

RE: 2412-0987-A - The Farm at Neills Creek Lot 00.0059 Roof

Trenco  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Project Customer: DRB Raleigh Project Name: The Farm at Neills Creek Lot 00.0059

Lot/Block: 00.0059 Subdivision: The Farm at Neills Creek

Model:

Address: 529 Winding Creek Dr

City: Lillington State: NC

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

Design Code: IRC2021/TPI2014

Design Program: MiTek 20/20 8.8

Wind Code: ASCE 7-16

Design Method: MWFRS (Envelope)/C-C hybrid Wind ASCE 7-16

Wind Speed: 120 mph

Floor Load: N/A psf

Roof Load: 40.0 psf

Exposure Category: B

Mean Roof Height (feet): 25

No.	Seal#	Truss Name	Date
1	I70262224	P1G	12/18/24
2	I70262225	V1	12/18/24
3	I70262226	PB1	12/18/24
4	I70262227	VG1	12/18/24
5		P1	12/18/24
6	I70262229	V2	12/18/24
7	I70262230	VG2	12/18/24
8	I70262231	V3	12/18/24
9	I70262232	VG3	12/18/24
10	I70262233	V4	12/18/24
11	I70262234	B1G	12/18/24
12	I70262235	B1	12/18/24
13	I70262236	B1A	12/18/24
14		VG4	12/18/24
	I70262238	V5	12/18/24
16	I70262239	PB3G	12/18/24
17	I70262240	PB3	12/18/24
18	I70262241	VG5	12/18/24
19	I70262242	VG6	12/18/24
20	I70262243	PB2	12/18/24
21	I70262244	PB2G	12/18/24
22	I70262245	G1G	12/18/24
23		G1A	12/18/24
	I70262247	G1	12/18/24
25	I70262248	A3G	12/18/24
26	I70262249	A3	12/18/24
27	I70262250	A3T	12/18/24
28	I70262251	A1	12/18/24
29	I70262252	A1G	12/18/24
30	I70262253	A2T	12/18/24
31	I70262254	A2	12/18/24

The truss drawing(s) referenced above have been prepared by Truss Engineering Co. under my direct supervision based on the parameters provided by Structural, LLC.

Truss Design Engineer's Name: Gilbert, Eric

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

**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.



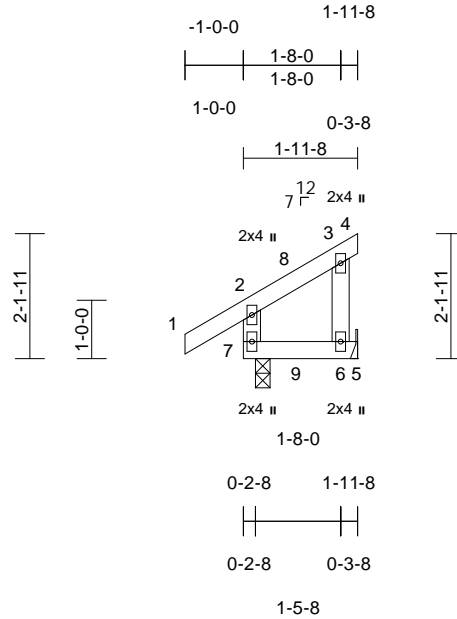
December 18, 2024

Job 2412-0987-A	Truss P1G	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262224
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Structural, LLC, Thurmont, MD - 21788,

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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.19	Vert(LL)	-0.01	6-7	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.23	Vert(CT)	-0.01	6-7	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.05	Wind(LL)	0.00	6-7	>999	240		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MS								
BCDL	10.0											
											Weight: 11 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 1-11-8 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

**REACTIONS**

(size) 5= Mechanical, 7=0-3-0  
Max Horiz 7=33 (LC 13)  
Max Uplift 5=-20 (LC 13)  
Max Grav 5=243 (LC 42), 7=319 (LC 40)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

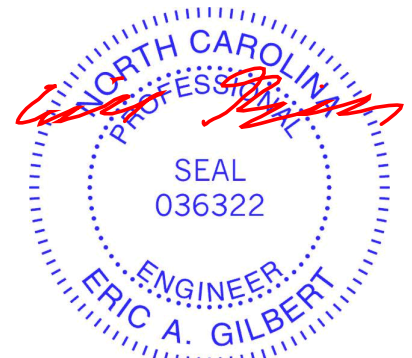
TOP CHORD 2-7=-297/81, 1-2=0/47, 2-3=-79/63, 3-4=-11/0  
BOT CHORD 6-7=0/0, 5-6=0/0  
WEBS 3-6=-271/66

**NOTES**

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust)  
Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) 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=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.
- 7) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 8) Gable studs spaced at 2-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 11) Bearings are assumed to be: Joint 7 SP No.2 .
- 12) Refer to girder(s) for truss to truss connections.
- 13) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 5.
- 14) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

**LOAD CASE(S)** Standard



December 18, 2024

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

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



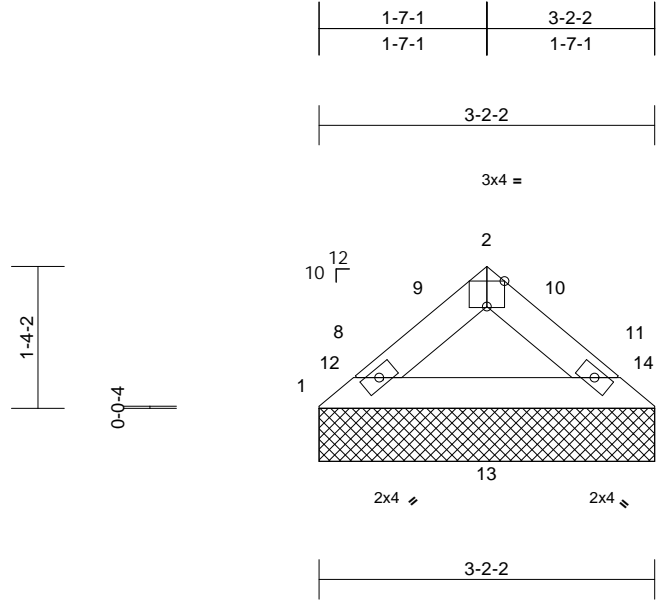
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss V1	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262225 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:14.7												
Plate Offsets (X, Y): [2:0-2-0, 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	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.38	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 10 lb	FT = 20%

LUMBER	
TOP CHORD	2x4 SP No.2
BOT CHORD	2x4 SP No.3
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 3-2-2 oc purlins.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.
REACTIONS (size)	
Max Horiz	1=3-2-2, 3=3-2-2
Max Grav	1=-18 (LC 14), 3=316 (LC 51)
FORCES (lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-366/64, 2-3=-366/63
BOT CHORD	1-3=-42/276

- 7) Gable requires continuous bottom chord bearing.
  - 8) Gable studs spaced at 4-0-0 oc.
  - 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
  - 10) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
  - 11) All bearings are assumed to be SP No.3 .
  - 12) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- LOAD CASE(S)** Standard

- NOTES**
- 1) Unbalanced roof live loads have been considered for this design.
  - 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
  - 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
  - 5) Unbalanced snow loads have been considered for this design.
  - 6) Plates checked for a plus or minus 5 degree rotation about its center.



December 18, 2024

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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

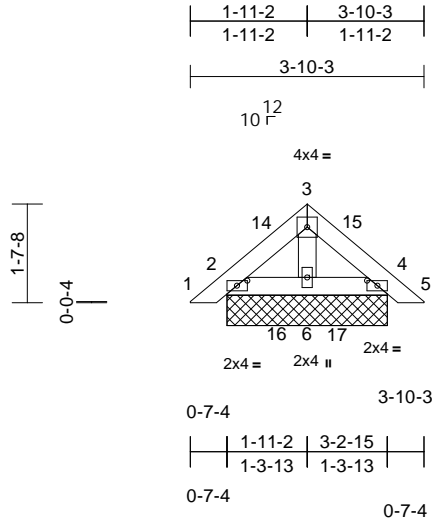
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss PB1	Truss Type Piggyback	Qty 11	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262226 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:33.6

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.12	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.18	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.03	Horz(CT)	0.00	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-MP								
BCDL	10.0										Weight: 13 lb	FT = 20%

**LUMBER**

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

**BRACING**

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

**REACTIONS**

(size) 2=2-7-11, 4=2-7-11, 6=2-7-11  
Max Horiz 2=23 (LC 15)  
Max Uplift 4=-2 (LC 17)  
Max Grav 2=289 (LC 53), 4=289 (LC 61), 6=302 (LC 59)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/20, 2-3=-135/39, 3-4=-135/39, 4-5=0/20  
BOT CHORD 2-6=-8/53, 4-6=-8/53  
WEBS 3-6=-181/0

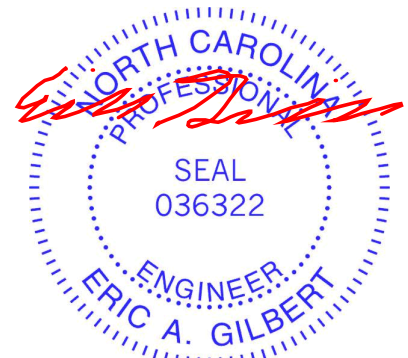
**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed; and 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=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.3.
- N/A

- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



December 18, 2024

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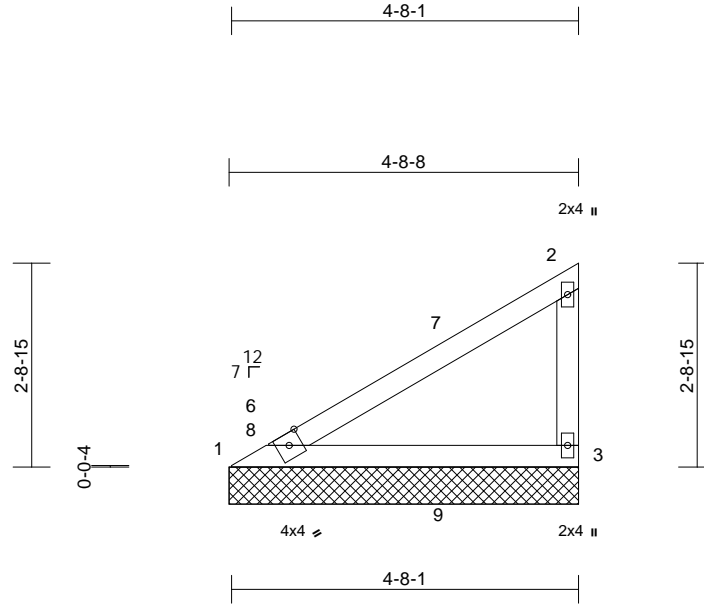
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG1	Truss Type Valley	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262227 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.55	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.61	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.01	3	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 17 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals.

BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 1=4-8-8, 3=4-8-8

Max Horiz 1=60 (LC 13)  
Max Uplift 3=-2 (LC 16)  
Max Grav 1=344 (LC 42), 3=344 (LC 41)

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

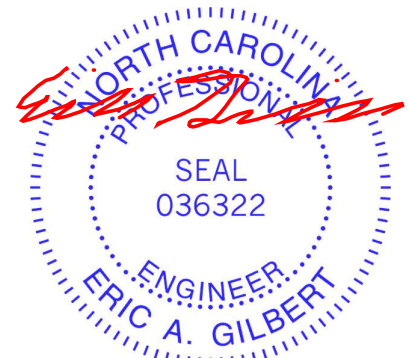
TOP CHORD 1-2=-505/86, 2-3=-298/79  
BOT CHORD 1-3=-112/434

**NOTES**

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 4-6-12 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
- 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=20.0 psf; Pf=15.4 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) Plates checked for a plus or minus 5 degree rotation about its center.
- 6) Gable requires continuous bottom chord bearing.

- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) All bearings are assumed to be SP No.2.
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 2 lb uplift at joint 3.
- 12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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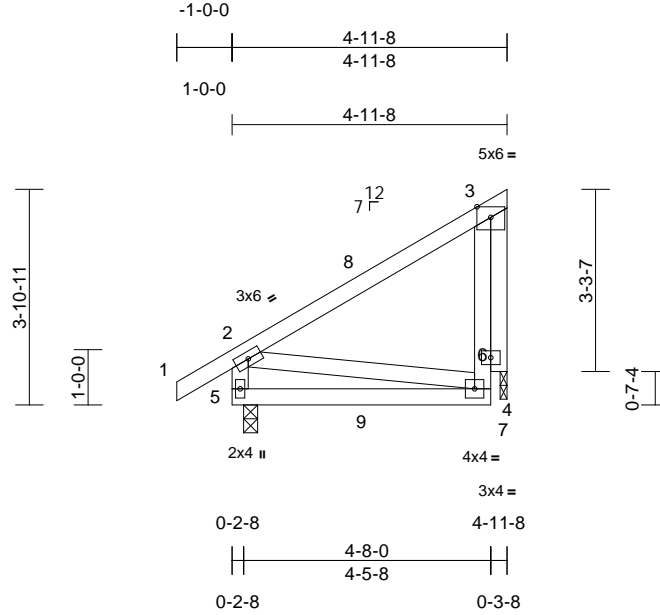
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss P1	Truss Type Monopitch	Qty 4	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262228 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:28.9

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	0.50	Vert(LL)	-0.10	4-5	>564	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.79	Vert(CT)	-0.12	4-5	>457	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.02	4-5	>999	240		
BCDL	10.0										Weight: 33 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

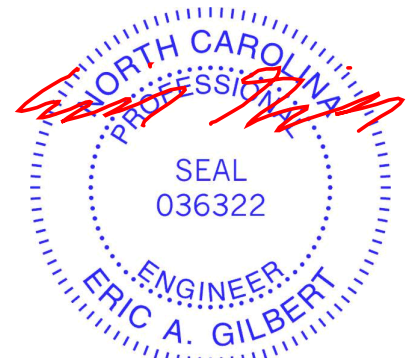
**REACTIONS** (size) 5=0-3-0, 7=0-1-8  
Max Horiz 5=61 (LC 13)  
Max Uplift 7=31 (LC 13)  
Max Grav 5=373 (LC 44), 7=311 (LC 45)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/47, 2-3=-149/34, 4-6=-51/289, 3-6=-51/289, 2-5=-329/102  
BOT CHORD 4-5=-178/76  
WEBS 2-4=-37/130, 3-7=-314/160

- NOTES**
- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 4-6-4 zone; cantilever left and right exposed ; end vertical left and right exposed; porch left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.

