

RE: 2501-0738-A - The Farm at Neills Creek Lot 00.0057 OWF

Trenco  
 818 Soundside Rd  
 Edenton, NC 27932

**Site Information:**

Project Customer: DRB Raleigh Project Name: The Farm at Neills Creek Lot 00.0057

Lot/Block: 00.0057 Subdivision: The Farm at Neills Creek

Model: Callaway

Address: 553 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: 115 mph

Floor Load: N/A psf

Roof Load: 40.0 psf

Exposure Category: B

Mean Roof Height (feet): 25

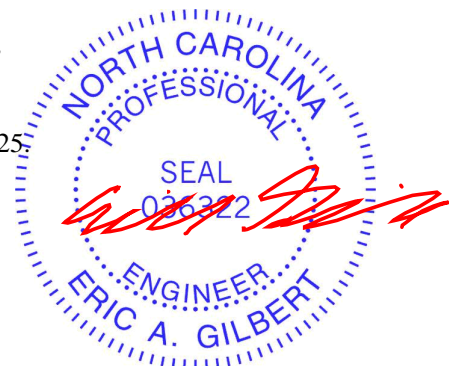
No.	Seal#	Truss Name	Date
1	I70914636	2F5	1/22/25
2	I70914637	2F8	1/22/25
3	I70914638	2F7	1/22/25
4	I70914639	2F6	1/22/25
5	I70914640	2F10	1/22/25
6	I70914641	2FGR1	1/22/25
7	I70914642	2F1	1/22/25
8	I70914643	2FGE1	1/22/25
9	I70914644	2F4	1/22/25
10	I70914645	2F3	1/22/25
11	I70914646	2F2	1/22/25
12	I70914647	2FGE2	1/22/25
13	I70914648	2F9	1/22/25
14	I70914649	2FGR2	1/22/25
	I70914650	2FGR3	1/22/25

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, 2025.

**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.



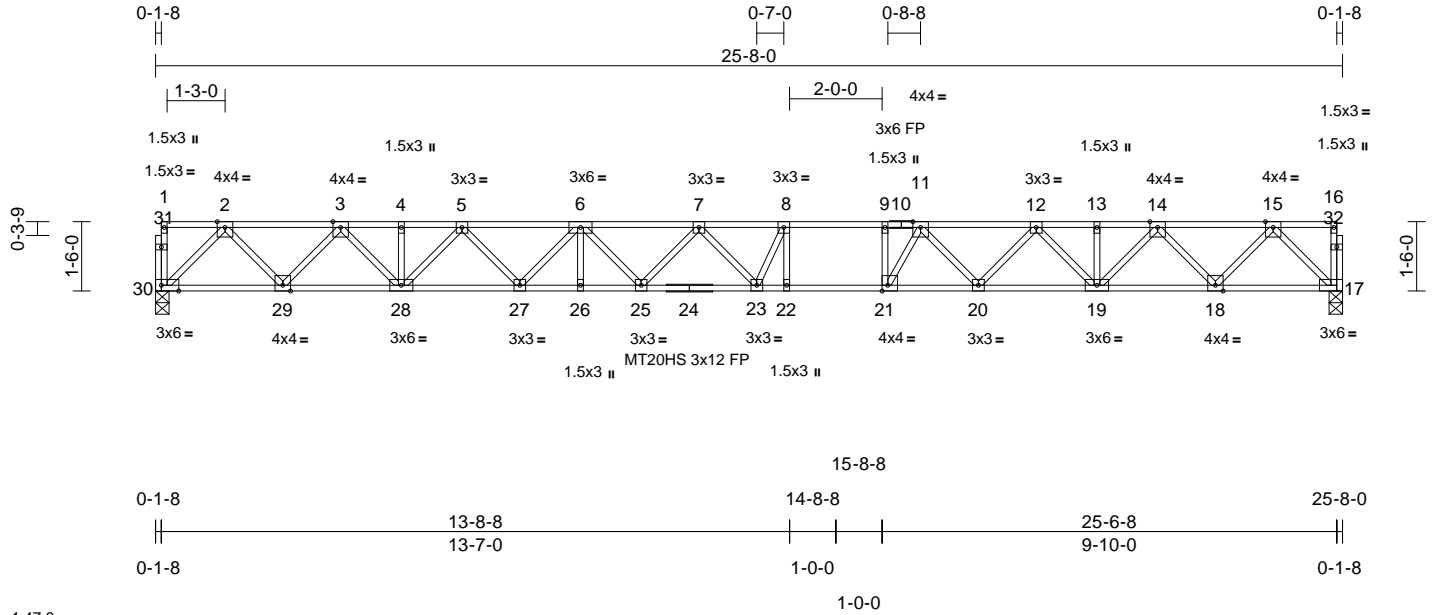
January 22, 2025

Job 2501-0738-A	Truss 2F5	Truss Type Floor	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914636
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



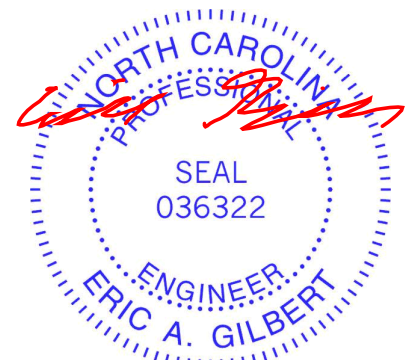
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Plate Offsets (X, Y): [21:0-1-8,Edge], [30:0-4-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.74	Vert(LL)	-0.47	22-23	>650	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.64	22-23	>473	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.48	Horz(CT)	0.09	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								Weight: 141 lb FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat) \*Except\* 10-16:2x4 SP No.2 (flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)  
**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-4-10 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.  
**REACTIONS** (lb/size) 17=928/0-3-8, 30=928/0-3-8  
Max Horiz 30=0 (LC 5)  
**FORCES** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 2-3=-1577/0, 3-4=-2792/0, 4-5=-2792/0, 5-6=-3627/0, 6-7=-4139/0, 7-8=-4272/0, 8-9=-4185/0, 9-10=-4185/0, 10-11=-4185/0, 11-12=-3612/0, 12-13=-2794/0, 13-14=-2794/0, 14-15=-1577/0  
BOT CHORD 29-30=0/897, 28-29=0/2240, 27-28=0/3289, 26-27=0/3968, 25-26=0/3968, 24-25=0/4294, 23-24=0/4294, 22-23=0/4185, 21-22=0/4185, 20-21=0/3968, 19-20=0/3288, 18-19=0/2241, 17-18=0/897  
WEBS 8-22=-359/90, 9-21=-408/0, 2-30=-1267/0, 2-29=0/1011, 3-29=-985/0, 3-28=0/800, 5-28=-719/0, 5-27=0/503, 6-27=-493/0, 6-25=0/273, 8-23=-248/461, 15-17=-1267/0, 15-18=0/1011, 14-18=-988/0, 14-19=0/800, 12-19=-715/0, 12-20=0/483, 11-20=-550/0, 11-21=-227/00

- Bearing at joint(s) 30, 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - This truss has been designed for a total drag load of 100 lb. Lumber DOL=(1.33) Plate grip DOL=(1.33) Connect truss to resist drag loads along bottom chord from 0-0-0 to 25-8-0 for 3.9 plf.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- LOAD CASE(S)** Standard

- NOTES**
- Unbalanced floor live loads have been considered for this design.
  - All plates are MT20 plates unless otherwise indicated.



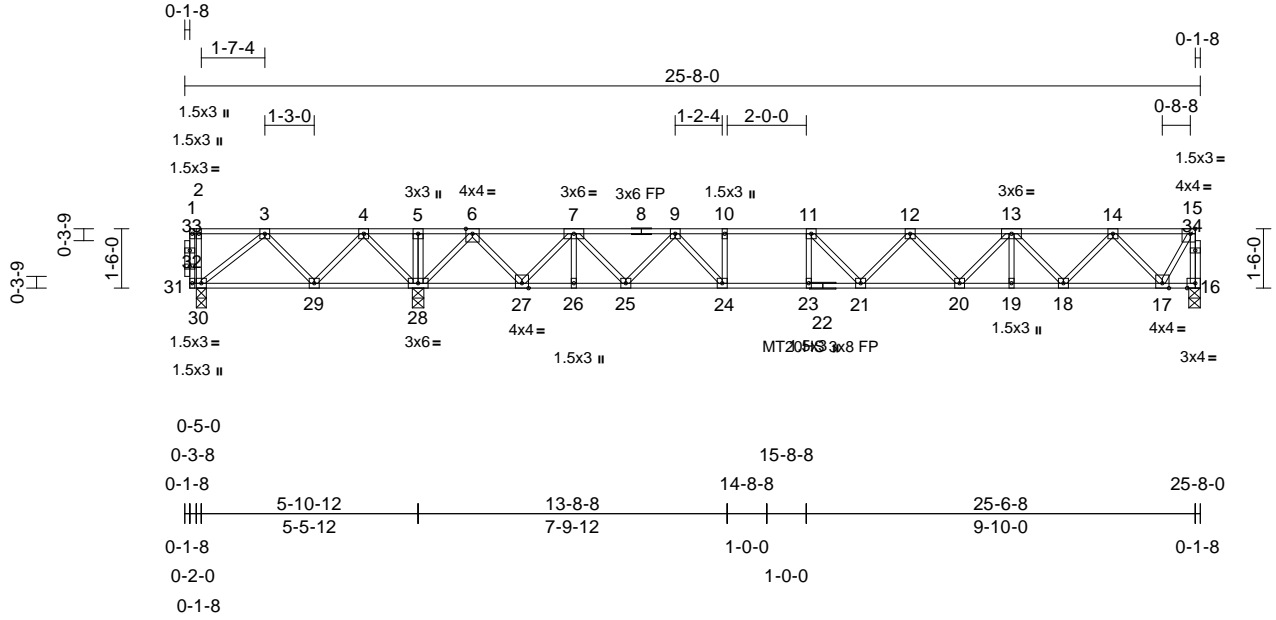
January 22, 2025

Job 2501-0738-A	Truss 2F8	Truss Type Floor	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914637
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:48.9  
Plate Offsets (X, Y): [15:0-1-8,Edge], [16:0-2-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.49	Vert(LL)	-0.18	21-23	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.61	Vert(CT)	-0.25	21-23	>962	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
											Weight: 143 lb	FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

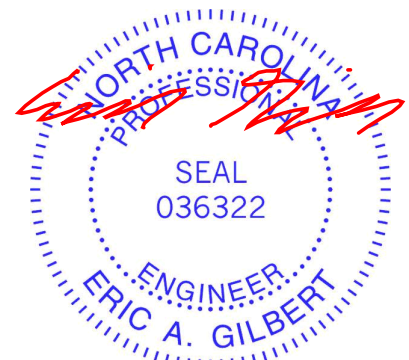
**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
6-0-0 oc bracing: 29-30,28-29,27-28.

