

Trenco
818 Soundside Rd
Edenton, NC 27932

Re: Q2500257
Hall 2024-SAN-075

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

Pages or sheets covered by this seal: I71052412 thru I71052425

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

North Carolina COA: C-0844



January 29, 2025

Gilbert, Eric

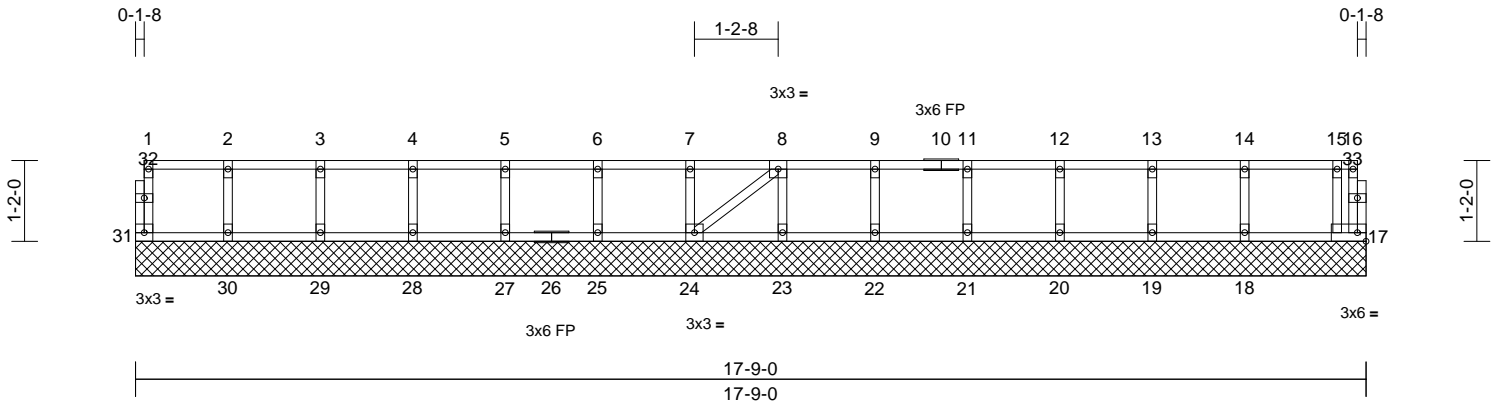
IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which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

Job	Truss	Truss Type	Qty	Ply	Hall 2024-SAN-075	I71052412
Q2500257	1F01	Floor Supported Gable	2	1	Job Reference (optional)	

Carolina Structural Systems (Star, NC), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:18
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Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	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	17	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 77 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.2(flat)
OTHERS	2x4 SP No.3(flat) *Except* 31-32,17-33:2x4 SP No.2(flat)

- All plates are 1.5x3 MT20 unless otherwise indicated.
- Gable requires continuous bottom chord bearing.
- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 1-4-0 oc.
- All bearings are assumed to be SP No.2 .
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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.

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=17-9-0, 18=17-9-0, 19=17-9-0, 20=17-9-0, 21=17-9-0, 22=17-9-0, 23=17-9-0, 24=17-9-0, 25=17-9-0, 27=17-9-0, 28=17-9-0, 29=17-9-0, 30=17-9-0, 31=17-9-0

Max Grav 17=91 (LC 1), 18=156 (LC 1), 19=144 (LC 1), 20=147 (LC 1), 21=147 (LC 1), 22=147 (LC 1), 23=132 (LC 1), 24=161 (LC 1), 25=147 (LC 1), 27=147 (LC 1), 28=147 (LC 1), 29=146 (LC 1), 30=152 (LC 1), 31=49 (LC 1)

LOAD CASE(S) Standard

FORCES (lb) - Maximum Compression/Maximum Tension

TOP CHORD	1-31=-44/0, 16-17=0/31, 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=-21/0, 9-11=-21/0, 11-12=-21/0, 12-13=-21/0, 13-14=-21/0, 14-15=-21/0, 15-16=-2/0
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=0/21, 22-23=0/21, 21-22=0/21, 20-21=0/21, 19-20=0/21, 18-19=0/21, 17-18=0/21
WEBS	2-30=-138/0, 3-29=-133/0, 4-28=-134/0, 5-27=-133/0, 6-25=-133/0, 7-24=-133/0, 8-23=-119/0, 9-22=-133/0, 11-21=-133/0, 12-20=-134/0, 13-19=-132/0, 14-18=-140/0, 15-17=-117/0, 8-24=-23/0

