ENGINEERING BY TRENCO
A MiTek Affiliate

Trenco
818 Soundside Rd
Edenton, NC 27932

RE: 2502-1871-E - Norris Rev 1-El. 5-Floor

Site Information:

Project Customer: DRB Raleigh Project Name: DRB Raleigh Model Track
Lot/Block: Subdivision: DRB Raleigh
Model: Norris Rev 1
Address:
City: State: NC

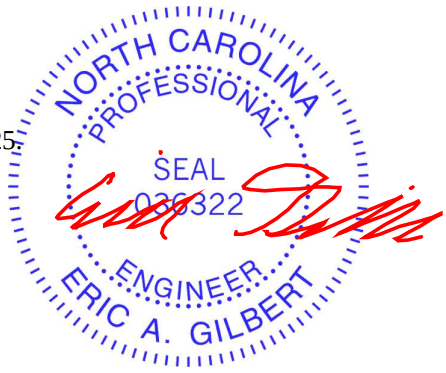
General Truss Engineering Criteria & Design Loads (Individual Truss Design Drawings Show Special Loading Conditions):

Design Code: IRC2021/TPI2014
Design Program: MiTek 20/20 25.2
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
Mean Roof Height (feet): 25
Exposure Category: B

No.	Seal#	Truss Name	Date	No.	Seal#	Truss Name	Date
1	I74038365	1F1	6/9/25	35	I74038399	2F2DT	6/9/25
2	I74038366	1F2	6/9/25				
3	I74038367	1F3	6/9/25				
4	I74038368	1F4	6/9/25				
5	I74038369	1F7	6/9/25				
6	I74038370	1F5	6/9/25				
7	I74038371	1F2GE	6/9/25				
8	I74038372	1F6	6/9/25				
9	I74038373	1F6GE	6/9/25				
10	I74038374	1FGR1	6/9/25				
11	I74038375	1F1GE	6/9/25				
12	I74038376	1F3GE	6/9/25				
13	I74038377	1F4GE	6/9/25				
14	I74038378	1F5GE	6/9/25				
	I74038379	2F5	6/9/25				
16	I74038380	2F6	6/9/25				
17	I74038381	2F3	6/9/25				
18	I74038382	2FGR2	6/9/25				
19	I74038383	2F2	6/9/25				
20	I74038384	2F1	6/9/25				
21	I74038385	2F1GE	6/9/25				
22	I74038386	2F2GE	6/9/25				
23	I74038387	2F4	6/9/25				
	I74038388	2FGR1	6/9/25				
25	I74038389	2F7	6/9/25				
26	I74038390	2F1DT	6/9/25				
27	I74038391	2F13	6/9/25				
28	I74038392	2F12	6/9/25				
29	I74038393	2F10	6/9/25				
30	I74038394	2F9	6/9/25				
31	I74038395	2F14	6/9/25				
32	I74038396	2F8	6/9/25				
	I74038397	2F3GE	6/9/25				
34	I74038398	2F4GE	6/9/25				

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.



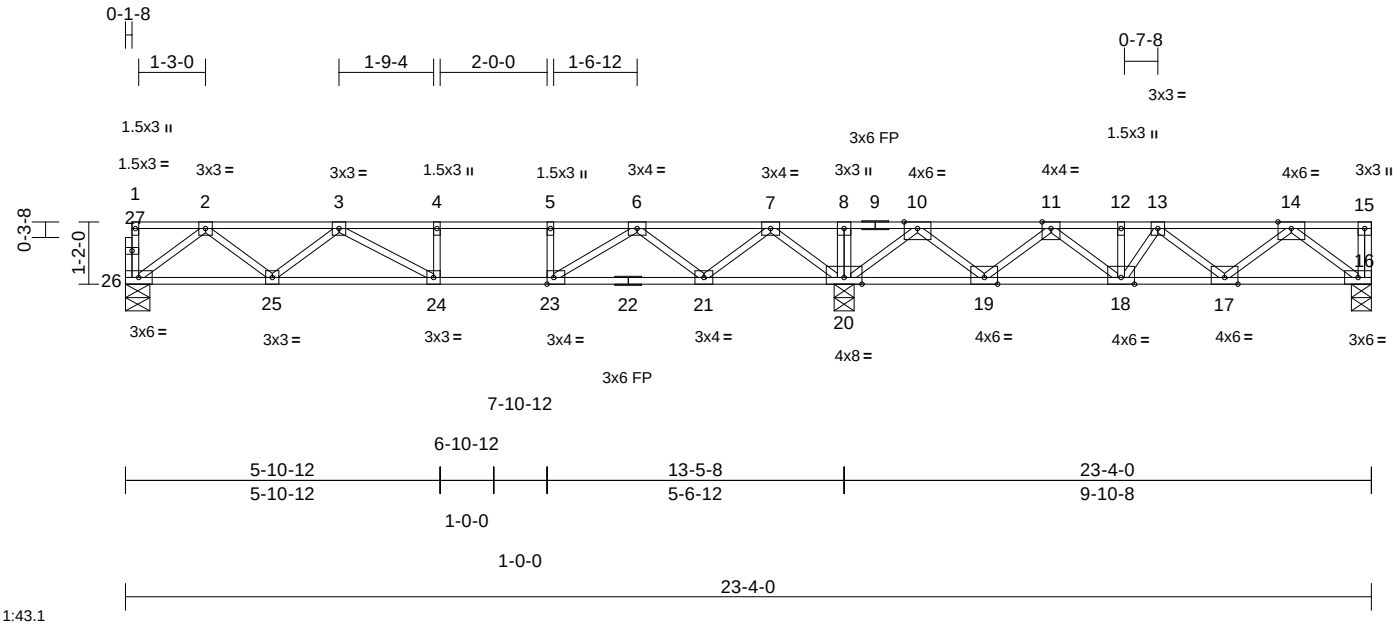
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which 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.

June 9,2025

Gilbert, Eric

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F1	Floor	4	1	Job Reference (optional)	I74038365

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:58 Page: 1
ID:q4QKpz4bvLtXtHYbqxhrnMzBQR7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.1

Plate Offsets (X, Y): [23:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.90	Vert(LL)	-0.13	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.18	24-25	>869	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.60	Horz(CT)	0.03	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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)

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

REACTIONS (size) 16=0-4-8, 20=0-4-8, 26=0-5-8
Max Grav 16=965 (LC 4), 20=1725 (LC 1), 26=478 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-33/0, 15-16=-31/0, 1-2=-2/0, 2-3=-920/0, 3-4=-1180/2, 4-5=-1180/2, 5-6=-1180/2, 6-7=-83/496, 7-8=0/1590, 8-10=0/1590, 10-11=-1096/0, 11-12=-2624/0, 12-13=-2624/0, 13-14=-2105/0, 14-15=0/0
BOT CHORD 25-26=0/587, 24-25=0/1191, 23-24=-2/1180, 21-23=-287/635, 20-21=-825/0, 19-20=-435/214, 18-19=0/1955, 17-18=0/2969, 16-17=0/1217
WEBS 4-24=-51/49, 5-23=-279/0, 8-20=-81/0, 2-26=-734/0, 2-25=0/433, 3-25=-353/5, 3-24=-180/77, 7-20=-1075/0, 7-21=0/726, 6-21=-749/0, 6-23=0/744, 10-20=-1604/0, 14-16=-1527/0, 10-19=0/1250, 14-17=0/1156, 11-19=-1221/0, 13-17=-1125/0, 11-18=0/958, 12-18=-3/6, 13-18=-706/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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.
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) CAUTION, Do not erect truss backwards.

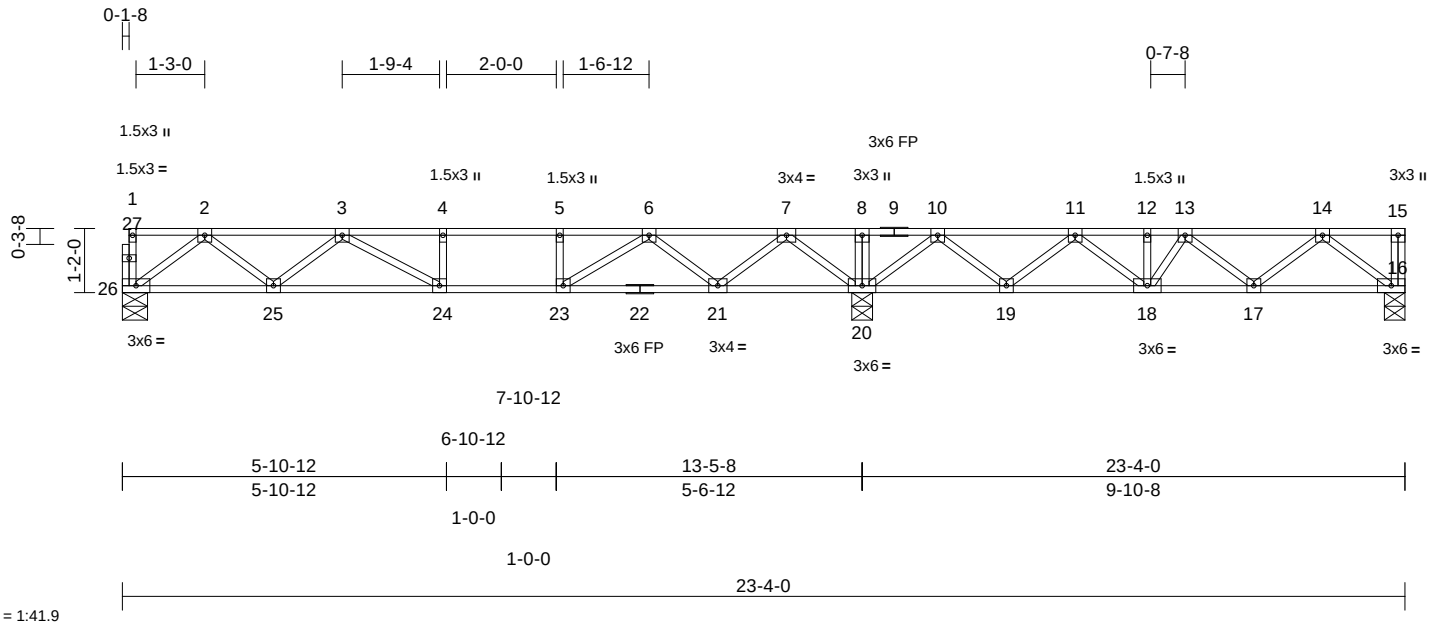
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 16-26=-8, 1-15=-80
Concentrated Loads (lb)
Vert: 13=-1067

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	I74038366
	1F2	Floor	10	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:q4QKpz4bvLtXtHYbqxhrnMzBQR7-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:41.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.60	Vert(LL)	-0.13	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.68	Vert(CT)	-0.17	24-25	>947	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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)

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

REACTIONS (size) 16=0-4-8, 20=0-4-8, 26=0-5-8
Max Grav 16=375 (LC 4), 20=1208 (LC 1), 26=518 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-32/0, 15-16=-31/0, 1-2=-2/0, 2-3=-1012/0, 3-4=-1434/0, 4-5=-1434/0, 5-6=-1434/0, 6-7=-492/87, 7-8=0/1095, 8-10=0/1095, 10-11=-398/384, 11-12=-759/108, 12-13=-759/108, 13-14=-630/6, 14-15=0/0
BOT CHORD 25-26=0/638, 24-25=0/1336, 23-24=0/1434, 21-23=0/990, 20-21=-376/0, 19-20=-563/86, 18-19=-226/687, 17-18=-56/793, 16-17=0/442
WEBS 4-24=-90/11, 5-23=-238/0, 8-20=-75/0, 2-26=-798/0, 2-25=0/487, 3-25=-421/0, 3-24=-54/202, 7-20=-1018/0, 7-21=0/674, 6-21=-680/0, 6-23=0/623, 10-20=-822/0, 14-16=-555/0, 10-19=0/508, 14-17=-33/244, 11-19=-479/0, 13-17=-212/65, 11-18=0/196, 12-18=0/12, 13-18=-141/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
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) CAUTION, Do not erect truss backwards.

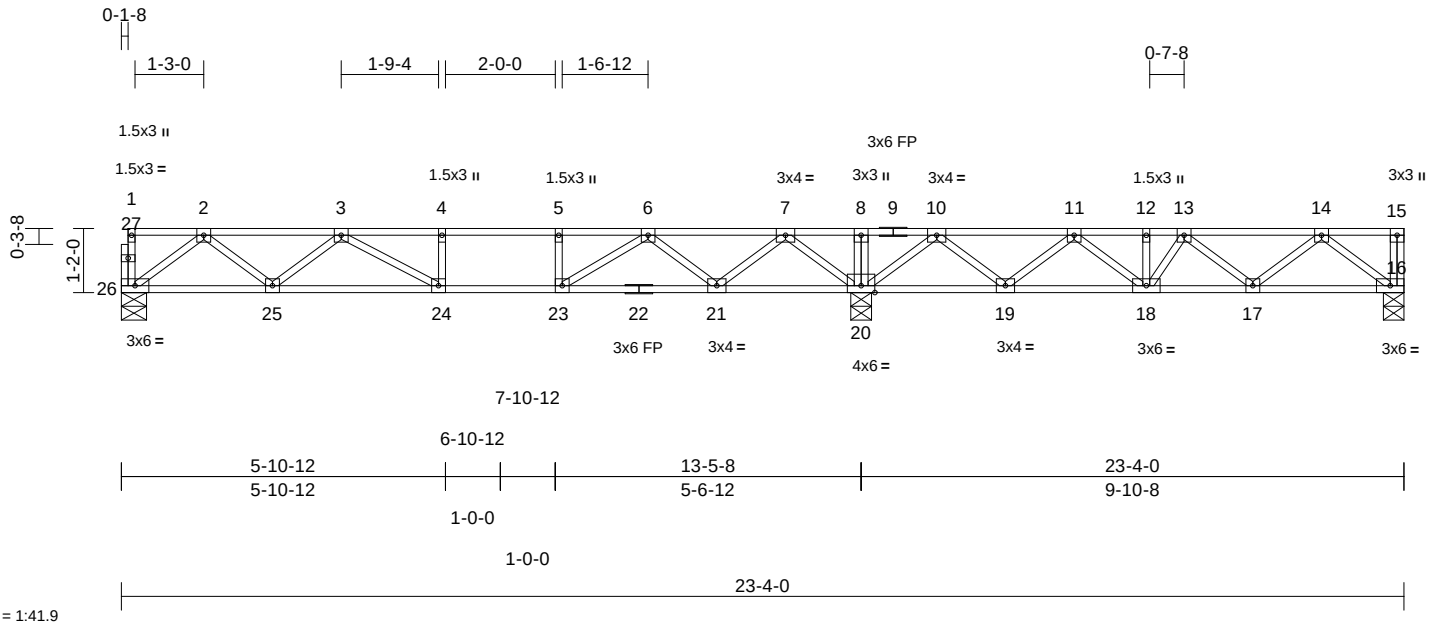
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F3	Floor	3	1	Job Reference (optional)	I74038367

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:hz0OKVkKBDWVlJm5fFkWrwzBPxI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:41.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.86	Vert(LL)	-0.13	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.74	Vert(CT)	-0.17	24-25	>945	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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)

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: 20-21,19-20.

REACTIONS (size) 16=0-4-8, 20=0-4-8, 26=0-5-8
Max Grav 16=435 (LC 4), 20=1861 (LC 1), 26=526 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-31/0, 15-16=-31/0, 1-2=-2/0, 2-3=-1031/0, 3-4=-1483/0, 4-5=-1483/0, 5-6=-1483/0, 6-7=-484/94, 7-8=0/1558, 8-10=0/1558, 10-11=-525/256, 11-12=-1017/0, 12-13=-1017/0, 13-14=-779/0, 14-15=0/0
BOT CHORD 25-26=0/649, 24-25=0/1365, 23-24=0/1483, 21-23=0/1088, 20-21=-487/0, 19-20=-607/42, 18-19=0/988, 17-18=0/1013, 16-17=0/520
WEBS 4-24=-99/1, 5-23=-209/0, 8-20=-142/0, 2-26=-811/0, 2-25=0/498, 3-25=-434/0, 3-24=-31/225, 7-20=-1459/0, 7-21=0/809, 6-21=-816/0, 6-23=0/566, 10-20=-1348/0, 14-16=-653/0, 10-19=0/731, 14-17=0/336, 11-19=-705/0, 13-17=-304/0, 11-18=0/141, 12-18=-21/0, 13-18=-71/8

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) 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.
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.
5) CAUTION, Do not erect truss backwards.

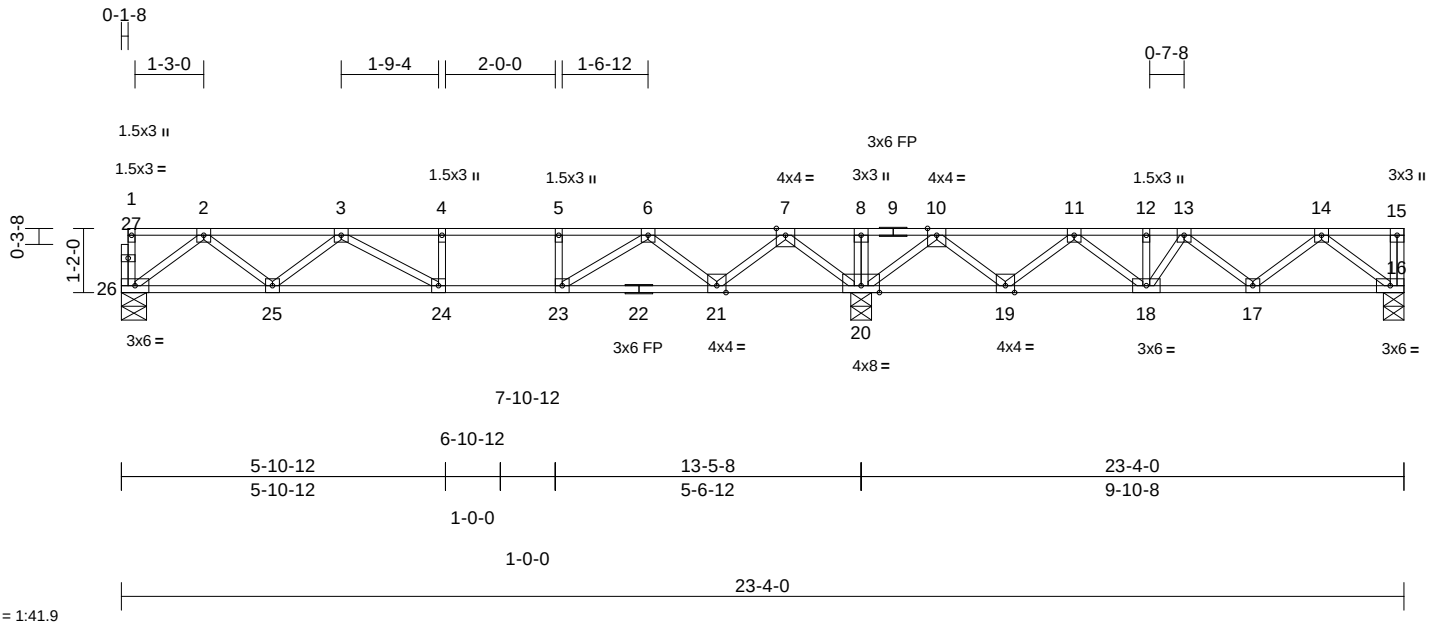
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 16-26=-8, 1-6=-80, 6-12=-159, 12-15=-80

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F4	Floor	1	1	Job Reference (optional)	I74038368

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:y1UdIa8b0YwdzVl5dmHQkAzBPsv-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:41.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.99	Vert(LL)	-0.13	24-25	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.17	24-25	>923	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.47	Horz(CT)	0.03	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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)

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: 20-21,19-20.