**REACTIONS** (lb/size)  
16=621/0-3-8, 28=1346/0-3-8,  
31=532/0-3-0  
Max Grav 16=624 (LC 4), 28=1346 (LC 1),  
31=744 (LC 3)

**FORCES** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 31-32=-678/0, 32-33=-678/0, 1-33=-678/0,  
16-34=-625/0, 15-34=-623/0, 3-4=0/642,  
4-5=0/1317, 5-6=0/1317, 7-8=-1035/0,  
8-9=-1035/0, 9-10=-1831/0, 10-11=-1831/0,  
11-12=-1959/0, 12-13=-1788/0,  
13-14=-1238/0, 14-15=-378/0  
BOT CHORD 29-30=-360/74, 28-29=-931/0, 27-28=-559/0,  
26-27=0/659, 25-26=0/659, 24-25=0/1444,  
23-24=0/1831, 22-23=0/1831, 21-22=0/1831,  
20-21=0/1975, 19-20=0/1593, 18-19=0/1593,  
17-18=0/886  
WEBS 10-24=-302/0, 4-28=-686/0, 4-29=0/465,  
3-29=-446/0, 3-30=-96/467, 6-28=-1082/0,  
6-27=0/857, 7-27=-869/0, 7-25=0/547,  
9-25=-614/0, 9-24=0/653, 11-21=-72/284,  
12-20=-278/0, 13-20=0/283, 13-18=-514/0,  
14-18=0/522, 14-17=-756/0, 15-17=0/656

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are MT20 plates unless otherwise indicated.

- All plates are 3x3 (=) MT20 unless otherwise indicated.
  - Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - CAUTION, Do not erect truss backwards.
- LOAD CASE(S)** Standard  
1) Dead + Floor Live (balanced): Lumber Increase=1.00,  
Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 16-31=-7, 1-15=-67  
Concentrated Loads (lb)  
Vert: 1=-644



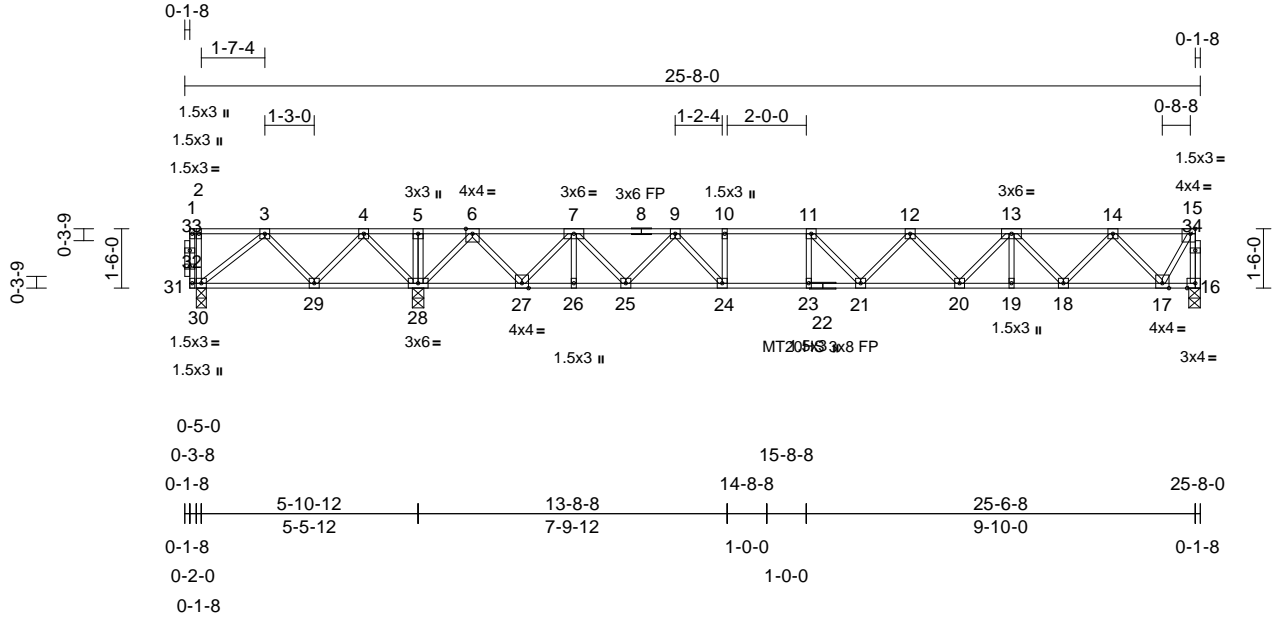
January 22, 2025

Job 2501-0738-A	Truss 2F7	Truss Type Floor	Qty 2	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914638
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Page: 1



Scale = 1:48.9  
Plate Offsets (X, Y): [15:0-1-8,Edge], [16:0-2-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.49	Vert(LL)	-0.18	21-23	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.61	Vert(CT)	-0.25	21-23	>962	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								Weight: 143 lb FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
6-0-0 oc bracing: 29-30,28-29,27-28.

**REACTIONS** (lb/size)  
16=621/0-3-8, 28=1347/0-3-8,  
31=688/0-3-0  
Max Grav 16=624 (LC 4), 28=1347 (LC 1),  
31=900 (LC 3)

**FORCES** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 31-32=-828/0, 32-33=-828/0, 1-33=-828/0,  
16-34=-625/0, 15-34=-623/0, 3-4=0/642,  
4-5=0/1318, 5-6=0/1318, 7-8=-1034/0,  
8-9=-1034/0, 9-10=-1830/0, 10-11=-1830/0,  
11-12=-1958/0, 12-13=-1788/0,  
13-14=-1237/0, 14-15=-378/0  
BOT CHORD 29-30=-361/73, 28-29=-932/0, 27-28=-560/0,  
26-27=0/659, 25-26=0/659, 24-25=0/1444,  
23-24=0/1830, 22-23=0/1830, 21-22=0/1830,  
20-21=0/1974, 19-20=0/1593, 18-19=0/1593,  
17-18=0/886  
WEBS 10-24=-303/0, 4-28=-686/0, 4-29=0/466,  
3-29=-445/0, 3-30=-95/468, 6-28=-1083/0,  
6-27=0/857, 7-27=-869/0, 7-25=0/547,  
9-25=-614/0, 9-24=0/654, 11-21=-72/285,  
12-20=-277/0, 13-20=0/283, 13-18=-514/0,  
14-18=0/522, 14-17=-756/0, 15-17=0/656

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are MT20 plates unless otherwise indicated.

- All plates are 3x3 (=) MT20 unless otherwise indicated.
  - Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - CAUTION, Do not erect truss backwards.
- LOAD CASE(S)** Standard  
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 16-31=-7, 1-15=-67  
Concentrated Loads (lb)  
Vert: 1=-800



January 22, 2025

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

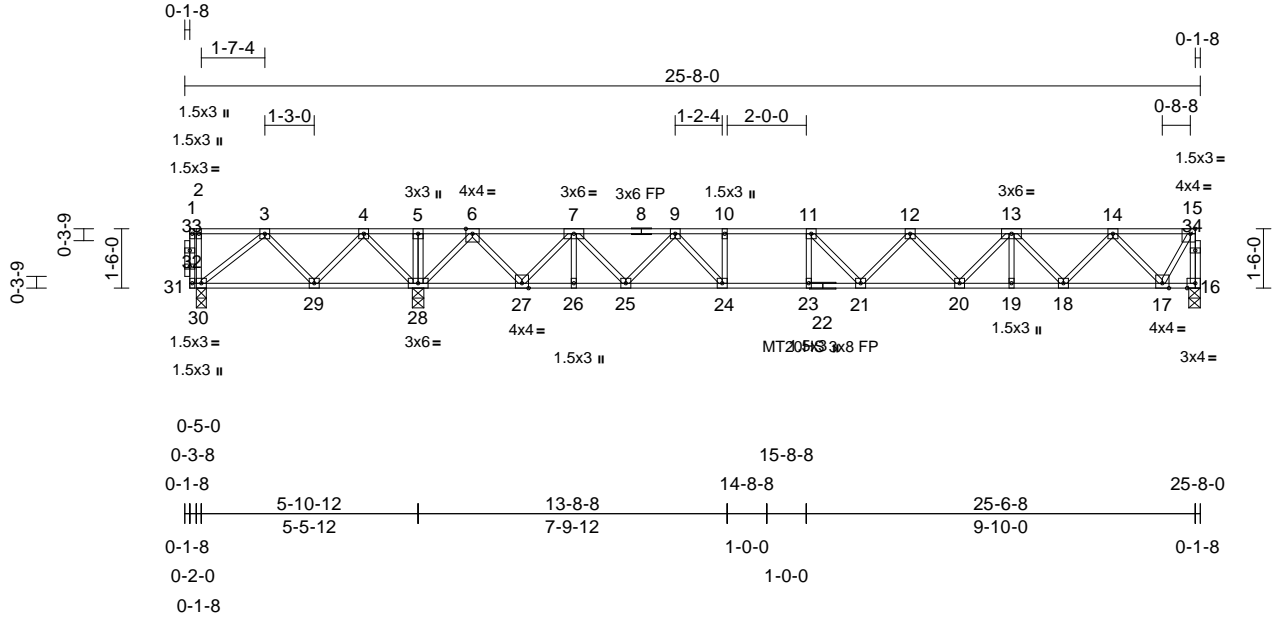
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2F6	Truss Type Floor	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914639
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:48.9  
Plate Offsets (X, Y): [15:0-1-8,Edge], [16:0-2-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.49	Vert(LL)	-0.18	21-23	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.61	Vert(CT)	-0.25	21-23	>962	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
											Weight: 143 lb	FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

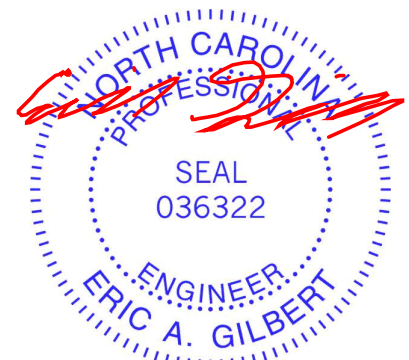
**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
6-0-0 oc bracing: 29-30,28-29,27-28.