NOTES



January 29, 2025

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



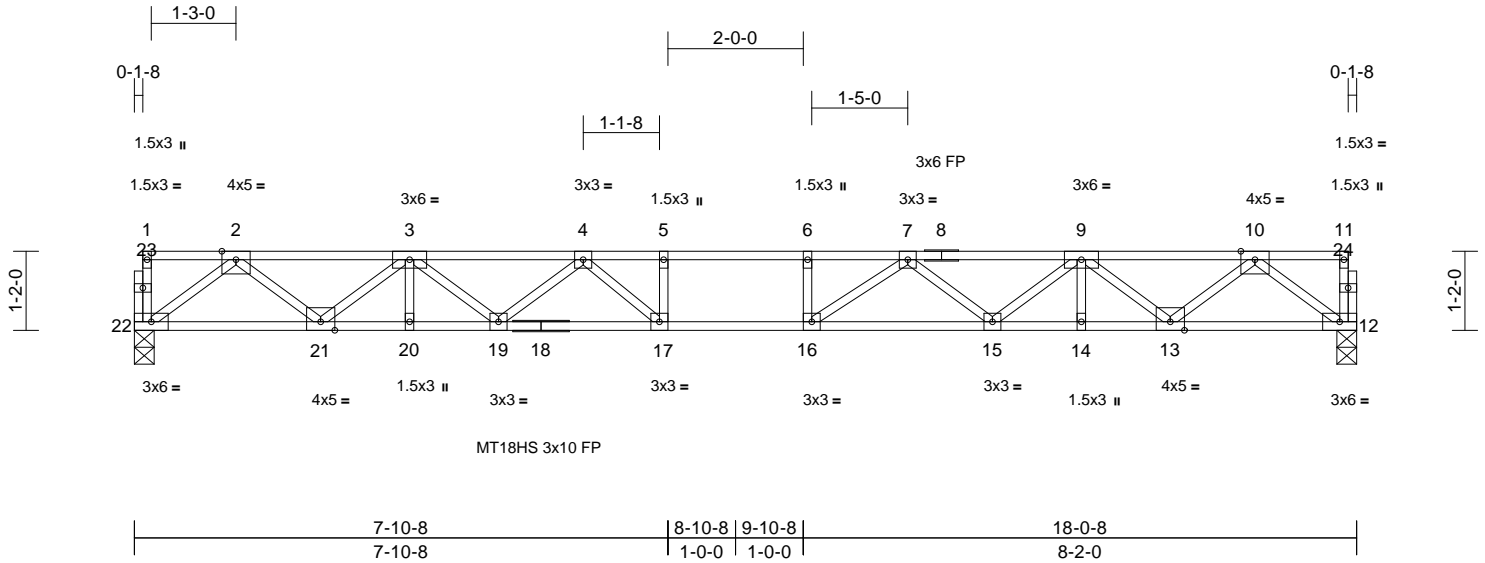
818 Soundside Road
 Edenton, NC 27932

Job Q2500257	Truss 1F03	Truss Type Floor	Qty 5	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052414
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

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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	0.79	Vert(LL)	-0.32	16-17	>675	360	MT18HS	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.90	Vert(CT)	-0.43	16-17	>491	240	MT20	244/190
BCLL	0.0	Rep Stress Incr	YES	WB	0.31	Horz(CT)	0.07	12	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 91 lb	FT = 20%F, 11%E

LUMBER
TOP CHORD 2x4 SP No.2(flat)
BOT CHORD 2x4 SP No.1(flat)
WEBS 2x4 SP No.2(flat)
OTHERS 2x4 SP No.2(flat)

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.

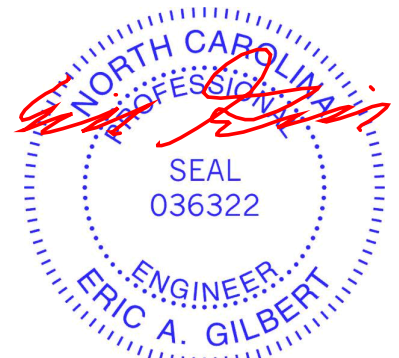
LOAD CASE(S) Standard

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) 12=0-3-8, 22=0-3-8
Max Grav 12=972 (LC 1), 22=972 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-22=-38/0, 11-12=-37/0, 1-2=-2/0, 2-3=-2067/0, 3-4=-3428/0, 4-5=-4128/0, 5-6=-4128/0, 6-7=-4128/0, 7-9=-3436/0, 9-10=-2067/0, 10-11=-2/0
BOT CHORD 21-22=0/1219, 20-21=0/2926, 19-20=0/2926, 17-19=0/3889, 16-17=0/4128, 15-16=0/3888, 14-15=0/2923, 13-14=0/2923, 12-13=0/1219
WEBS 5-17=-307/0, 6-16=-262/0, 2-22=-1526/0, 2-21=0/1105, 3-21=-1096/0, 3-20=-21/33, 3-19=0/641, 4-19=-599/0, 4-17=-84/660, 10-12=-1527/0, 10-13=0/1104, 9-13=-1093/0, 9-14=-26/27, 9-15=0/655, 7-15=-587/0, 7-16=-93/647