REACTIONS (size) 16=0-4-8, 20=0-4-8, 26=0-5-8
Max Grav 16=785 (LC 4), 20=2161 (LC 1), 26=517 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-32/0, 15-16=-69/0, 1-2=-2/0, 2-3=-1012/0, 3-4=-1428/0, 4-5=-1428/0, 5-6=-1428/0, 6-7=-373/205, 7-8=0/1809, 8-10=0/1809, 10-11=-728/53, 11-12=-1544/0, 12-13=-1544/0, 13-14=-1295/0, 14-15=0/0
BOT CHORD 25-26=0/638, 24-25=0/1333, 23-24=0/1428, 21-23=0/1018, 20-21=-636/0, 19-20=-594/55, 18-19=0/1381, 17-18=0/1636, 16-17=0/932
WEBS 4-24=-91/9, 5-23=-212/0, 8-20=-161/0, 2-26=-798/0, 2-25=0/487, 3-25=-419/0, 3-24=-58/198, 7-20=-1588/0, 7-21=0/858, 6-21=-870/0, 6-23=0/583, 10-20=-1681/0, 14-16=-1169/0, 10-19=0/978, 14-17=0/473, 11-19=-953/0, 13-17=-443/0, 11-18=0/313, 12-18=0/27, 13-18=-245/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) 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.
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.
5) CAUTION, Do not erect truss backwards.

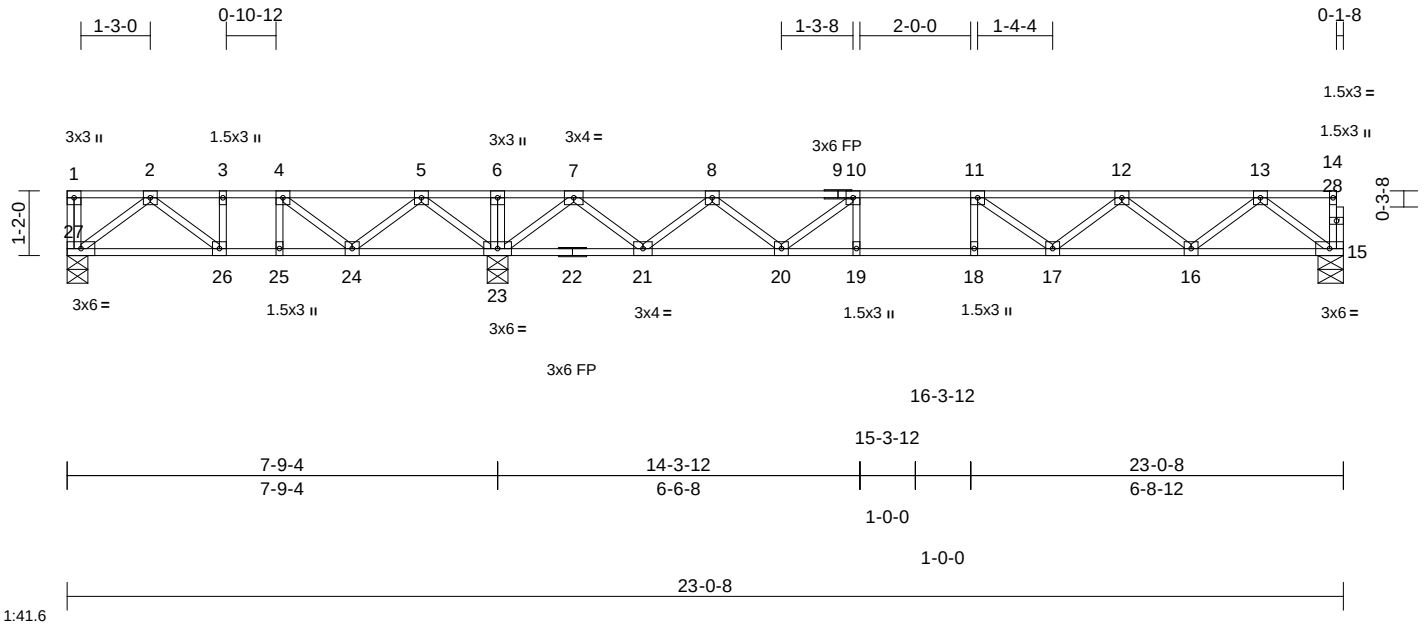
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 16-26=-8, 1-6=-80, 6-15=-180

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F7	Floor	11	1	Job Reference (optional)	I74038369

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:eTKc28lX4f_kdv34hcpB43zBQZI-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	-0.13	17-18	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.52	Vert(CT)	-0.18	17-18	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.40	Horz(CT)	0.02	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 116 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 22-15:2x4 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 6-0-0 oc bracing.

REACTIONS (size) 15=0-5-8, 23=0-4-8, 27=0-4-8
Max Uplift 27=-54 (LC 4)
Max Grav 15=588 (LC 4), 23=1258 (LC 1), 27=267 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-27=-44/0, 14-15=-34/0, 1-2=0/0, 2-3=-396/279, 3-4=-396/279, 4-5=-197/551, 5-6=0/1230, 6-7=0/1230, 7-8=-478/40, 8-10=-1431/0, 10-11=-1864/0, 11-12=-1774/0, 12-13=-1180/0, 13-14=-2/0
BOT CHORD 26-27=-97/284, 25-26=-279/396, 24-25=-279/396, 23-24=-785/0, 21-23=-404/0, 20-21=0/1073, 19-20=0/1864, 18-19=0/1864, 17-18=0/1864, 16-17=0/1619, 15-16=0/720
WEBS 6-23=-87/0, 10-19=-6/201, 11-18=-169/32, 5-23=-741/0, 2-27=-357/122, 5-24=0/450, 2-26=-233/142, 4-24=-477/0, 3-26=-58/97, 4-25=-11/120, 7-23=-1156/0, 7-21=0/830, 8-21=-792/0, 8-20=0/487, 10-20=-619/0, 13-15=-901/0, 13-16=0/598, 12-16=-572/0, 12-17=0/223, 11-17=-232/81

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 27. This connection is for uplift only and does not consider lateral forces.
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.
5) CAUTION, Do not erect truss backwards.

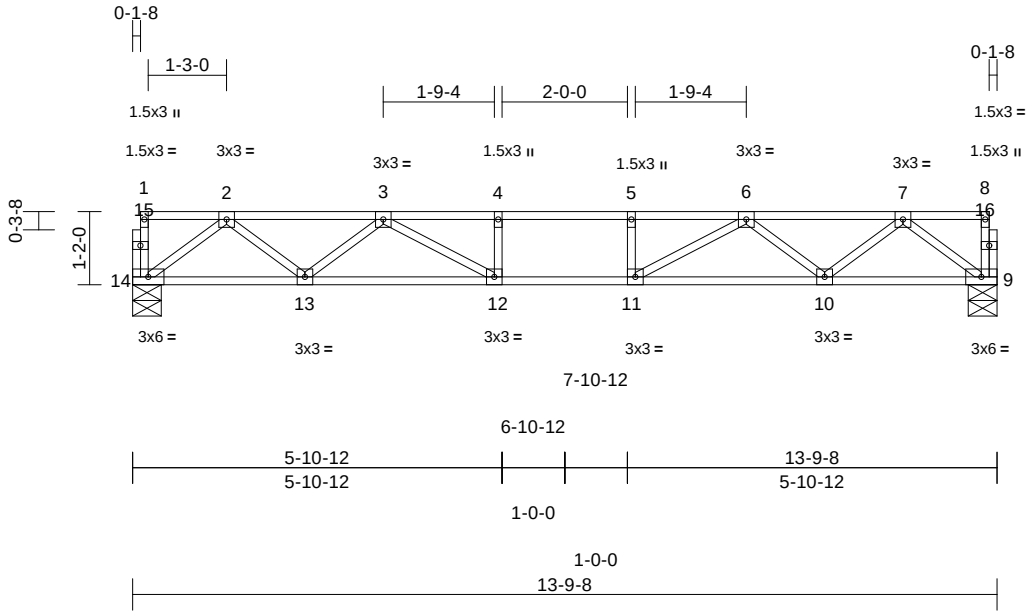
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	I74038370
	1F5	Floor	12	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:6dmhawY?GqKmbWA8FiuW?4zBQRp-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:36.8

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.43	Vert(LL)	-0.12	12-13	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(CT)	-0.15	12-13	>999	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.28	Horz(CT)	0.03	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 68 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)

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) 9=0-5-8, 14=0-5-8
Max Grav 9=591 (LC 1), 14=591 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-14=-30/0, 8-9=-30/0, 1-2=-2/0, 2-3=-1184/0, 3-4=-1906/0, 4-5=-1906/0, 5-6=-1906/0, 6-7=-1184/0, 7-8=-2/0
BOT CHORD 13-14=0/733, 12-13=0/1605, 11-12=0/1906, 10-11=0/1605, 9-10=0/733
WEBS 4-12=-183/0, 5-11=-183/0, 2-14=-917/0, 2-13=0/587, 3-13=-547/0, 3-12=0/508, 7-9=-917/0, 7-10=0/587, 6-10=-547/0, 6-11=0/508

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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.

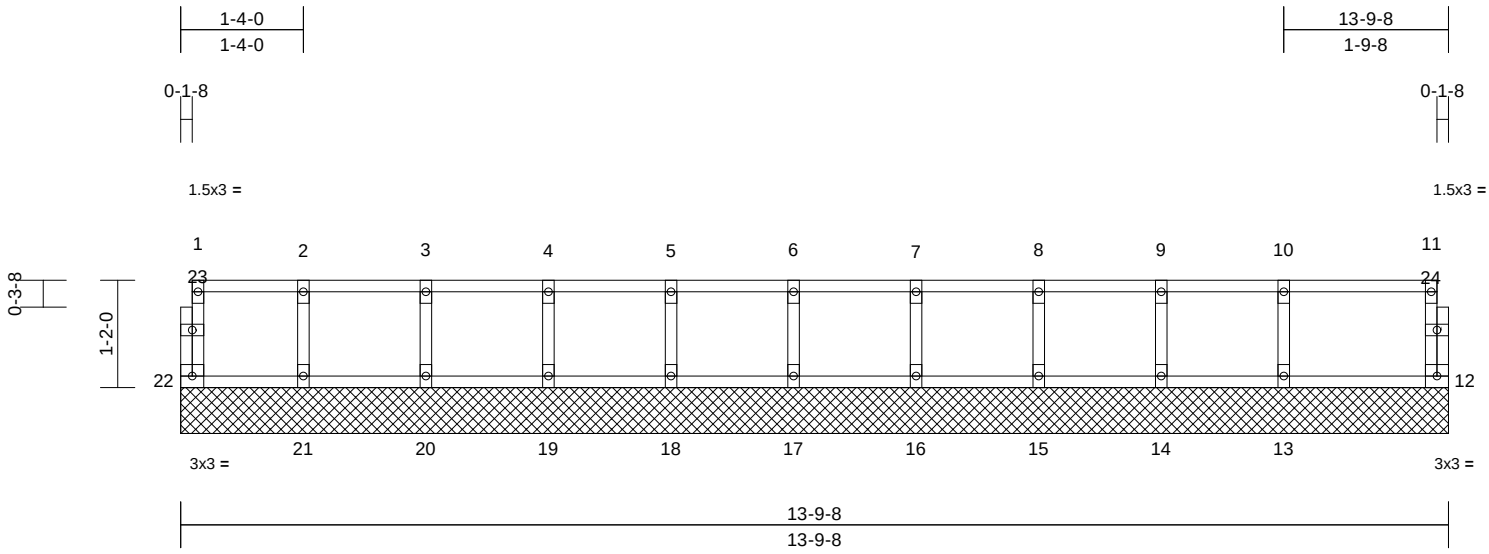
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	1F2GE	Floor Supported Gable	1	1	I74038371 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:anFJmZOKgCpSkrpotmbV7vzBPoi-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:25.1

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.10	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	0.03	Horiz(TL)	0.00	12	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 58 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)

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) 12=13-9-8, 13=13-9-8, 14=13-9-8, 15=13-9-8, 16=13-9-8, 17=13-9-8, 18=13-9-8, 19=13-9-8, 20=13-9-8, 21=13-9-8, 22=13-9-8
Max Grav 12=65 (LC 1), 13=140 (LC 1), 14=110 (LC 1), 15=119 (LC 1), 16=117 (LC 1), 17=117 (LC 1), 18=117 (LC 1), 19=117 (LC 1), 20=120 (LC 1), 21=107 (LC 1), 22=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-44/0, 11-12=-61/0, 1-2=-14/0, 2-3=-14/0, 3-4=-14/0, 4-5=-14/0, 5-6=-14/0, 6-7=-14/0, 7-8=-14/0, 8-9=-14/0, 9-10=-14/0, 10-11=-14/0
BOT CHORD 21-22=0/14, 20-21=0/14, 19-20=0/14, 18-19=0/14, 17-18=0/14, 16-17=0/14, 15-16=0/14, 14-15=0/14, 13-14=0/14, 12-13=0/14
WEBS 2-21=-101/0, 3-20=-108/0, 4-19=-106/0, 5-18=-107/0, 6-17=-107/0, 7-16=-106/0, 8-15=-108/0, 9-14=-101/0, 10-13=-126/0

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) 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

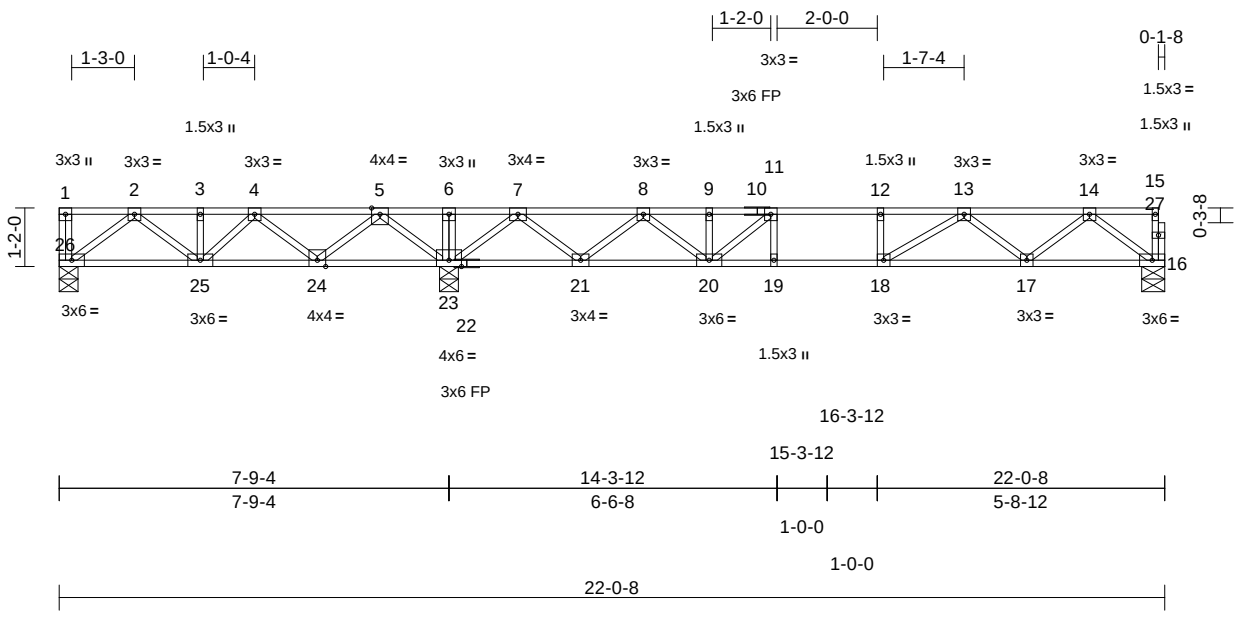
NORTH CAROLINA PROFESSIONAL SEAL 036322 ENGINEER ERIC A. GILBERT

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F6	Floor	8	1	Job Reference (optional)	I74038372

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:ps0Cwj55UGWm_CCSKUJlDzzBQYs-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.63	Vert(LL)	-0.10	17-18	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.14	17-18	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.48	Horz(CT)	0.02	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 113 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)

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

REACTIONS (size) 16=0-5-8, 23=0-4-8, 26=0-4-8
Max Grav 16=513 (LC 4), 23=1608 (LC 1), 26=576 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-26=-44/0, 15-16=-31/0, 1-2=0/0, 2-3=-1180/0, 3-4=-1180/0, 4-5=-885/0, 5-6=0/1512, 6-7=0/1512, 7-8=-96/225, 8-9=-1047/0, 9-11=-1047/0, 11-12=-1416/0, 12-13=-1416/0, 13-14=-996/0, 14-15=-2/0
BOT CHORD 25-26=0/688, 24-25=0/1504, 23-24=-629/247, 21-23=-701/0, 20-21=-49/676, 19-20=0/1416, 18-19=0/1416, 17-18=0/1314, 16-17=0/632
WEBS 6-23=-82/0, 11-19=0/124, 12-18=-103/11, 5-23=-1351/0, 2-26=-863/0, 5-24=0/1006, 2-25=0/628, 4-24=-985/0, 3-25=-57/0, 7-23=-1126/0, 7-21=0/801, 8-21=-768/0, 8-20=0/485, 14-16=-790/0, 14-17=0/474, 13-17=-415/0, 13-18=-47/234, 4-25=-450/0, 9-20=-57/95, 11-20=-597/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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.
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) 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: 16-26=-8, 1-15=-80
Concentrated Loads (lb)
Vert: 4=-661

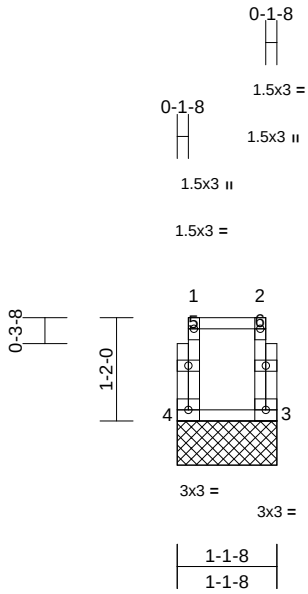
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	1F6GE	Floor Supported Gable	1	1	I74038373 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:k?jU5d4a50CnnFZ1Y4fAl7zBPqO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.02	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.00	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 8 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)

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

REACTIONS (size) 3=1-1-8, 4=1-1-8
Max Grav 3=33 (LC 1), 4=33 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-30/0, 2-3=-30/0, 1-2=-5/0
BOT CHORD 3-4=0/5

NOTES
1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
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.