- 5) Plates checked for a plus or minus 5 degree rotation about its center.
- 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) Bearings are assumed to be: Joint 5 SP No.2 , Joint 7 SP No.3 .
- 9) Bearing at joint(s) 7 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 7.
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 7. This connection is for uplift only and does not consider lateral forces.
- 12) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

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

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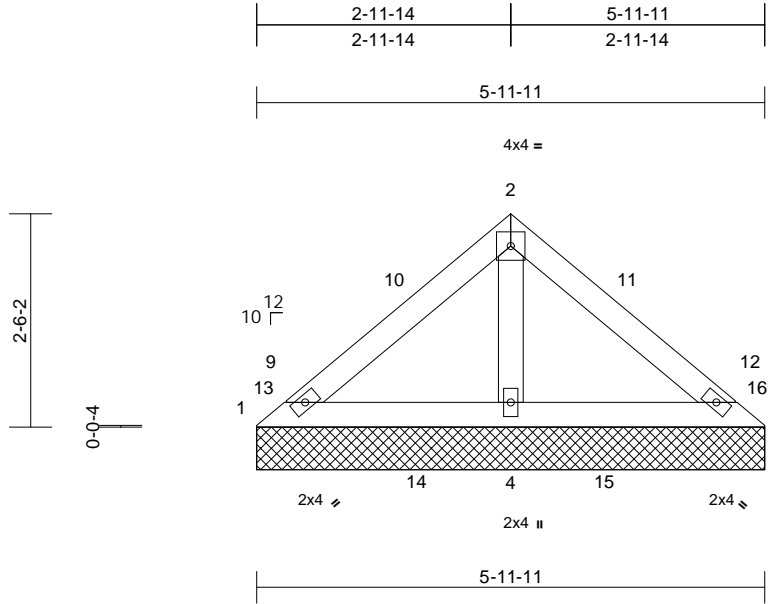
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss V2	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262229
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:51  
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Scale = 1:19.1

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	0.32	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.43	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.06	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
										Weight: 22 lb	FT = 20%	

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 1=5-11-11, 3=5-11-11, 4=5-11-11  
Max Horiz 1=-37 (LC 14)  
Max Uplift 1=-32 (LC 50), 3=-32 (LC 48)  
Max Grav 1=277 (LC 47), 3=277 (LC 51),  
4=452 (LC 53)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-215/206, 2-3=-215/206  
BOT CHORD 1-4=-117/147, 3-4=-117/147  
WEBS 2-4=-313/127

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) zone; cantilever left and right exposed; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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.

- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.3 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 32 lb uplift at joint 1 and 32 lb uplift at joint 3.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

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

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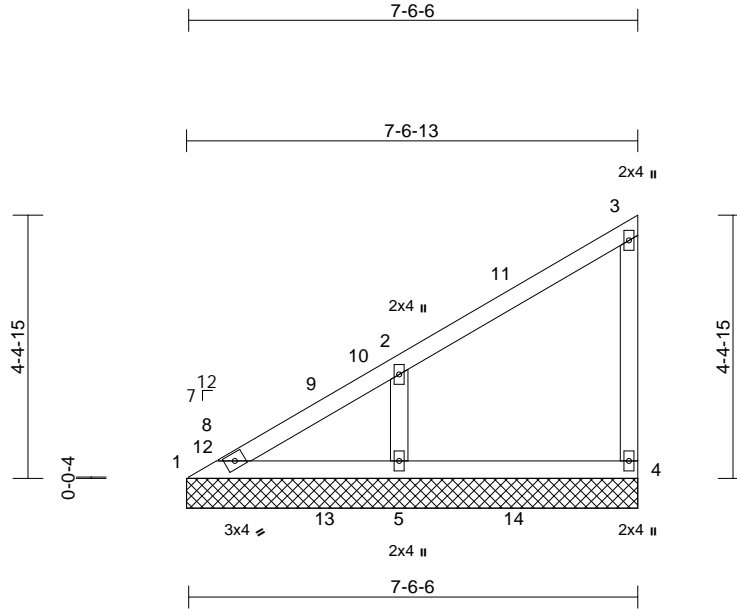
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG2	Truss Type Valley	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262230 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:36

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.46	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.85	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.07	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 31 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.

**REACTIONS**

(size)	1=7-6-13, 4=7-6-13, 5=7-6-13
Max Horiz	1=102 (LC 13)
Max Uplift	4=-7 (LC 13), 5=-18 (LC 16)
Max Grav	1=305 (LC 43), 4=312 (LC 51), 5=438 (LC 50)

**FORCES**

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-373/148, 2-3=-101/84, 3-4=-283/82
BOT CHORD	1-5=-74/321, 4-5=-59/64
WEBS	2-5=-344/142

**NOTES**

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 7-5-1 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 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=20.0 psf; Pf=15.4 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) Plates checked for a plus or minus 5 degree rotation about its center.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 10) All bearings are assumed to be SP No.3 .
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 7 lb uplift at joint 4 and 18 lb uplift at joint 5.
- 12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPH 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

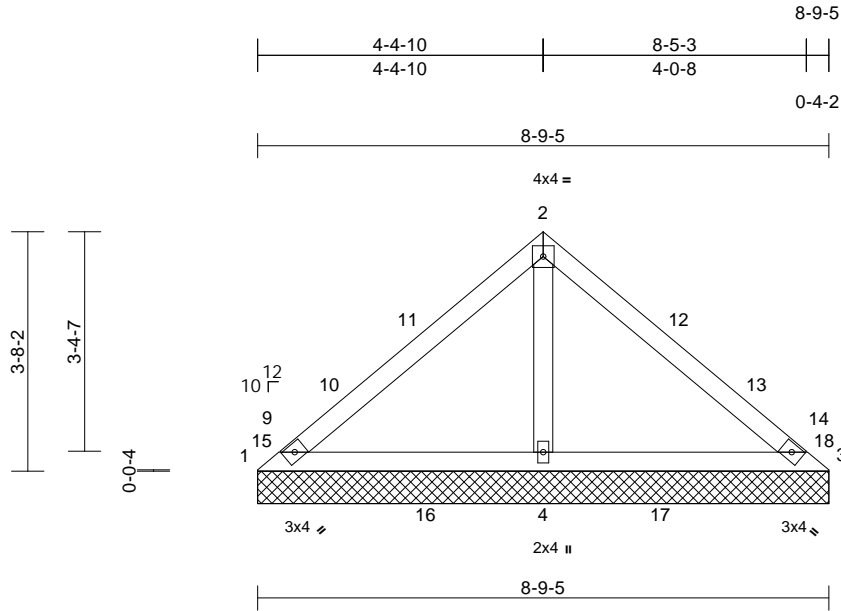


Job 2412-0987-A	Truss V3	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262231
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Structural, LLC, Thurmont, MD - 21788,

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Scale = 1:25.3

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	0.54	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.76	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horiz(TL)	0.00	4	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 33 lb	FT = 20%

#### LUMBER

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

#### BRACING

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

#### REACTIONS

(size) 1=8-9-5, 3=8-9-5, 4=8-9-5  
Max Horiz 1=-56 (LC 14)  
Max Uplift 1=-65 (LC 45), 3=-65 (LC 44)  
Max Grav 1=266 (LC 47), 3=266 (LC 51),  
4=651 (LC 2)

#### FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-206/315, 2-3=-206/315  
BOT CHORD 1-4=-236/162, 3-4=-236/162  
WEBS 2-4=-557/211

#### NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 4-4-15, Exterior(2R) 4-4-15 to 7-4-15, Interior (1) 7-4-15 to 8-9-10 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.3.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 65 lb uplift at joint 1 and 65 lb uplift at joint 3.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



December 18, 2024

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

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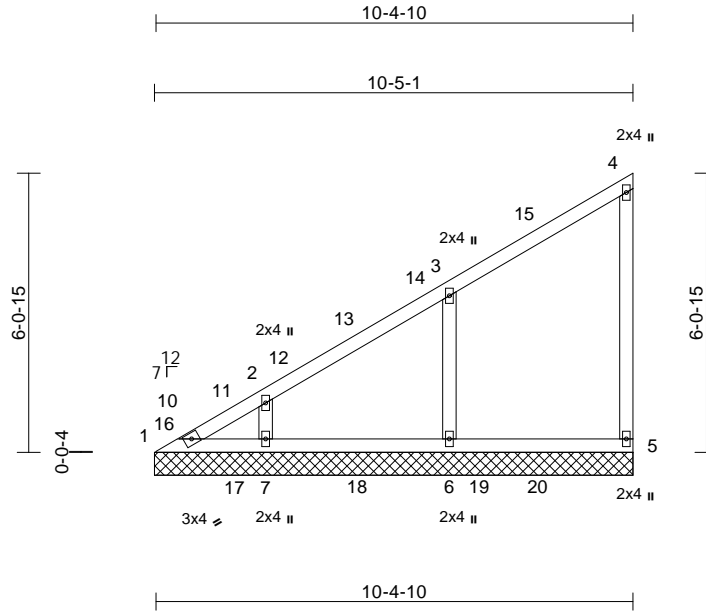
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG3	Truss Type Valley	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262232
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:52  
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Page: 1



Scale = 1:50.2

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	0.42	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.79	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.09	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 47 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.

**REACTIONS**

(size)	1=10-5-1, 5=10-5-1, 6=10-5-1, 7=10-5-1
Max Horiz	1=143 (LC 13)
Max Uplift	1=8 (LC 50), 5=-10 (LC 13), 6=-24 (LC 16), 7=-7 (LC 16)
Max Grav	1=286 (LC 44), 5=316 (LC 55), 6=439 (LC 33), 7=393 (LC 53)

**FORCES**

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-282/183, 2-3=-208/158, 3-4=-120/93, 4-5=-283/77
BOT CHORD	1-7=-88/231, 6-7=-78/89, 5-6=-78/89
WEBS	3-6=-339/147, 2-7=-320/97

**NOTES**

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 10-3-5 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=20.0 psf; Pf=15.4 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) Plates checked for a plus or minus 5 degree rotation about its center.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) All bearings are assumed to be SP No.3
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 10 lb uplift at joint 5, 8 lb uplift at joint 1, 24 lb uplift at joint 6 and 7 lb uplift at joint 7.
- 12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TP1 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)



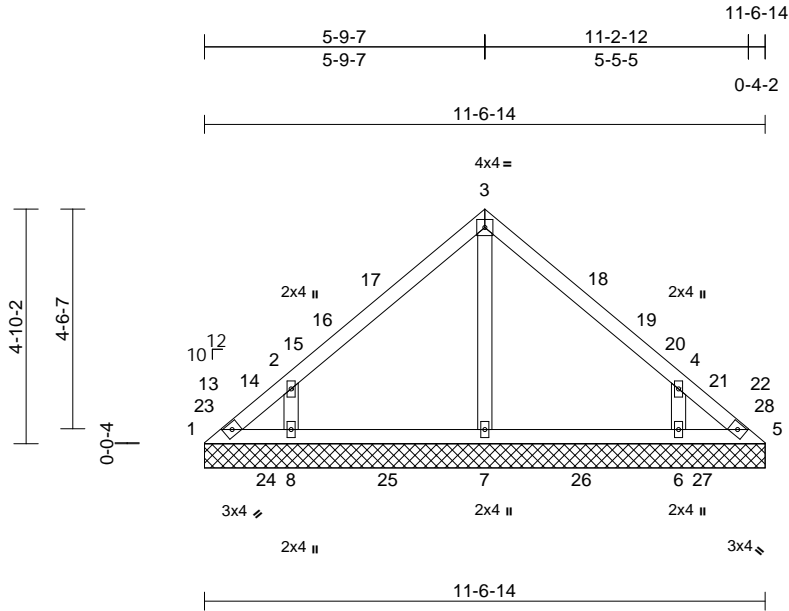
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss V4	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262233 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:52  
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Page: 1



Scale = 1:41.5

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.40	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.71	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.10	Horiz(TL)	0.00	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 47 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 1=11-6-14, 5=11-6-14, 6=11-6-14,  
7=11-6-14, 8=11-6-14  
Max Horiz 1=-74 (LC 14)  
Max Uplift 1=-30 (LC 58), 5=-30 (LC 59),  
6=-41 (LC 17), 8=-43 (LC 16)  
Max Grav 1=275 (LC 49), 5=275 (LC 55),  
6=393 (LC 65), 7=390 (LC 64),  
8=393 (LC 63)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-224/107, 2-3=-182/98, 3-4=-182/94,  
4-5=-224/107

BOT CHORD 1-8=-40/150, 7-8=-13/57, 6-7=-13/57,  
5-6=-40/150

WEBS 3-7=-239/0, 2-8=-345/183, 4-6=-345/183

**NOTES**

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-5 to 3-0-5, Interior (1) 3-0-5 to 5-9-12, Exterior(2R) 5-9-12 to 8-9-12, Interior (1) 8-9-12 to 11-7-3 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
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.

- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) Plates checked for a plus or minus 5 degree rotation about its center.
- 7) Gable requires continuous bottom chord bearing.
- 8) Gable studs spaced at 4-0-0 oc.
- 9) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 10) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 11) All bearings are assumed to be SP No.3 .
- 12) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 30 lb uplift at joint 1, 30 lb uplift at joint 5, 43 lb uplift at joint 8 and 41 lb uplift at joint 6.
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

LOAD CASE(S) Standard



December 18, 2024

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

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



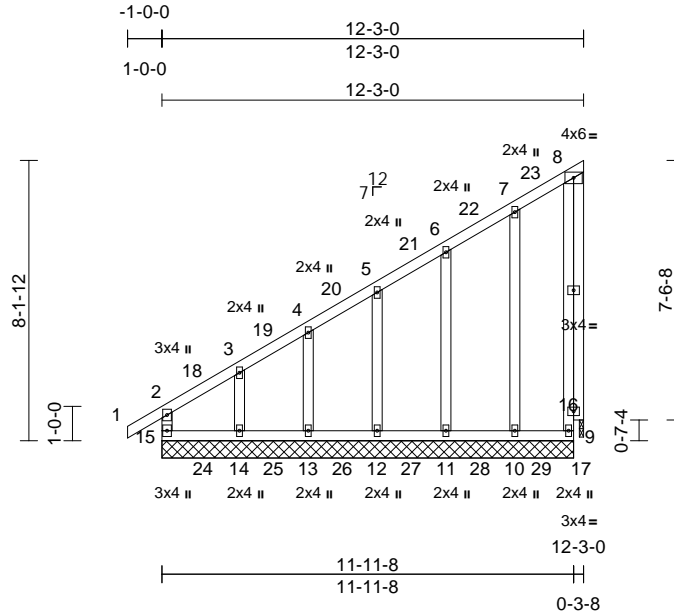
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss B1G	Truss Type Monopitch Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262234
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:47  
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Page: 1



Scale = 1:57.8

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	0.36	Vert(LL)	-0.01	14-15	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.22	Vert(CT)	-0.01	14-15	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.23	Horz(CT)	0.00	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.00	14-15	>999	240		
BCDL	10.0										Weight: 94 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 9=11-11-8, 10=11-11-8, 11=11-11-8, 12=11-11-8, 13=11-11-8, 14=11-11-8, 15=11-11-8, 17=0-1-8  
Max Horiz 15=150 (LC 16)  
Max Uplift 9=-10 (LC 57), 10=-2 (LC 16), 11=-11 (LC 16), 12=-16 (LC 16), 14=-98 (LC 16), 17=-31 (LC 16)  
Max Grav 9=271 (LC 65), 10=329 (LC 64), 11=334 (LC 63), 12=333 (LC 62), 13=332 (LC 61), 14=336 (LC 60), 15=318 (LC 59), 17=133 (LC 47)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-15=-299/66, 1-2=0/47, 2-3=-331/170, 3-4=-228/118, 4-5=-184/96, 5-6=-126/91, 6-7=-74/74, 7-8=-83/60, 9-16=-125/8, 8-16=-125/8  
BOT CHORD 14-15=-14/16, 13-14=-14/16, 12-13=-14/16, 11-12=-14/16, 10-11=-14/16, 9-10=-14/16  
WEBS 7-10=-269/72, 6-11=-279/89, 5-12=-281/91, 4-13=-284/63, 3-14=-287/181, 8-17=-133/64

**NOTES**

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-3-0, Exterior(2N) 2-3-0 to 11-9-12 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=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- Bearings are assumed to be: Joint 14 SP No.2 , Joint 17 SP No.3 .
- Bearing at joint(s) 17 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) 17.