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 1.5x3 MT20 unless otherwise indicated.
4) All bearings are assumed to be SP No.1.
5) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



January 29, 2025

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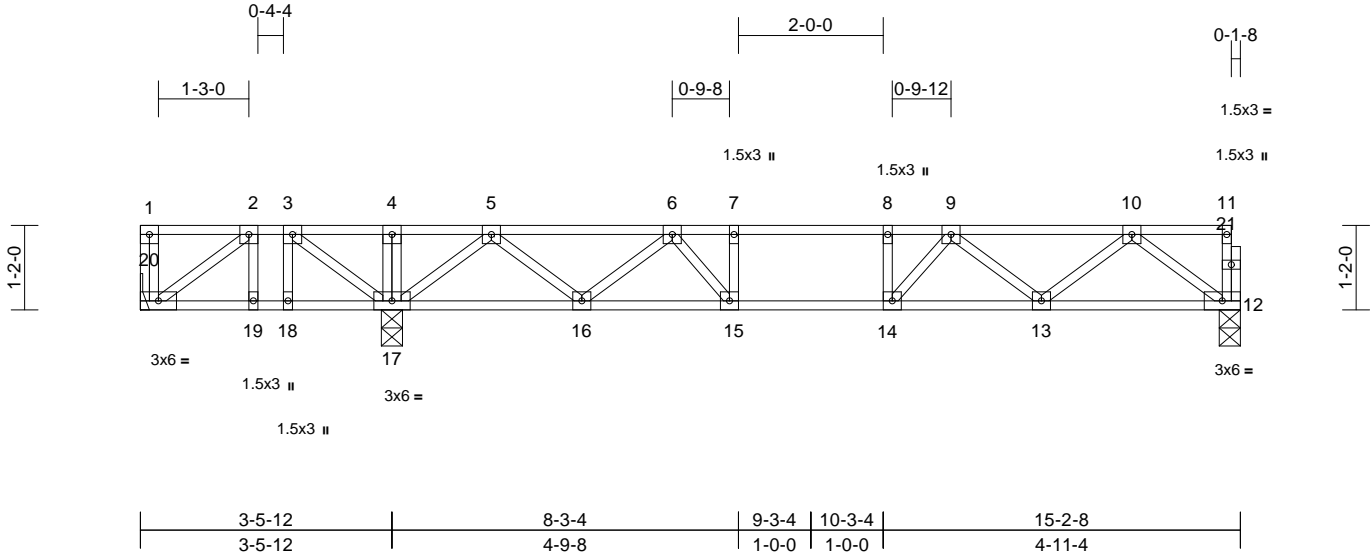
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss 1F04	Truss Type Floor	Qty 3	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052415
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

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Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.52	Vert(LL)	-0.08	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.59	Vert(CT)	-0.11	13-14	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.02	12	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 80 lb	FT = 20%F, 11%E

LUMBER

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

(size) 12=0-3-8, 17=0-3-8, 20= Mechanical
 Max Uplift 20=-166 (LC 4)
 Max Grav 12=571 (LC 7), 17=1105 (LC 1), 20=122 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-20=-82/0, 11-12=-35/0, 1-2=0/0, 2-3=-59/303, 3-4=0/767, 4-5=0/767, 5-6=-679/0, 6-7=-1400/0, 7-8=-1400/0, 8-9=-1400/0, 9-10=-1064/0, 10-11=-2/0
 BOT CHORD 19-20=-303/59, 18-19=-303/59, 17-18=-303/59, 16-17=-11/188, 15-16=0/1167, 14-15=0/1400, 13-14=0/1378, 12-13=0/697
 WEBS 4-17=-98/0, 7-15=-291/0, 8-14=-152/12, 5-17=-1071/0, 5-16=0/652, 6-16=-646/0, 6-15=0/485, 10-12=-872/0, 10-13=0/477, 9-13=-409/0, 9-14=-73/227, 2-20=-73/374, 3-17=-665/0, 2-19=-142/0, 3-18=0/158

NOTES

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are 3x3 MT20 unless otherwise indicated.
- 3) Bearings are assumed to be: , Joint 17 SP No.2 , Joint 12 SP No.2 .
- 4) Refer to girder(s) for truss to truss connections.
- 5) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 166 lb uplift at joint 20.