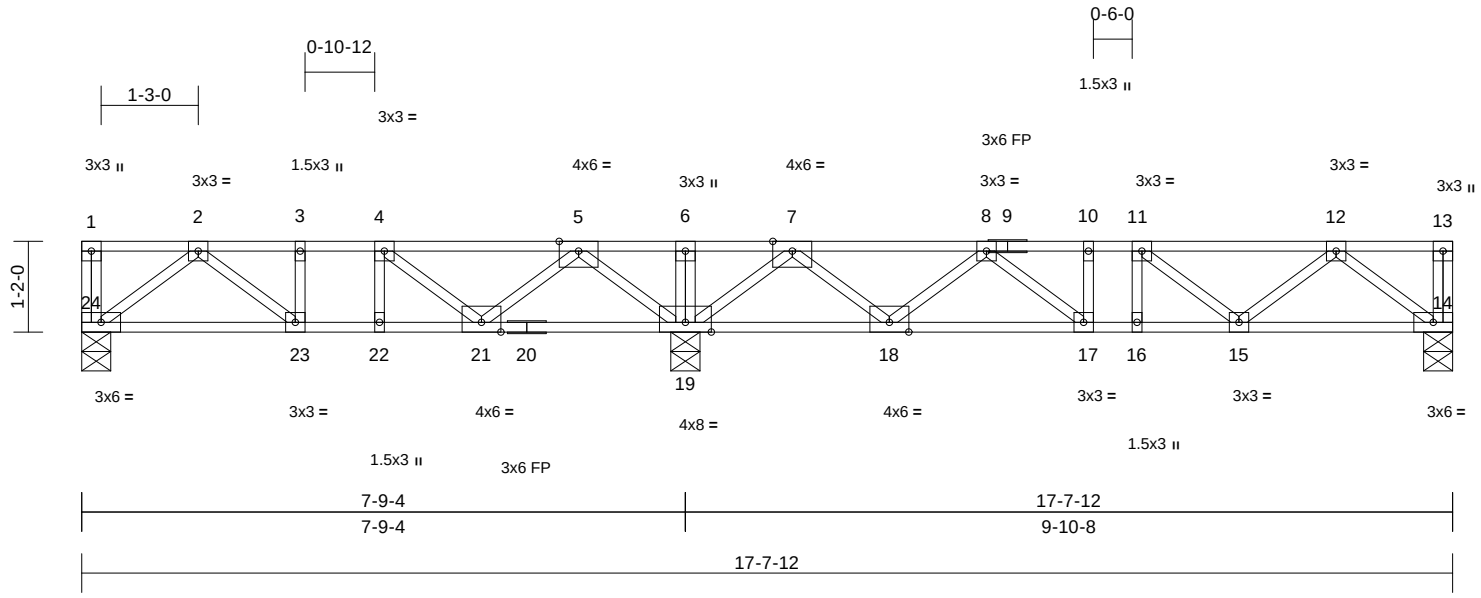
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	1FGR1	Floor Girder	1	1	I74038374
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:0jUa98x?TqEGueonUdSuP5zBPrt-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:29.7

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.90	Vert(LL)	-0.02	15-16	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.73	Vert(CT)	-0.06	17-18	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.65	Horz(CT)	0.01	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 94 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)

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: 19-21,18-19.

REACTIONS (size) 14=0-4-8, 19=0-4-8, 24=0-4-8
Max Grav 14=516 (LC 4), 19=2078 (LC 1), 24=462 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-24=-54/0, 13-14=-32/0, 1-2=0/0, 2-3=-984/0, 3-4=-984/0, 4-5=-208/212, 5-6=0/2115, 6-7=0/2115, 7-8=-483/21, 8-10=-1348/0, 10-11=-1348/0, 11-12=-983/0, 12-13=0/0
BOT CHORD 23-24=0/544, 22-23=0/984, 21-22=0/984, 19-21=-972/0, 18-19=-859/0, 17-18=0/1472, 16-17=0/1348, 15-16=0/1348, 14-15=0/624
WEBS 6-19=-72/0, 5-19=-1553/0, 2-24=-683/0, 5-21=0/1148, 2-23=0/561, 4-21=-1079/0, 3-23=-212/0, 4-22=-158/0, 7-19=-1726/0, 12-14=-783/0, 7-18=0/1362, 12-15=0/466, 8-18=-1329/0, 11-15=-466/0, 8-17=-236/0, 10-17=0/73, 11-16=-11/106

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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.
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) CAUTION, Do not erect truss backwards.

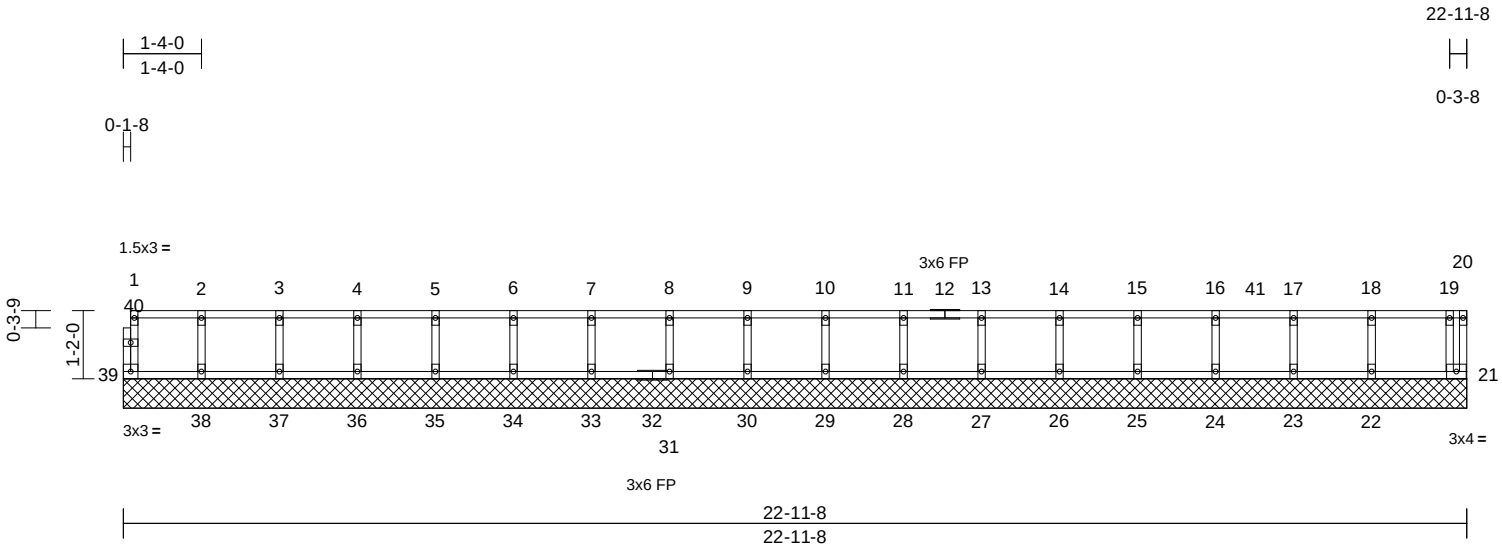
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 14-24=-8, 1-13=-80
Concentrated Loads (lb)
Vert: 4=-730, 8=-730

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F1GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038375

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:nK9JBeNC2bTBP2LJUCYynUzBPm8-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f



Scale = 1:39.4

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.71	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.09	Horiz(TL)	0.00	21	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 95 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)

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) 21=22-11-8, 22=22-11-8, 23=22-11-8, 24=22-11-8, 25=22-11-8, 26=22-11-8, 27=22-11-8, 28=22-11-8, 29=22-11-8, 30=22-11-8, 31=22-11-8, 33=22-11-8, 34=22-11-8, 35=22-11-8, 36=22-11-8, 37=22-11-8, 38=22-11-8, 39=22-11-8
Max Grav 21=80 (LC 1), 22=73 (LC 1), 23=385 (LC 1), 24=371 (LC 1), 25=64 (LC 1), 26=131 (LC 1), 27=114 (LC 1), 28=118 (LC 1), 29=117 (LC 1), 30=117 (LC 1), 31=117 (LC 1), 33=117 (LC 1), 34=117 (LC 1), 35=118 (LC 1), 36=117 (LC 1), 37=120 (LC 1), 38=107 (LC 1), 39=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-39=-44/0, 20-21=0/27, 1-2=-14/0, 2-3=-14/0, 3-4=-14/0, 4-5=-14/0, 5-6=-14/0, 6-7=-14/0, 7-8=-14/0, 8-9=-14/0, 9-10=-14/0, 10-11=-14/0, 11-13=-14/0, 13-14=-14/0, 14-15=-14/0, 15-16=-14/0, 16-17=-14/0, 17-18=-14/0, 18-19=-14/0, 19-20=-2/0
BOT CHORD 38-39=0/14, 37-38=0/14, 36-37=0/14, 35-36=0/14, 34-35=0/14, 33-34=0/14, 31-33=0/14, 30-31=0/14, 29-30=0/14, 28-29=0/14, 27-28=0/14, 26-27=0/14, 25-26=0/14, 24-25=0/14, 23-24=0/14, 22-23=0/14, 21-22=0/14
WEBS 2-38=-100/0, 3-37=-108/0, 4-36=-106/0, 5-35=-107/0, 6-34=-107/0, 7-33=-107/0, 8-31=-107/0, 9-30=-107/0, 10-29=-106/0, 11-28=-108/0, 13-27=-103/0, 14-26=-120/0, 15-25=-53/0, 16-24=-360/0, 17-23=-375/0, 18-22=-59/0, 19-21=-105/0

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) 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)
Vert: 21-39=-8, 1-20=-80
Concentrated Loads (lb)
Vert: 41=-438

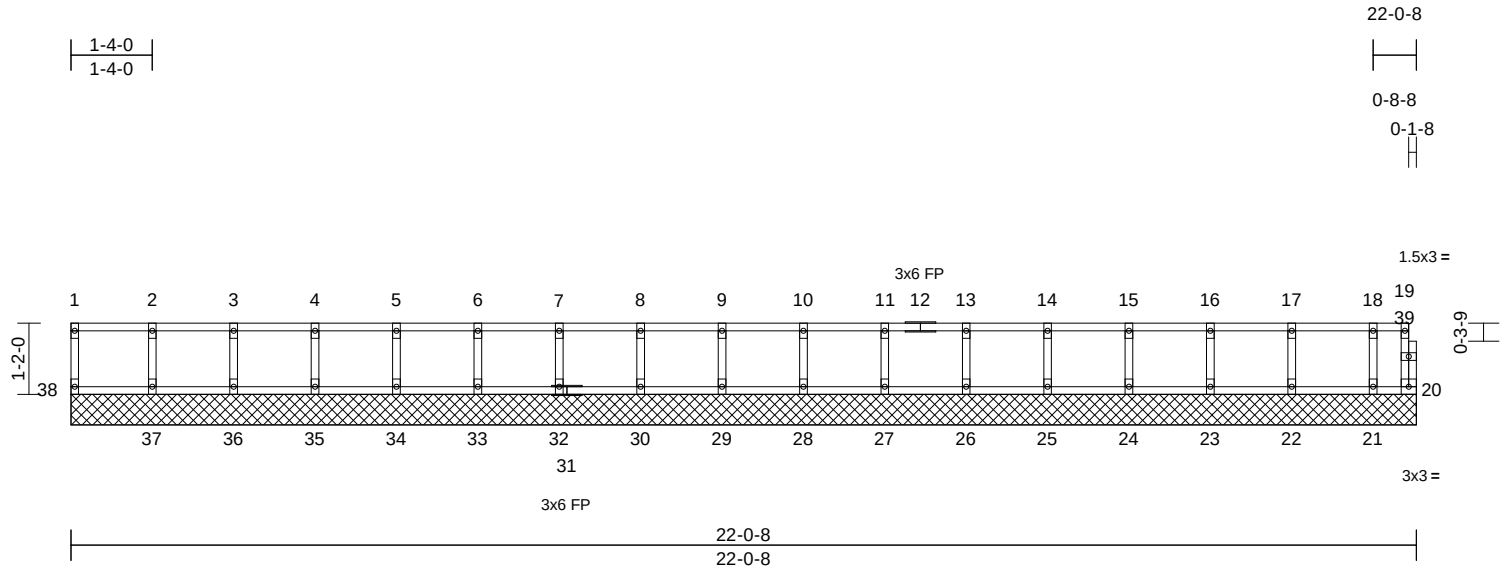
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F3GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038376

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:37:59 Page: 1
ID:KfSUMs2CEBBzpsAbNPUYhtzBPii-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.7

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	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	NO	WB	0.06	Horiz(TL)	0.00	20	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 91 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)

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) 20=22-0-8, 21=22-0-8, 22=22-0-8, 23=22-0-8, 24=22-0-8, 25=22-0-8, 26=22-0-8, 27=22-0-8, 28=22-0-8, 29=22-0-8, 30=22-0-8, 32=22-0-8, 33=22-0-8, 34=22-0-8, 35=22-0-8, 36=22-0-8, 37=22-0-8, 38=22-0-8
Max Grav 20=14 (LC 1), 21=87 (LC 1), 22=122 (LC 1), 23=116 (LC 1), 24=118 (LC 1), 25=117 (LC 1), 26=117 (LC 1), 27=117 (LC 1), 28=117 (LC 1), 29=117 (LC 1), 30=117 (LC 1), 32=117 (LC 1), 33=117 (LC 1), 34=118 (LC 1), 35=261 (LC 1), 36=117 (LC 1), 37=123 (LC 1), 38=49 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-38=-44/0, 19-20=-9/0, 1-2=-5/0, 2-3=-5/0, 3-4=-5/0, 4-5=-5/0, 5-6=-5/0, 6-7=-5/0, 7-8=-5/0, 8-9=-5/0, 9-10=-5/0, 10-11=-5/0, 11-13=-5/0, 13-14=-5/0, 14-15=-5/0, 15-16=-5/0, 16-17=-5/0, 17-18=-5/0, 18-19=-5/0
BOT CHORD 37-38=0/5, 36-37=0/5, 35-36=0/5, 34-35=0/5, 33-34=0/5, 32-33=0/5, 30-32=0/5, 29-30=0/5, 28-29=0/5, 27-28=0/5, 26-27=0/5, 25-26=0/5, 24-25=0/5, 23-24=0/5, 22-23=0/5, 21-22=0/5, 20-21=0/5
WEBS 2-37=-111/0, 3-36=-106/0, 4-35=-251/0, 5-34=-108/0, 6-33=-106/0, 7-32=-107/0, 8-30=-107/0, 9-29=-107/0, 10-28=-107/0, 11-27=-107/0, 13-26=-107/0, 14-25=-107/0, 15-24=-107/0, 16-23=-106/0, 17-22=-111/0, 18-21=-83/0

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) 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.