- N/A
  - This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
  - This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- LOAD CASE(S)** Standard



December 18, 2024

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

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



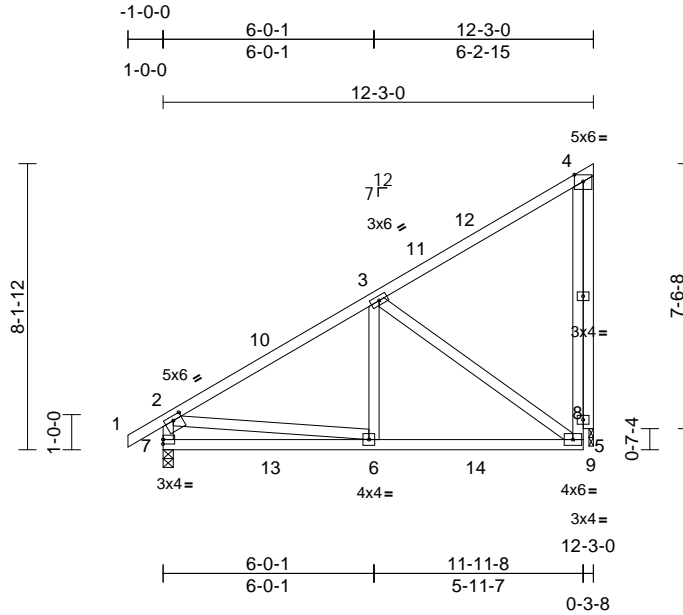
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss B1	Truss Type Monopitch	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262235 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:57.8

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.73	Vert(LL)	-0.14	5-6	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.83	Vert(CT)	-0.17	5-6	>832	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.50	Horz(CT)	-0.02	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.01	6-7	>999	240		
BCDL	10.0										Weight: 88 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 7=0-3-8, 9=0-1-8  
Max Horiz 7=150 (LC 16)  
Max Uplift 9=-39 (LC 16)  
Max Grav 7=553 (LC 2), 9=504 (LC 23)

**FORCES**

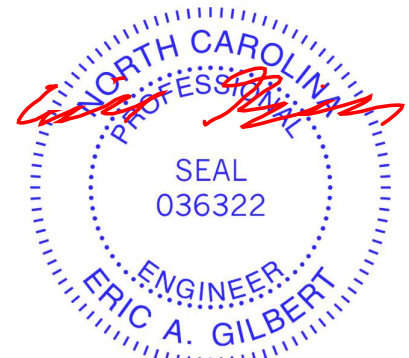
(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/47, 2-3=-549/0, 3-4=-159/57, 5-8=-51/436, 4-8=-51/436, 2-7=-498/47  
BOT CHORD 6-7=-274/332, 5-6=-128/473  
WEBS 3-6=0/343, 3-5=-524/135, 2-6=-15/285, 4-9=-515/122

**NOTES**

- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 11-9-12 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
- 2) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 5) Plates checked for a plus or minus 5 degree rotation about its center.
- 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) Bearings are assumed to be: Joint 7 SP No.2, Joint 9 SP No.3.
- 9) Bearing at joint(s) 9 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- 10) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 9.
- 11) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 9. This connection is for uplift only and does not consider lateral forces.
- 12) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

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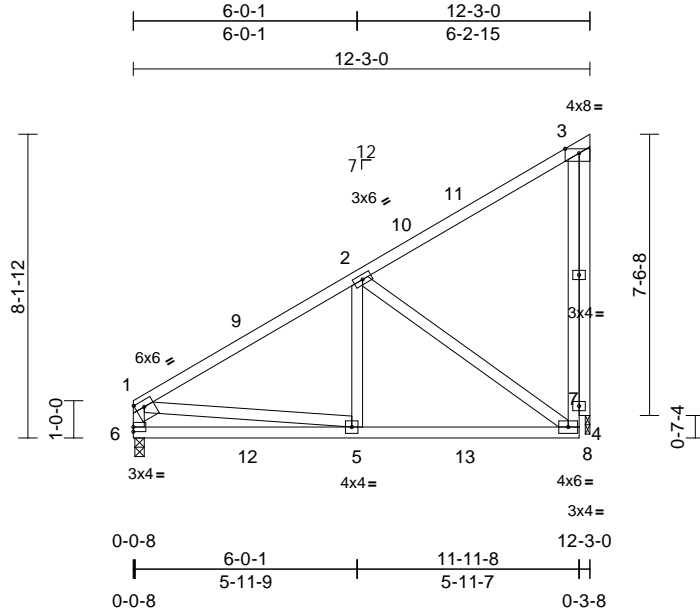
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss B1A	Truss Type Monopitch	Qty 4	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262236 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:47  
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Page: 1



Scale = 1:55.9  
Plate Offsets (X, Y): [1:0-2-12,0-2-0], [3:0-4-8,Edge]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	-0.14	4-5	>999	360	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	Vert(CT)	-0.17	4-5	>831	240		
TCDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	-0.02	8	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS	Wind(LL)	0.01	5-6	>999	240		
BCDL	10.0									Weight: 86 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 6=0-3-0, 8=0-1-8  
Max Horiz 6=138 (LC 16)  
Max Uplift 8=-38 (LC 16)  
Max Grav 6=494 (LC 39), 8=506 (LC 22)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-553/0, 2-3=-160/56, 4-7=-52/438, 3-7=-52/438, 1-6=-440/5  
BOT CHORD 5-6=-257/313, 4-5=-129/479  
WEBS 2-5=0/342, 2-4=-531/137, 1-5=0/281, 3-8=-518/122

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- Bearings are assumed to be: Joint 6 SP No.2 , Joint 8 SP No.3 .
- Bearing at joint(s) 8 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) 8.
- One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 8. This connection is for uplift only and does not consider lateral forces.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard

- NOTES**
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 11-9-12 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=20.0 psf; Pf=15.4 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.
  - Plates checked for a plus or minus 5 degree rotation about its center.



December 18, 2024

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

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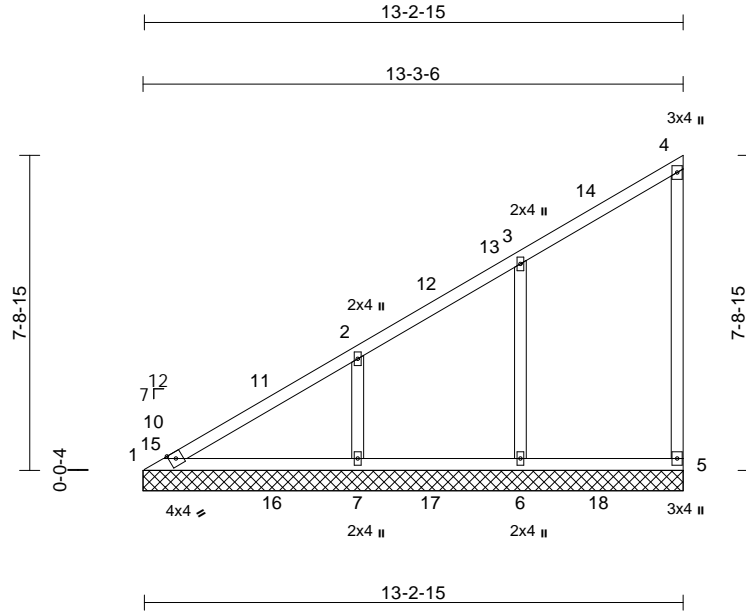
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG4	Truss Type Valley	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262237
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:53  
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.50	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.55	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.01	5	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 63 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 1=13-3-6, 5=13-3-6, 6=13-3-6, 7=13-3-6  
Max Horiz 1=184 (LC 13)  
Max Uplift 5=-14 (LC 13), 6=-22 (LC 16), 7=-19 (LC 16)  
Max Grav 1=340 (LC 44), 5=321 (LC 55), 6=422 (LC 33), 7=518 (LC 33)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-485/254, 2-3=-215/183, 3-4=-126/114, 4-5=-286/70  
BOT CHORD 1-7=-132/418, 6-7=-101/113, 5-6=-101/113  
WEBS 3-6=-327/143, 2-7=-361/131

- NOTES**
- 1) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 13-1-10 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
  - 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=20.0 psf; Pf=15.4 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) Plates checked for a plus or minus 5 degree rotation about its center.
- 6) Gable requires continuous bottom chord bearing.
- 7) Gable studs spaced at 4-0-0 oc.
- 8) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 9) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- 10) All bearings are assumed to be SP No.2 .
- 11) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 14 lb uplift at joint 5, 22 lb uplift at joint 6 and 19 lb uplift at joint 7.
- 12) Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
- 13) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 14) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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

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

ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate

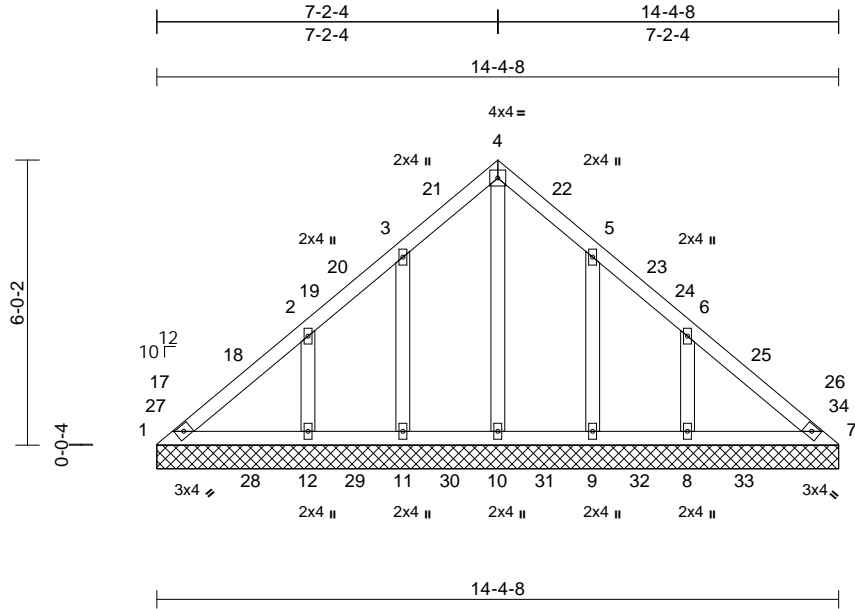
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss V5	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262238 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:52  
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Page: 1



Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.28	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.27	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.16	Horiz(TL)	0.00	12	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 73 lb	FT = 20%

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

**BRACING**  
 TOP CHORD Structural wood sheathing directly applied.  
 BOT CHORD Rigid ceiling directly applied.

**REACTIONS** (size) 1=14-4-8, 7=14-4-8, 8=14-4-8, 9=14-4-8, 10=14-4-8, 11=14-4-8, 12=14-4-8  
 Max Horiz 1=-93 (LC 12)  
 Max Uplift 1=-5 (LC 12), 8=-30 (LC 17), 9=-24 (LC 17), 11=-24 (LC 16), 12=-32 (LC 16)  
 Max Grav 1=294 (LC 51), 7=294 (LC 59), 8=379 (LC 73), 9=318 (LC 72), 10=364 (LC 71), 11=318 (LC 70), 12=379 (LC 69)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=-267/171, 2-3=-77/110, 3-4=-104/97, 4-5=-104/93, 5-6=-77/110, 6-7=-267/171  
 BOT CHORD 1-12=-74/188, 11-12=-74/85, 10-11=-74/85, 9-10=-74/85, 8-9=-74/85, 7-8=-74/188  
 WEBS 4-10=-251/0, 3-11=-279/83, 2-12=-309/88, 5-9=-279/83, 6-8=-309/87

**NOTES**  
 1) Unbalanced roof live loads have been considered for this design.  
 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-5 to 3-2-9, Interior (1) 3-2-9 to 7-2-9, Exterior(2R) 7-2-9 to 10-2-9, Interior (1) 10-2-9 to 14-4-13 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=20.0 psf; Pf=15.4 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.
- Plates checked for a plus or minus 5 degree rotation about its center.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 5 lb uplift at joint 1, 24 lb uplift at joint 11, 32 lb uplift at joint 12, 24 lb uplift at joint 9 and 30 lb uplift at joint 8.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

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818 Soundside Road  
Edenton, NC 27932

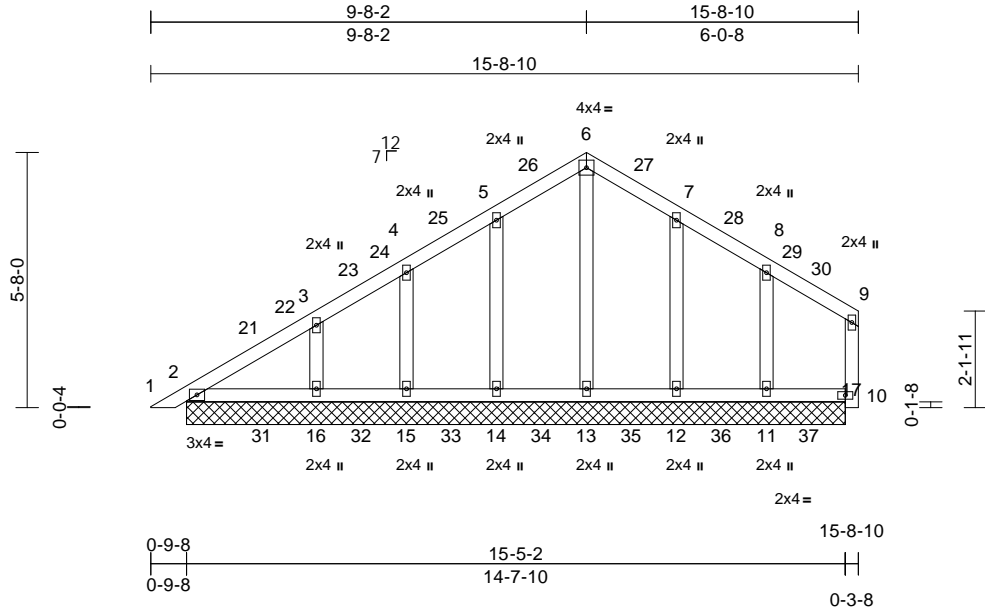


Job 2412-0987-A	Truss PB3G	Truss Type Piggyback	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262239
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:46

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horz(CT)	0.00	17	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 81 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.