- 6) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 7) Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- 8) CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard



January 29, 2025

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

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



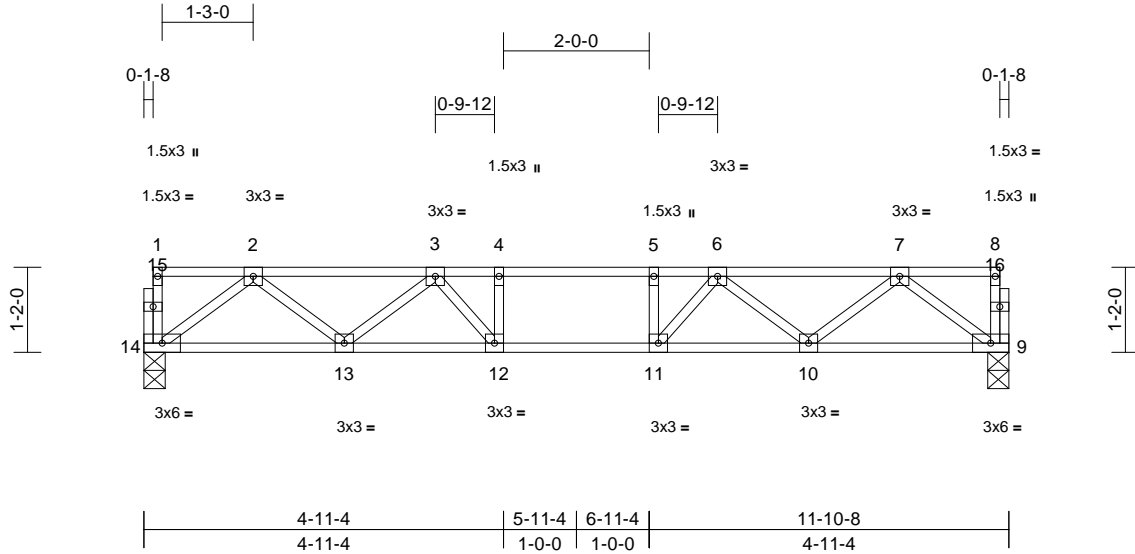
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss 1F05	Truss Type Floor	Qty 5	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052416
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

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Page: 1



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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL	40.0	Plate Grip DOL	1.00	TC	0.43	Vert(LL)	-0.08	10-11	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.55	Vert(CT)	-0.10	10-11	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.16	Horz(CT)	0.02	9	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 60 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
 BOT CHORD 2x4 SP No.2(flat)
 WEBS 2x4 SP No.2(flat)
 OTHERS 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 10-0-0 oc bracing.

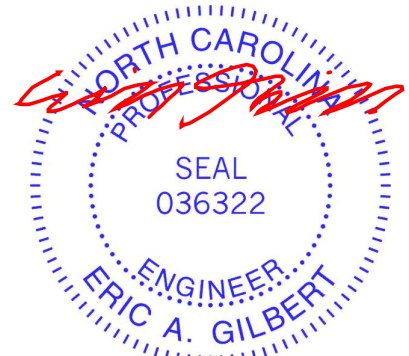
REACTIONS (size) 9=0-3-8, 14=0-3-8
 Max Grav 9=633 (LC 1), 14=633 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-14=-35/0, 8-9=-35/0, 1-2=-2/0, 2-3=-1212/0, 3-4=-1744/0, 4-5=-1744/0, 5-6=-1744/0, 6-7=-1212/0, 7-8=-2/0
 BOT CHORD 13-14=0/778, 12-13=0/1614, 11-12=0/1744, 10-11=0/1614, 9-10=0/778
 WEBS 4-12=-255/0, 5-11=-255/0, 2-14=-973/0, 2-13=0/565, 3-13=-524/0, 3-12=-8/420, 7-9=-973/0, 7-10=0/565, 6-10=-524/0, 6-11=-8/420

NOTES

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All plates are 3x3 MT20 unless otherwise indicated.
- 3) All bearings are assumed to be SP No.2 .
- 4) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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