**REACTIONS** (lb/size)  
16=621/0-3-8, 28=1347/0-3-8,  
31=683/0-3-0  
Max Grav 16=624 (LC 4), 28=1347 (LC 1),  
31=895 (LC 3)

**FORCES** (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.  
TOP CHORD 31-32=-824/0, 32-33=-824/0, 1-33=-824/0,  
16-34=-625/0, 15-34=-623/0, 3-4=0/642,  
4-5=0/1318, 5-6=0/1318, 7-8=-1034/0,  
8-9=-1034/0, 9-10=-1830/0, 10-11=-1830/0,  
11-12=-1958/0, 12-13=-1788/0,  
13-14=-1237/0, 14-15=-378/0  
BOT CHORD 29-30=-361/73, 28-29=-932/0, 27-28=-560/0,  
26-27=0/659, 25-26=0/659, 24-25=0/1444,  
23-24=0/1830, 22-23=0/1830, 21-22=0/1830,  
20-21=0/1974, 19-20=0/1593, 18-19=0/1593,  
17-18=0/886  
WEBS 10-24=-303/0, 4-28=-686/0, 4-29=0/466,  
3-29=-445/0, 3-30=-95/468, 6-28=-1083/0,  
6-27=0/857, 7-27=-869/0, 7-25=0/547,  
9-25=-614/0, 9-24=0/654, 11-21=-72/285,  
12-20=-277/0, 13-20=0/283, 13-18=-514/0,  
14-18=0/522, 14-17=-756/0, 15-17=0/656

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are MT20 plates unless otherwise indicated.

- All plates are 3x3 (=) MT20 unless otherwise indicated.
  - Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
  - Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
  - CAUTION, Do not erect truss backwards.
- LOAD CASE(S)** Standard  
1) Dead + Floor Live (balanced): Lumber Increase=1.00,  
Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 16-31=-7, 1-15=-67  
Concentrated Loads (lb)  
Vert: 1=-795



January 22, 2025

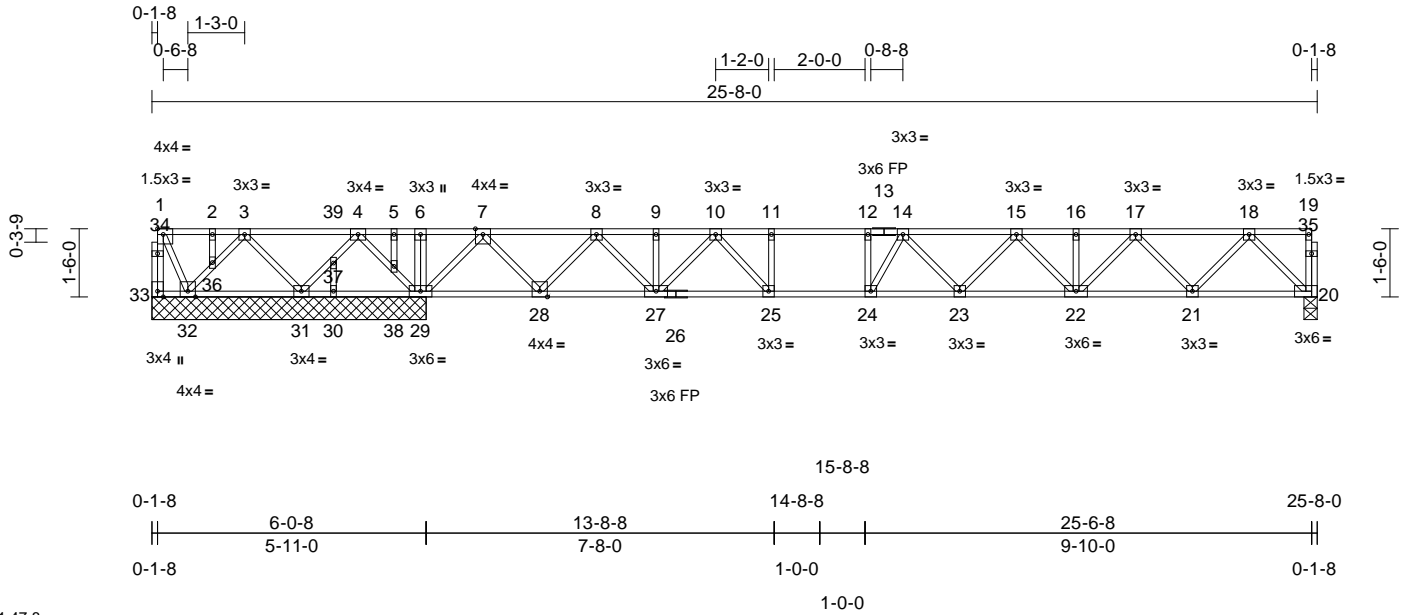


Job 2501-0738-A	Truss 2F10	Truss Type Floor	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914640
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Jan 21 12:52:13  
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Page: 1



Scale = 1:47.8  
Plate Offsets (X, Y): [1:Edge,0-1-8]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.99	Vert(LL)	-0.19	23-24	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.55	Vert(CT)	-0.26	23-24	>889	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.41	Horz(CT)	0.02	20	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								

Weight: 146 lb FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP No.2(flat)  
BOT CHORD 2x4 SP No.2(flat) \*Except\* 26-20:2x4 SP SS (flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-10-15 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

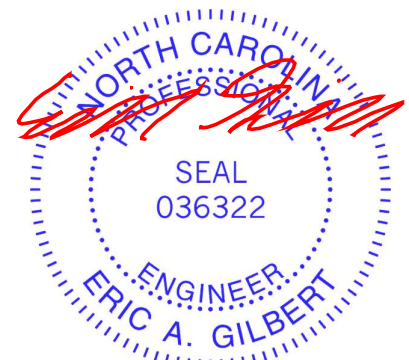
**REACTIONS** (size)  
20=0-3-8, 29=6-0-8, 30=6-0-8,  
31=6-0-8, 32=6-0-8, 33=6-0-8  
Max Uplift 30=26 (LC 4), 31=391 (LC 4)  
Max Grav 20=617 (LC 4), 29=1506 (LC 1),  
30=2 (LC 3), 31=62 (LC 3), 32=200 (LC 3), 33=222 (LC 3)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-33=-224/0, 19-20=-23/0, 1-2=0/59,  
2-3=0/59, 3-4=0/302, 4-5=0/1384,  
5-6=0/1384, 6-7=0/1384, 7-8=-34/119,  
8-9=-960/0, 9-10=-960/0, 10-11=-1740/0,  
11-12=-1740/0, 12-14=-1740/0,  
14-15=-1897/0, 15-16=-1620/0,  
16-17=-1620/0, 17-18=-987/0, 18-19=-1/0  
BOT CHORD 32-33=0/20, 31-32=-152/1, 30-31=-789/0,  
29-30=-789/0, 28-29=-619/0, 27-28=0/514,  
25-27=0/1343, 24-25=0/1740, 23-24=0/1896,  
22-23=0/1827, 21-22=0/1365, 20-21=0/588

**WEBS**  
6-29=-137/0, 11-25=-327/0, 12-24=-54/213,  
4-38=-932/0, 29-38=-864/0, 31-37=0/748,  
4-37=0/764, 3-31=-285/0, 32-36=-65/151,  
3-36=-53/154, 1-32=-189/0, 7-29=-1084/0,  
7-28=0/856, 8-28=-822/0, 8-27=0/646,  
9-27=-94/0, 10-27=-556/0, 10-25=0/648,  
18-20=-830/0, 18-21=0/593, 17-21=-563/0,  
17-22=0/368, 16-22=-46/0, 15-22=-301/0,  
15-23=0/133, 14-23=-97/64, 14-24=-411/52,  
2-36=-18/0, 30-37=0/22, 5-38=0/97

- NOTES**
- 1) Unbalanced floor live loads have been considered for this design.
  - 2) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
  - 3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - 4) Gable studs spaced at 1-4-0 oc.
  - 5) Bearings are assumed to be: Joint 30 SP No.3, Joint 20 SP SS.
  - 6) Bearing at joint(s) 33, 20 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 391 lb uplift at joint 31.
  - 8) N/A
  - 9) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
  - 10) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 1) CAUTION, Do not erect truss backwards.  
**LOAD CASE(S)** Standard

1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 20-33=-7, 1-19=-67  
Concentrated Loads (lb)  
Vert: 1=-317



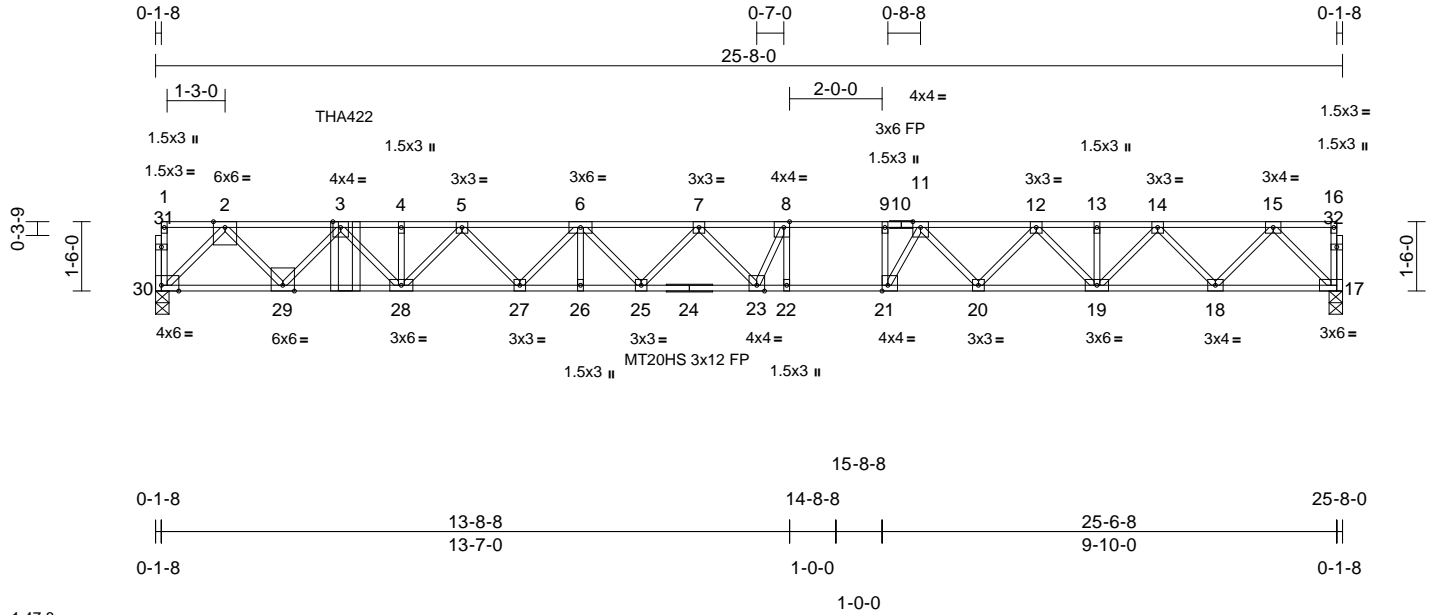
January 22, 2025

Job 2501-0738-A	Truss 2FGR1	Truss Type Floor Girder	Qty 1	Ply 2	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	I70914641
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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 Jan 21 12:52:14  
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Page: 1