**REACTIONS**

(size)	2=14-7-10, 10=14-7-10, 11=14-7-10, 12=14-7-10, 13=14-7-10, 14=14-7-10, 15=14-7-10, 16=14-7-10, 17=14-7-10
Max Horiz	2=107 (LC 15)
Max Uplift	2=-7 (LC 12), 11=-17 (LC 17), 12=-8 (LC 17), 14=-10 (LC 16), 15=-9 (LC 16), 16=-16 (LC 16)
Max Grav	2=314 (LC 61), 10=289 (LC 77), 11=335 (LC 76), 12=334 (LC 75), 13=326 (LC 74), 14=337 (LC 73), 15=320 (LC 72), 16=370 (LC 71)

**FORCES**

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/21, 2-3=-106/88, 3-4=-94/75, 4-5=-83/93, 5-6=-102/128, 6-7=-101/125, 7-8=-81/87, 8-9=-94/53, 10-17=0/0, 9-10=-269/32
BOT CHORD	2-16=-33/78, 15-16=-33/42, 14-15=-33/42, 13-14=-33/42, 12-13=-33/42, 11-12=-33/42, 10-11=-33/42
WEBS	6-13=-269/17, 5-14=-285/56, 4-15=-279/47, 3-16=-307/57, 7-12=-284/53, 8-11=-286/54

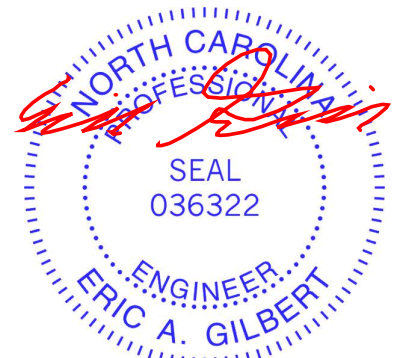
**NOTES**

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

- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-11 to 3-3-11, Interior (1) 3-3-11 to 9-8-9, Exterior(2R) 9-8-9 to 12-8-9, Interior (1) 12-8-9 to 15-7-5 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 psf (Lum DOL = 1.15 Plate DOL = 1.15); Is=1.0; Rough Cat B; Partially Exp.; Ce=1.0; Cs=1.00; Ct=1.10
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 7) Plates checked for a plus or minus 5 degree rotation about its center.
- 8) Gable requires continuous bottom chord bearing.
- 9) Gable studs spaced at 2-0-0 oc.
- 10) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 11) \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 12) All bearings are assumed to be SP No.2 .
- 13) N/A

- 14) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 15) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 16) See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



December 18, 2024

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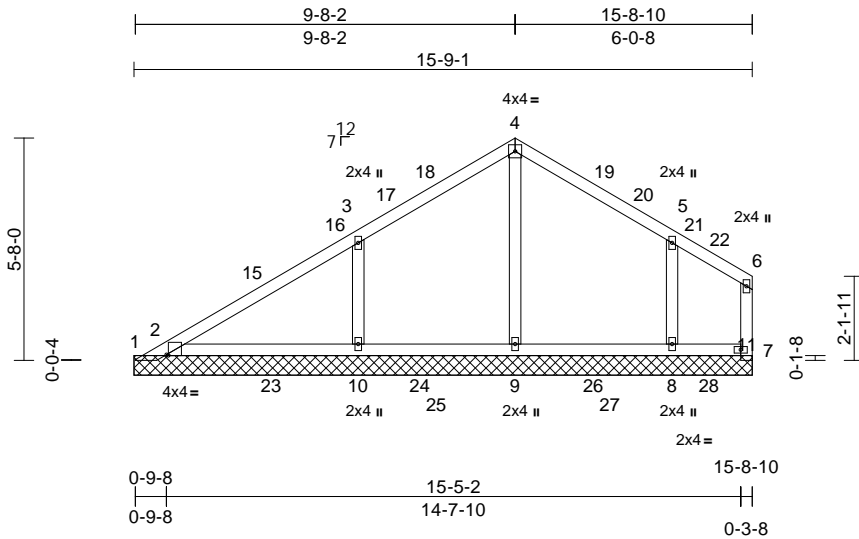
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss PB3	Truss Type Piggyback	Qty 10	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262240 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:59.3

Plate Offsets (X, Y): [2:0-0-9,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	0.49	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.48	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.17	Horiz(TL)	0.00	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 67 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 1=15-9-1, 2=15-9-1, 7=15-9-1, 8=15-9-1, 9=15-9-1, 10=15-9-1, 11=15-9-1  
Max Horiz 1=106 (LC 15)  
Max Uplift 1=-445 (LC 46), 2=-11 (LC 16), 7=-61 (LC 60), 8=-26 (LC 17), 10=-28 (LC 16)  
Max Grav 1=122 (LC 44), 2=716 (LC 46), 7=270 (LC 67), 8=393 (LC 66), 9=405 (LC 65), 10=451 (LC 34)

**FORCES**

(lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-133/258, 2-3=-113/241, 3-4=-116/118, 4-5=-110/112, 5-6=-90/58, 7-11=0/0, 6-7=-258/63  
BOT CHORD 2-10=-243/43, 9-10=-36/43, 8-9=-36/43, 7-8=-36/43  
WEBS 4-9=-319/15, 3-10=-346/112, 5-8=-321/93

**NOTES**

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

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-11 to 3-3-11, Interior (1) 3-3-11 to 9-8-9, Exterior(2R) 9-8-9 to 12-8-9, Interior (1) 12-8-9 to 15-7-5 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=20.0 psf; Pf=15.4 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.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.2 .
- Bearing at joint(s) 7, 11 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 61 lb uplift at joint 7 and 445 lb uplift at joint 1.

14) N/A

- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



December 18, 2024

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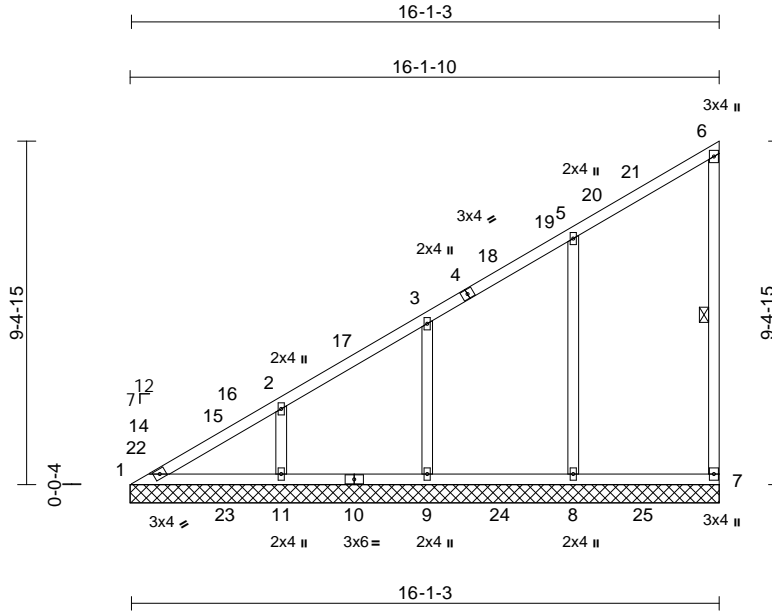
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG5	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262241
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:63.1

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	0.69	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.82	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.30	Horiz(TL)	0.00	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0										Weight: 83 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD	Structural wood sheathing directly applied, except end verticals.
BOT CHORD	Rigid ceiling directly applied.
WEBS	1 Row at midpt 6-7

**REACTIONS**

(size)	1=16-1-10, 7=16-1-10, 8=16-1-10, 9=16-1-10, 11=16-1-10
Max Horiz	1=225 (LC 13)
Max Uplift	7=-20 (LC 13), 8=-21 (LC 16), 9=-23 (LC 16), 11=-11 (LC 16)
Max Grav	1=319 (LC 45), 7=317 (LC 59), 8=479 (LC 33), 9=403 (LC 57), 11=439 (LC 56)

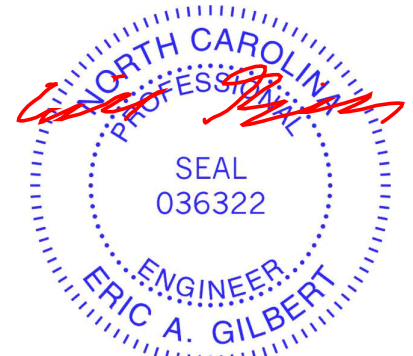
**FORCES**

(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=-418/297, 2-3=-284/242, 3-5=-217/202, 5-6=-140/124, 6-7=-284/61
BOT CHORD	1-11=-122/361, 9-11=-122/135, 8-9=-122/135, 7-8=-122/135
WEBS	5-8=-337/133, 3-9=-326/106, 2-11=-345/84

**NOTES**

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-0-0 to 3-0-0, Interior (1) 3-0-0 to 15-11-14 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=20.0 psf; Pf=15.4 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.
  - Plates checked for a plus or minus 5 degree rotation about its center.
  - 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.
  - All bearings are assumed to be SP No.3 .
  - Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 20 lb uplift at joint 7, 21 lb uplift at joint 8, 23 lb uplift at joint 9 and 11 lb uplift at joint 11.
  - Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 1.
  - This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
  - This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- LOAD CASE(S)** Standard



December 18, 2024

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

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



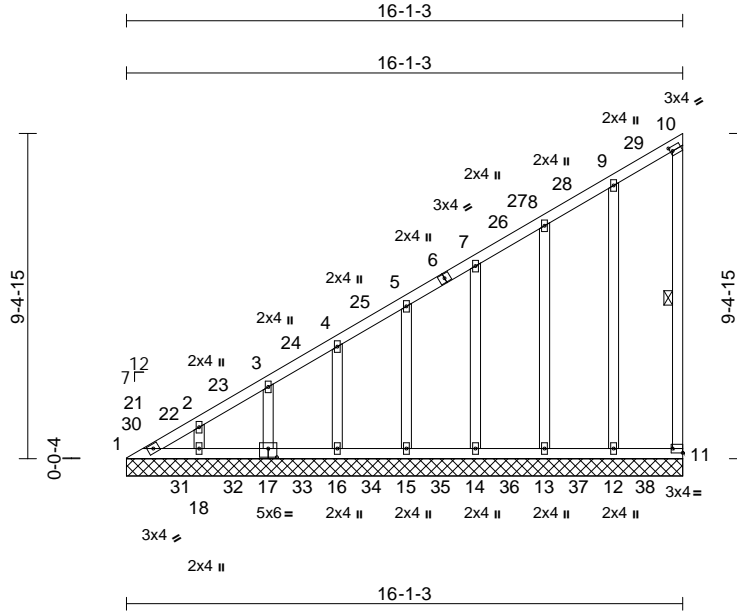
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss VG6	Truss Type Valley	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262242
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:53  
ID:ut4cUqGsqX2S11zb?cooMyCHNy-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCdoi7J4zJC7f

Page: 1



Scale = 1:63.1

Plate Offsets (X, Y): [10:0-0-13,0-1-8], [11:Edge,0-1-8], [17:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.76	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.50	Vert(TL)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.33	Horiz(TL)	0.00	11	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 108 lb	FT = 20%

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

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 10-11

**REACTIONS** (size)  
1=16-1-3, 11=16-1-3, 12=16-1-3, 13=16-1-3, 14=16-1-3, 15=16-1-3, 16=16-1-3, 17=16-1-3, 18=16-1-3  
Max Horiz 1=225 (LC 13)  
Max Uplift 1=-18 (LC 12), 11=-29 (LC 15), 12=-14 (LC 16), 13=-7 (LC 16), 14=-12 (LC 16), 15=-10 (LC 16), 16=-9 (LC 16), 17=-15 (LC 16)  
Max Grav 1=287 (LC 49), 11=284 (LC 75), 12=337 (LC 74), 13=332 (LC 73), 14=333 (LC 72), 15=333 (LC 71), 16=334 (LC 70), 17=330 (LC 69), 18=345 (LC 68)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=-466/323, 2-3=-435/302, 3-4=-383/277, 4-5=-334/254, 5-7=-285/230, 7-8=-235/205, 8-9=-190/190, 9-10=-102/115, 10-11=-264/48  
BOT CHORD 1-18=-157/204, 16-18=-124/161, 15-16=-124/161, 14-15=-124/161, 13-14=-124/161, 12-13=-124/161, 11-12=-124/161  
WEBS 9-12=-276/163, 8-13=-275/98, 7-14=-278/75, 5-15=-281/75, 4-16=-284/73, 3-17=-285/80, 2-18=-292/66

**NOTES**

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) 0-0-7 to 3-0-7, Exterior(2N) 3-0-7 to 15-11-14 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=20.0 psf; Pf=15.4 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.
- Plates checked for a plus or minus 5 degree rotation about its center.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 29 lb uplift at joint 11, 18 lb uplift at joint 1, 14 lb uplift at joint 12, 7 lb uplift at joint 13, 12 lb uplift at joint 14, 10 lb uplift at joint 15, 9 lb uplift at joint 16 and 15 lb uplift at joint 17.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

13) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

**LOAD CASE(S)** Standard



December 18, 2024

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

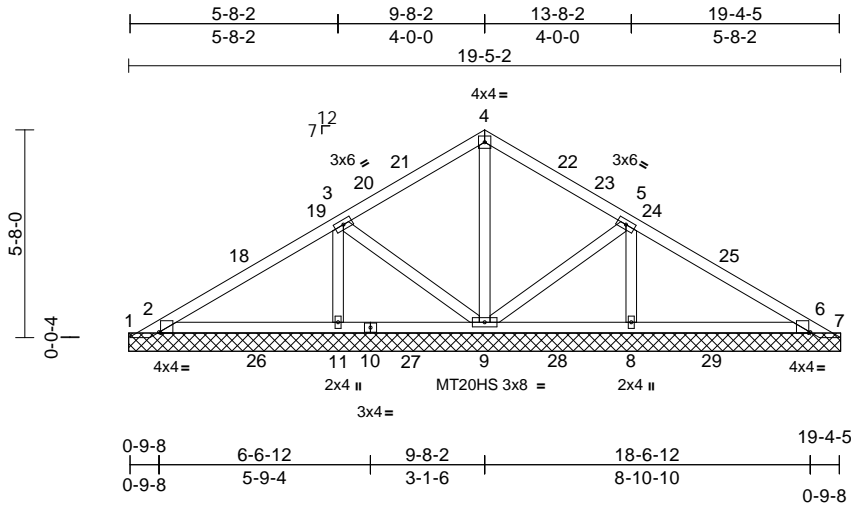


Job 2412-0987-A	Truss PB2	Truss Type Piggyback	Qty 9	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof 170262243 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:49  
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Page: 1



Scale = 1:63.4

Plate Offsets (X, Y): [2:0-0-9,Edge], [6:0-0-9,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	0.49	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.81	Vert(TL)	n/a	-	n/a	999	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.14	Horiz(TL)	0.00	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 89 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 1=19-5-2, 2=19-5-2, 6=19-5-2,  
7=19-5-2, 8=19-5-2, 9=19-5-2,  
11=19-5-2  
Max Horiz 1=-88 (LC 12)  
Max Uplift 1=-446 (LC 46), 2=-17 (LC 16),  
6=-12 (LC 17), 7=-443 (LC 49)  
Max Grav 1=123 (LC 44), 2=743 (LC 46),  
6=730 (LC 49), 7=126 (LC 60),  
8=418 (LC 71), 9=414 (LC 70),  
11=419 (LC 69)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=-92/236, 2-3=-147/223, 3-4=-116/59,  
4-5=-116/56, 5-6=-147/222, 6-7=-14/234  
BOT CHORD 2-11=-227/76, 9-11=-24/76, 8-9=0/61,  
6-8=-227/61  
WEBS 4-9=-261/12, 3-11=-269/44, 5-8=-269/42,  
3-9=-80/55, 5-9=-80/57