January 29, 2025

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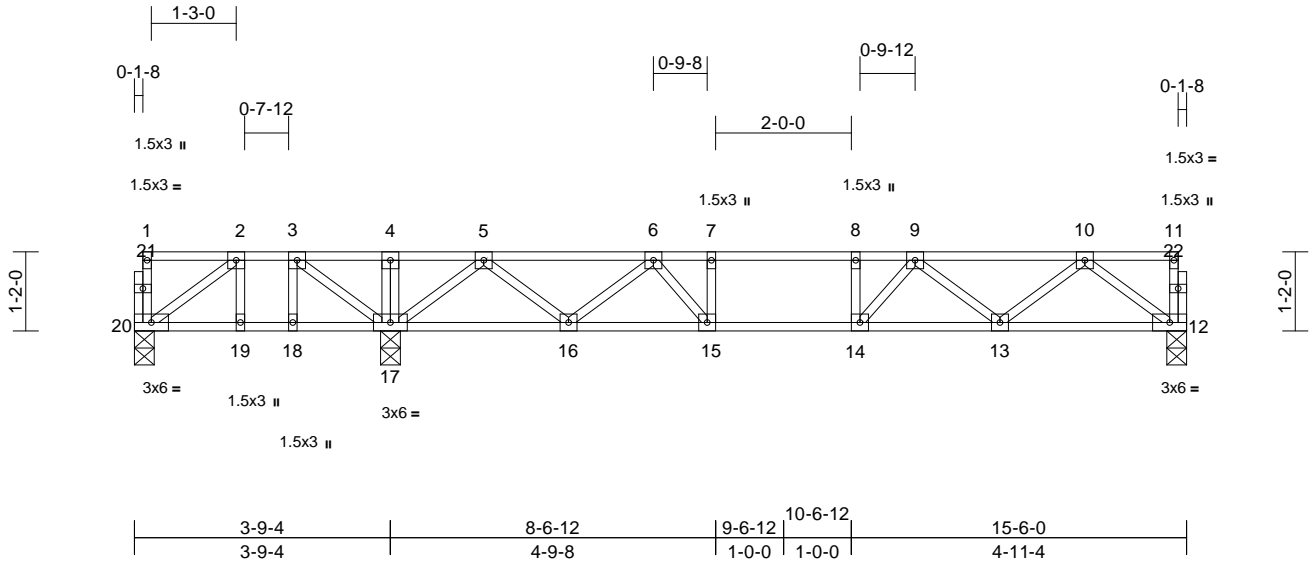
818 Soundside Road
 Edenton, NC 27932

Job Q2500257	Truss 1F06	Truss Type Floor	Qty 1	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052417
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

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Page: 1



Scale = 1:33.9

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	0.50	Vert(LL)	-0.08	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.58	Vert(CT)	-0.11	13-14	>999	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.18	Horz(CT)	0.02	12	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 81 lb	FT = 20%F, 11%E

LUMBER

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

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

LOAD CASE(S) Standard

BRACING

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

REACTIONS

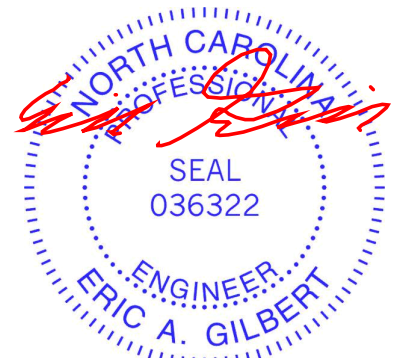
(size) 12=0-3-8, 17=0-3-8, 20=0-3-8
 Max Uplift 20=117 (LC 4)
 Max Grav 12=581 (LC 7), 17=1066 (LC 1), 20=144 (LC 3)

FORCES

(lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-20=-86/0, 11-12=-35/0, 1-2=-5/0, 2-3=-92/247, 3-4=0/662, 4-5=0/662, 5-6=-766/0, 6-7=-1455/0, 7-8=-1455/0, 8-9=-1455/0, 9-10=-1088/0, 10-11=-2/0
 BOT CHORD 19-20=-247/92, 18-19=-247/92, 17-18=-247/92, 16-17=0/279, 15-16=0/1240, 14-15=0/1455, 13-14=0/1416, 12-13=0/710
 WEBS 4-17=-91/0, 7-15=-287/0, 8-14=-166/8, 2-20=-109/308, 3-17=-627/0, 2-19=-113/0, 3-18=0/133, 5-17=-1061/0, 5-16=0/642, 6-16=-631/0, 6-15=0/476, 10-12=-889/0, 10-13=0/491, 9-13=-427/0, 9-14=-64/254

NOTES

- Unbalanced floor live loads have been considered for this design.
- All plates are 3x3 MT20 unless otherwise indicated.
- All bearings are assumed to be SP No.2.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 117 lb uplift at joint 20.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.