Scale = 1:47.8

Plate Offsets (X, Y): [8:0-1-8,Edge], [21:0-1-8,Edge], [30:0-4-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.78	Vert(LL)	-0.44	22-23	>687	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.91	Vert(CT)	-0.61	22-23	>498	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.09	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
											Weight: 282 lb	FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat) \*Except\* 10-16:2x4 SP No.2 (flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

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

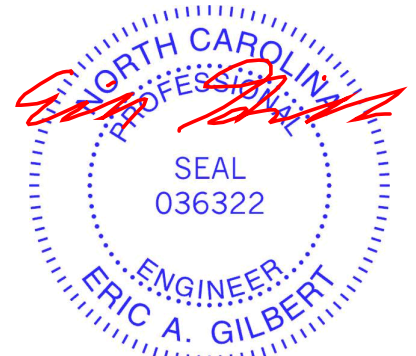
**REACTIONS** (size) 17=0-3-8, 30=0-3-8  
Max Grav 17=1242 (LC 1), 30=2672 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-30=-24/0, 16-17=-24/0, 1-2=-1/0, 2-3=-4893/0, 3-4=-7395/0, 4-5=-7395/0, 5-6=-7646/0, 6-7=-7566/0, 7-8=-7077/0, 8-9=-6647/0, 9-11=-6647/0, 11-12=-5346/0, 12-13=-3979/0, 13-14=-3979/0, 14-15=-2172/0, 15-16=-1/0  
BOT CHORD 29-30=0/2637, 28-29=0/7134, 27-28=0/7595, 26-27=0/7684, 25-26=0/7684, 23-25=0/7461, 22-23=0/6647, 21-22=0/6647, 20-21=0/6058, 19-20=0/4762, 18-19=0/3126, 17-18=0/1209  
WEBS 8-22=-846/0, 9-21=-831/0, 2-30=-3728/0, 2-29=0/3354, 3-29=-3332/0, 3-28=0/377, 4-28=-50/0, 5-28=-289/0, 5-27=-69/229, 6-27=-212/92, 6-26=0/15, 6-25=-311/157, 7-25=-135/287, 7-23=-753/93, 8-23=-24/1281, 15-17=-1708/0, 15-18=0/1433, 14-18=-1418/0, 14-19=0/1235, 13-19=-38/10, 12-19=-1135/0, 12-20=0/868, 11-20=-1089/0, 11-21=0/1474

- Unbalanced floor live loads have been considered for this design.
- All plates are MT20 plates unless otherwise indicated.
- Bearings are assumed to be: Joint 30 SP No.3, Joint 17 SP SS.
- Bearing at joint(s) 30, 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 4-1-4 from the left end to connect truss(es) to front face of top chord.
- Fill all nail holes where hanger is in contact with lumber.
- In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard  
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)  
Vert: 17-30=-7, 1-16=-67  
Concentrated Loads (lb)  
Vert: 3=-2058 (F)

- NOTES**
- Fasten trusses together to act as a single unit as per standard industry detail, or loads are to be evenly applied to all plies.



January 22, 2025

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

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



818 Soundside Road  
Edenton, NC 27932

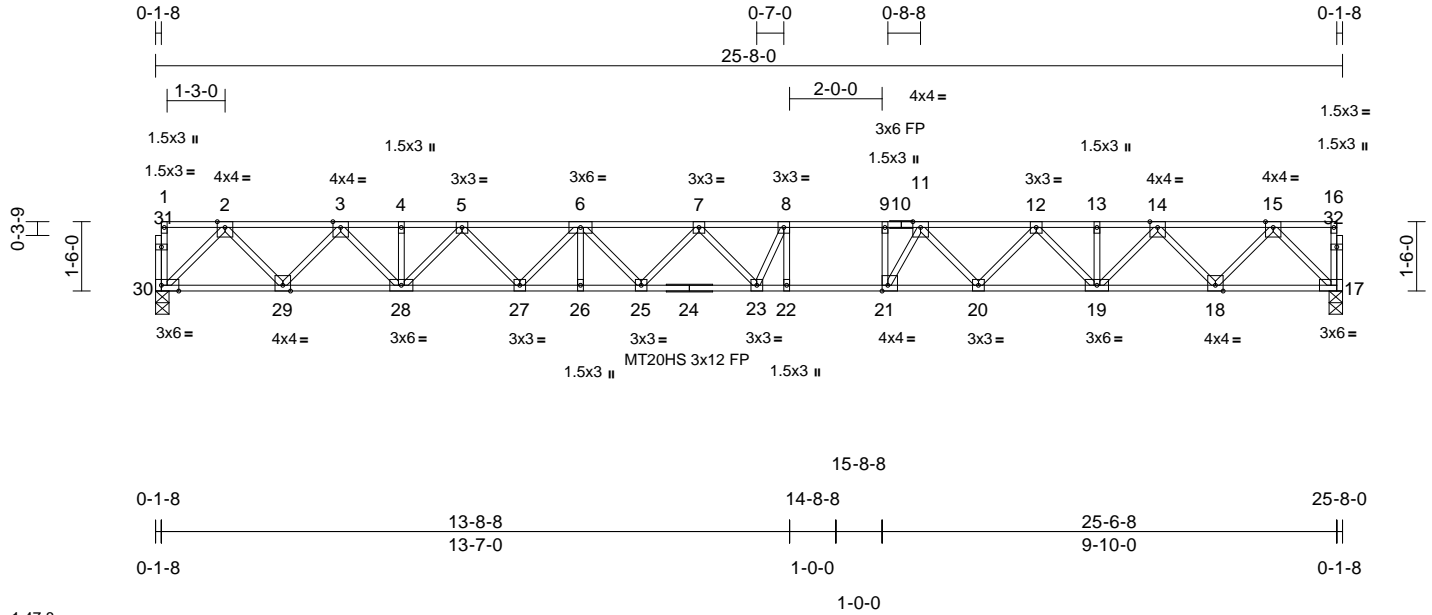
Job 2501-0738-A	Truss 2F1	Truss Type Floor	Qty 21	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914642
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Jan 21 12:52:08

Page: 1

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Scale = 1:47.8  
Plate Offsets (X, Y): [21:0-1-8,Edge], [30:0-4-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.74	Vert(LL)	-0.47	22-23	>650	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.87	Vert(CT)	-0.64	22-23	>473	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.48	Horz(CT)	0.09	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								Weight: 141 lb FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP SS(flat) \*Except\* 10-16:2x4 SP No.2 (flat)  
BOT CHORD 2x4 SP SS(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

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

**REACTIONS** (size) 17=0-3-8, 30=0-3-8  
Max Grav 17=928 (LC 1), 30=928 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-30=-23/0, 16-17=-23/0, 1-2=-1/0, 2-3=-1577/0, 3-4=-2792/0, 4-5=-2792/0, 5-6=-3627/0, 6-7=-4139/0, 7-8=-4272/0, 8-9=-4185/0, 9-11=-4185/0, 11-12=-3612/0, 12-13=-2794/0, 13-14=-2794/0, 14-15=-1577/0, 15-16=-1/0  
BOT CHORD 29-30=0/897, 28-29=0/2240, 27-28=0/3289, 26-27=0/3968, 25-26=0/3968, 23-25=0/4294, 22-23=0/4185, 21-22=0/4185, 20-21=0/3968, 19-20=0/3288, 18-19=0/2241, 17-18=0/897  
WEBS 8-22=-359/90, 9-21=-408/0, 2-30=-1267/0, 2-29=0/1011, 3-29=-985/0, 3-28=0/800, 4-28=-42/0, 5-28=-719/0, 5-27=0/503, 6-27=-493/0, 6-26=0/8, 6-25=0/273, 7-25=-243/0, 7-23=-205/243, 8-23=-248/461, 15-17=-1267/0, 15-18=0/1011, 14-18=-988/0, 14-19=0/800, 13-19=-41/1, 12-19=-715/0, 12-20=0/483, 11-20=-550/0, 11-21=-22/700

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) All plates are MT20 plates unless otherwise indicated.