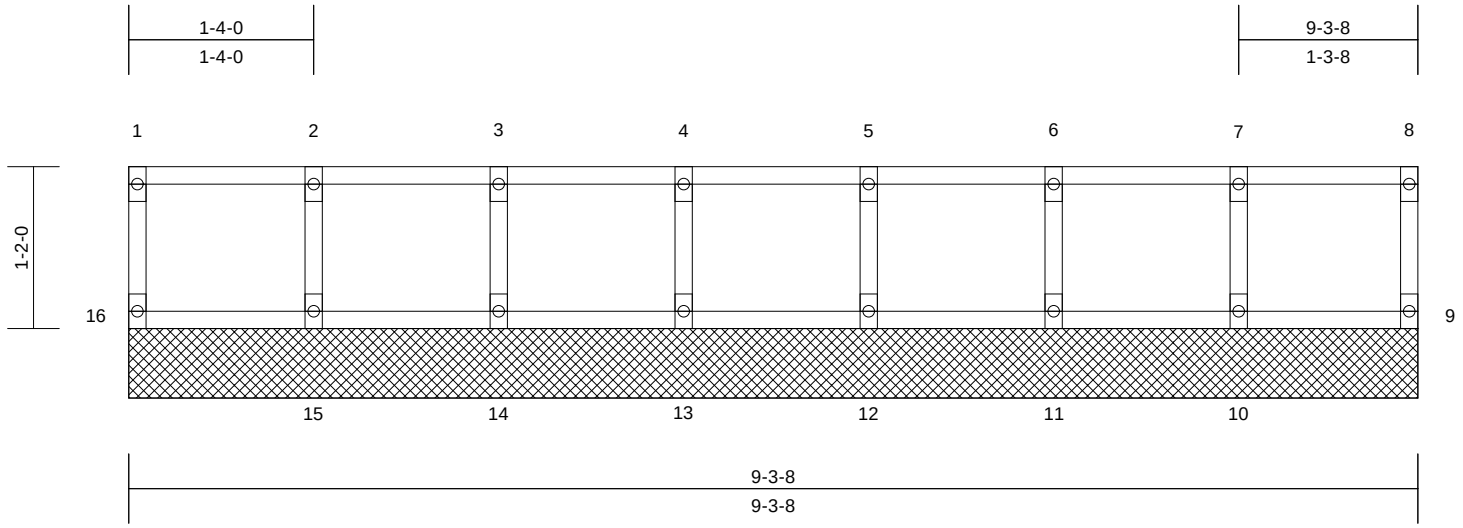
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 20-38=-8, 1-19=-80
Concentrated Loads (lb)
Vert: 4=-145

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	1F4GE	Floor Supported Gable	1	1	I74038377 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:90SeOd6gKjPm4teVOdb0JZz9I1v-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:16.6

Loading	(psf)	Spacing	1-7-3	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	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	9	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 39 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)

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) 9=9-3-8, 10=9-3-8, 11=9-3-8, 12=9-3-8, 13=9-3-8, 14=9-3-8, 15=9-3-8, 16=9-3-8
Max Grav 9=49 (LC 1), 10=117 (LC 1), 11=117 (LC 1), 12=117 (LC 1), 13=117 (LC 1), 14=117 (LC 1), 15=120 (LC 1), 16=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-45/0, 8-9=-44/0, 1-2=-7/0, 2-3=-7/0, 3-4=-7/0, 4-5=-7/0, 5-6=-7/0, 6-7=-7/0, 7-8=-7/0
BOT CHORD 15-16=0/7, 14-15=0/7, 13-14=0/7, 12-13=0/7, 11-12=0/7, 10-11=0/7, 9-10=0/7
WEBS 2-15=-110/0, 3-14=-106/0, 4-13=-107/0, 5-12=-107/0, 6-11=-106/0, 7-10=-108/0

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) 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.

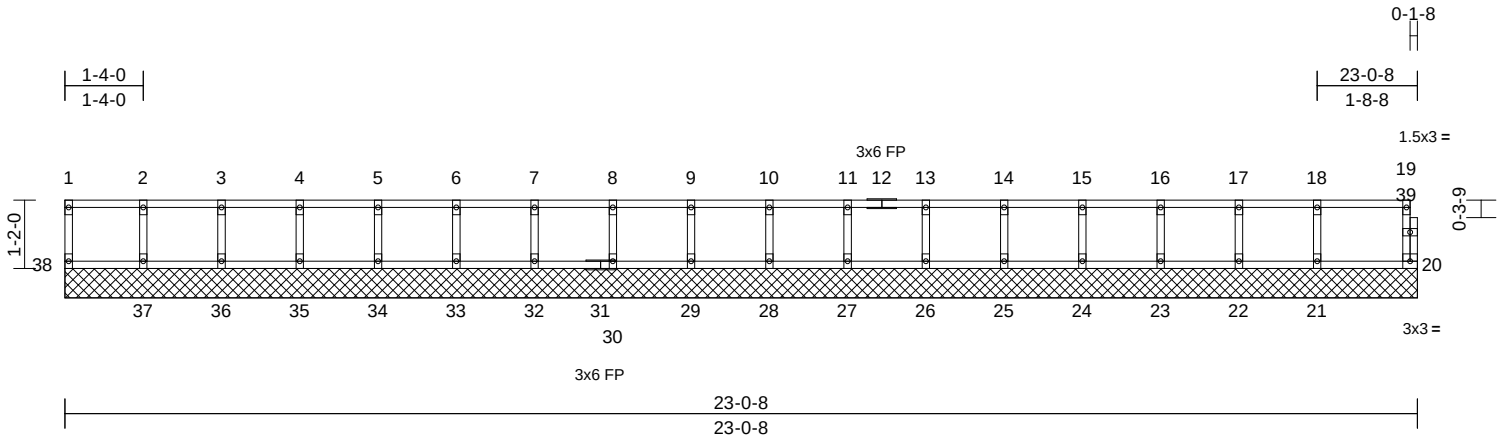
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	1F5GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038378

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:00 Page: 1
ID:_jslnJbmw0S4t1hBk1JPw?z9I1H-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:39.3

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.08	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	0.03	Horiz(TL)	0.00	20	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 94 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)

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) 20=23-0-8, 21=23-0-8, 22=23-0-8, 23=23-0-8, 24=23-0-8, 25=23-0-8, 26=23-0-8, 27=23-0-8, 28=23-0-8, 29=23-0-8, 30=23-0-8, 32=23-0-8, 33=23-0-8, 34=23-0-8, 35=23-0-8, 36=23-0-8, 37=23-0-8, 38=23-0-8
Max Grav 20=61 (LC 1), 21=137 (LC 1), 22=112 (LC 1), 23=119 (LC 1), 24=117 (LC 1), 25=117 (LC 1), 26=117 (LC 1), 27=117 (LC 1), 28=117 (LC 1), 29=117 (LC 1), 30=117 (LC 1), 32=117 (LC 1), 33=117 (LC 1), 34=117 (LC 1), 35=117 (LC 1), 36=118 (LC 1), 37=115 (LC 1), 38=55 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-38=-47/0, 19-20=-57/0, 1-2=-11/0, 2-3=-11/0, 3-4=-11/0, 4-5=-11/0, 5-6=-11/0, 6-7=-11/0, 7-8=-11/0, 8-9=-11/0, 9-10=-11/0, 10-11=-11/0, 11-13=-11/0, 13-14=-11/0, 14-15=-11/0, 15-16=-11/0, 16-17=-11/0, 17-18=-11/0, 18-19=-11/0
BOT CHORD 37-38=0/11, 36-37=0/11, 35-36=0/11, 34-35=0/11, 33-34=0/11, 32-33=0/11, 30-32=0/11, 29-30=0/11, 28-29=0/11, 27-28=0/11, 26-27=0/11, 25-26=0/11, 24-25=0/11, 23-24=0/11, 22-23=0/11, 21-22=0/11, 20-21=0/11
WEBS 2-37=-108/0, 3-36=-106/0, 4-35=-107/0, 5-34=-107/0, 6-33=-107/0, 7-32=-107/0, 8-30=-107/0, 9-29=-107/0, 10-28=-107/0, 11-27=-107/0, 13-26=-107/0, 14-25=-107/0, 15-24=-106/0, 16-23=-108/0, 17-22=-102/0, 18-21=-123/0

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) 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.
6) CAUTION, Do not erect truss backwards.

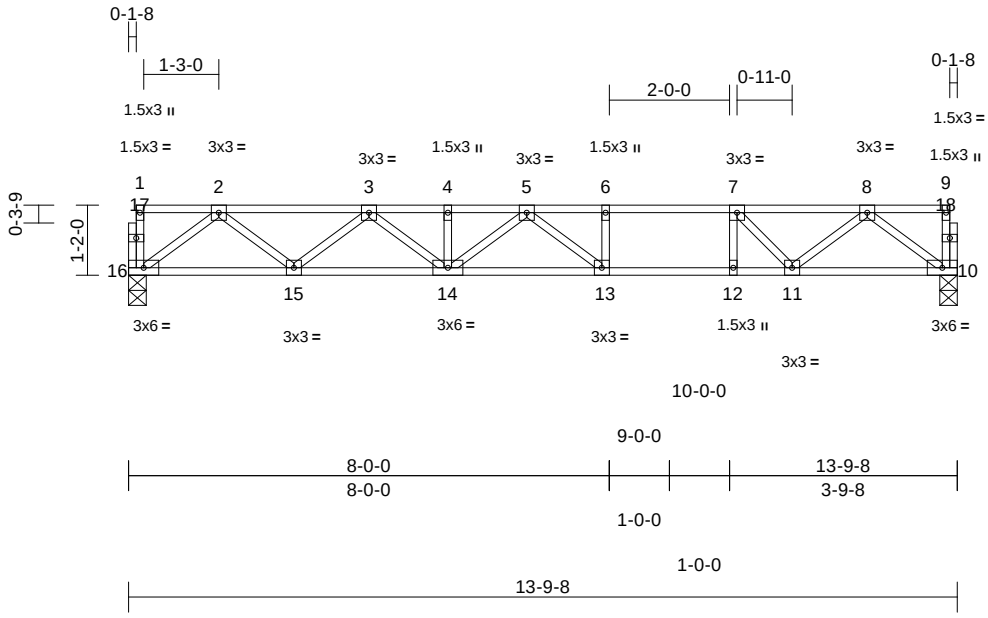
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F5	Floor	8	1	Job Reference (optional)	I74038379

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.3

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.74	Vert(LL)	-0.19	13-14	>852	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.60	Vert(CT)	-0.26	13-14	>627	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.32	Horz(CT)	0.02	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 70 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 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) 10=0-3-8, 16=0-3-8
Max Grav 10=590 (LC 1), 16=590 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-16=-28/0, 9-10=-52/0, 1-2=-2/0, 2-3=-1176/0, 3-4=-1845/0, 4-5=-1845/0, 5-6=-1729/0, 6-7=-1729/0, 7-8=-1207/0, 8-9=-3/0
BOT CHORD 15-16=0/728, 14-15=0/1614, 13-14=0/1921, 12-13=0/1729, 11-12=0/1729, 10-11=0/692
WEBS 6-13=-69/51, 7-12=0/300, 2-16=-912/0, 2-15=0/583, 3-15=-570/0, 3-14=0/295, 4-14=-48/0, 5-14=-142/0, 5-13=-333/100, 8-10=-864/0, 8-11=0/670, 7-11=-769/0

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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

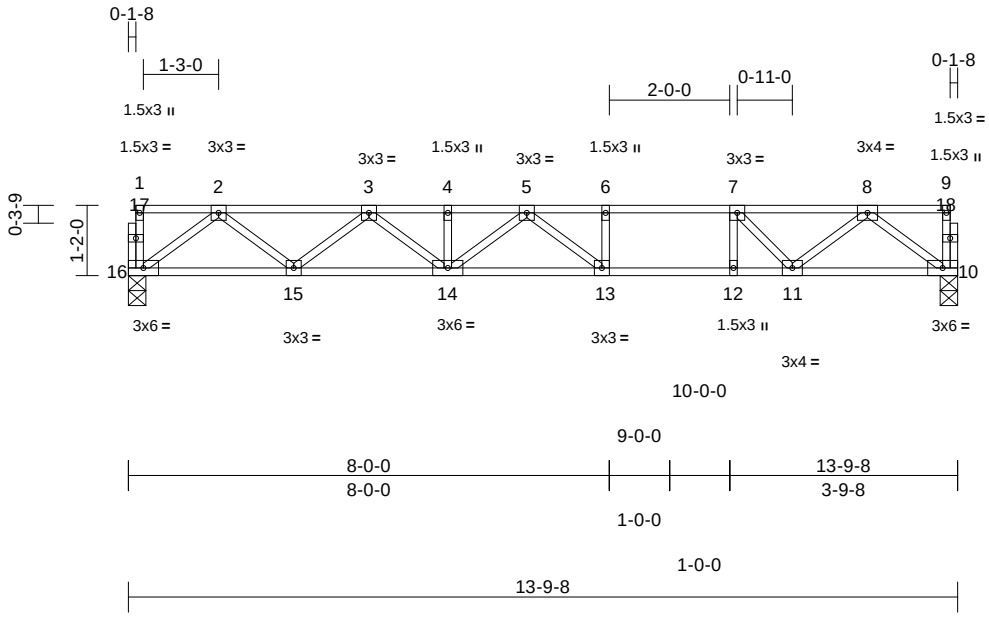
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F6	Floor	4	1	Job Reference (optional)	I74038380

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1

ID:I8JCll2?Ba9H0L720XpwPCznDnO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:38.3

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.88	Vert(LL)	-0.19	13-14	>852	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.69	Vert(CT)	-0.27	13-14	>603	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.33	Horz(CT)	0.02	10	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 70 lb	FT = 20%F, 12%E

LUMBER

TOP CHORD 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) 10=0-3-8, 16=0-3-8
Max Grav 10=600 (LC 1), 16=645 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-16=-33/0, 9-10=-53/0, 1-2=-2/0, 2-3=-1255/0, 3-4=-1919/0, 4-5=-1919/0, 5-6=-1771/0, 6-7=-1771/0, 7-8=-1231/0, 8-9=-3/0
BOT CHORD 15-16=0/794, 14-15=0/1706, 13-14=0/1983, 12-13=0/1771, 11-12=0/1771, 10-11=0/703
WEBS 6-13=-60/60, 7-12=0/312, 2-16=-993/0, 2-15=0/600, 3-15=-588/0, 3-14=0/271, 4-14=-39/0, 5-14=-128/0, 5-13=-359/74, 8-10=-878/0, 8-11=0/688, 7-11=-795/0

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) 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.
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.

LOAD CASE(S) Standard

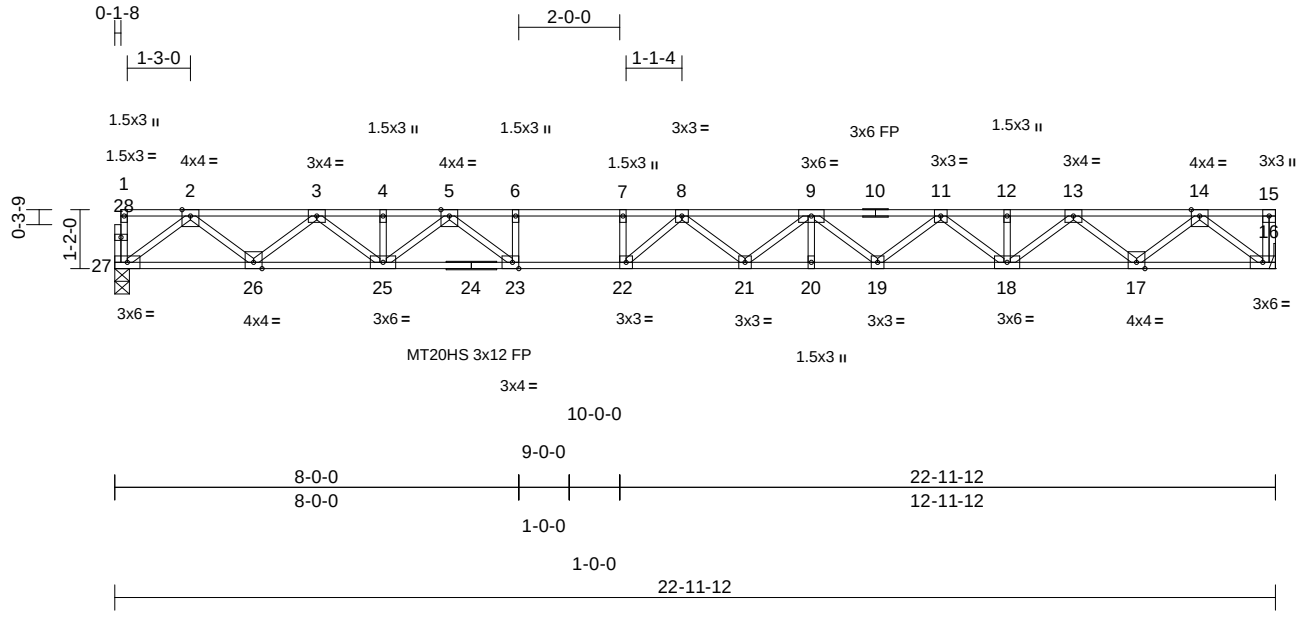
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 10-16=-8, 1-3=-97, 3-9=-80

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	I74038381
	2F3	Floor	9	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.6

Plate Offsets (X, Y): [23:0-1-8,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	0.77	Vert(LL)	-0.55	21-22	>500	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.77	Vert(CT)	-0.75	21-22	>363	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.48	Horz(CT)	0.09	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 117 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP SS(flat) *Except* 10-15:2x4 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 5-2-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 16= Mechanical, 27=0-3-8
Max Grav 16=833 (LC 1), 27=829 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-27=-24/0, 15-16=-27/0, 1-2=-1/0, 2-3=-1834/0, 3-4=-3183/0, 4-5=-3183/0, 5-6=-4285/0, 6-7=-4285/0, 7-8=-4285/0, 8-9=-4503/0, 9-11=-4049/0, 11-12=-3188/0, 12-13=-3188/0, 13-14=-1831/0, 14-15=0/0
BOT CHORD 26-27=0/1055, 25-26=0/2576, 23-25=0/3699, 22-23=0/4285, 21-22=0/4533, 20-21=0/4366, 19-20=0/4366, 18-19=0/3721, 17-18=0/2586, 16-17=0/1053
WEBS 6-23=-396/0, 7-22=-103/206, 2-27=-1322/0, 2-26=0/1014, 3-26=-967/0, 3-25=0/774, 4-25=-101/0, 5-25=-659/0, 5-23=0/909, 14-16=-1321/0, 14-17=0/1013, 13-17=-983/0, 13-18=0/768, 12-18=-39/0, 11-18=-681/0, 11-19=0/427, 9-19=-405/0, 9-20=-40/6, 9-21=0/221, 8-21=-199/95, 8-22=-534/187

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) Required 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.
5) CAUTION, Do not erect truss backwards.