January 29, 2025

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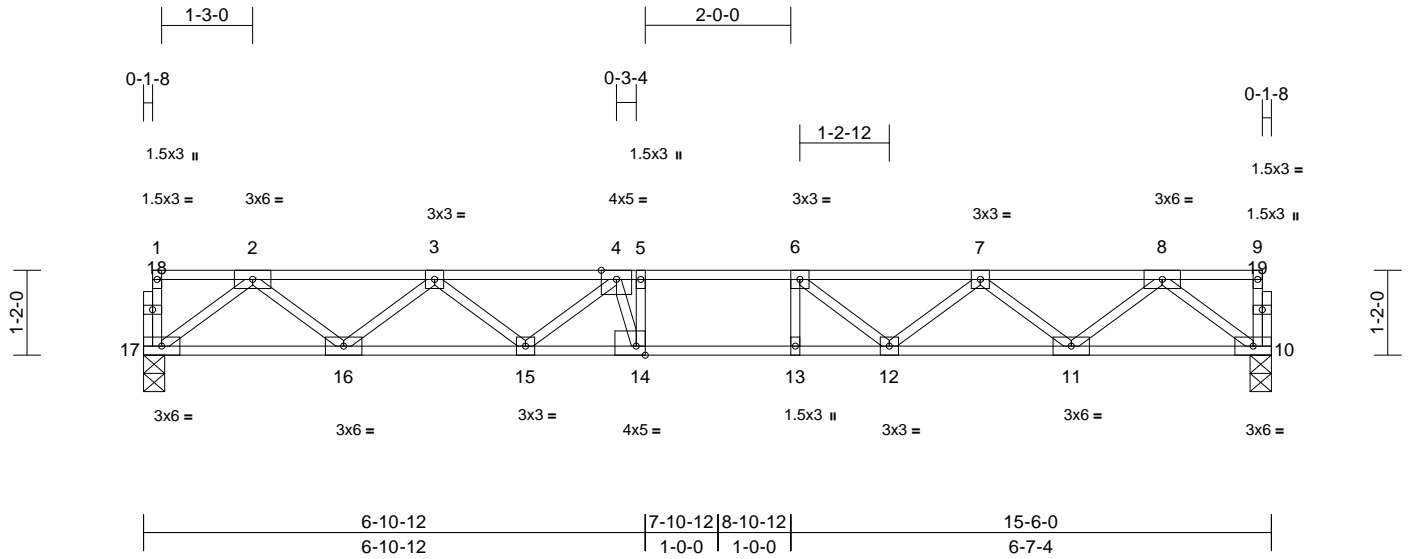
818 Soundside Road
 Edenton, NC 27932

Job Q2500257	Truss 1F07	Truss Type Floor	Qty 1	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052418
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

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Page: 1



Scale = 1:31.7

Plate Offsets (X, Y): [14:0-1-8,Edge]

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	0.59	Vert(LL)	-0.17	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.73	Vert(CT)	-0.24	13-14	>768	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.25	Horz(CT)	0.05	10	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 78 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
 BOT CHORD 2x4 SP No.1(flat)
 WEBS 2x4 SP No.2(flat)
 OTHERS 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 10-0-0 oc bracing.

REACTIONS (size) 10=0-3-8, 17=0-3-8

Max Grav 10=832 (LC 1), 17=832 (LC 1)

FORCES

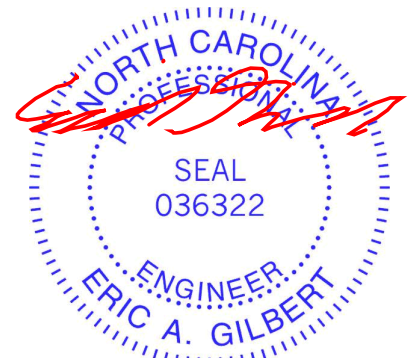
(lb) - Maximum Compression/Maximum Tension

TOP CHORD 1-17=-38/0, 9-10=-41/0, 1-2=-2/0,
 2-3=-1718/0, 3-4=-2702/0, 4-5=-3031/0,
 5-6=-3031/0, 6-7=-2702/0, 7-8=-1718/0,
 8-9=-2/0
 BOT CHORD 16-17=0/1034, 15-16=0/2368, 14-15=0/3011,
 13-14=0/3031, 12-13=0/3031, 11-12=0/2367,
 10-11=0/1035
 WEBS 5-14=-419/201, 6-13=-99/148, 2-17=-1295/0,
 2-16=0/890, 3-16=-846/0, 3-15=0/435,
 4-15=-468/0, 4-14=-316/566, 8-10=-1295/0,
 8-11=0/890, 7-11=-844/0, 7-12=0/492,
 6-12=-589/0