- Bearings are assumed to be: Joint 30 SP No.3, Joint 17 SP SS.
- Bearing at joint(s) 30, 17 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard



January 22, 2025

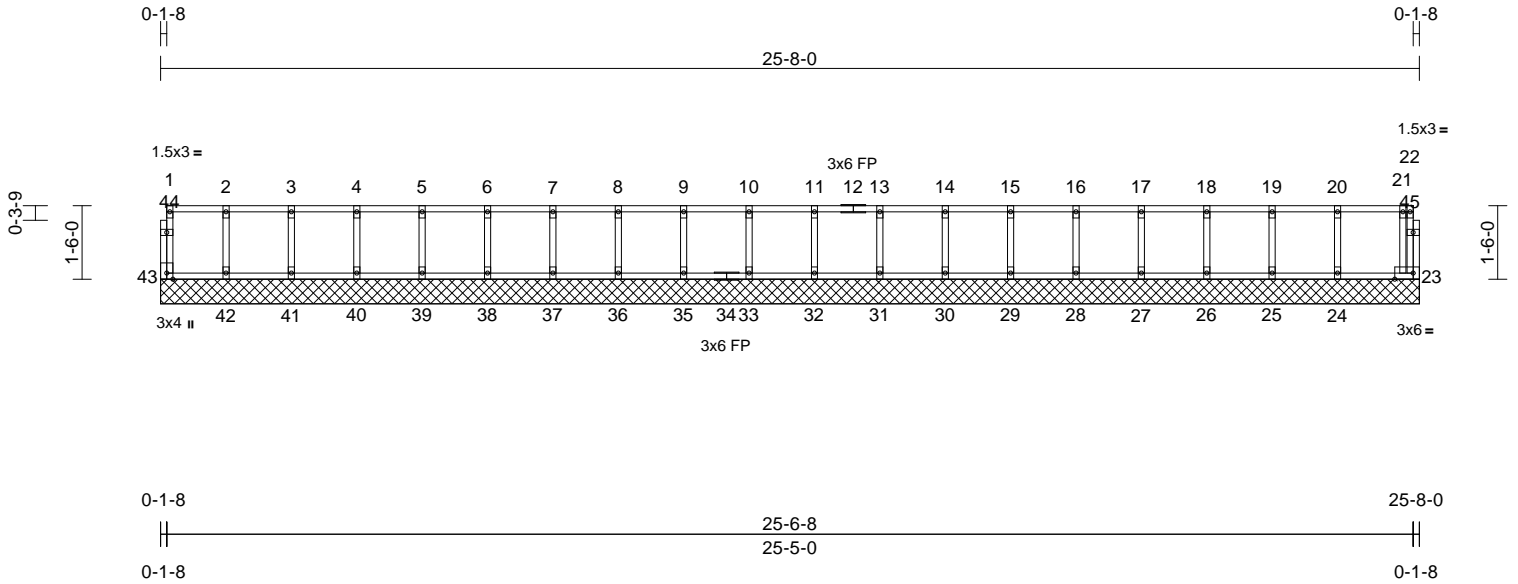


Job 2501-0738-A	Truss 2FGE1	Truss Type Floor Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914643
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Jan 21 12:52:14  
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Page: 1



Scale = 1:47.8

Plate Offsets (X, Y): [23:0-4-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.06	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.02	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.02	Horiz(TL)	0.00	23	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 118 lb	FT = 20%F, 12%E

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

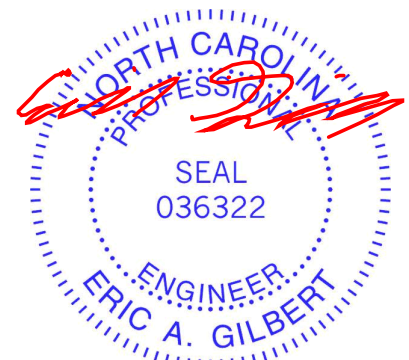
**BOT CHORD** 42-43=0/10, 41-42=0/10, 40-41=0/10, 39-40=0/10, 38-39=0/10, 37-38=0/10, 36-37=0/10, 35-36=0/10, 33-35=0/10, 32-33=0/10, 31-32=0/10, 30-31=0/10, 29-30=0/10, 28-29=0/10, 27-28=0/10, 26-27=0/10, 25-26=0/10, 24-25=0/10, 23-24=0/10  
**WEBS** 2-42=-84/0, 3-41=-90/0, 4-40=-89/0, 5-39=-89/0, 6-38=-89/0, 7-37=-89/0, 8-36=-89/0, 9-35=-89/0, 10-33=-89/0, 11-32=-89/0, 13-31=-89/0, 14-30=-89/0, 15-29=-89/0, 16-28=-89/0, 17-27=-89/0, 18-26=-90/0, 19-25=-86/0, 20-24=-98/0, 21-23=-50/0

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

**REACTIONS** (size) 23=25-8-0, 24=25-8-0, 25=25-8-0, 26=25-8-0, 27=25-8-0, 28=25-8-0, 29=25-8-0, 30=25-8-0, 31=25-8-0, 32=25-8-0, 33=25-8-0, 35=25-8-0, 36=25-8-0, 37=25-8-0, 38=25-8-0, 39=25-8-0, 40=25-8-0, 41=25-8-0, 42=25-8-0, 43=25-8-0  
Max Grav 23=51 (LC 1), 24=110 (LC 1), 25=94 (LC 1), 26=99 (LC 1), 27=98 (LC 1), 28=98 (LC 1), 29=98 (LC 1), 30=98 (LC 1), 31=98 (LC 1), 32=98 (LC 1), 33=98 (LC 1), 35=98 (LC 1), 36=98 (LC 1), 37=98 (LC 1), 38=98 (LC 1), 39=98 (LC 1), 40=97 (LC 1), 41=100 (LC 1), 42=89 (LC 1), 43=43 (LC 1)

**NOTES**  
1) All plates are 1.5x3 (||) MT20 unless otherwise indicated.  
2) Gable requires continuous bottom chord bearing.  
3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).  
4) Gable studs spaced at 1-4-0 oc.  
5) All bearings are assumed to be SP No.2 .  
6) Bearing at joint(s) 43, 23 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.  
7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.  
**LOAD CASE(S)** Standard

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-43=-37/0, 22-23=0/2, 1-2=-10/0, 2-3=-10/0, 3-4=-10/0, 4-5=-10/0, 5-6=-10/0, 6-7=-10/0, 7-8=-10/0, 8-9=-10/0, 9-10=-10/0, 10-11=-10/0, 11-13=-10/0, 13-14=-10/0, 14-15=-10/0, 15-16=-10/0, 16-17=-10/0, 17-18=-10/0, 18-19=-10/0, 19-20=-10/0, 20-21=-10/0, 21-22=-1/0



January 22, 2025

**WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 1/2/2023 BEFORE USE.**  
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see **ANSI/TPI1 Quality Criteria and DSB-22** available from Truss Plate Institute (www.tpinst.org) and **BCSI Building Component Safety Information** available from the Structural Building Component Association (www.sbcacomponents.com)

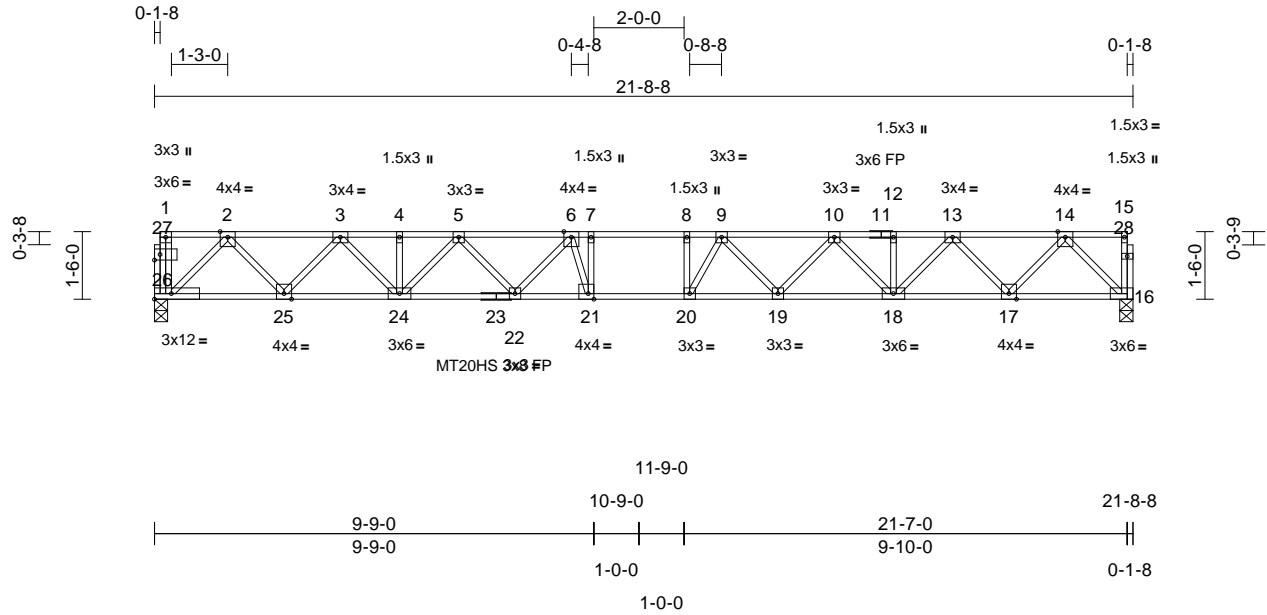
ENGINEERING BY  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2F4	Truss Type Floor	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914644
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Structural, LLC, Thurmont, MD - 21788,

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Page: 1



Scale = 1:44.3  
Plate Offsets (X, Y): [21:0-1-8,Edge], [27:0-1-8,0-1-8]

Loading	(psf)	Spacing	1-7-12	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	Vert(LL)	-0.30	20-21	>849	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	Vert(CT)	-0.42	20-21	>617	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	YES	WB	Horz(CT)	0.08	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S						Weight: 121 lb	FT = 20%F, 12%E

**LUMBER**  
TOP CHORD 2x4 SP No.2(flat)  
BOT CHORD 2x4 SP No.2(flat) \*Except\* 23-16:2x4 SP SS (flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 5-6-13 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

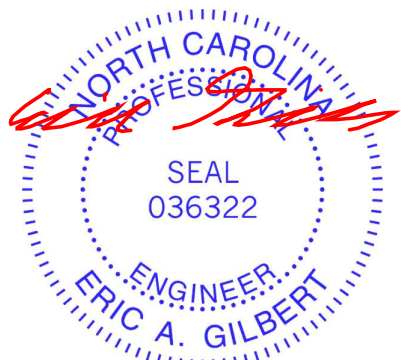
**REACTIONS** (size) 16=0-3-8, 26=0-3-8  
Max Grav 16=963 (LC 1), 26=963 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-26=-32/0, 15-16=-28/0, 1-2=-1/0, 2-3=-1634/0, 3-4=-2785/0, 4-5=-2785/0, 5-6=-3465/0, 6-7=-3738/0, 7-8=-3738/0, 8-9=-3738/0, 9-10=-3454/0, 10-12=-2761/0, 12-13=-2761/0, 13-14=-1601/0, 14-15=-1/0  
BOT CHORD 25-26=0/964, 24-25=0/2281, 22-24=0/3218, 21-22=0/3699, 20-21=0/3738, 19-20=0/3684, 18-19=0/3203, 17-18=0/2254, 16-17=0/926  
WEBS 7-21=-438/195, 8-20=-304/106, 2-26=-1332/0, 2-25=0/995, 3-25=-963/0, 3-24=0/730, 4-24=-55/0, 5-24=-627/0, 5-22=0/391, 6-22=-444/0, 6-21=-302/597, 14-16=-1308/0, 14-17=0/1003, 13-17=-971/0, 13-18=0/735, 12-18=-53/0, 10-18=-640/0, 10-19=0/374, 9-19=-409/0, 9-20=-226/480

- Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard

- NOTES**
- Unbalanced floor live loads have been considered for this design.
  - All plates are MT20 plates unless otherwise indicated.
  - Bearings are assumed to be: Joint 26 SP No.2, Joint 16 SP SS.