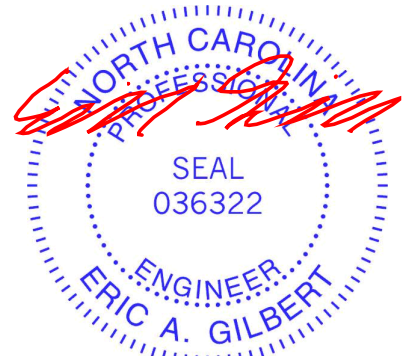
**NOTES**

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

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-11 to 3-3-11, Interior (1) 3-3-11 to 9-8-9, Exterior(2R) 9-8-9 to 12-8-9, Interior (1) 12-8-9 to 19-1-7 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.3 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 446 lb uplift at joint 1 and 443 lb uplift at joint 7.
- N/A

- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



December 18, 2024

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

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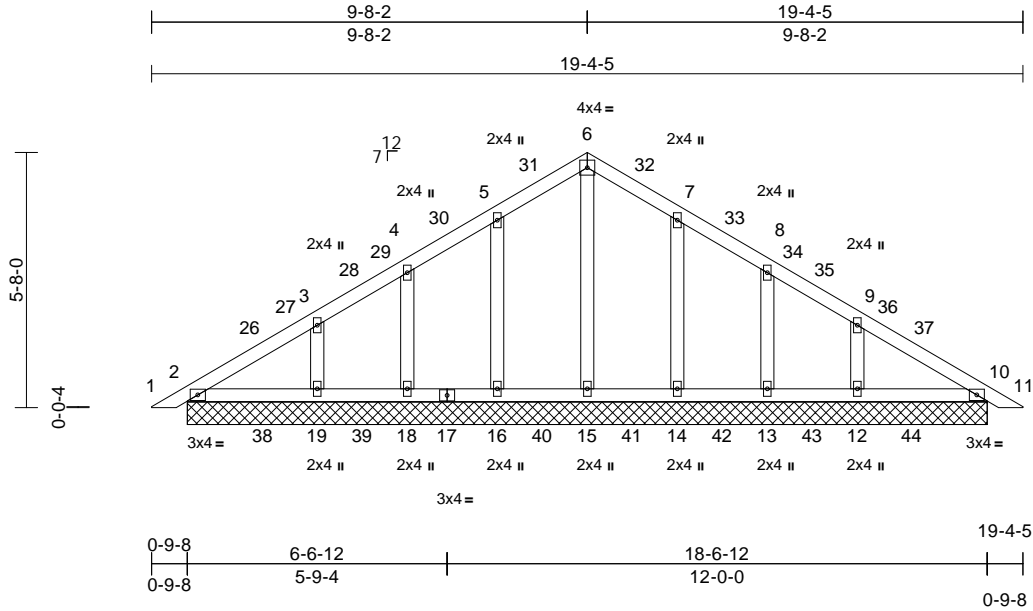
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss PB2G	Truss Type Piggyback	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262244
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:50  
ID:Vh001PRBznfxoG2gOut3FoyCHE8-RfC?PsB70Hq3NSgPqnL8w3uITxBGKWrCdoi7J4zJC7f

Page: 1



Scale = 1:46

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.26	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	15.4/20.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.13	Horz(CT)	0.00	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 91 lb	FT = 20%

**LUMBER**

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

**BRACING**

TOP CHORD Structural wood sheathing directly applied.  
BOT CHORD Rigid ceiling directly applied.

**REACTIONS**

(size) 2=17-9-4, 10=17-9-4, 12=17-9-4,  
13=17-9-4, 14=17-9-4, 15=17-9-4,  
16=17-9-4, 18=17-9-4, 19=17-9-4  
Max Horiz 2=88 (LC 15)  
Max Uplift 12=15 (LC 17), 13=9 (LC 17),  
14=10 (LC 17), 16=10 (LC 16),  
18=9 (LC 16), 19=16 (LC 16)  
Max Grav 2=316 (LC 65), 10=316 (LC 85),  
12=370 (LC 83), 13=320 (LC 82),  
14=338 (LC 81), 15=321 (LC 80),  
16=338 (LC 79), 18=320 (LC 78),  
19=370 (LC 77)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-2=0/21, 2-3=-110/75, 3-4=-84/64,  
4-5=-79/69, 5-6=-106/92, 6-7=-106/91,  
7-8=-79/69, 8-9=-84/64, 9-10=-110/75,  
10-11=0/21  
BOT CHORD 2-19=-26/77, 18-19=-26/53, 16-18=-26/53,  
15-16=-26/53, 14-15=-26/53, 13-14=-26/53,  
12-13=-26/53, 10-12=-26/77  
WEBS 6-15=-237/7, 5-16=-285/53, 4-18=-279/42,  
3-19=-307/49, 7-14=-285/53, 8-13=-279/42,  
9-12=-307/49

**NOTES**

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

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-3-11 to 3-3-11, Interior (1) 3-3-11 to 9-8-9, Exterior(2R) 9-8-9 to 12-8-9, Interior (1) 12-8-9 to 19-1-7 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=15.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Plates checked for a plus or minus 5 degree rotation about its center.
- Gable requires continuous bottom chord bearing.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.3.
- N/A

- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- See Standard Industry Piggyback Truss Connection Detail for Connection to base truss as applicable, or consult qualified building designer.

**LOAD CASE(S)** Standard



December 18, 2024

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

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818 Soundside Road  
Edenton, NC 27932

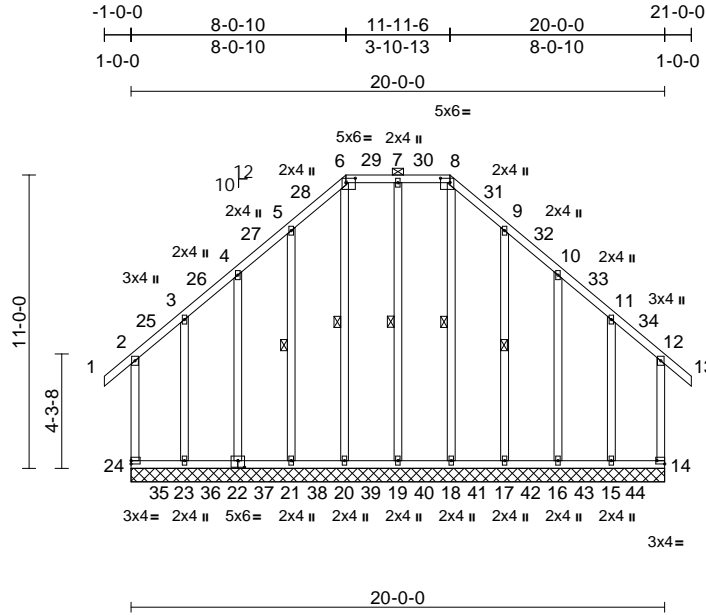
Job 2412-0987-A	Truss G1G	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262245
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:48

Page: 1

ID:HIUTRapWBVWkw4mtJQ6eW8yCHQZ-RfC?PsB70Hq3NSgPqnL8w3uITxBGKWrCDoi7J4zJC7f



Scale = 1:77.1

Plate Offsets (X, Y): [6:0-4-4,0-2-0], [8:0-4-4,0-2-0], [14:Edge,0-1-8], [22:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	Horz(CT)	0.00	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS							
BCDL	10.0									Weight: 192 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.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-8.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 7-19, 6-20, 5-21, 8-18, 9-17

**REACTIONS** (size)  
14=20-0-0, 15=20-0-0, 16=20-0-0, 17=20-0-0, 18=20-0-0, 19=20-0-0, 20=20-0-0, 21=20-0-0, 22=20-0-0, 23=20-0-0, 24=20-0-0  
Max Horiz 24=216 (LC 15)  
Max Uplift 14=-241 (LC 13), 15=-259 (LC 12), 16=-19 (LC 17), 17=-26 (LC 17), 21=-26 (LC 16), 22=-19 (LC 16), 23=-262 (LC 13), 24=-244 (LC 12)  
Max Grav 14=378 (LC 57), 15=411 (LC 59), 16=333 (LC 107), 17=335 (LC 106), 18=331 (LC 105), 19=334 (LC 104), 20=331 (LC 103), 21=335 (LC 102), 22=333 (LC 101), 23=413 (LC 57), 24=381 (LC 59)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-24=-295/203, 1-2=0/72, 2-3=-162/157, 3-4=-96/188, 4-5=-116/261, 5-6=-148/327, 6-7=-112/276, 7-8=-112/276, 8-9=-149/329, 9-10=-115/260, 10-11=-96/190, 11-12=-160/156, 12-13=0/72, 12-14=-295/203

**BOT CHORD** 23-24=-122/130, 21-23=-122/130, 20-21=-122/130, 19-20=-121/130, 18-19=-121/130, 17-18=-122/130, 16-17=-122/130, 15-16=-122/130, 14-15=-122/130  
**WEBS** 7-19=-269/13, 6-20=-270/16, 5-21=-276/85, 4-22=-277/108, 3-23=-275/143, 8-18=-270/13, 9-17=-276/85, 10-16=-277/107, 11-15=-275/141

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-0-0, Exterior(2N) 2-0-0 to 8-0-10, Corner (3R) 8-0-10 to 11-0-10, Exterior(2N) 11-0-10 to 11-11-6, Corner(3R) 11-11-6 to 14-11-6, Exterior(2N) 14-11-6 to 21-0-0 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
  - 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=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
  - Provide adequate drainage to prevent water ponding.
  - Plates checked for a plus or minus 5 degree rotation about its center.

- 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.
- All bearings are assumed to be SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 244 lb uplift at joint 24, 241 lb uplift at joint 14, 26 lb uplift at joint 21, 19 lb uplift at joint 22, 262 lb uplift at joint 23, 26 lb uplift at joint 17, 19 lb uplift at joint 16 and 259 lb uplift at joint 15.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.



December 18, 2024

Continued on page 2

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
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ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0059 Roof
2412-0987-A	G1G	Piggyback Base Supported Gable	1	1	170262245 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:48  
ID:HIUTRapWBWVkw4mtJQ6eW8yCHQZ-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrcDoi7J4zJC?f

Page: 2

- 17) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 18) 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.**

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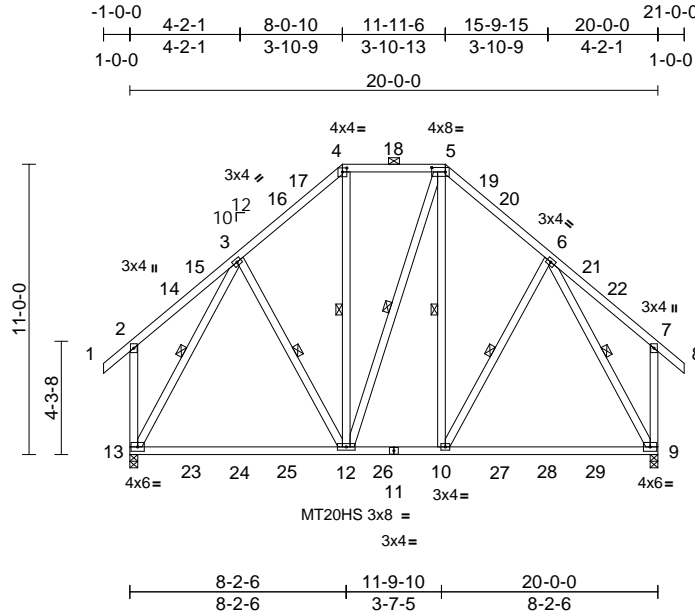


Job 2412-0987-A	Truss G1A	Truss Type Piggyback Base	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	I70262246
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:48  
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Page: 1



Scale = 1:79.3  
Plate Offsets (X, Y): [4:0-2-0,0-1-13], [5:0-6-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.24	9-10	>990	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.34	9-10	>700	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.34	Horz(CT)	0.01	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.01	9-10	>999	240		
BCDL	10.0											
										Weight: 178 lb	FT = 20%	

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3 \*Except\* 13-2,9-7:2x4 SP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 4-5.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 3-12, 4-12, 5-12, 5-10, 6-10, 3-13, 6-9

**REACTIONS** (size) 9=0-3-8, 13=0-3-8  
Max Horiz 13=216 (LC 15)  
Max Grav 9=1181 (LC 51), 13=1178 (LC 51)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/72, 2-3=-237/161, 3-4=-817/142, 4-5=-557/144, 5-6=-819/139, 6-7=-237/160, 7-8=0/72, 2-13=-345/120, 7-9=-345/120  
BOT CHORD 12-13=-102/553, 10-12=-20/558, 9-10=-57/532  
WEBS 3-12=-59/195, 4-12=-81/229, 5-12=-129/132, 5-10=-59/273, 6-10=-60/195, 3-13=-947/45, 6-9=-950/56

- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP SS .
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 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

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-0-0, Interior (1) 2-0-0 to 8-0-10, Exterior(2E) 8-0-10 to 11-11-6, Exterior(2R) 11-11-6 to 15-10-13, Interior (1) 15-10-13 to 21-0-0 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



December 18, 2024

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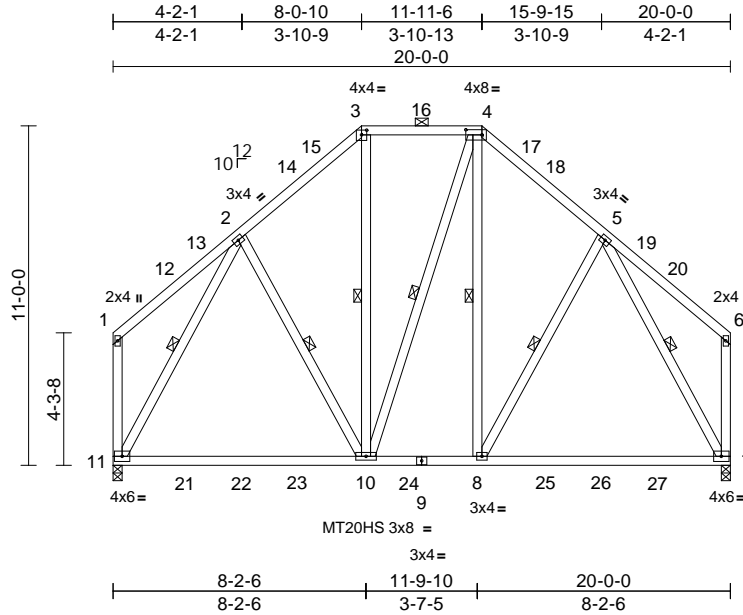
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss G1	Truss Type Piggyback Base	Qty 9	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262247
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:47  
ID:K?jbAqmXhoX4\_jd9jf2EVoyCHRw-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?