NOTES

- 1) Unbalanced floor live loads have been considered for this design.
- 2) All bearings are assumed to be SP No.1.
- 3) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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



January 29, 2025

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

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



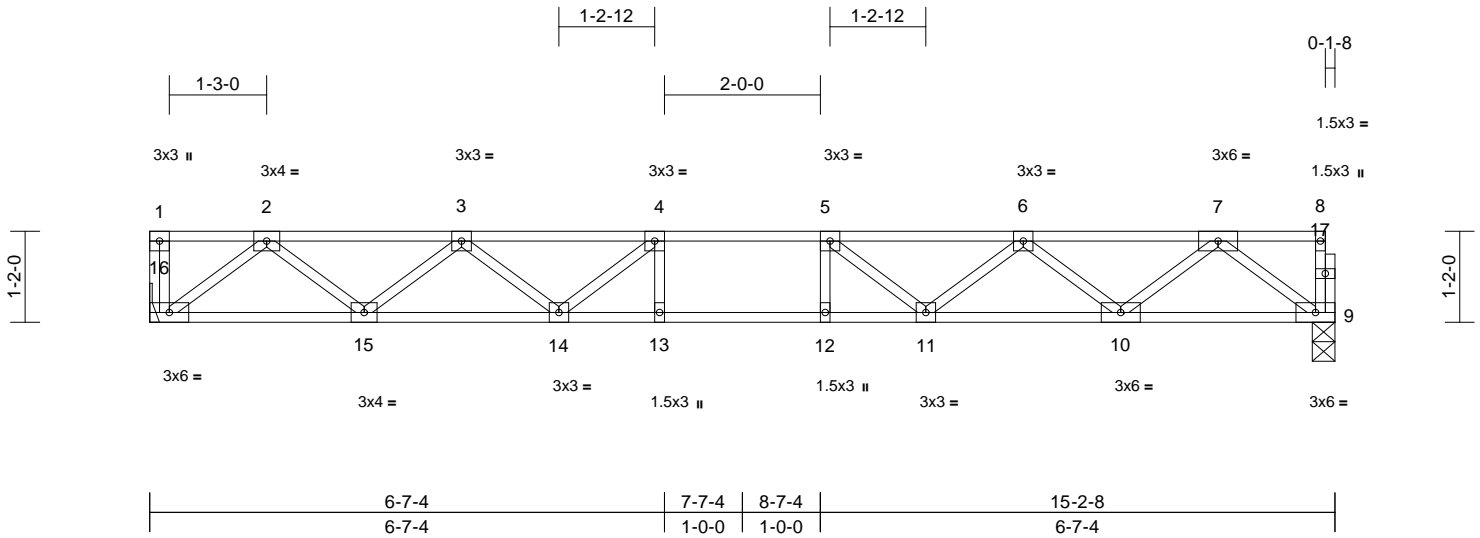
818 Soundside Road
 Edenton, NC 27932

Job Q2500257	Truss 1F08	Truss Type Floor	Qty 5	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052419
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:20
ID:8YPJEP09i0Wm_?BG5wjhxzqpMt-RfC?PsB70Hq3NSgPqnL8w3ulTXbGKWrCDoi7J4zJC?f

Page: 1



Scale = 1:29.6

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	0.46	Vert(LL)	-0.16	13-14	>999	360	MT20	244/190
TCDL	10.0	Lumber DOL	1.00	BC	0.78	Vert(CT)	-0.22	12-13	>812	240		
BCLL	0.0	Rep Stress Incr	YES	WB	0.24	Horz(CT)	0.04	9	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 76 lb	FT = 20%F, 11%E

LUMBER

TOP CHORD 2x4 SP No.2(flat)
 BOT CHORD 2x4 SP No.1(flat)
 WEBS 2x4 SP No.2(flat)
 OTHERS 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 10-0-0 oc bracing.

REACTIONS (size) 9=0-3-8, 16= Mechanical
 Max Grav 9=816 (LC 1), 16=823 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-16=-45/0, 8-9=-41/0, 1-2=0/0, 2-3=-1679/0, 3-4=-2622/0, 4-5=-2923/0, 5-6=-2622/0, 6-7=-1679/0, 7-8=-2/0
 BOT CHORD 15-16=0/1014, 14-15=0/2309, 13-14=0/2923, 12-13=0/2923, 11-12=0/2923, 10-11=0/2309, 9-10=0/1013
 WEBS 4-13=-134/167, 5-12=-134/167, 7-9=-1268/0, 7-10=0/866, 6-10=-821/0, 6-11=0/464, 5-11=-575/0, 2-16=-1272/0, 2-15=0/866, 3-15=-820/0, 3-14=0/464, 4-14=-575/0