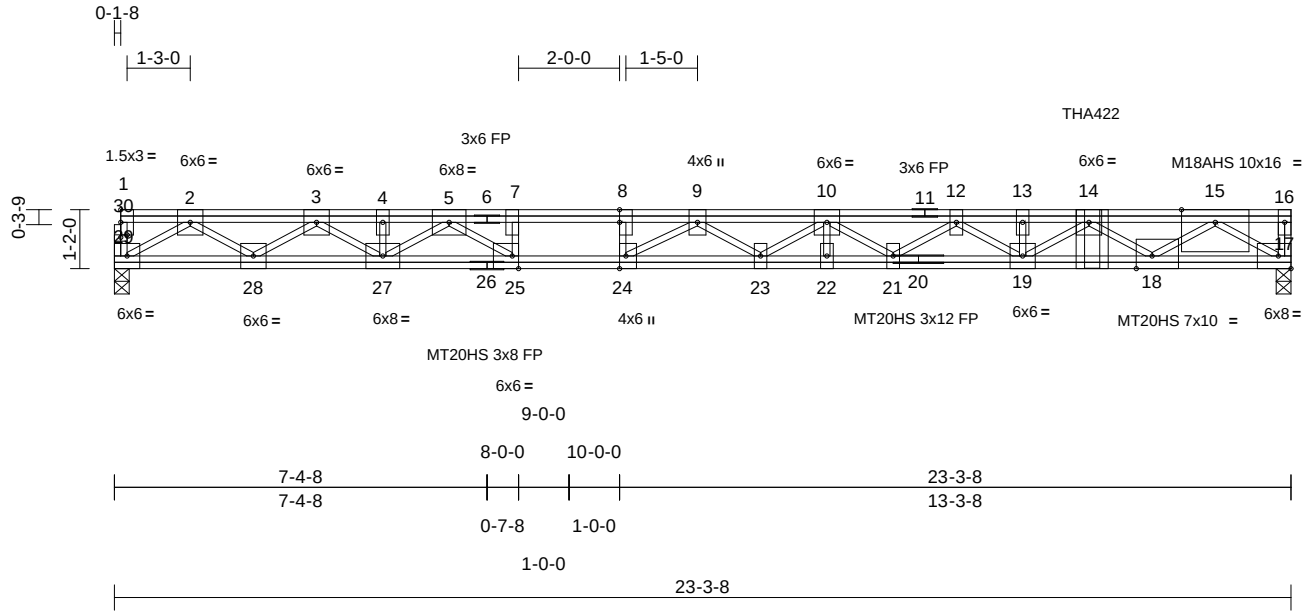
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2FGR2	Floor Girder	1	1	I74038382 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:I8JCll2?Ba9H0L720XpwPCznDnO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.6

Plate Offsets (X, Y): [8:0-3-0,Edge], [18:0-3-12,Edge], [24:0-3-0,Edge], [25:0-1-8,Edge], [30:0-1-8,0-0-9]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.37	Vert(LL)	-0.49	23-24	>564	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.62	Vert(CT)	-0.71	23-24	>391	360	MT20HS	187/143
BCLL	0.0	Rep Stress Incr	NO	WB	0.81	Horz(CT)	0.07	17	n/a	n/a	M18AHS	186/179
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 181 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP DSS(flat)
BOT CHORD 2x4 SP DSS(flat)
WEBS 2x4 SP No.3(flat) *Except* 18-15:2x4 SP No.2(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, 29=0-3-8
Max Grav 17=1750 (LC 1), 29=1160 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-29=-39/0, 16-17=-44/0, 1-2=0/0, 2-3=-2865/0, 3-4=-5122/0, 4-5=-5122/0, 5-7=-7294/0, 7-8=-7294/0, 8-9=-7294/0, 9-10=-8254/0, 10-12=-8005/0, 12-13=-7220/0, 13-14=-7220/0, 14-15=-4559/0, 15-16=0/0
BOT CHORD 28-29=0/1702, 27-28=0/4082, 25-27=0/6090, 24-25=0/7294, 23-24=0/8074, 22-23=0/8223, 21-22=0/8223, 19-21=0/7743, 18-19=0/6577, 17-18=0/2522
WEBS 7-25=-651/0, 8-24=-46/353, 2-29=-1985/0, 2-28=0/1445, 3-28=-1510/0, 3-27=0/1269, 4-27=-133/0, 5-27=-1180/0, 5-25=0/1691, 15-17=-3031/0, 14-18=-2502/0, 14-19=0/785, 13-19=-77/0, 12-19=-638/0, 12-21=0/325, 10-21=-266/0, 10-22=-79/0, 10-23=-95/207, 9-23=-132/403, 9-24=-1207/55, 15-18=0/2526

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) All plates are 3x6 (||) MT20 unless otherwise indicated.
4) 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.
5) Required 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.
6) CAUTION, Do not erect truss backwards.
7) Use Simpson Strong-Tie THA422 (6-16d Girder, 6-10d Truss) or equivalent at 19-4-4 from the left end to connect truss(es) to front face of top chord.
8) Fill all nail holes where hanger is in contact with lumber.
9) In the LOAD CASE(S) section, loads applied to the face of the truss are noted as front (F) or back (B).

LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 17-29=-8, 1-14=-80, 14-16=-80
Concentrated Loads (lb)
Vert: 14=-888 (F)

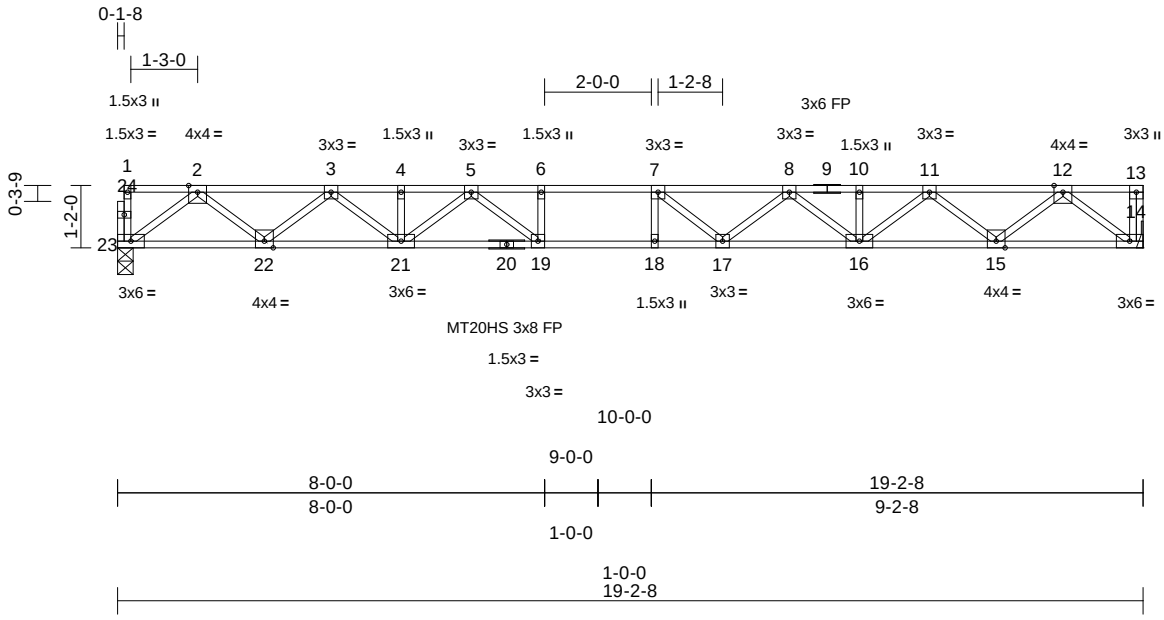
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F2	Floor	2	1	I74038383 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.2

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.71	Vert(LL)	-0.34	17-18	>672	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.94	Vert(CT)	-0.46	17-18	>490	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.46	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 97 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 20-14:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied or 5-5-11 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 19-21.

REACTIONS (size) 14= Mechanical, 23=0-3-8
Max Grav 14=834 (LC 1), 23=829 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-28/0, 13-14=-32/0, 1-2=-2/0, 2-3=-1781/0, 3-4=-3004/0, 4-5=-3004/0, 5-6=-3741/0, 6-7=-3741/0, 7-8=-3625/0, 8-10=-2998/0, 10-11=-2998/0, 11-12=-1780/0, 12-13=0/0
BOT CHORD 22-23=0/1046, 21-22=0/2483, 19-21=0/3413, 18-19=0/3741, 17-18=0/3741, 16-17=0/3443, 15-16=0/2487, 14-15=0/1045
WEBS 6-19=-255/0, 7-18=-181/111, 2-23=-1310/0, 2-22=0/957, 3-22=-914/0, 3-21=0/665, 4-21=-88/0, 5-21=-521/0, 5-19=0/653, 12-14=-1311/0, 12-15=0/957, 11-15=-920/0, 11-16=0/653, 10-16=-38/0, 8-16=-567/0, 8-17=0/373, 7-17=-443/149

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) The Fabrication Tolerance at joint 20 = 12%
4) Refer to girder(s) for truss to truss connections.
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.
6) CAUTION, Do not erect truss backwards.

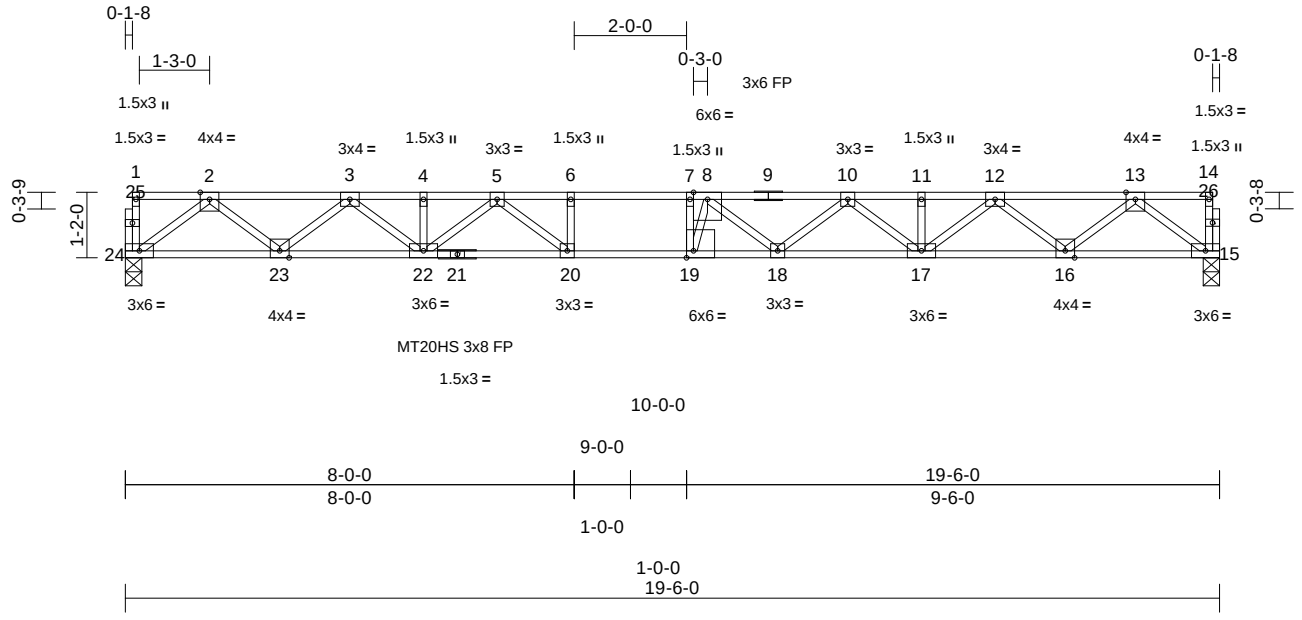
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F1	Floor	4	1	I74038384 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:?oOYHMycqRGHgH5i5ZBHdkznDnV-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:41.1

Plate Offsets (X, Y): [19:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	1.00	Vert(LL)	-0.35	18-19	>656	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.95	Vert(CT)	-0.48	18-19	>478	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.47	Horz(CT)	0.07	15	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 99 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 21-15:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING
TOP CHORD Structural wood sheathing directly applied, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
2-2-0 oc bracing: 20-22.

REACTIONS (size) 15=0-3-8, 24=0-3-8
Max Grav 15=841 (LC 1), 24=841 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-24=-28/0, 14-15=-28/0, 1-2=-2/0, 2-3=-1812/0, 3-4=-3069/0, 4-5=-3069/0, 5-6=-3840/0, 6-7=-3840/0, 7-8=-3840/0, 8-10=-3728/0, 10-11=-3064/0, 11-12=-3064/0, 12-13=-1812/0, 13-14=-2/0
BOT CHORD 23-24=0/1062, 22-23=0/2531, 20-22=0/3491, 19-20=0/3840, 18-19=0/3888, 17-18=0/3513, 16-17=0/2534, 15-16=0/1061
WEBS 6-20=-287/0, 7-19=-352/381, 2-24=-1331/0, 2-23=0/976, 3-23=-935/0, 3-22=0/687, 4-22=-88/0, 5-22=-539/0, 5-20=0/670, 13-15=-1329/0, 13-16=0/977, 12-16=-941/0, 12-17=0/676, 11-17=-50/0, 10-17=-573/0, 10-18=0/334, 8-18=-361/12, 8-19=-534/449

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) The Fabrication Tolerance at joint 21 = 12%
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.

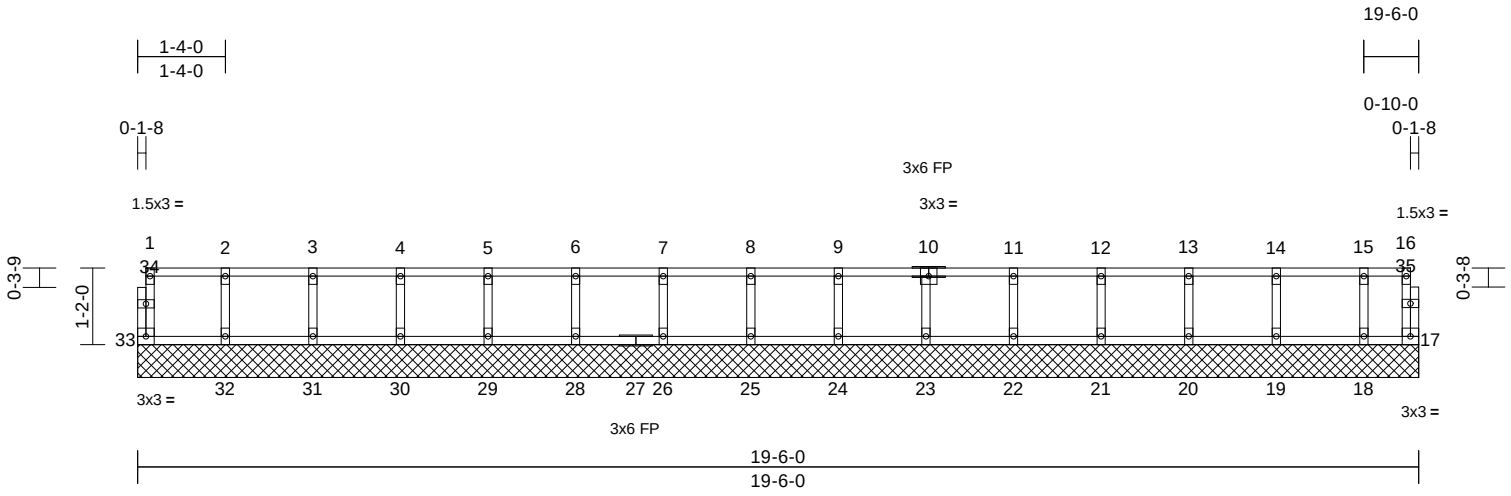
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F1GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038385

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:35.1

Loading	(psf)	Spacing	1-7-3	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	0.03	Horiz(TL)	0.00	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 82 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)

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=19-6-0, 18=19-6-0, 19=19-6-0, 20=19-6-0, 21=19-6-0, 22=19-6-0, 23=19-6-0, 24=19-6-0, 25=19-6-0, 26=19-6-0, 28=19-6-0, 29=19-6-0, 30=19-6-0, 31=19-6-0, 32=19-6-0, 33=19-6-0
Max Grav 17=26 (LC 1), 18=86 (LC 1), 19=123 (LC 1), 20=116 (LC 1), 21=118 (LC 1), 22=115 (LC 1), 23=117 (LC 1), 24=120 (LC 1), 25=116 (LC 1), 26=117 (LC 1), 28=117 (LC 1), 29=117 (LC 1), 30=117 (LC 1), 31=117 (LC 1), 32=120 (LC 1), 33=40 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-33=-38/0, 16-17=-19/0, 1-2=-3/0, 2-3=-3/0, 3-4=-3/0, 4-5=-3/0, 5-6=-3/0, 6-7=-3/0, 7-8=-3/0, 8-9=-3/0, 9-11=-8/0, 11-12=-8/0, 12-13=-8/0, 13-14=-8/0, 14-15=-8/0, 15-16=-8/0
BOT CHORD 32-33=0/3, 31-32=0/3, 30-31=0/3, 29-30=0/3, 28-29=0/3, 26-28=0/3, 25-26=0/3, 24-25=0/3, 23-24=0/3, 22-23=0/8, 21-22=0/8, 20-21=0/8, 19-20=0/8, 18-19=0/8, 17-18=0/8
WEBS 2-32=-107/0, 3-31=-107/0, 4-30=-107/0, 5-29=-107/0, 6-28=-107/0, 7-26=-107/0, 8-25=-106/0, 9-24=-109/0, 10-23=-107/0, 11-22=-104/0, 12-21=-107/0, 13-20=-105/0, 14-19=-111/0, 15-18=-83/0

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) 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.

