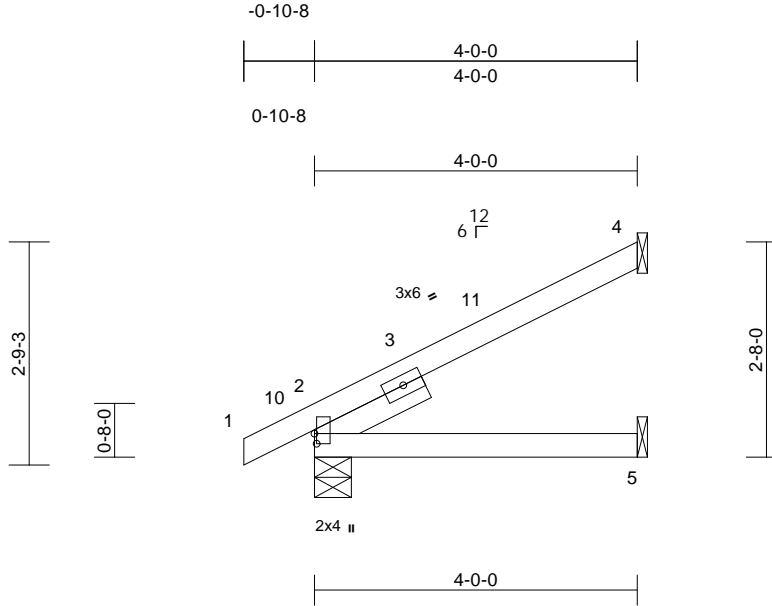
818 Soundside Road
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282332
P05686-30974	J4	Jack-Open	8	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:49
ID:mgwQ50?nmVXa3W2EYpAfmXzPUaa-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWRCDoi7J4zJC?f

Page: 1



Scale = 1:28.5

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

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	0.01	5-8	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.15	Vert(CT)	-0.02	5-8	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.01	2	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MP								
BCDL	10.0											
											Weight: 16 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 4'-0" oc purlins.
BOT CHORD Rigid ceiling directly applied or 10'-0" oc bracing.

REACTIONS (size) 2=0-5-8, 4= Mechanical, 5= Mechanical
Max Horiz 2=67 (LC 16)
Max Uplift 2=-24 (LC 16), 4=-45 (LC 16), 5=-2 (LC 16)
Max Grav 2=198 (LC 2), 4=91 (LC 2), 5=69 (LC 7)

FORCES (lb) - Maximum Compression/Maximum Tension

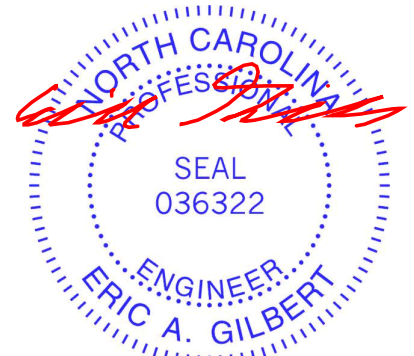
TOP CHORD 1-2=0/21, 2-4=-132/33
BOT CHORD 2-5=-131/79

NOTES

- 1) Wind: ASCE 7-16; Vult=115mph (3-second gust)
Vasd=91mph; TCDL=4.2psf; 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
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 3) Unbalanced snow loads have been considered for this design.

- 4) This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.
- 5) Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
- 6) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 7) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3'-06"-00 tall by 2'-00"-00 wide will fit between the bottom chord and any other members.
- 8) Refer to girder(s) for truss to truss connections.
- 9) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 45 lb uplift at joint 4, 24 lb uplift at joint 2 and 2 lb uplift at joint 5.
- 10) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



October 24,2025

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

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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

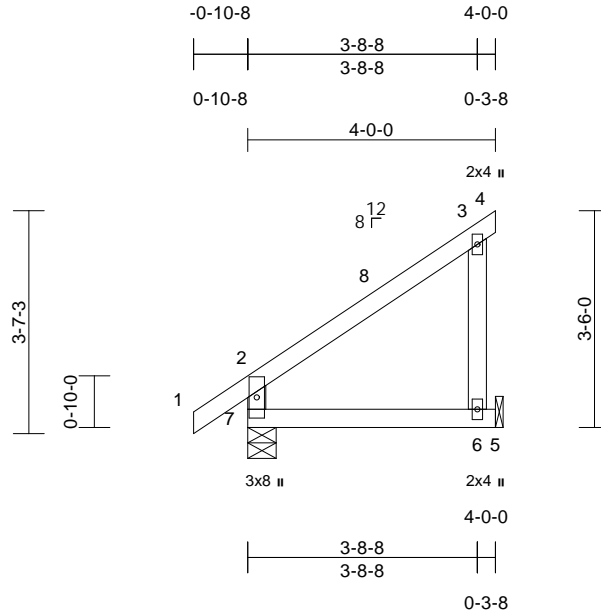
Job	Truss	Truss Type	Qty	Ply	911 Serenity	I77282333
P05686-30974	J7	Jack-Open	9	1	Job Reference (optional)	