Page: 1



Scale = 1:65.4

Plate Offsets (X, Y): [3:0-2-0,0-1-13], [4:0-6-4,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.51	Vert(LL)	-0.24	7-8	>988	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.55	Vert(CT)	-0.34	7-8	>700	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.01	7	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.01	7-8	>999	240		
BCDL	10.0											
											Weight: 174 lb	FT = 20%

**LUMBER**

TOP CHORD 2x4 SP No.2  
 BOT CHORD 2x4 SP SS  
 WEBS 2x4 SP No.3 \*Except\* 11-1,7-6:2x4 SP No.2

**BRACING**

TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 3-4.  
 BOT CHORD Rigid ceiling directly applied.  
 WEBS 1 Row at midpt 2-10, 3-10, 4-10, 4-8, 5-8, 2-11, 5-7

**REACTIONS** (size) 7=0-3-8, 11=0-3-8  
 Max Horiz 11=201 (LC 14)  
 Max Grav 7=1091 (LC 56), 11=1089 (LC 58)

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

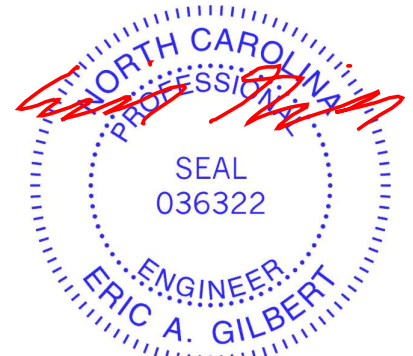
TOP CHORD 1-2=-237/136, 2-3=-825/133, 3-4=-562/137, 4-5=-827/129, 5-6=-237/136, 1-11=-308/95, 6-7=-308/95  
 BOT CHORD 10-11=-130/568, 8-10=-48/567, 7-8=-81/545  
 WEBS 2-10=-62/189, 3-10=-79/236, 4-10=-129/132, 4-8=-57/279, 5-8=-62/190, 2-11=-966/86, 5-7=-968/96

**NOTES**

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCCL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) 0-1-12 to 3-1-12, Interior (1) 3-1-12 to 8-0-10, Exterior(2E) 8-0-10 to 11-11-6, Exterior(2R) 11-11-6 to 15-10-13, Interior (1) 15-10-13 to 19-10-4 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=20.0 psf; Pf=20.4 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.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP SS.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 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



December 18, 2024

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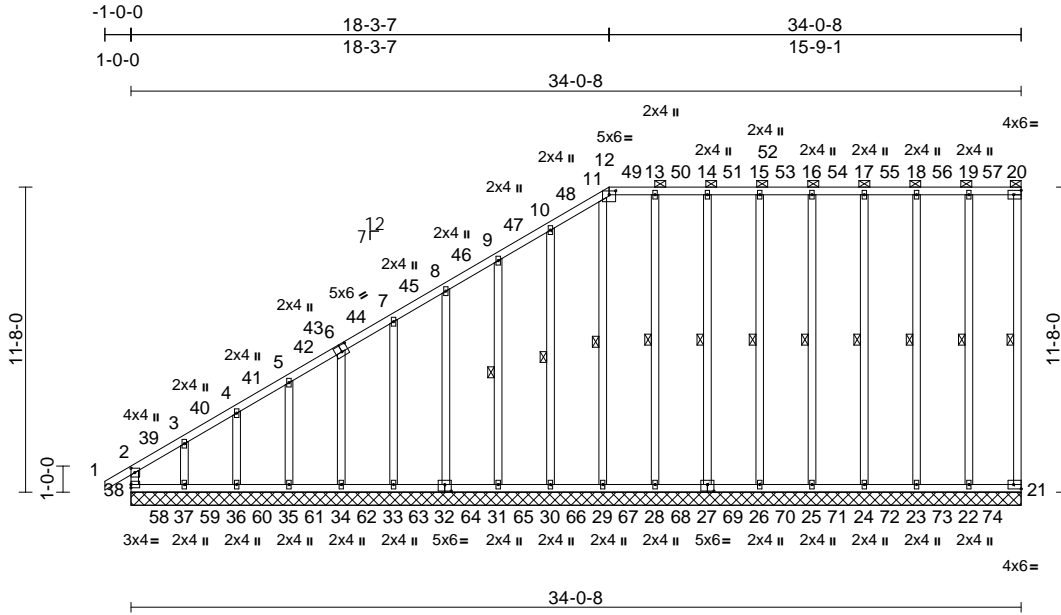
818 Soundside Road  
 Edenton, NC 27932

Job 2412-0987-A	Truss A3G	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	I70262248
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:44  
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Page: 1



Scale = 1:79.7

Plate Offsets (X, Y): [2:0-2-0,0-1-12], [6:0-3-0,0-3-0], [12:0-3-0,0-1-12], [20:Edge,0-2-0], [21:Edge,0-2-0], [27:0-3-0,0-3-0], [32:0-3-0,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.71	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.45	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.01	21	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 325 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 20-21:2x4 SP No.2  
OTHERS 2x4 SP No.3

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 12-20.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 20-21, 19-22, 18-23, 17-24, 16-25, 15-26, 14-27, 13-28, 11-29, 10-30, 9-31

**REACTIONS** (size)  
21=34-0-8, 22=34-0-8, 23=34-0-8, 24=34-0-8, 25=34-0-8, 26=34-0-8, 27=34-0-8, 28=34-0-8, 29=34-0-8, 30=34-0-8, 31=34-0-8, 32=34-0-8, 33=34-0-8, 34=34-0-8, 35=34-0-8, 36=34-0-8, 37=34-0-8, 38=34-0-8  
Max Horiz 38=288 (LC 13)  
Max Uplift 21=6 (LC 13), 22=-11 (LC 12), 23=-5 (LC 13), 24=-1 (LC 12), 28=-2 (LC 13), 29=-21 (LC 13), 30=-13 (LC 16), 31=-10 (LC 16), 32=-10 (LC 16), 33=-11 (LC 16), 34=-9 (LC 16), 35=-15 (LC 16), 37=-134 (LC 13), 38=-71 (LC 12)

Max Grav 21=284 (LC 134), 22=337 (LC 133), 23=333 (LC 132), 24=333 (LC 131), 25=333 (LC 130), 26=333 (LC 129), 27=333 (LC 128), 28=333 (LC 127), 29=332 (LC 126), 30=333 (LC 125), 31=334 (LC 124), 32=333 (LC 123), 33=333 (LC 122), 34=333 (LC 121), 35=332 (LC 120), 36=334 (LC 119), 37=330 (LC 118), 38=315 (LC 117)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 2-38=-313/229, 1-2=0/47, 2-3=-522/416, 3-4=-413/338, 4-5=-387/327, 5-7=-346/302, 7-8=-267/257, 8-9=-227/233, 9-10=-187/211, 10-11=-173/204, 11-12=-151/176, 12-13=-152/193, 13-14=-152/193, 14-15=-152/193, 15-16=-152/193, 16-17=-152/193, 17-18=-152/193, 18-19=-152/193, 19-20=-152/193, 20-21=-263/183  
BOT CHORD 37-38=-152/193, 36-37=-152/193, 35-36=-152/193, 34-35=-152/193, 33-34=-152/193, 31-33=-152/193, 30-31=-152/193, 29-30=-152/193, 28-29=-152/193, 26-28=-152/193, 25-26=-152/193, 24-25=-152/193, 23-24=-152/193, 22-23=-152/193, 21-22=-152/193  
WEBS 19-22=-281/134, 18-23=-264/61, 17-24=-264/36, 16-25=-264/35, 15-26=-264/35, 14-27=-264/40, 13-28=-265/46, 11-29=-267/98, 10-30=-269/59, 9-31=-271/56, 8-32=-274/55, 7-33=-277/56, 6-34=-277/55, 5-35=-280/60, 4-36=-285/49, 3-37=-284/193

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 2-4-14, Exterior(2N) 2-4-14 to 18-3-7, Corner(3R) 18-3-7 to 21-8-4, Exterior(2N) 21-8-4 to 33-10-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 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.



December 18, 2024

Continued on page 2

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

Job 2412-0987-A	Truss A3G	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof I70262248 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:44  
ID:G24Kgb8C4v5ZNK30LnRv8EyCHDD-RfC?PsB70Hq3NSgPqnL8w3uTXbGKwRCDoi7J4zJC?f

Page: 2

- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) Plates checked for a plus or minus 5 degree rotation about its center.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 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) All bearings are assumed to be SP No.2 .
- 15) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 71 lb uplift at joint 38, 6 lb uplift at joint 21, 11 lb uplift at joint 22, 5 lb uplift at joint 23, 1 lb uplift at joint 24, 2 lb uplift at joint 28, 21 lb uplift at joint 29, 13 lb uplift at joint 30, 10 lb uplift at joint 31, 10 lb uplift at joint 32, 11 lb uplift at joint 33, 9 lb uplift at joint 34, 15 lb uplift at joint 35 and 134 lb uplift at joint 37.
- 16) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 17) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 18) 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.**

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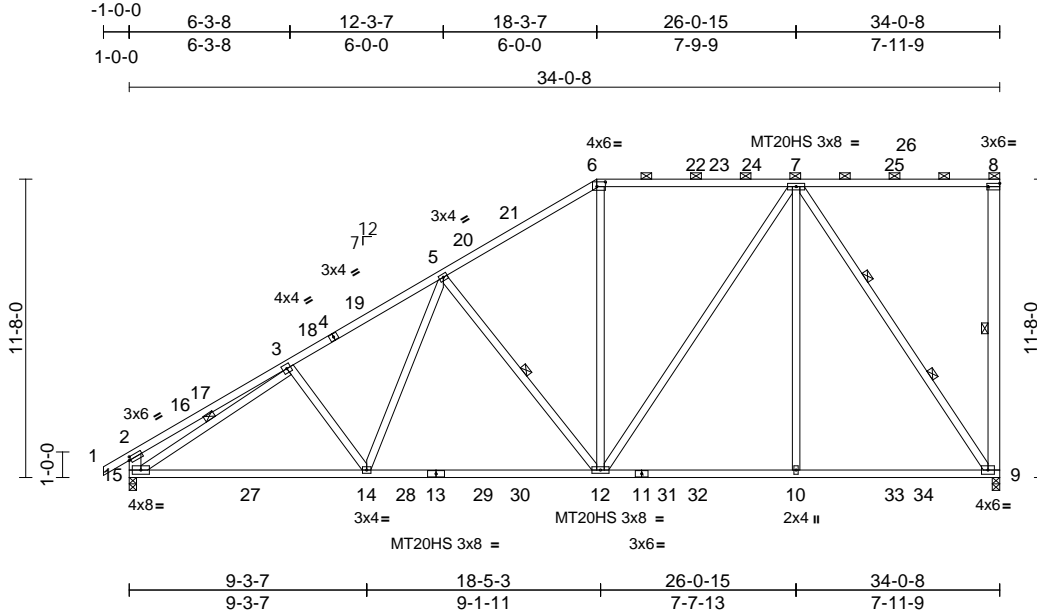
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss A3	Truss Type Piggyback Base	Qty 8	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262249
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:44  
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Page: 1



Scale = 1:81.9  
Plate Offsets (X, Y): [2:0-0-14,0-1-8], [6:0-4-0,0-2-4], [8:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.72	Vert(LL)	-0.38	12-14	>999	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.67	Vert(CT)	-0.52	12-14	>776	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.05	9	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.04	9-10	>999	240		
BCDL	10.0											
											Weight: 252 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x4 SP No.2 \*Except\* 6-8:2x4 SP SS  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3 \*Except\* 8-9,15-2:2x6 SP No.2, 12-7,9-7:2x4 SP SS

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (5-3-8 max.): 6-8.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 8-9, 5-12, 3-15  
WEBS 2 Rows at 1/3 pts 7-9

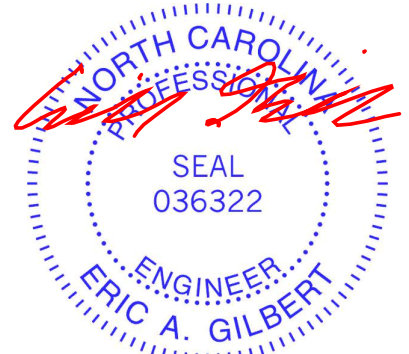
**REACTIONS** (size) 9=0-3-8, 15=0-3-8  
Max Horiz 15=288 (LC 13)  
Max Grav 9=1728 (LC 43), 15=1632 (LC 50)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/51, 2-3=-670/31, 3-5=-2374/0, 5-6=-1665/80, 6-7=-1366/84, 7-8=-165/163, 8-9=-322/39, 2-15=-551/61  
BOT CHORD 14-15=-216/2181, 12-14=-194/1915, 10-12=-112/1137, 9-10=-112/1137  
WEBS 3-14=-215/102, 5-14=0/520, 5-12=-818/75, 6-12=0/424, 7-12=-82/756, 7-10=0/459, 7-9=-1816/21, 3-15=-1905/0

**NOTES**  
1) Unbalanced roof live loads have been considered for this design.  
2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-4-14, Interior (1) 2-4-14 to 18-3-7, Exterior(2R) 18-3-7 to 23-1-3, Interior (1) 23-1-3 to 33-9-12 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=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP SS.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 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



December 18, 2024

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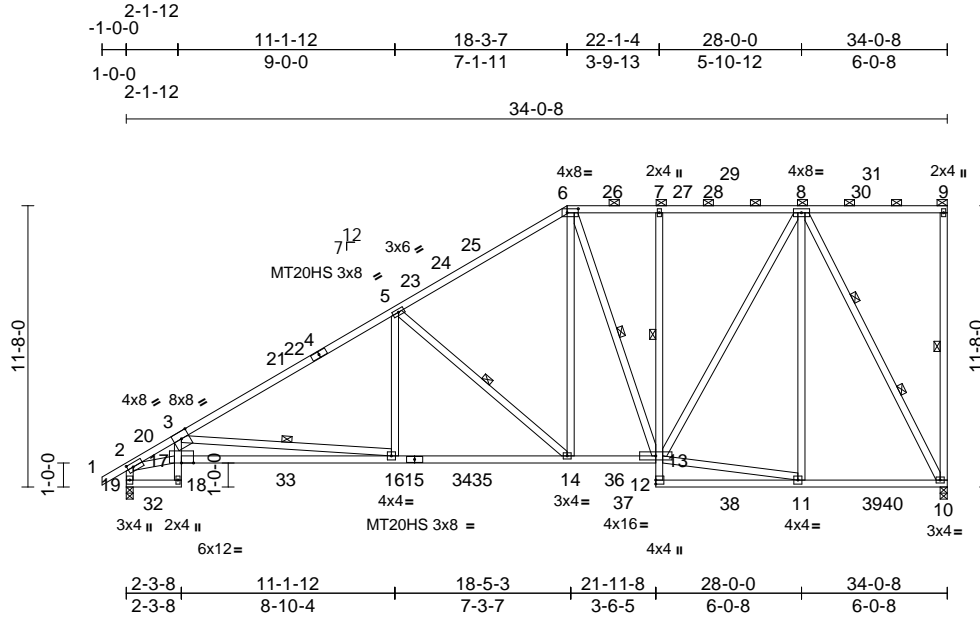
818 Soundside Road  
Edenton, NC 27932

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0059 Roof
2412-0987-A	A3T	Piggyback Base	2	1	170262250
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:46  
 ID:fxZclhFTHmVvIIHnbVS0IXyCH2l-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:81.9

Plate Offsets (X, Y): [2:0-2-14,0-2-0], [6:0-5-8,0-2-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.89	Vert(LL)	-0.35	16-17	>999	360	MT20HS	187/143
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.58	16-17	>697	240	MT20	244/190
TCDL	10.0	Rep Stress Incr	YES	WB	0.96	Horz(CT)	0.18	10	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.09	16-17	>999	240		
BCDL	10.0											
											Weight: 273 lb	FT = 20%

**LUMBER**  
 TOP CHORD 2x4 SP No.2 \*Except\* 1-4:2x4 SP SS  
 BOT CHORD 2x4 SP No.2 \*Except\* 17-15,15-13:2x4 SP SS, 7-12:2x4 SP No.3  
 WEBS 2x4 SP No.3 \*Except\* 2-17,10-8:2x4 SP No.2