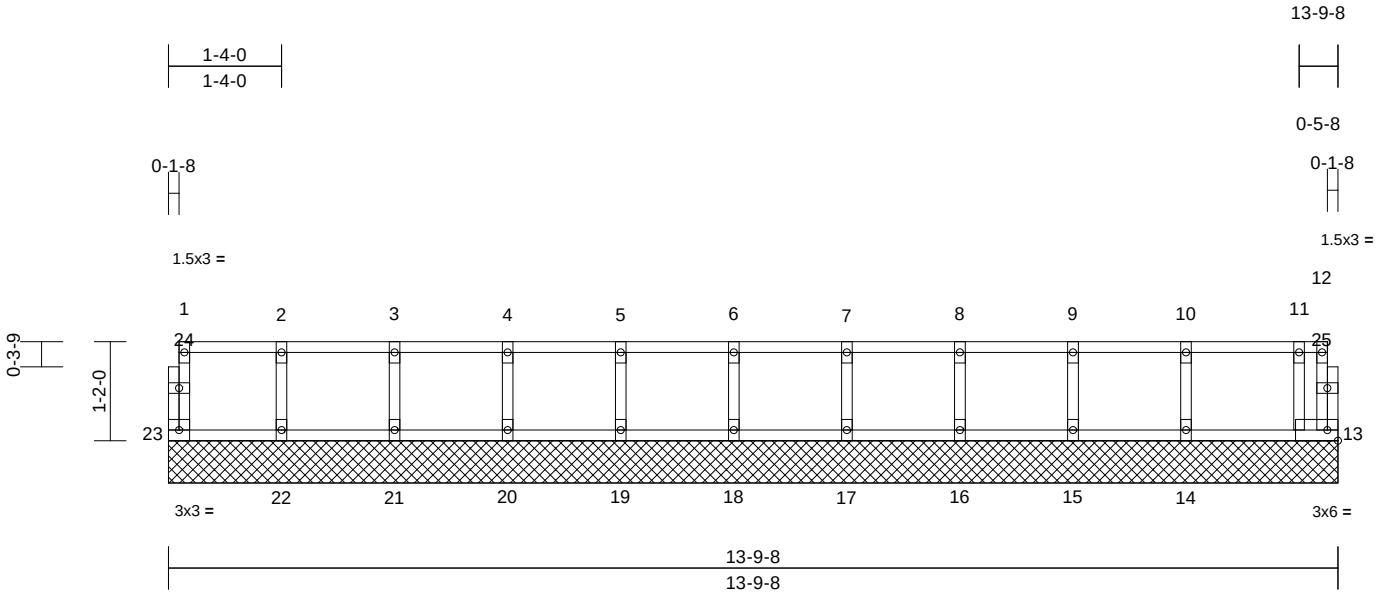
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F2GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038386

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:01 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:27.2

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.07	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.03	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horiz(TL)	0.00	13	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 59 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)

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) 13=13-9-8, 14=13-9-8, 15=13-9-8, 16=13-9-8, 17=13-9-8, 18=13-9-8, 19=13-9-8, 20=13-9-8, 21=13-9-8, 22=13-9-8, 23=13-9-8
Max Grav 13=72 (LC 1), 14=130 (LC 1), 15=114 (LC 1), 16=118 (LC 1), 17=117 (LC 1), 18=117 (LC 1), 19=117 (LC 1), 20=117 (LC 1), 21=120 (LC 1), 22=107 (LC 1), 23=51 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-23=-44/0, 12-13=0/6, 1-2=-14/0, 2-3=-14/0, 3-4=-14/0, 4-5=-14/0, 5-6=-14/0, 6-7=-14/0, 7-8=-14/0, 8-9=-14/0, 9-10=-14/0, 10-11=-14/0, 11-12=0/0
BOT CHORD 22-23=0/14, 21-22=0/14, 20-21=0/14, 19-20=0/14, 18-19=0/14, 17-18=0/14, 16-17=0/14, 15-16=0/14, 14-15=0/14, 13-14=0/14
WEBS 2-22=-100/0, 3-21=-108/0, 4-20=-106/0, 5-19=-107/0, 6-18=-107/0, 7-17=-106/0, 8-16=-107/0, 9-15=-104/0, 10-14=-115/0, 11-13=-75/0

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) 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.

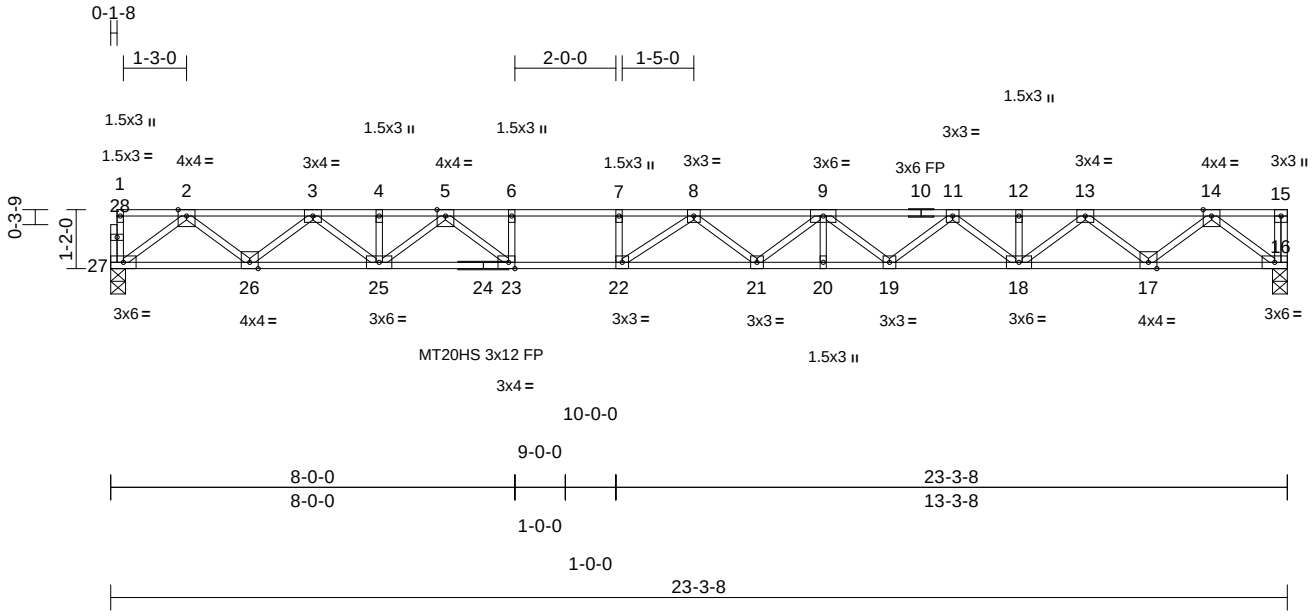
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor I74038387
	2F4	Floor	4	1	Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1
ID:qylqXP1NQH1QOCYsSqIhs?znDnP-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:45.6

Plate Offsets (X, Y): [23:0-1-8,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	0.79	Vert(LL)	-0.56	21-22	>496	480	MT20HS	187/143
TCDL	10.0	Lumber DOL	1.00	BC	0.71	Vert(CT)	-0.77	21-22	>360	360	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.49	Horz(CT)	0.09	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 118 lb	FT = 20%F, 12%E

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

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

REACTIONS (size) 16=0-3-8, 27=0-3-8
Max Grav 16=845 (LC 1), 27=841 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-27=-24/0, 15-16=-27/0, 1-2=-1/0, 2-3=-1863/0, 3-4=-3237/0, 4-5=-3237/0, 5-6=-4388/0, 6-7=-4388/0, 7-8=-4388/0, 8-9=-4622/0, 9-11=-4133/0, 11-12=-3246/0, 12-13=-3246/0, 13-14=-1859/0, 14-15=0/0
BOT CHORD 26-27=0/1070, 25-26=0/2618, 23-25=0/3773, 22-23=0/4388, 21-22=0/4668, 20-21=0/4463, 19-20=0/4463, 18-19=0/3792, 17-18=0/2628, 16-17=0/1068
WEBS 6-23=-403/0, 7-22=-94/163, 2-27=-1341/0, 2-26=0/1032, 3-26=-982/0, 3-25=0/790, 4-25=-102/0, 5-25=-684/0, 5-23=0/945, 14-16=-1339/0, 14-17=0/1030, 13-17=-1001/0, 13-18=0/789, 12-18=-41/0, 11-18=-698/0, 11-19=0/444, 9-19=-421/0, 9-20=-45/5, 9-21=0/226, 8-21=-198/68, 8-22=-552/199

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are MT20 plates unless otherwise indicated.
3) Required 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) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

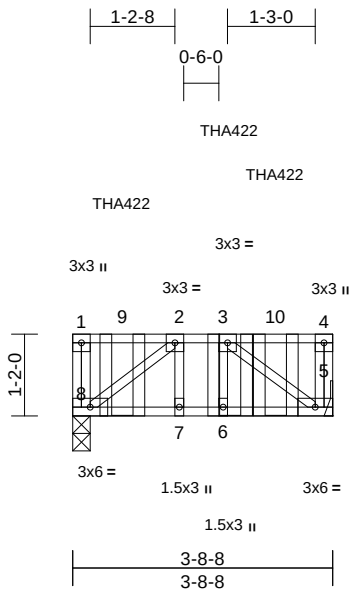
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	I74038388
	2FGR1	Floor Girder	1	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:I8JCll2?Ba9H0L720XpwPCznDnO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:32.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.81	Vert(LL)	-0.02	5-6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.69	Vert(CT)	-0.03	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.30	Horz(CT)	0.01	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 24 lb	FT = 20%F, 12%E

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 3-8-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5= Mechanical, 8=0-3-0
Max Grav 5=951 (LC 1), 8=1173 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-462/0, 4-5=-237/0, 1-2=0/0, 2-3=-1028/0, 3-4=0/0
BOT CHORD 7-8=0/1028, 6-7=0/1028, 5-6=0/1028
WEBS 3-5=-1269/0, 2-8=-1282/0, 2-7=-116/243, 3-6=-232/127

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 8.
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.
5) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent at 2-10-12 from the left end to connect truss(es) to front face of top chord.
6) Use Simpson Strong-Tie THA422 (Single Chord Girder) or equivalent spaced at 1-6-7 oc max. starting at 0-8-8 from the left end to 2-2-15 to connect truss(es) to back face of top chord.
7) Fill all nail holes where hanger is in contact with lumber.
8) 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: 5-8=-8, 1-4=-80
Concentrated Loads (lb)
Vert: 3=-770 (B), 9=-778 (B), 10=-272 (F)

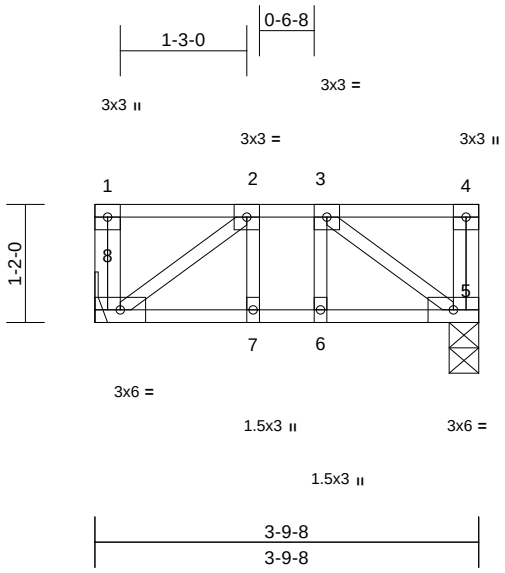
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	I74038389
	2F7	Floor	1	1	Job Reference (optional)	

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1
ID:I8JCll2?Ba9H0L720XpwPCznDnO-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:22.8

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.24	Vert(LL)	0.00	5-6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.12	Vert(CT)	0.00	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.09	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 24 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)

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

REACTIONS (size) 5=0-3-8, 8= Mechanical
Max Grav 5=360 (LC 1), 8=332 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-113/0, 4-5=-141/0, 1-2=0/0, 2-3=-298/0, 3-4=0/0
BOT CHORD 7-8=0/298, 6-7=0/298, 5-6=0/298
WEBS 3-5=-368/0, 2-8=-368/0, 2-7=-16/31, 3-6=-16/31

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) Refer to girder(s) for truss to truss connections.
3) 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.
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
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 5-8=-8, 1-4=-179
Concentrated Loads (lb)
Vert: 4=-29

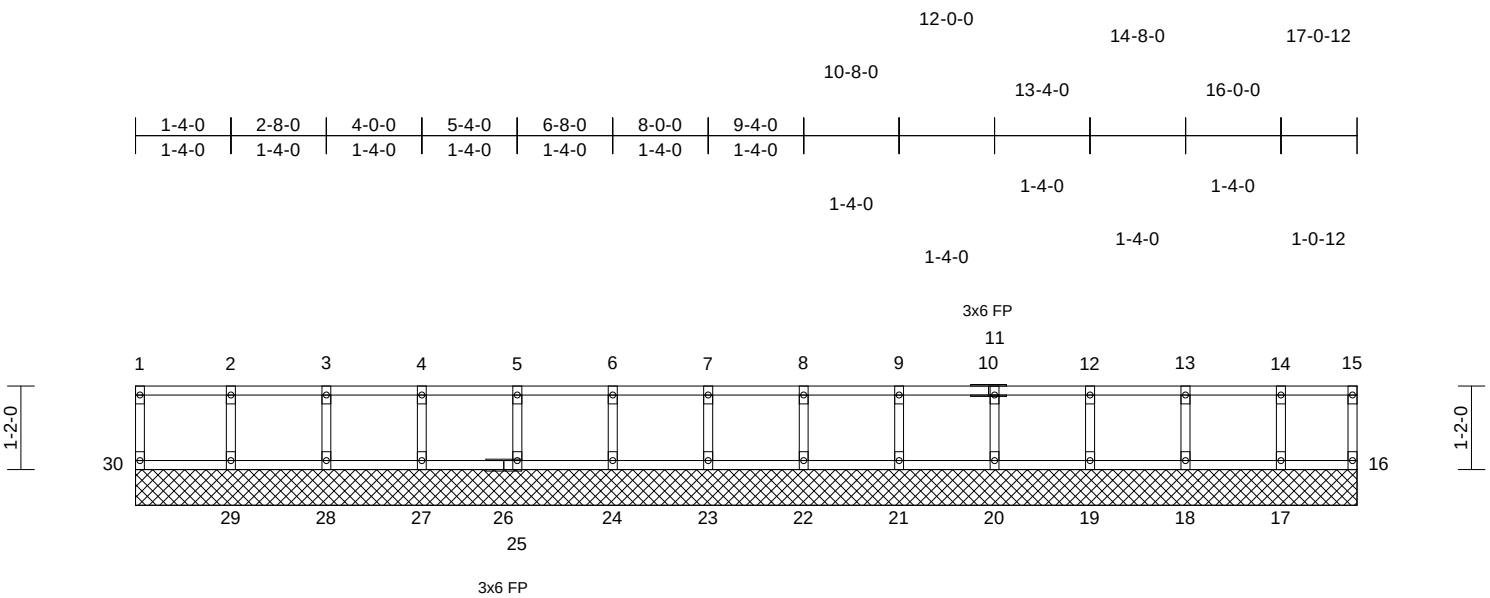
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F1DT	Floor Supported Gable	1	1	I74038390 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.10 S Mar 10 2025 Print: 25.1.0 S Mar 10 2025 MiTek Industries, Inc. Mon Jun 09 17:27:49 Page: 1
ID:IeNeIhrrmGexbg_e0?dsfEznDvO-CRnUvvJMX6dv9qVY7scUSFNzNzMQJ9vg4nlSj3z86VQ



Scale = 1:32.2

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.23	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.15	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.03	Horiz(TL)	0.00	23	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 70 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)

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

REACTIONS All bearings 17-0-12.
(lb) - Max Uplift All uplift 100 (lb) or less at joint(s) 16, 17, 29, 30
Max Grav All reactions 250 (lb) or less at joint (s) 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

LOAD CASE(S) Standard

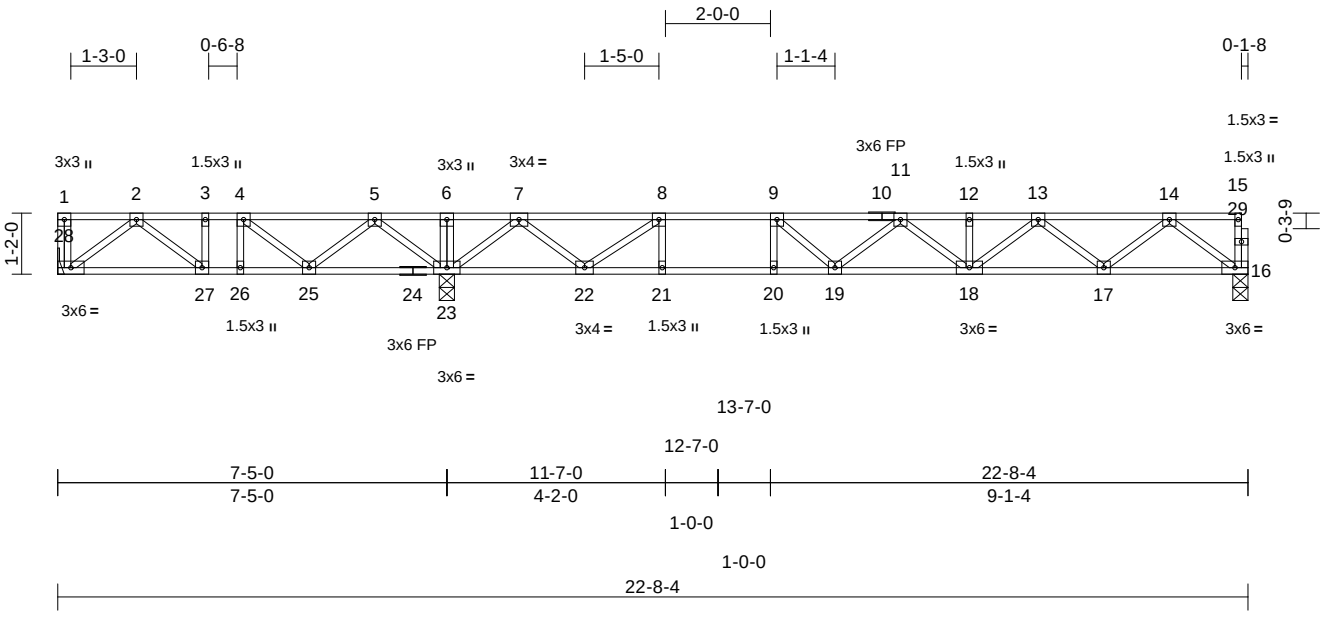
NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 30, 16, 29, and 17. This connection is for uplift only and does not consider lateral forces.
7) 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 17-0-12 for 5.9 plf.
8) 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.