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

Run: 8.83 S Sep 3 2025 Print: 8.830 S Sep 3 2025 MiTek Industries, Inc. Thu Oct 23 10:20:50

Page: 1

ID:lvdjhAGgEAttEV18d_I2xEyQa1J-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.2

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.17	Vert(LL)	-0.01	6-7	>999	240	MT20	244/190
Snow (Pf/Pg)	7.7/10.0	Lumber DOL	1.15	BC	0.13	Vert(CT)	-0.02	6-7	>999	180		
TCDL	7.0	Rep Stress Incr	YES	WB	0.02	Horz(CT)	n/a	-	n/a	n/a		
BCLL	0.0*	Code	IRC2018/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 20 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS

(size)	6= Mechanical, 7=0-5-8
Max Horiz	7=84 (LC 14)
Max Uplift	6=-65 (LC 14), 7=-5 (LC 14)
Max Grav	6=144 (LC 26), 7=194 (LC 2)

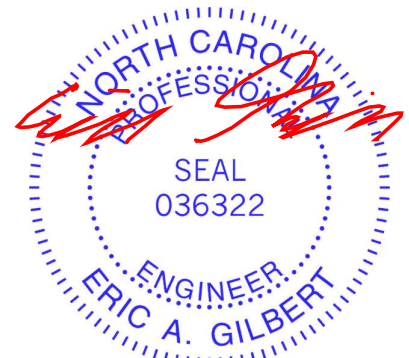
FORCES

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	2-7=-162/79, 1-2=0/31, 2-3=-77/43, 3-4=-5/0
BOT CHORD	6-7=0/0, 5-6=0/0
WEBS	3-6=-97/109

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=115mph (3-second gust) Vasd=91mph; TCDL=4.2psf; BCDL=3.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) exterior zone and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 4-0-0 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=10.0 psf; Pf=7.7 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- This truss has been designed for greater of min roof live load of 12.0 psf or 1.00 times flat roof load of 7.7 psf on overhangs non-concurrent with other live loads.

- Building Designer/Project engineer responsible for verifying Rain Load = 5.0 (psf) covers rain loading requirements specific to the use of this truss component.
 - This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
 - * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
 - Refer to girder(s) for truss to truss connections.
 - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 7 and 65 lb uplift at joint 6.
 - This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- LOAD CASE(S)** Standard



October 24, 2025

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

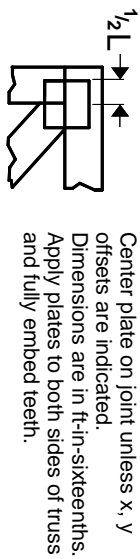
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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

ENGINEERING BY
TRENCO
A MiTek Affiliate

818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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

PLATE SIZE

4 X 4

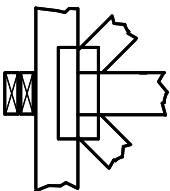
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

LATERAL BRACING LOCATION



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

BEARING

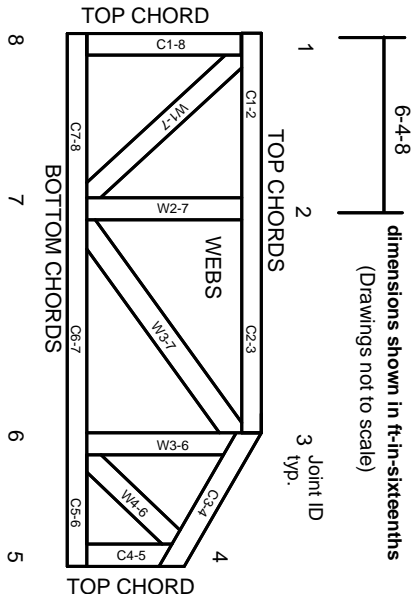


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

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

Numbering System



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

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

Product Code Approvals

ICC-ES Reports:
ESR-1988, ESR-2362, ESR-2685, ESR-3282
ESR-4722, ESL-1388

Design General Notes

Trusses are designed for wind loads in the plane of the truss unless otherwise shown.
Lumber design values are in accordance with ANSI/TP1 section 6.3. These truss designs rely on lumber values established by others.

© 2023 MITek® All Rights Reserved

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.

MITek

ENGINEERING BY
TRENCO
A MITek Affiliate

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