January 22, 2025

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

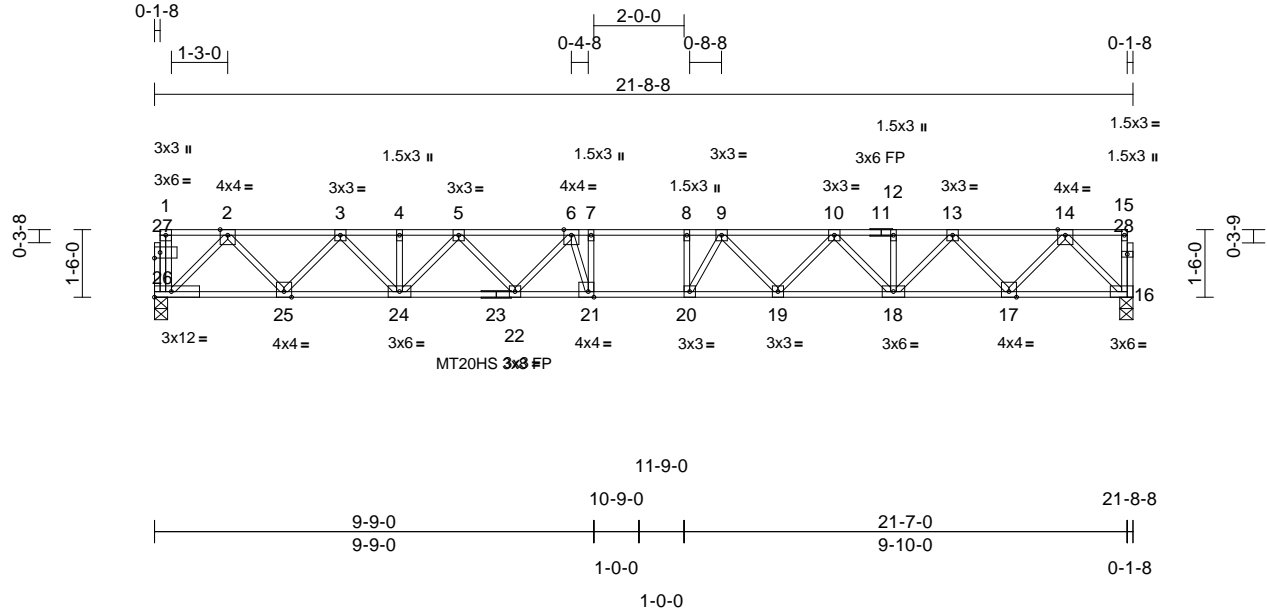
**ENGINEERING BY**  
**TRENCO**  
A MiTek Affiliate  
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2F3	Truss Type Floor	Qty 3	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914645
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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 Jan 21 12:52:10  
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Page: 1



Scale = 1:44.3

Plate Offsets (X, Y): [21:0-1-8,Edge], [27:0-1-8,0-1-8]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.70	Vert(LL)	-0.27	20-21	>958	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.37	20-21	>696	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	YES	WB	0.39	Horz(CT)	0.07	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
											Weight: 121 lb	FT = 20%F, 12%E

**LUMBER**

- TOP CHORD 2x4 SP No.2(flat)
- BOT CHORD 2x4 SP No.2(flat)
- WEBS 2x4 SP No.3(flat)
- OTHERS 2x4 SP No.3(flat)

- 5) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard

**BRACING**

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

**REACTIONS** (size) 16=0-3-8, 26=0-3-8

Max Grav 16=780 (LC 1), 26=780 (LC 1)

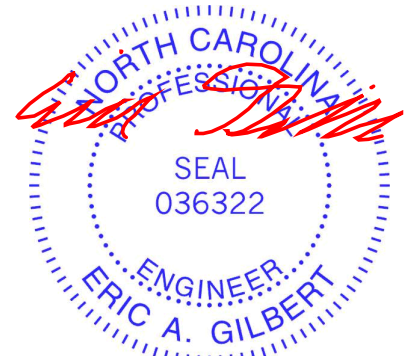
**FORCES**

(lb) - Maximum Compression/Maximum Tension

- TOP CHORD 1-26=-26/0, 15-16=-23/0, 1-2=-1/0, 2-3=-1323/0, 3-4=-2256/0, 4-5=-2256/0, 5-6=-2807/0, 6-7=-3028/0, 7-8=-3028/0, 8-9=-3028/0, 9-10=-2798/0, 10-12=-2237/0, 12-13=-2237/0, 13-14=-1297/0, 14-15=-1/0
- BOT CHORD 25-26=0/781, 24-25=0/1848, 22-24=0/2607, 21-22=0/2996, 20-21=0/3028, 19-20=0/2985, 18-19=0/2595, 17-18=0/1825, 16-17=0/750
- WEBS 7-21=-382/181, 8-20=-263/104, 2-26=-1080/0, 2-25=0/806, 3-25=-780/0, 3-24=0/591, 4-24=-44/0, 5-24=-509/0, 5-22=0/316, 6-22=-352/0, 6-21=-257/500, 14-16=-1060/0, 14-17=0/812, 13-17=-786/0, 13-18=0/597, 12-18=-45/0, 10-18=-517/0, 10-19=0/303, 9-19=-325/0, 9-20=-190/395

**NOTES**

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are MT20 plates unless otherwise indicated.
- 3) All bearings are assumed to be SP No.2.
- 4) Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.



January 22, 2025

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

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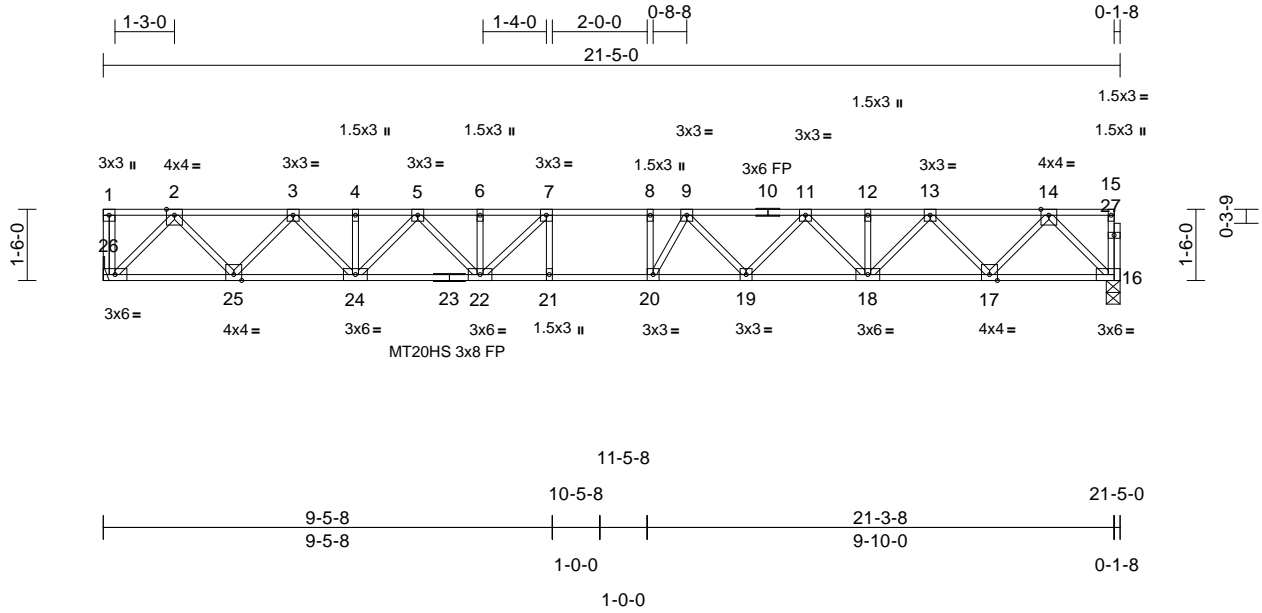
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2F2	Truss Type Floor	Qty 5	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914646
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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 Jan 21 12:52:10  
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Page: 1



Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.66	Vert(LL)	-0.26	20	>978	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.95	Vert(CT)	-0.36	20-21	>710	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.38	Horz(CT)	0.07	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S								
											Weight: 119 lb	FT = 20%F, 12%E

**LUMBER**

TOP CHORD 2x4 SP No.2(flat)  
BOT CHORD 2x4 SP No.2(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- CAUTION, Do not erect truss backwards.

**BRACING**

TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
2-2-0 oc bracing: 20-21,19-20.

**LOAD CASE(S)** Standard

**REACTIONS**

(size) 16=0-3-8, 26= Mechanical  
Max Grav 16=772 (LC 1), 26=776 (LC 1)

**FORCES**

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-26=-25/0, 15-16=-23/0, 1-2=0/0,  
2-3=-1281/0, 3-4=-2210/0, 4-5=-2210/0,  
5-6=-2779/0, 6-7=-2779/0, 7-8=-2962/0,  
8-9=-2962/0, 9-11=-2752/0, 11-12=-2206/0,  
12-13=-2206/0, 13-14=-1281/0, 14-15=-1/0  
BOT CHORD 25-26=0/743, 24-25=0/1801, 22-24=0/2542,  
21-22=0/2962, 20-21=0/2962, 19-20=0/2929,  
18-19=0/2555, 17-18=0/1802, 16-17=0/742  
WEBS 7-21=-76/116, 8-20=-246/103, 2-26=-1050/0,  
2-25=0/800, 3-25=-774/0, 3-24=0/591,  
4-24=-67/0, 5-24=-481/0, 5-22=0/343,  
7-22=-500/76, 14-16=-1048/0, 14-17=0/801,  
13-17=-775/0, 13-18=0/585, 12-18=-45/0,  
11-18=-506/0, 11-19=0/294, 9-19=-318/0,  
9-20=-206/382, 6-22=-143/79

**NOTES**

- Unbalanced floor live loads have been considered for this design.
- All plates are MT20 plates unless otherwise indicated.
- Bearings are assumed to be: , Joint 16 SP No.2 .
- Refer to girder(s) for truss to truss connections.
- Bearing at joint(s) 16 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.