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F13	Floor	4	1	Job Reference (optional)	I74038391

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:BbnCfBknv4wwrcbwaQjh1bzmIRM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	-0.22	19-20	>831	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.81	Vert(CT)	-0.30	19-20	>611	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.03	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 117 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP SS(flat) *Except* 10-15:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 24-16:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

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

REACTIONS (size) 16=0-3-8, 23=0-3-8, 28= Mechanical
Max Uplift 28=-11 (LC 4)
Max Grav 16=614 (LC 4), 23=1162 (LC 1), 28=269 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-28=-45/0, 15-16=-28/0, 1-2=0/0, 2-3=-408/131, 3-4=-408/131, 4-5=-257/303, 5-6=0/792, 6-7=0/792, 7-8=-785/0, 8-9=-1698/0, 9-11=-2019/0, 11-12=-1923/0, 12-13=-1923/0, 13-14=-1242/0, 14-15=-2/0
BOT CHORD 27-28=-37/286, 26-27=-131/408, 25-26=-131/408, 23-25=-463/85, 22-23=-120/162, 21-22=0/1698, 20-21=0/1698, 19-20=0/1698, 18-19=0/2134, 17-18=0/1690, 16-17=0/762
WEBS 6-23=-115/0, 8-21=0/326, 9-20=-346/0, 5-23=-627/0, 2-28=-359/46, 5-25=0/330, 2-27=-120/157, 4-25=-330/0, 3-27=-49/63, 4-26=-33/67, 7-23=-1035/0, 7-22=0/829, 8-22=-1144/0, 14-16=-954/0, 14-17=0/625, 13-17=-583/0, 13-18=0/298, 12-18=-15/2, 11-18=-269/0, 11-19=-193/36, 9-19=0/513

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
4) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 11 lb uplift at joint 28.
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.
6) CAUTION, Do not erect truss backwards.

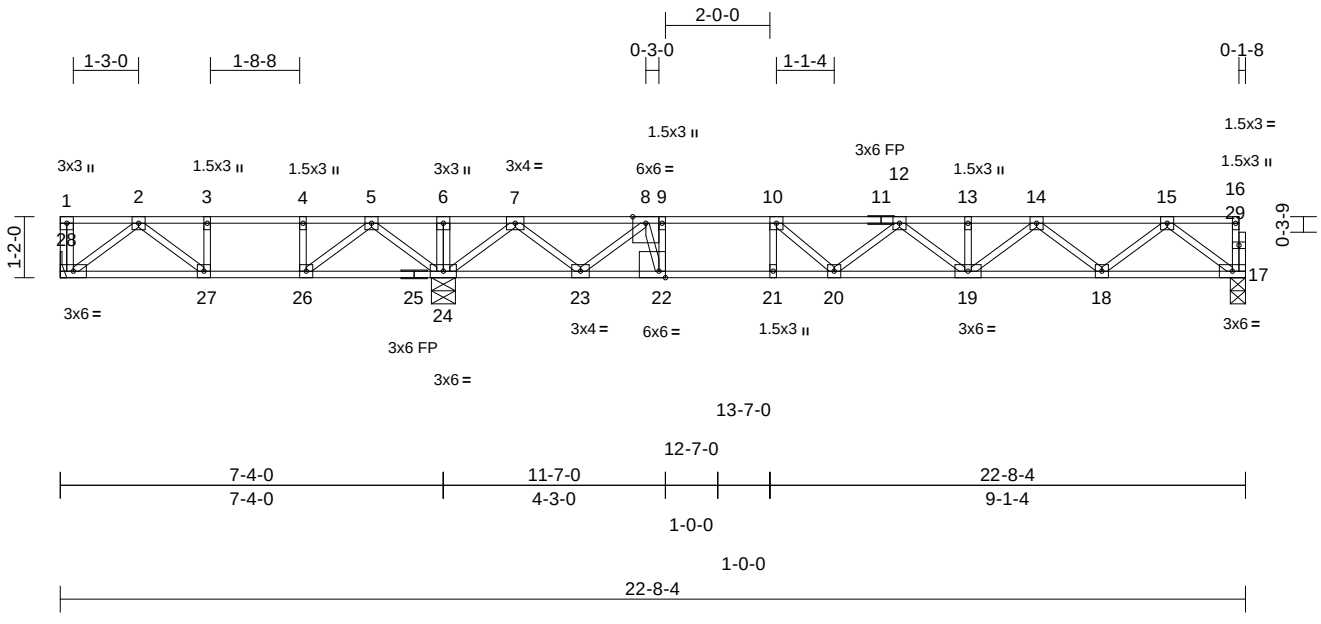
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F12	Floor	4	1	I74038392
					Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:BbnCfBknv4wwrcbwaQjh1bzmIRM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:44.1

Plate Offsets (X, Y): [22:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.69	Vert(LL)	-0.20	20-21	>922	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.70	Vert(CT)	-0.27	20-21	>673	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.54	Horz(CT)	0.03	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 116 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP SS(flat) *Except* 11-16:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 25-17:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

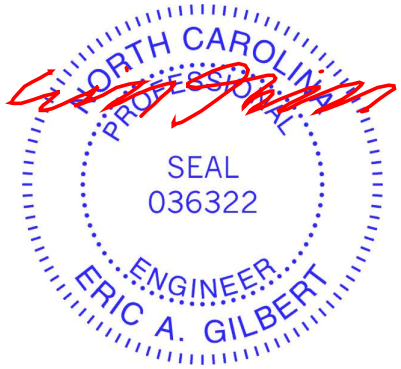
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing, Except:
6-0-0 oc bracing: 27-28,26-27,24-26.

REACTIONS (size) 17=0-3-8, 24=0-5-8, 28= Mechanical
Max Grav 17=634 (LC 7), 24=1107 (LC 1), 28=285 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-28=-43/0, 16-17=-28/0, 1-2=0/0, 2-3=-421/102, 3-4=-421/102, 4-5=-421/102, 5-6=0/612, 6-7=0/612, 7-8=-976/0, 8-9=-1909/0, 9-10=-1909/0, 10-12=-2168/0, 12-13=-2026/0, 13-14=-2026/0, 14-15=-1293/0, 15-16=-2/0
BOT CHORD 27-28=-5/303, 26-27=-102/421, 24-26=-313/166, 23-24=0/410, 22-23=0/1643, 21-22=0/1909, 20-21=0/1909, 19-20=0/2256, 18-19=0/1766, 17-18=0/789
WEBS 6-24=-122/0, 9-22=-834/0, 10-21=-273/0, 5-24=-532/0, 2-28=-380/6, 5-26=0/463, 2-27=-125/151, 3-27=-87/68, 4-26=-239/0, 7-24=-1063/0, 7-23=0/753, 8-23=-899/0, 8-22=0/1136, 15-17=-988/0, 15-18=0/656, 14-18=-615/0, 14-19=0/332, 13-19=-18/0, 12-19=-294/0, 12-20=-175/79, 10-20=0/434

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
3) Refer to girder(s) for truss to truss connections.
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.
5) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard

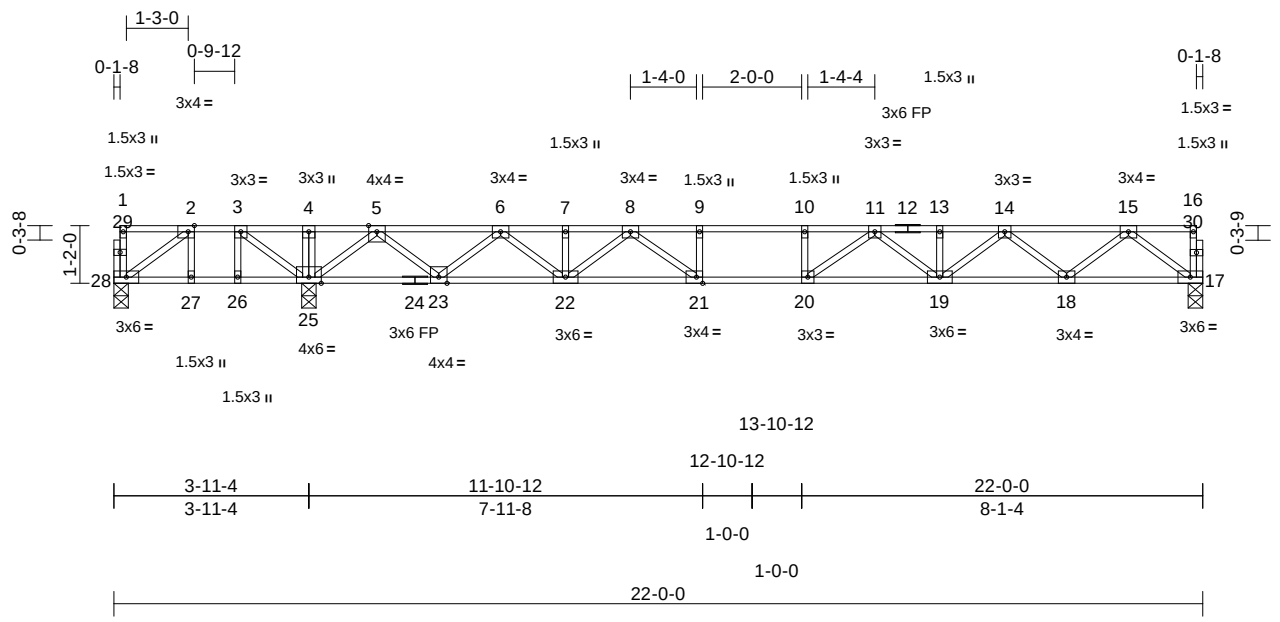


June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F10	Floor	2	1	Job Reference (optional)	I74038393

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:iODqRrj99mo3ET0k0iCSVOzmIRN-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:46.6

Plate Offsets (X, Y): [2:0-1-8,Edge], [21:0-1-8,Edge]

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.55	Vert(LL)	-0.20	19-20	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.59	Vert(CT)	-0.28	19-20	>775	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.49	Horz(CT)	0.03	17	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 113 lb	FT = 20%F, 12%E

LUMBER
TOP CHORD 2x4 SP SS(flat) *Except* 12-16:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 24-17:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

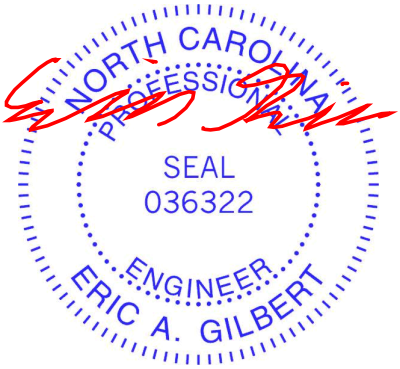
BRACING
TOP CHORD Structural wood sheathing directly applied or 6-0-0 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 6-0-0 oc bracing.

REACTIONS (size) 17=0-3-8, 25=0-3-8, 28=0-3-8
Max Uplift 28=-344 (LC 4)
Max Grav 17=702 (LC 7), 25=1432 (LC 1), 28=53 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-28=-124/0, 16-17=-28/0, 1-2=-7/0, 2-3=0/665, 3-4=0/1471, 4-5=0/1471, 5-6=-481/0, 6-7=-1790/0, 7-8=-1790/0, 8-9=-2661/0, 9-10=-2661/0, 10-11=-2661/0, 11-13=-2389/0, 13-14=-2389/0, 14-15=-1460/0, 15-16=-2/0
BOT CHORD 27-28=-665/0, 26-27=-665/0, 25-26=-665/0, 23-25=-359/0, 22-23=0/1223, 21-22=0/2239, 20-21=0/2661, 19-20=0/2627, 18-19=0/2023, 17-18=0/877
WEBS 4-25=-42/60, 9-21=-294/0, 10-20=-155/30, 3-25=-1094/0, 2-28=0/828, 2-27=-221/0, 3-26=0/248, 5-25=-1403/0, 5-23=0/1022, 6-23=-972/0, 6-22=0/730, 7-22=-97/0, 8-22=-579/0, 8-21=0/684, 15-17=-1099/0, 15-18=0/759, 14-18=-733/0, 14-19=0/467, 13-19=-61/0, 11-19=-304/0, 11-20=-179/335

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) One H2.5A Simpson Strong-Tie connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 28. This connection is for uplift only and does not consider lateral forces.
3) 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.
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.
5) 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: 17-28=-8, 1-16=-80
Concentrated Loads (lb)
Vert: 1=0

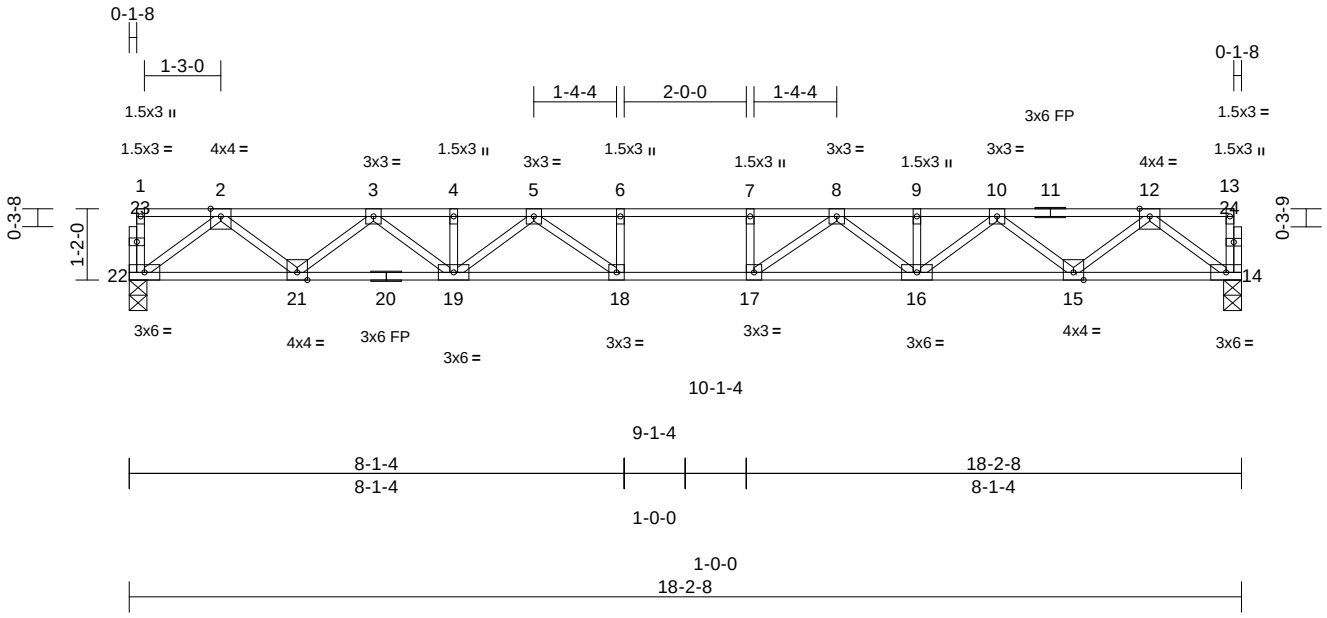


June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F9	Floor	5	1	I74038394 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:TfxXKtMUCwQYP8?tEfIltQzmFjY-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:37.7

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.59	Vert(LL)	-0.28	17-18	>779	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.98	Vert(CT)	-0.38	17-18	>567	360		
BCLL	0.0	Rep Stress Incr	YES	WB	0.42	Horz(CT)	0.07	14	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							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)

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

REACTIONS (size) 14=0-3-8, 22=0-3-8
Max Grav 14=785 (LC 1), 22=785 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-28/0, 13-14=-28/0, 1-2=-2/0, 2-3=-1668/0, 3-4=-2792/0, 4-5=-2792/0, 5-6=-3366/0, 6-7=-3366/0, 7-8=-3366/0, 8-9=-2792/0, 9-10=-2792/0, 10-12=-1668/0, 12-13=-2/0
BOT CHORD 21-22=0/987, 19-21=0/2323, 18-19=0/3136, 17-18=0/3366, 16-17=0/3136, 15-16=0/2323, 14-15=0/987
WEBS 6-18=-241/0, 7-17=-241/0, 2-22=-1236/0, 2-21=0/887, 3-21=-852/0, 3-19=0/598, 4-19=-78/0, 5-19=-439/0, 5-18=-46/555, 12-14=-1236/0, 12-15=0/887, 10-15=-852/0, 10-16=0/598, 9-16=-78/0, 8-16=-439/0, 8-17=-46/555

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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

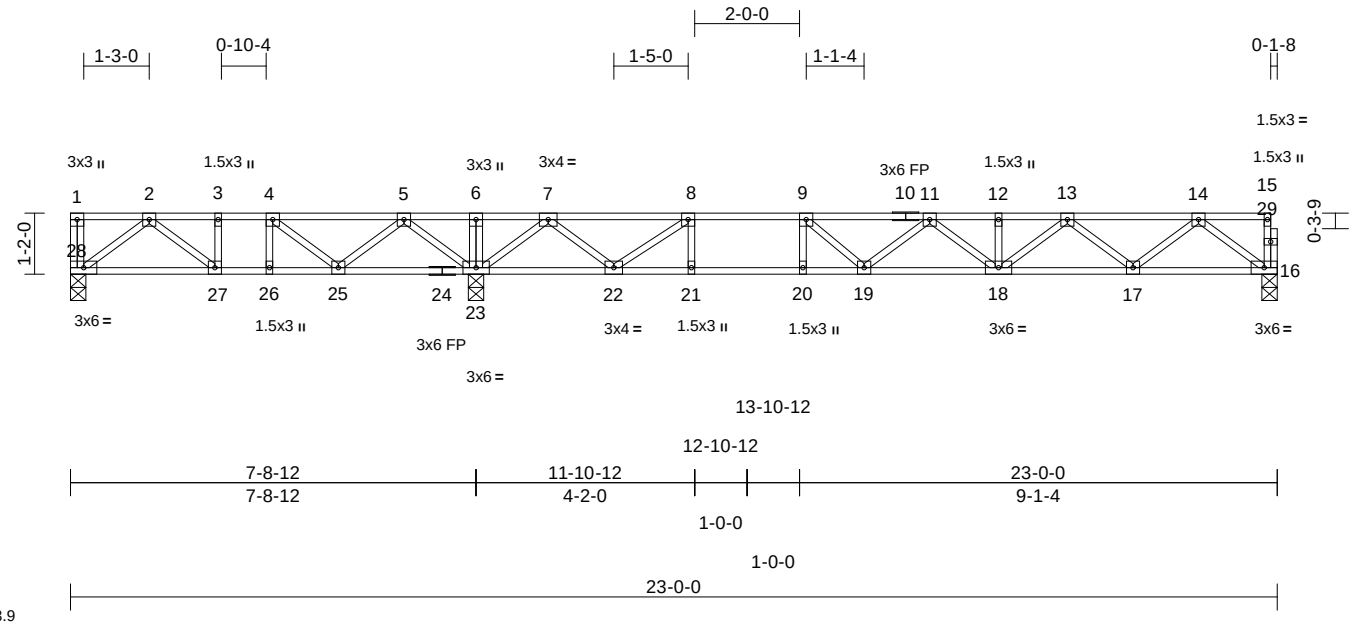
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F14	Floor	3	1	Job Reference (optional)	I74038395

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:03 Page: 1
ID:BbnCfBknv4wwrcbwaQjh1bzmIRM-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:43.9

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.54	Vert(LL)	-0.22	19-20	>830	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.81	Vert(CT)	-0.30	19-20	>610	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.39	Horz(CT)	0.03	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 118 lb	FT = 20%F, 12%E

LUMBER

TOP CHORD 2x4 SP SS(flat) *Except* 10-15:2x4 SP No.2 (flat)
BOT CHORD 2x4 SP No.2(flat) *Except* 24-16:2x4 SP SS (flat)
WEBS 2x4 SP No.3(flat)
OTHERS 2x4 SP No.3(flat)

BRACING

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

REACTIONS (size) 16=0-3-8, 23=0-3-8, 28=0-3-8
Max Grav 16=616 (LC 4), 23=1170 (LC 1), 28=281 (LC 3)

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-28=-45/0, 15-16=-28/0, 1-2=0/0, 2-3=-439/107, 3-4=-439/107, 4-5=-268/280, 5-6=0/791, 6-7=0/791, 7-8=-815/0, 8-9=-1722/0, 9-11=-2038/0, 11-12=-1936/0, 12-13=-1936/0, 13-14=-1248/0, 14-15=-2/0
BOT CHORD 27-28=-20/302, 26-27=-107/439, 25-26=-107/439, 23-25=-435/79, 22-23=-144/196, 21-22=0/1722, 20-21=0/1722, 19-20=0/1722, 18-19=0/2149, 17-18=0/1699, 16-17=0/766
WEBS 6-23=-116/0, 8-21=0/327, 9-20=-347/0, 5-23=-640/0, 2-28=-379/26, 5-25=0/344, 2-27=-110/175, 4-25=-351/0, 3-27=-71/57, 4-26=-20/70, 7-23=-1036/0, 7-22=0/829, 8-22=-1144/0, 14-16=-958/0, 14-17=0/628, 13-17=-587/0, 13-18=0/302, 12-18=-16/2, 11-18=-272/0, 11-19=-195/37, 9-19=0/516

NOTES

1) Unbalanced floor live loads have been considered for this design.
2) All plates are 3x3 (=) MT20 unless otherwise indicated.
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) CAUTION, Do not erect truss backwards.