**BRACING**  
 TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (4-7-10 max.): 6-9.  
 BOT CHORD Rigid ceiling directly applied. Except: 1 Row at midpt 7-13  
 WEBS 1 Row at midpt 6-13, 9-10, 5-14, 3-16  
 WEBS 2 Rows at 1/3 pts 8-10  
**REACTIONS** (size) 10=0-3-8, 19=0-3-8  
 Max Horiz 19=238 (LC 16)  
 Max Grav 10=1680 (LC 43), 19=1612 (LC 50)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
 TOP CHORD 1-2=0/47, 2-3=-3694/0, 3-5=-2616/0, 5-6=-1718/0, 6-7=-1289/0, 7-8=-1289/0, 8-9=0/0, 2-19=-1651/0  
 BOT CHORD 18-19=-120/245, 17-18=-29/259, 3-17=0/531, 16-17=-261/3799, 14-16=-43/2242, 13-14=-16/1388, 12-13=0/186, 7-13=-438/58, 11-12=-30/201, 10-11=0/812  
 WEBS 6-14=0/968, 6-13=-575/55, 8-11=0/327, 2-17=-83/3006, 9-10=-299/28, 5-16=0/529, 5-14=-1150/67, 11-13=-7741, 8-10=-1764/0, 3-16=-1608/231, 8-13=-20/1019

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

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 2-1-12, Interior (1) 2-1-12 to 18-3-7, Exterior(2R) 18-3-7 to 23-1-3, Interior (1) 23-1-3 to 33-10-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- All plates are MT20 plates unless otherwise indicated.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.2.
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

14) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.  
**LOAD CASE(S)** Standard



December 18, 2024

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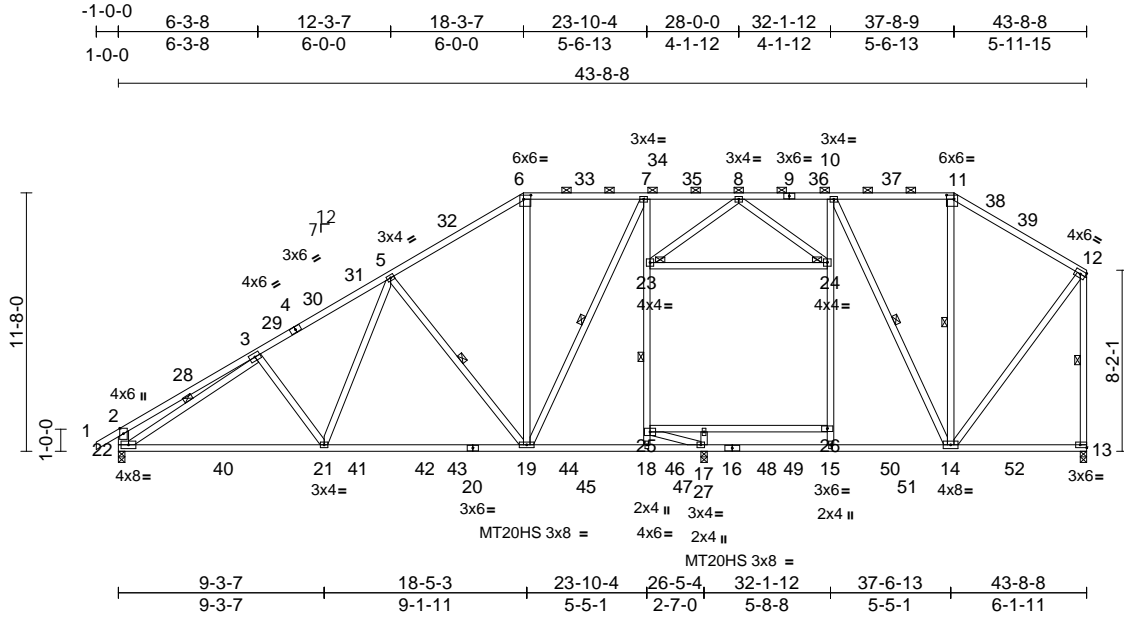
ENGINEERING BY  
**TRENCO**  
 A MiTek Affiliate  
 818 Soundside Road  
 Edenton, NC 27932

Job 2412-0987-A	Truss A1	Truss Type Attic	Qty 6	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262251
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:38  
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Page: 1



Scale = 1:94.9

Plate Offsets (X, Y): [6:0-4-0,0-2-4], [11:0-4-0,0-2-4], [13:Edge,0-1-8]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in (loc)	l/defl	L/d	PLATES	GRIP		
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.99	Vert(LL)	-0.37	19-21	>854	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.70	Vert(CT)	-0.55	19-21	>568	240	MT20HS	187/143
TCDL	10.0	Rep Stress Incr	YES	WB	0.87	Horz(CT)	0.07	13	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.11	18-19	>999	240		
BCDL	10.0											
										Weight: 354 lb	FT = 20%	

**LUMBER**  
TOP CHORD 2x4 SP No.2  
BOT CHORD 2x4 SP SS  
WEBS 2x4 SP No.3 \*Except\*  
19-7,14-10,23-24,25-26:2x4 SP No.2,  
7-18,10-15:2x4 SP SS, 22-2:2x6 SP No.2

**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (3-7-0 max.): 6-11.  
BOT CHORD Rigid ceiling directly applied.

WEBS 1 Row at midpt 5-19, 7-19, 18-23, 10-14, 11-14, 3-22, 12-13

JOINTS 1 Brace at Jt(s): 23, 24

**REACTIONS** (size) 13=0-3-8, 17=0-3-8, 22=0-3-8  
Max Horiz 22=258 (LC 13)  
Max Grav 13=1751 (LC 51), 17=1298 (LC 35), 22=1758 (LC 35)

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

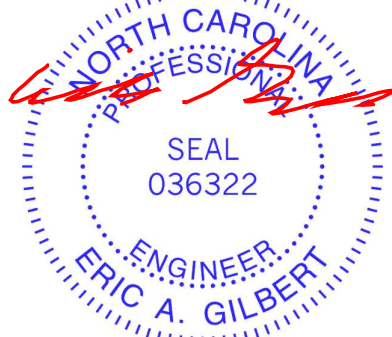
TOP CHORD 1-2=0/51, 2-3=713/17, 3-5=2602/0, 5-6=1990/0, 6-7=1707/0, 7-8=1710/0, 8-10=1423/0, 10-11=973/43, 11-12=-1146/28, 2-22=-574/66, 12-13=-1783/0

BOT CHORD 21-22=-72/2328, 19-21=-49/2090, 18-19=0/1658, 17-18=0/2086, 15-17=0/1038, 14-15=0/1493, 13-14=-104/121

**WEBS**  
3-21=-194/117, 5-21=0/488, 5-19=-800/83, 6-19=0/655, 7-19=-118/616, 18-25=-262/84, 23-25=-713/69, 7-23=-667/123, 15-26=0/442, 24-26=0/474, 10-24=0/644, 10-14=-1215/0, 11-14=-70/249, 12-14=0/1478, 23-24=-21/209, 3-22=-2100/0, 25-27=-42/555, 26-27=-42/555, 17-27=-242/0, 8-23=-187/118, 8-24=-424/48, 17-25=-1146/98

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 3-4-7, Interior (1) 3-4-7 to 18-3-7, Exterior(2R) 18-3-7 to 24-5-10, Interior (1) 24-5-10 to 37-8-9, Exterior(2E) 37-8-9 to 43-6-12 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
  - TCLL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
  - 200.0lb AC unit load placed on the bottom chord, 28-0-0 from left end, supported at two points, 5-0-0 apart.
  - Provide adequate drainage to prevent water ponding.
  - All plates are MT20 plates unless otherwise indicated.
  - Plates checked for a plus or minus 5 degree rotation about its center.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- \* This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members, with BCDL = 10.0psf.
- Ceiling dead load (10.0 psf) on member(s). 23-24, 25-27, 26-27
- Bottom chord live load (20.0 psf) and additional bottom chord dead load (10.0 psf) applied only to room. 15-17
- All bearings are assumed to be SP SS .
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.



December 18, 2024

Continued on page 2

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

Job	Truss	Truss Type	Qty	Ply	The Farm at Neills Creek Lot 00.0059 Roof
2412-0987-A	A1	Attic	6	1	I70262251
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:38  
 ID:DO5nPjyH1OZSy6lGTb2TbSyCH5j-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 2

18) Attic room checked for L/360 deflection.

**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.**

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818 Soundside Road  
 Edenton, NC 27932

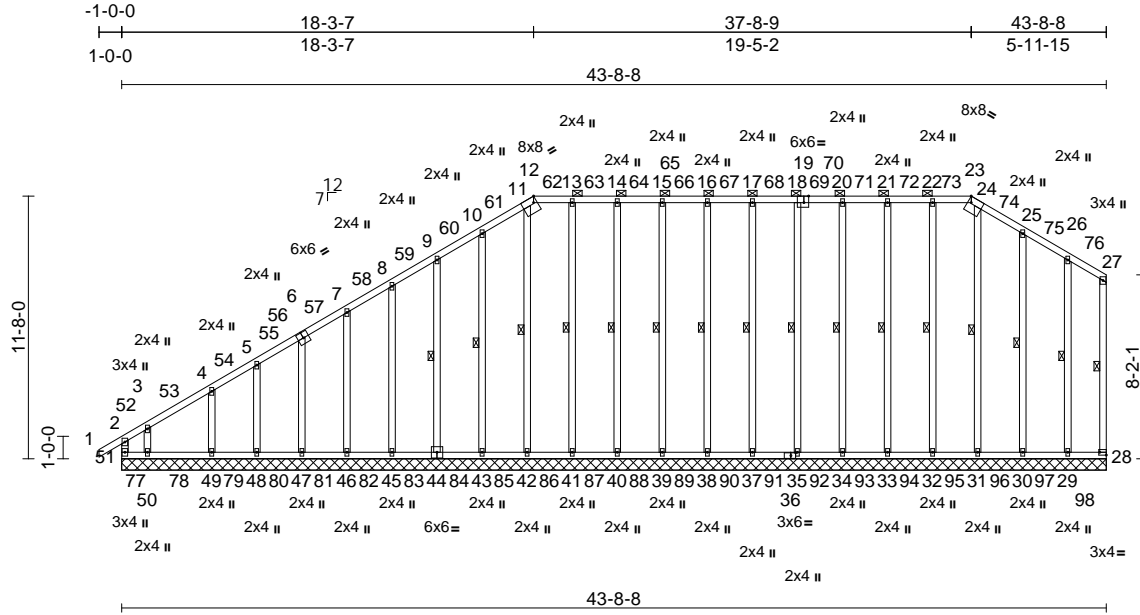


Job 2412-0987-A	Truss A1G	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262252
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:40  
ID:epTVQkqKu78c5xLmdYR1P2yCHCL-RfC?PsB70Hq3NSgPqnL8w3uITXbGKwRCDoi7J4zJC?f

Page: 1



Scale = 1:91.3

Plate Offsets (X, Y): [12:0-1-12,Edge], [19:0-2-8,Edge], [23:Edge,0-3-0], [28:Edge,0-1-8], [36:0-2-8,0-1-8]

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	0.64	Vert(LL)	n/a	-	n/a	999	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.27	Vert(CT)	n/a	-	n/a	999		
TCDL	10.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.01	28	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS								
BCDL	10.0											
											Weight: 426 lb	FT = 20%

LUMBER		Max Grav	28=278 (LC 161), 29=330 (LC 160), 30=334 (LC 159), 31=332 (LC 158), 32=333 (LC 157), 33=333 (LC 156), 34=333 (LC 155), 35=322 (LC 154), 37=333 (LC 153), 38=333 (LC 152), 39=333 (LC 151), 40=333 (LC 150), 41=333 (LC 149), 42=332 (LC 148), 43=333 (LC 147), 44=333 (LC 146), 45=333 (LC 145), 46=333 (LC 144), 47=335 (LC 143), 48=325 (LC 142), 49=357 (LC 141), 50=337 (LC 140), 51=303 (LC 13)	BOT CHORD	50-51=-112/147, 49-50=-112/147, 48-49=-112/147, 47-48=-112/147, 46-47=-112/147, 45-46=-112/147, 43-45=-112/147, 42-43=-112/147, 41-42=-112/147, 40-41=-112/147, 39-40=-112/147, 38-39=-112/147, 37-38=-112/147, 35-37=-112/147, 34-35=-112/147, 33-34=-112/147, 32-33=-112/147, 31-32=-112/147, 30-31=-112/147, 29-30=-112/147, 28-29=-112/147
TOP CHORD	2x4 SP No.2				
BOT CHORD	2x4 SP No.2				
WEBS	2x4 SP No.3				
OTHERS	2x4 SP No.3				
<b>BRACING</b>					
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 12-23.				
BOT CHORD	Rigid ceiling directly applied.				
WEBS	1 Row at midpt 27-28, 17-37, 16-38, 15-39, 14-40, 13-41, 11-42, 10-43, 9-44, 18-35, 20-34, 21-33, 22-32, 24-31, 25-30, 26-29				
<b>REACTIONS</b> (size)					
	28=43-8-8, 29=43-8-8, 30=43-8-8, 31=43-8-8, 32=43-8-8, 33=43-8-8, 34=43-8-8, 35=43-8-8, 37=43-8-8, 38=43-8-8, 39=43-8-8, 40=43-8-8, 41=43-8-8, 42=43-8-8, 43=43-8-8, 44=43-8-8, 45=43-8-8, 46=43-8-8, 47=43-8-8, 48=43-8-8, 49=43-8-8, 50=43-8-8, 51=43-8-8				
Max Horiz	51=258 (LC 13)				
Max Uplift	28=-20 (LC 16), 29=-7 (LC 12), 30=-16 (LC 17), 32=-2 (LC 13), 41=-1 (LC 13), 42=-14 (LC 13), 43=-14 (LC 16), 44=-11 (LC 16), 45=-10 (LC 16), 46=-11 (LC 16), 47=-10 (LC 16), 48=-13 (LC 16), 49=-4 (LC 16), 50=-186 (LC 13), 51=-172 (LC 14)				
<b>FORCES</b>					
TOP CHORD	(lb) - Maximum Compression/Maximum Tension				
	2-51=-285/227, 1-2=0/47, 2-3=-402/327, 3-4=-293/250, 4-5=-245/218, 5-7=-206/198, 7-8=-164/151, 8-9=-155/184, 9-10=-165/224, 10-11=-190/266, 11-12=-165/224, 12-13=-167/245, 13-14=-167/245, 14-15=-167/245, 15-16=-167/245, 16-17=-167/245, 17-18=-167/245, 18-20=-167/245, 20-21=-167/245, 21-22=-167/245, 22-23=-167/245, 23-24=-165/224, 24-25=-193/266, 25-26=-161/219, 26-27=-179/233, 27-28=-259/198				
<b>NOTES</b>					



December 18, 2024

Continued on page 2

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

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818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss A1G	Truss Type Piggyback Base Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof I70262252 Job Reference (optional)
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:40  
ID:epTVQkqKu78c5xLmdYR1P2yCHCL-RfC?PsB70Hq3NSgPqnL8w3uITxbGKWrCDoi7J4zJC?f