January 22, 2025

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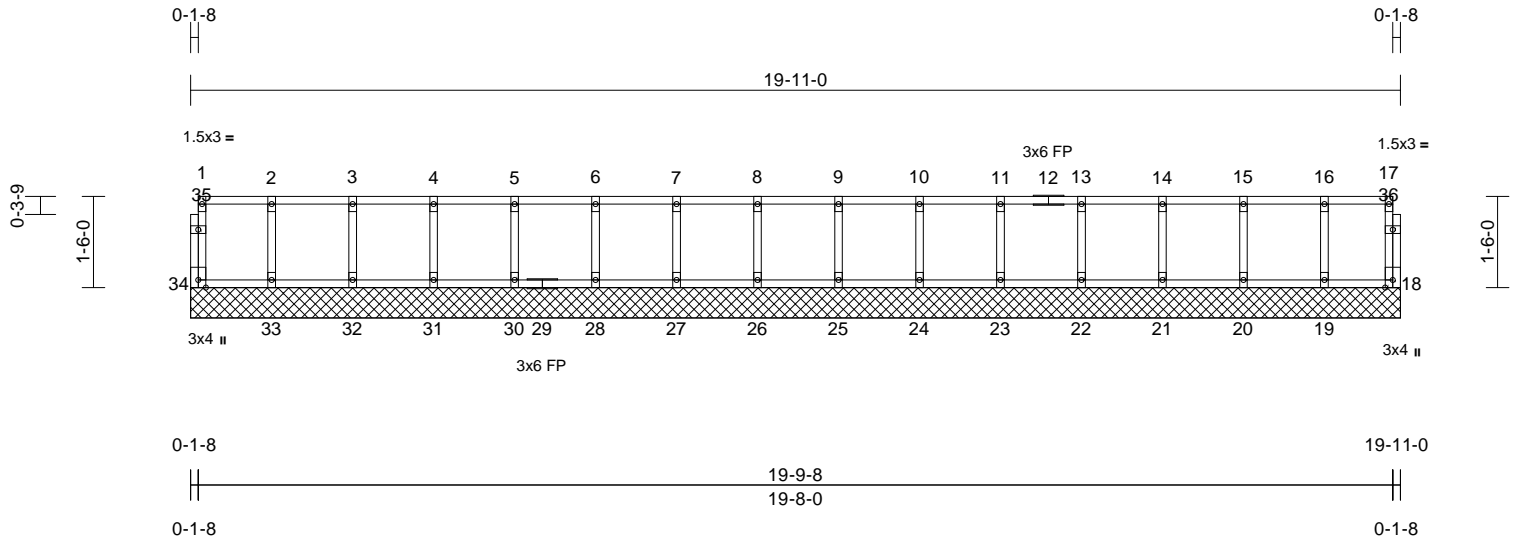
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2FGE2	Truss Type Floor Supported Gable	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914647
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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 Jan 21 12:52:14  
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Page: 1



Scale = 1:39

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	Horiz(TL)	0.00	18	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R						Weight: 92 lb	FT = 20%F, 12%E

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

WEBS	
2-33	=-87/0, 3-32=-89/0, 4-31=-89/0,
5-30	=-89/0, 6-28=-89/0, 7-27=-89/0,
8-26	=-89/0, 9-25=-89/0, 10-24=-89/0,
11-23	=-89/0, 13-22=-89/0, 14-21=-89/0,
15-20	=-90/0, 16-19=-84/0

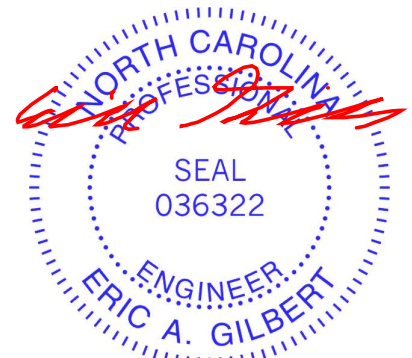
BRACING	
TOP CHORD	Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD	Rigid ceiling directly applied or 10-0-0 oc bracing.

- NOTES**
- 1) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
  - 2) Gable requires continuous bottom chord bearing.
  - 3) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
  - 4) Gable studs spaced at 1-4-0 oc.
  - 5) All bearings are assumed to be SP No.2 .
  - 6) Bearing at joint(s) 34, 18 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.
  - 7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

REACTIONS	(size)	
		18=19-11-0, 19=19-11-0,
		20=19-11-0, 21=19-11-0,
		22=19-11-0, 23=19-11-0,
		24=19-11-0, 25=19-11-0,
		26=19-11-0, 27=19-11-0,
		28=19-11-0, 30=19-11-0,
		31=19-11-0, 32=19-11-0,
		33=19-11-0, 34=19-11-0
Max Grav		18=35 (LC 1), 19=92 (LC 1), 20=99 (LC 1), 21=97 (LC 1), 22=98 (LC 1), 23=98 (LC 1), 24=98 (LC 1), 25=98 (LC 1), 26=98 (LC 1), 27=98 (LC 1), 28=98 (LC 1), 30=98 (LC 1), 31=98 (LC 1), 32=98 (LC 1), 33=96 (LC 1), 34=37 (LC 1)

**LOAD CASE(S)** Standard

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-34=-34/0, 17-18=-31/0, 1-2=-6/0, 2-3=-6/0, 3-4=-6/0, 4-5=-6/0, 5-6=-6/0, 6-7=-6/0, 7-8=-6/0, 8-9=-6/0, 9-10=-6/0, 10-11=-6/0, 11-13=-6/0, 13-14=-6/0, 14-15=-6/0, 15-16=-6/0, 16-17=-6/0
BOT CHORD	33-34=0/6, 32-33=0/6, 31-32=0/6, 30-31=0/6, 28-30=0/6, 27-28=0/6, 26-27=0/6, 25-26=0/6, 24-25=0/6, 23-24=0/6, 22-23=0/6, 21-22=0/6, 20-21=0/6, 19-20=0/6, 18-19=0/6



January 22, 2025

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

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818 Soundside Road  
Edenton, NC 27932

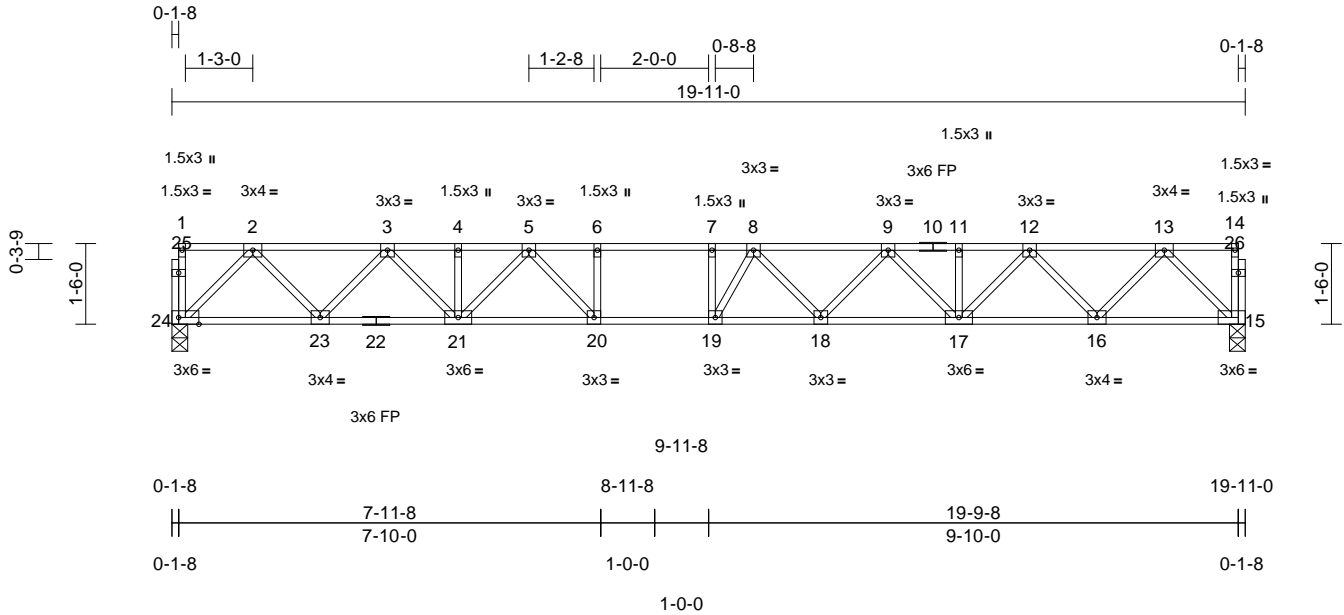


Job 2501-0738-A	Truss 2F9	Truss Type Floor	Qty 3	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914648
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Structural, LLC, Thurmont, MD - 21788,

Run: 8.83 S Dec 4 2024 Print: 8.830 S Dec 4 2024 MiTek Industries, Inc. Tue Jan 21 12:52:13  
ID:sBkXLEWBUi?pX8eu4ub2jQyFJz4-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCdoi7J4zJC?f

Page: 1



Scale = 1:39  
Plate Offsets (X, Y): [24:0-4-8,Edge]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.76	Vert(LL)	-0.23	18-19	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.97	Vert(CT)	-0.31	18-19	>763	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.35	Horz(CT)	0.06	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 109 lb	FT = 20%F, 12%E

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

4) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.

**LOAD CASE(S)** Standard

**BRACING**  
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.  
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:  
2-2-0 oc bracing: 19-20,18-19.

**REACTIONS** (size) 15=0-3-8, 24=0-3-8  
Max Grav 15=717 (LC 1), 24=717 (LC 1)

**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-24=-23/0, 14-15=-23/0, 1-2=-1/0, 2-3=-1177/0, 3-4=-2000/0, 4-5=-2000/0, 5-6=-2528/0, 6-7=-2528/0, 7-8=-2528/0, 8-9=-2448/0, 9-11=-1998/0, 11-12=-1998/0, 12-13=-1176/0, 13-14=-1/0  
BOT CHORD 23-24=0/688, 21-23=0/1644, 20-21=0/2279, 19-20=0/2528, 18-19=0/2564, 17-18=0/2296, 16-17=0/1647, 15-16=0/687  
WEBS 6-20=-282/0, 7-19=-186/159, 2-24=-972/0, 2-23=0/727, 3-23=-695/0, 3-21=0/515, 4-21=-80/0, 5-21=-405/0, 5-20=0/530, 13-15=-971/0, 13-16=0/727, 12-16=-699/0, 12-17=0/509, 11-17=-46/0, 9-17=-432/0, 9-18=0/237, 8-18=-241/0, 8-19=-285/271

**NOTES**  
1) Unbalanced floor live loads have been considered for this design.  
2) Bearings are assumed to be: Joint 24 SP No.3, Joint 15 SP No.2.  
3) Bearing at joint(s) 24, 15 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.