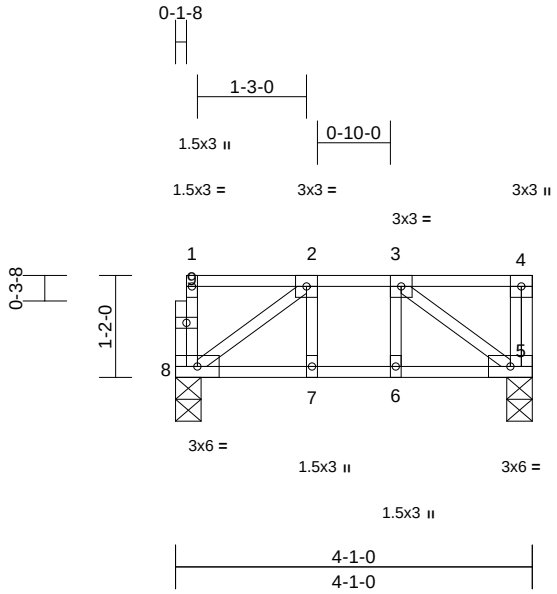
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F8	Floor	1	1	Job Reference (optional)	I74038396

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1
ID:xsVvYCM6yEYP1Ia3oMpXQezmFjX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:26.4

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.24	Vert(LL)	0.00	5-6	>999	480	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.14	Vert(CT)	-0.01	5-6	>999	360		
BCLL	0.0	Rep Stress Incr	NO	WB	0.10	Horz(CT)	0.00	5	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-S							Weight: 24 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)

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-0-15 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 5=0-3-8, 8=0-3-8
Max Grav 5=360 (LC 1), 8=349 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-8=-109/0, 4-5=-114/0, 1-2=-7/0, 2-3=-335/0, 3-4=0/0
BOT CHORD 7-8=0/335, 6-7=0/335, 5-6=0/335
WEBS 3-5=-414/0, 2-8=-406/0, 2-7=-8/30, 3-6=-12/26

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) 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.
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) CAUTION, Do not erect truss backwards.

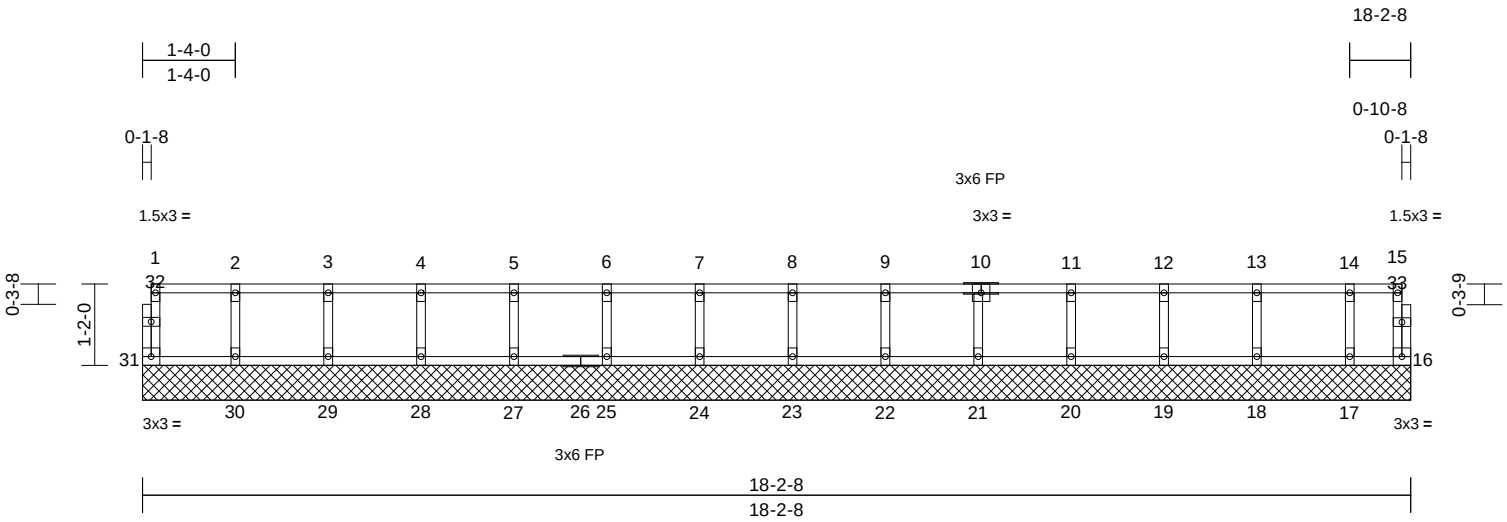
LOAD CASE(S) Standard
1) Dead + Floor Live (balanced): Lumber Increase=1.00, Plate Increase=1.00
Uniform Loads (lb/ft)
Vert: 5-8=-8, 1-4=-180

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor	
	2F3GE	Floor Supported Gable	1	1	Job Reference (optional)	I74038397

Structural, LLC, Thurmont, MD - 21788, Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 Page: 1
ID:xsVvYCM6yEYP1Ia3oMpXQezmFjX-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:33.1

Loading	(psf)	Spacing	1-7-3	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	0.03	Horiz(TL)	0.00	16	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 76 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)

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=18-2-8, 17=18-2-8, 18=18-2-8, 19=18-2-8, 20=18-2-8, 21=18-2-8, 22=18-2-8, 23=18-2-8, 24=18-2-8, 25=18-2-8, 27=18-2-8, 28=18-2-8, 29=18-2-8, 30=18-2-8, 31=18-2-8
Max Grav 16=28 (LC 1), 17=88 (LC 1), 18=122 (LC 1), 19=116 (LC 1), 20=115 (LC 1), 21=117 (LC 1), 22=120 (LC 1), 23=116 (LC 1), 24=117 (LC 1), 25=117 (LC 1), 27=117 (LC 1), 28=117 (LC 1), 29=117 (LC 1), 30=120 (LC 1), 31=40 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-31=-38/0, 15-16=-21/0, 1-2=-3/0, 2-3=-3/0, 3-4=-3/0, 4-5=-3/0, 5-6=-3/0, 6-7=-3/0, 7-8=-3/0, 8-9=-3/0, 9-11=-8/0, 11-12=-8/0, 12-13=-8/0, 13-14=-8/0, 14-15=-8/0
BOT CHORD 30-31=0/3, 29-30=0/3, 28-29=0/3, 27-28=0/3, 25-27=0/3, 24-25=0/3, 23-24=0/3, 22-23=0/3, 21-22=0/3, 20-21=0/8, 19-20=0/8, 18-19=0/8, 17-18=0/8, 16-17=0/8
WEBS 2-30=-107/0, 3-29=-107/0, 4-28=-107/0, 5-27=-107/0, 6-25=-107/0, 7-24=-107/0, 8-23=-106/0, 9-22=-109/0, 10-21=-106/0, 11-20=-104/0, 12-19=-106/0, 13-18=-111/0, 14-17=-85/0

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) 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

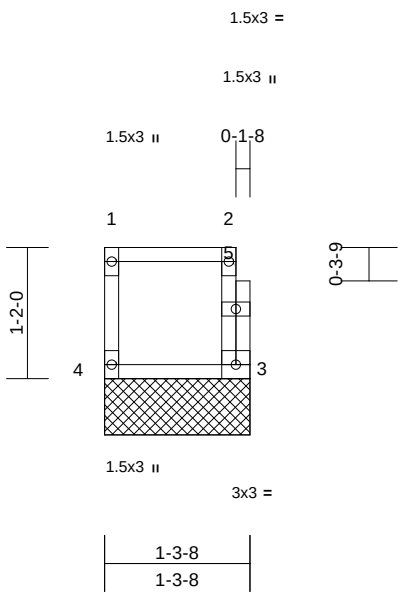
June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F4GE	Floor Supported Gable	1	1	I74038398 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788,

Run: 25.20 S May 13 2025 Print: 25.2.0 S May 13 2025 MiTek Industries, Inc. Fri Jun 06 13:38:02 ID:G5NXIlbzzezr?cvmu6mSCazX8Kh-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?f



Scale = 1:20.5

Loading	(psf)	Spacing	1-7-3	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.05	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.01	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	YES	WB	0.00	Horiz(TL)	0.00	3	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 7 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)

BRACING
TOP CHORD Structural wood sheathing directly applied or 1-3-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 3=1-3-8, 4=1-3-8
Max Grav 3=44 (LC 1), 4=48 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-4=-42/0, 2-3=-42/0, 1-2=-7/0
BOT CHORD 3-4=0/7

NOTES
1) Gable requires continuous bottom chord bearing.
2) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
3) Gable studs spaced at 1-4-0 oc.
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.
5) CAUTION, Do not erect truss backwards.

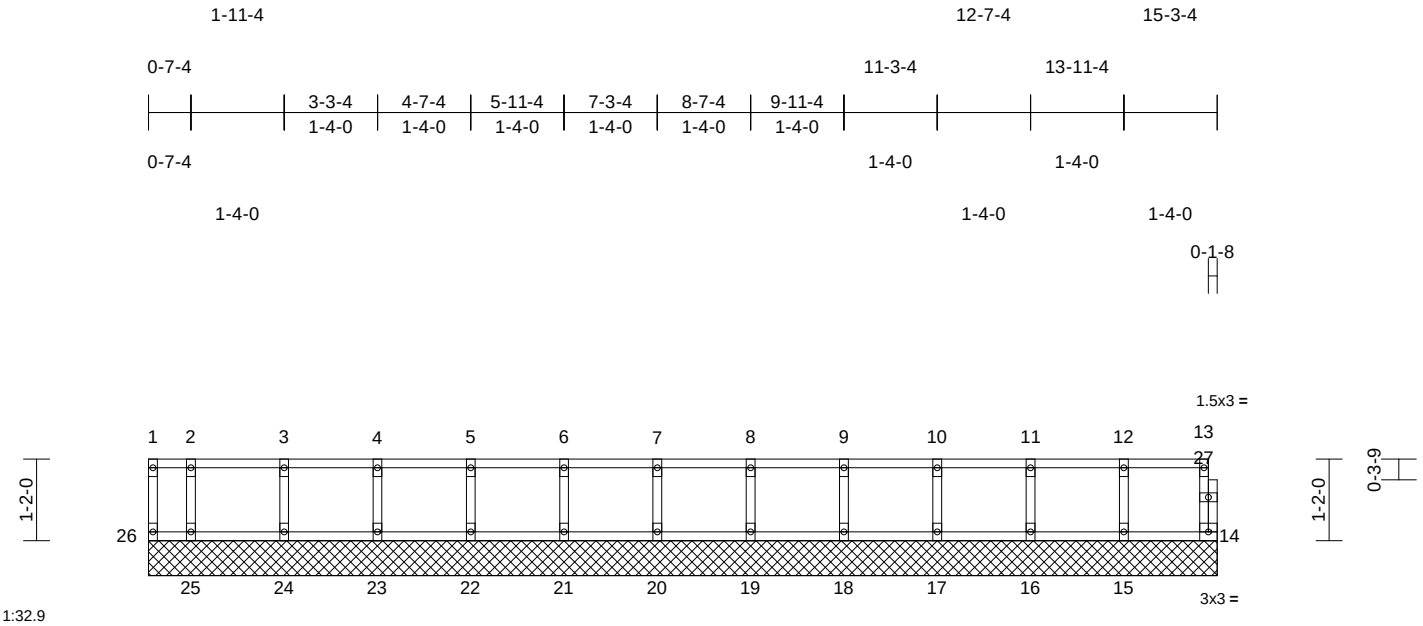
LOAD CASE(S) Standard

June 9,2025

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

Job	Truss	Truss Type	Qty	Ply	Norris Rev 1-El. 5-Floor
	2F2DT	Floor Supported Gable	1	1	I74038399 Job Reference (optional)

Structural, LLC, Thurmont, MD - 21788, Run: 25.10 S Mar 10 2025 Print: 25.1.0 S Mar 10 2025 MiTek Industries, Inc. Mon Jun 09 17:29:13 Page: 1
ID:kSDbC7?WfveiN86_xnqi9Uz9ASb-h___yJLIHXSiT144Aw9fxNxgZejgS26LsAa?k4z86U4



Scale = 1:32.9

Loading	(psf)	Spacing	2-0-0	CSI		DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP
TCLL	40.0	Plate Grip DOL	1.00	TC	0.24	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.14	Vert(TL)	n/a	-	n/a	999		
BCLL	0.0	Rep Stress Incr	NO	WB	0.03	Horiz(TL)	0.00	19	n/a	n/a		
BCDL	5.0	Code	IRC2021/TPI2014	Matrix-R							Weight: 64 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) *Except* 14-27:2x4 SP No.2(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 6-0-0 oc bracing.

REACTIONS All bearings 15-3-4.
(lb) - Max Horiz 26=0 (LC 5)
Max Uplift All uplift 100 (lb) or less at joint(s) 14, 15 except 25=-105 (LC 8), 26=-112 (LC 7)
Max Grav All reactions 250 (lb) or less at joint (s) 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26

FORCES (lb) - Max. Comp./Max. Ten. - All forces 250 (lb) or less except when shown.

NOTES
1) Unbalanced floor live loads have been considered for this design.
2) All plates are 1.5x3 (||) MT20 unless otherwise indicated.
3) Gable requires continuous bottom chord bearing.
4) Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
5) Gable studs spaced at 1-4-0 oc.
6) One RT4 MiTek connectors recommended to connect truss to bearing walls due to UPLIFT at jt(s) 14, 26, 15, and 25. This connection is for uplift only and does not consider lateral forces.
7) 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 15-3-4 for 6.5 plf.
8) 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.
9) CAUTION, Do not erect truss backwards.

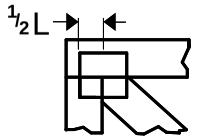
LOAD CASE(S) Standard

June 9,2025

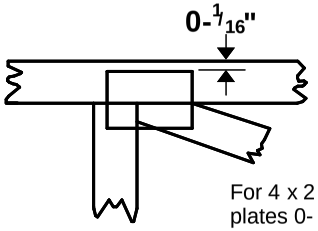
ENGINEERING BY TRENCO A MiTek Affiliate
818 Soundside Road
Edenton, NC 27932

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.

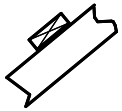
* Plate location details available in MiTek software or upon request.

PLATE SIZE

4 x 4

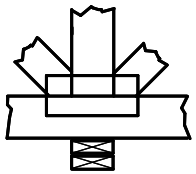
The first dimension is the plate width measured perpendicular to slots. Second dimension is the length parallel to slots.

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

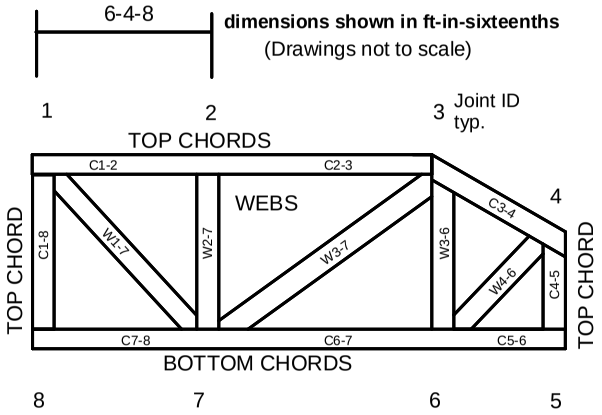


Indicates location where bearings (supports) occur. Icons vary but reaction section indicates joint number/letter where bearings occur. Min size shown is for crushing only.

Industry Standards:

ANSI/TPI1: 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/TPI 1 section 6.3 These truss designs rely on lumber values established by others.

MiTek®

ENGINEERING BY TRENCO
A MiTek Affiliate

MiTek Engineering Reference Sheet: MII-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/TPI 1.
7. Design assumes trusses will be suitably protected from the environment in accord with ANSI/TPI 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/TPI 1 Quality Criteria.
21. The design does not take into account any dynamic or other loads other than those expressly stated.