Page: 2

- 1) Unbalanced roof live loads have been considered for this design.
- 2) Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Corner (3E) -1-0-0 to 3-4-7, Exterior(2N) 3-4-7 to 18-3-7, Corner (3R) 18-3-7 to 22-7-14, Exterior(2N) 22-7-14 to 37-8-9, Corner(3R) 37-8-9 to 42-0-0, Exterior(2N) 42-0-0 to 43-6-12 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
- 3) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- 4) TCELL: ASCE 7-16; Pr=20.0 psf (roof LL: Lum DOL=1.15 Plate DOL=1.15); Pg=20.0 psf; Pf=20.4 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
- 5) Unbalanced snow loads have been considered for this design.
- 6) This truss has been designed for greater of min roof live load of 12.0 psf or 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- 7) Provide adequate drainage to prevent water ponding.
- 8) Plates checked for a plus or minus 5 degree rotation about its center.
- 9) Gable requires continuous bottom chord bearing.
- 10) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 11) Gable studs spaced at 2-0-0 oc.
- 12) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 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) All bearings are assumed to be SP No.2 .
- 15) N/A
  
- 16) This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- 17) This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
- 18) 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.**

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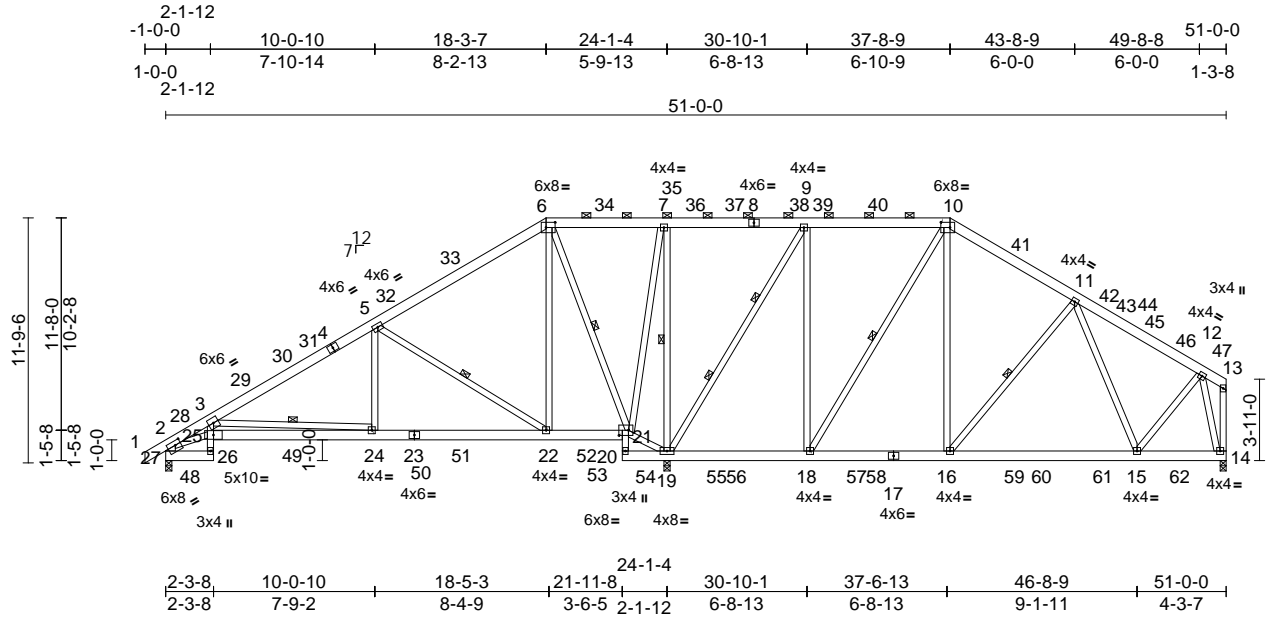
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss A2T	Truss Type Piggyback Base	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262253
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:43  
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Page: 1



Scale = 1:94.9

Plate Offsets (X, Y): [6:0-5-4,0-3-0], [10:0-5-4,0-3-0], [21:0-5-8,0-3-0], [27:0-3-4,0-2-8]

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	0.46	Vert(LL)	-0.12	15-16	>999	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.72	Vert(CT)	-0.18	24-25	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.90	Horz(CT)	0.09	14	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.04	24-25	>999	240		
BCDL	10.0										Weight: 469 lb	FT = 20%

LUMBER	TOP CHORD	2x6 SP No.2
BOT CHORD	2x6 SP No.2 *Except* 26-3,21-20:2x4 SP No.3	
WEBS	2x4 SP No.3 *Except* 27-2:2x6 SP No.2, 19-9,18-10:2x4 SP No.2	
BRACING		
TOP CHORD	Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 6-10.	
BOT CHORD	Rigid ceiling directly applied.	
WEBS	1 Row at midpt 3-24, 5-22, 6-21, 7-19, 11-16, 10-18	
WEBS	2 Rows at 1/3 pts 9-19	
REACTIONS	(size) 14=0-3-8, 19=0-3-8, 27=0-3-8	
	Max Horiz 27=217 (LC 13)	
	Max Grav 14=1068 (LC 59), 19=2928 (LC 3), 27=825 (LC 57)	
FORCES	(lb) - Maximum Compression/Maximum Tension	
TOP CHORD	1-2=0/51, 2-3=-1751/0, 3-5=-1050/26, 5-6=-139/311, 6-7=-10/622, 7-9=-9/796, 9-10=-307/210, 10-11=-725/146, 11-12=-869/77, 12-13=-70/90, 2-27=-858/20, 13-14=-229/169	
BOT CHORD	26-27=-58/250, 25-26=-26/275, 3-25=0/472, 24-25=-81/1769, 22-24=-27/893, 21-22=-195/157, 20-21=-171/61, 19-20=-72/18, 18-19=-149/287, 16-18=0/547, 15-16=0/701, 14-15=-44/319	
WEBS	3-24=-955/87, 5-24=0/483, 5-22=-1186/63, 6-22=0/888, 6-21=-1463/54, 19-21=-851/109, 7-21=-25/914, 7-19=-1218/48, 10-16=0/705, 11-16=-421/101, 11-15=-245/114, 12-15=0/590, 2-25=-55/1295, 12-14=-1174/36, 9-18=0/1022, 9-19=-1612/24, 10-18=-915/5	

- NOTES**
- Unbalanced roof live loads have been considered for this design.
  - Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 4-1-3, Interior (1) 4-1-3 to 18-3-7, Exterior(2R) 18-3-7 to 25-6-0, Interior (1) 25-6-0 to 37-8-9, Exterior(2R) 37-8-9 to 44-11-2, Interior (1) 44-11-2 to 50-10-4 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=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
  - Provide adequate drainage to prevent water ponding.
  - Plates checked for a plus or minus 5 degree rotation about its center.
  - 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.
  - All bearings are assumed to be SP No.2.
  - This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.

- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.
  - 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



December 18, 2024

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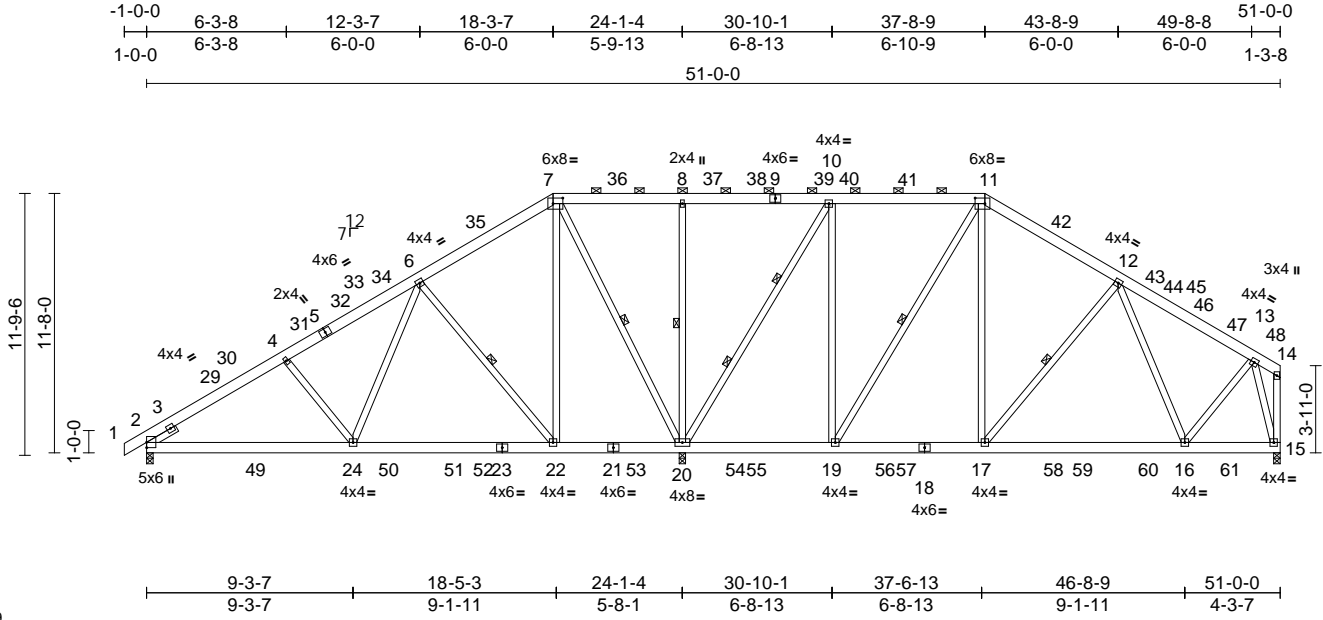
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job 2412-0987-A	Truss A2	Truss Type Piggyback Base	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0059 Roof Job Reference (optional)	170262254
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Dec 17 09:19:42  
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Page: 1



Scale = 1:94.9

Plate Offsets (X, Y): [7:0-5-4,0-3-0], [11:0-5-4,0-3-0]

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.15	TC	0.42	Vert(LL)	-0.13	22-24	>999	360	MT20	244/190
Snow (Pf/Pg)	20.4/20.0	Lumber DOL	1.15	BC	0.59	Vert(CT)	-0.19	22-24	>999	240		
TCDL	10.0	Rep Stress Incr	YES	WB	0.95	Horz(CT)	0.03	15	n/a	n/a		
BCLL	0.0*	Code	IRC2021/TPI2014	Matrix-AS		Wind(LL)	0.02	22-24	>999	240		
BCDL	10.0											
											Weight: 450 lb	FT = 20%

**LUMBER**  
TOP CHORD 2x6 SP No.2  
BOT CHORD 2x6 SP No.2  
WEBS 2x4 SP No.3 \*Except\* 20-7,20-10,19-11:2x4 SP No.2  
SLIDER Left 2x4 SP No.3 -- 1-6-0

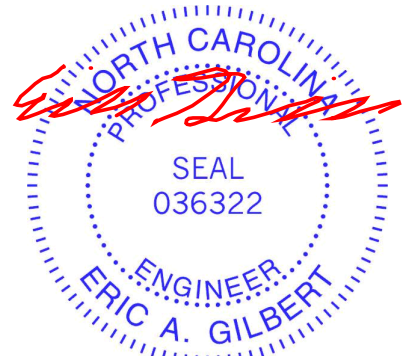
**BRACING**  
TOP CHORD Structural wood sheathing directly applied, except end verticals, and 2-0-0 oc purlins (6-0-0 max.): 7-11.  
BOT CHORD Rigid ceiling directly applied.  
WEBS 1 Row at midpt 6-22, 7-20, 8-20, 12-17, 11-19  
WEBS 2 Rows at 1/3 pts 10-20

**REACTIONS** (size) 2=0-3-8, 15=0-3-8, 20=0-3-8  
Max Horiz 2=213 (LC 15)  
Max Grav 2=1022 (LC 57), 15=1180 (LC 59), 20=2734 (LC 50)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-2=0/41, 2-4=-1398/7, 4-6=-1248/35, 6-7=-404/120, 7-8=0/410, 8-10=0/410, 10-11=-515/125, 11-12=-896/110, 12-13=-987/61, 13-14=-70/85, 14-15=-233/164  
BOT CHORD 2-24=-125/1196, 22-24=-33/787, 20-22=-35/245, 19-20=0/459, 17-19=0/705, 16-17=-2/854, 15-16=-46/358  
WEBS 4-24=-302/90, 6-24=0/658, 6-22=-905/82, 7-22=0/1020, 7-20=-1370/38, 8-20=-596/88, 11-17=0/659, 12-17=-371/108, 12-16=-297/70, 13-16=0/673, 13-15=-1331/42, 10-19=0/884, 10-20=-1470/15, 11-19=-722/7

- Wind: ASCE 7-16; Vult=120mph (3-second gust) Vasd=95mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; Cat. II; Exp B; Enclosed; MWFRS (envelope) and C-C Exterior(2E) -1-0-0 to 4-1-3, Interior (1) 4-1-3 to 18-3-7, Exterior(2R) 18-3-7 to 25-6-0, Interior (1) 25-6-0 to 37-8-9, Exterior(2R) 37-8-9 to 44-11-2, Interior (1) 44-11-2 to 50-10-4 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=20.0 psf; Pf=20.4 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 2.00 times flat roof load of 15.4 psf on overhangs non-concurrent with other live loads.
- Provide adequate drainage to prevent water ponding.
- Plates checked for a plus or minus 5 degree rotation about its center.
- 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.
- All bearings are assumed to be SP No.2 .
- This truss has been designed for a moving concentrated load of 250.0lb live and 3.0lb dead located at all mid panels and at all panel points along the Top Chord and Bottom Chord, nonconcurrent with any other live loads.
- This truss design requires that a minimum of 7/16" structural wood sheathing be applied directly to the top chord and 1/2" gypsum sheetrock be applied directly to the bottom chord.

13) Graphical purlin representation does not depict the size or the orientation of the purlin along the top and/or bottom chord.  
**LOAD CASE(S)** Standard



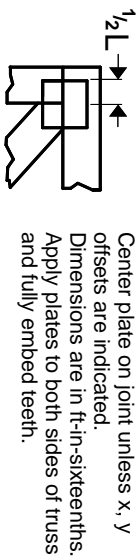
December 18, 2024

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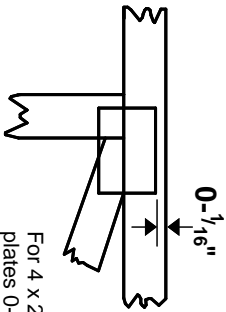
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

# Symbols

## PLATE LOCATION AND ORIENTATION



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



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



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

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

## PLATE SIZE

4 X 4

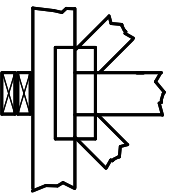
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## LATERAL BRACING LOCATION



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

## BEARING



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

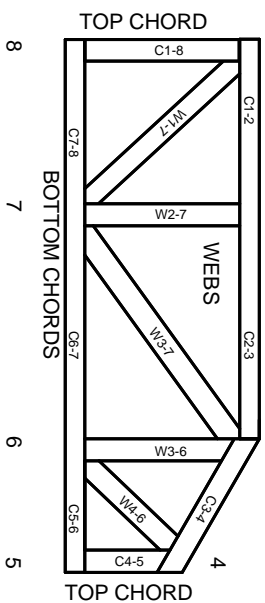
## Industry Standards:

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

# Numbering System



1 TOP CHORDS  
2 Joint ID typ.



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

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

# Product Code Approvals

ICC-ES Reports:

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

# Design General Notes

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

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

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