January 22, 2025

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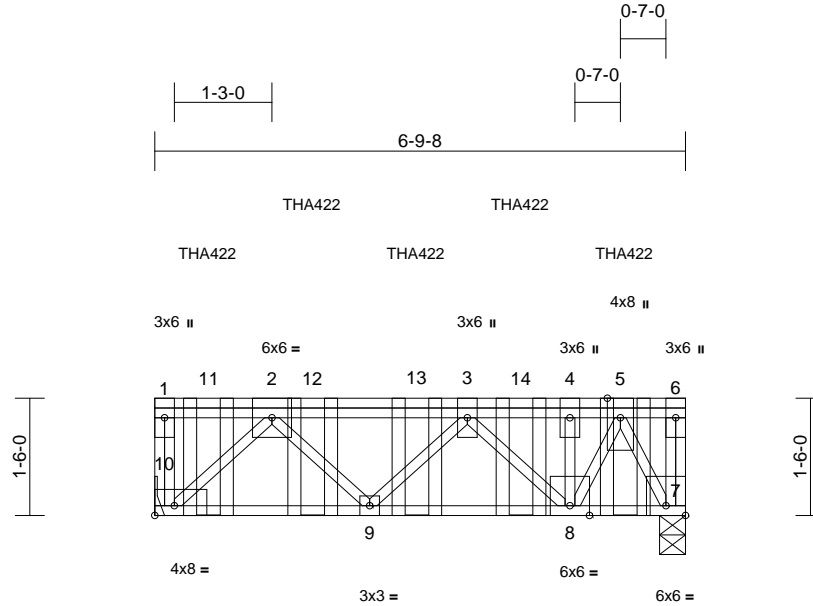
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2FGR2	Truss Type Floor Girder	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914649
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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 Jan 21 12:52:15  
ID:Tf1oJv5ocXPnBafFNRqOExyFJqb-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:22

Plate Offsets (X, Y): [7:Edge,0-1-8], [10:Edge,0-1-8]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.61	Vert(LL)	-0.03	8-9	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.82	Vert(CT)	-0.04	8-9	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.69	Horz(CT)	0.02	7	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 52 lb	FT = 20%F, 12%E

**LUMBER**

TOP CHORD 2x4 SP No.2(flat)  
BOT CHORD 2x4 SP No.2(flat)  
WEBS 2x4 SP No.3(flat)

Vert: 7-10=-7, 1-6=-67  
Concentrated Loads (lb)  
Vert: 5=-732 (B), 11=-735 (B), 12=-732 (B), 13=-732 (B), 14=-732 (B)

**BRACING**

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

**REACTIONS** (size) 7=0-4-0, 10= Mechanical  
Max Grav 7=2040 (LC 1), 10=2103 (LC 1)

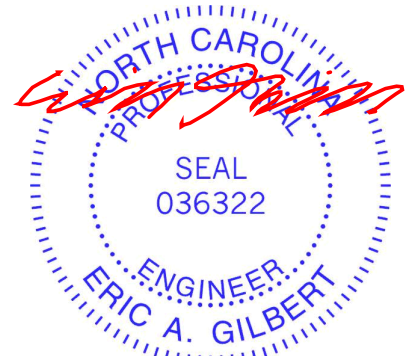
**FORCES** (lb) - Maximum Compression/Maximum Tension  
TOP CHORD 1-10=-274/0, 6-7=-65/0, 1-2=0/0, 2-3=-2297/0, 3-4=-1701/0, 4-5=-1701/0, 5-6=0/0  
BOT CHORD 9-10=0/1906, 8-9=0/2672, 7-8=0/1062  
WEBS 2-10=-2635/0, 2-9=0/567, 3-9=-544/0, 3-8=-1373/0, 4-8=-319/0, 5-8=0/1448, 5-7=-2236/0

**NOTES**

- 1) Bearings are assumed to be: , Joint 7 SP No.2 .
- 2) Refer to girder(s) for truss to truss connections.
- 3) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 4) Use Simpson Strong-Tie THA422 (6-16d Girder, 6-10d Truss) or equivalent spaced at 1-4-0 oc max. starting at 0-8-4 from the left end to 6-0-4 to connect truss(es) to back face of top chord.
- 5) Fill all nail holes where hanger is in contact with lumber.
- 6) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

**LOAD CASE(S)** Standard

- 1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00  
Uniform Loads (lb/ft)



January 22, 2025

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

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



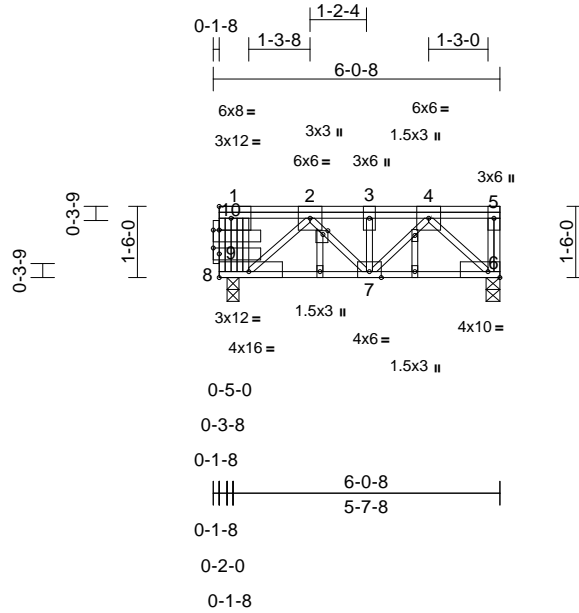
818 Soundside Road  
Edenton, NC 27932

Job 2501-0738-A	Truss 2FGR3	Truss Type Floor Girder	Qty 1	Ply 1	The Farm at Neills Creek Lot 00.0057 OWF Job Reference (optional)	170914650
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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 Jan 21 12:52:15  
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Page: 1



Scale = 1:33.2

Plate Offsets (X, Y): [6:Edge,0-1-8], [8:Edge,0-1-8], [9:0-1-8,0-1-8], [10:0-1-8,0-0-0], [12:0-0-15,0-1-4]

Loading	(psf)	Spacing	1-4-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.53	Vert(LL)	0.00	7	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.81	Vert(CT)	-0.04	7-8	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.80	Horz(CT)	0.02	6	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-P							Weight: 54 lb	FT = 20%F, 12%E

**LUMBER**

TOP CHORD 2x4 SP No.2(flat)  
BOT CHORD 2x4 SP No.2(flat)  
WEBS 2x4 SP No.3(flat)  
OTHERS 2x4 SP No.3(flat)

Vert: 6-8=-7, 1-5=-1027  
Concentrated Loads (lb)  
Vert: 1=-244

**BRACING**

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

**REACTIONS** (size) 6=0-3-8, 8=0-3-0

Max Grav 6=2831 (LC 1), 8=3075 (LC 1)

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

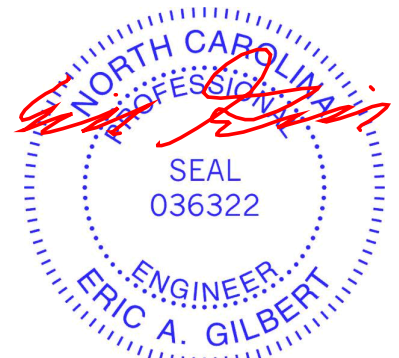
TOP CHORD 1-8=-946/0, 5-6=-594/0, 1-2=0/0,  
2-3=-2982/0, 3-4=-2982/0, 4-5=0/0  
BOT CHORD 7-8=0/2587, 6-7=0/2331  
WEBS 4-6=-3223/0, 4-7=0/943, 2-7=0/572,  
2-8=-3343/0, 3-7=-1084/0

**NOTES**

- 1) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- 2) Gable studs spaced at 2-0-0 oc.
- 3) All bearings are assumed to be SP No.2 .
- 4) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
- 5) Load case(s) 1 has/have been modified. Building designer must review loads to verify that they are correct for the intended use of this truss.
- 6) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 7) CAUTION, Do not erect truss backwards.

**LOAD CASE(S)** Standard

- 1) Dead + Floor Live (balanced): Lumber Increase=1.00,  
Plate Increase=1.00  
Uniform Loads (lb/ft)



January 22, 2025

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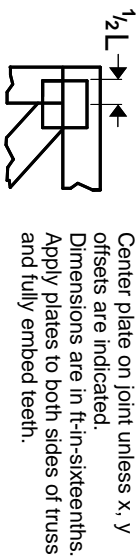
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall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



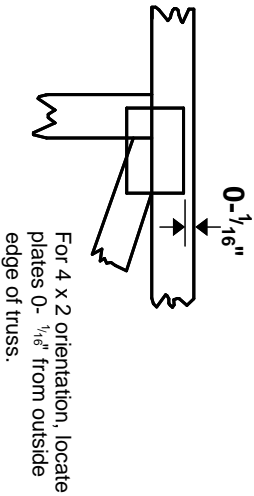
818 Soundside Road  
Edenton, NC 27932

# Symbols

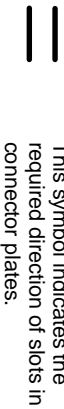
## PLATE LOCATION AND ORIENTATION



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

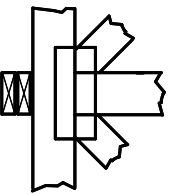
**4 X 4**  
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

## 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

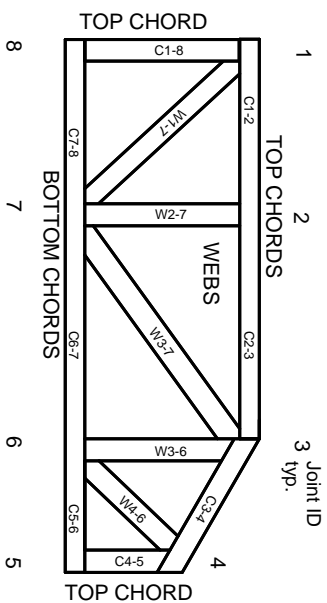


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

## 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



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

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

# Product Code Approvals

ICC-ES Reports:

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

# Design General Notes

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

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

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**MITek**

ENGINEERING BY  
**TRENGO**  
A MITek Affiliate

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

# General Safety Notes

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

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