NOTES

- 1) Unbalanced floor live loads have been considered for this design.
- 2) Bearings are assumed to be: , Joint 9 SP No.1 .
- 3) Refer to girder(s) for truss to truss connections.
- 4) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- 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



January 29, 2025

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

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



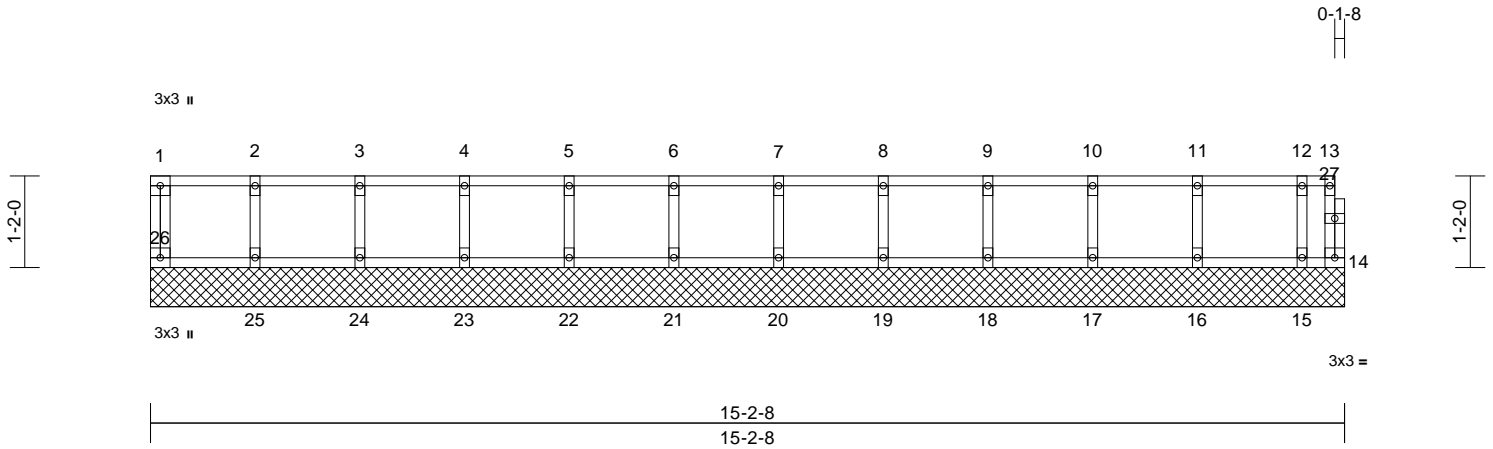
818 Soundside Road
 Edenton, NC 27932

Job Q2500257	Truss 1F09	Truss Type Floor Supported Gable	Qty 1	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052420
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:20
ID:vMQmUxjrpiuzGqP?DrbCDzqpMU-RfC?PsB70Hq3NSgPqnL8w3uITXbGKWrCDoi7J4zJC?

Page: 1



Scale = 1:29.3

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	0.08	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	14	n/a	n/a		
BCDL	5.0	Code	IRC2018/TPI2014	Matrix-MR							Weight: 65 lb	FT = 20%F, 11%E

LUMBER	
TOP CHORD	2x4 SP No.2(flat)
BOT CHORD	2x4 SP No.2(flat)
WEBS	2x4 SP No.2(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 10-0-0 oc bracing.

REACTIONS	(size)
	14=15-2-8, 15=15-2-8, 16=15-2-8, 17=15-2-8, 18=15-2-8, 19=15-2-8, 20=15-2-8, 21=15-2-8, 22=15-2-8, 23=15-2-8, 24=15-2-8, 25=15-2-8, 26=15-2-8
Max Grav	14=7 (LC 1), 15=100 (LC 1), 16=153 (LC 1), 17=145 (LC 1), 18=147 (LC 1), 19=147 (LC 1), 20=147 (LC 1), 21=147 (LC 1), 22=147 (LC 1), 23=147 (LC 1), 24=147 (LC 1), 25=148 (LC 1), 26=59 (LC 1)

FORCES	(lb) - Maximum Compression/Maximum Tension
TOP CHORD	1-26=-55/0, 13-14=0/3, 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, 8-9=-7/0, 9-10=-7/0, 10-11=-7/0, 11-12=-7/0, 12-13=-7/0
BOT CHORD	25-26=0/7, 24-25=0/7, 23-24=0/7, 22-23=0/7, 21-22=0/7, 20-21=0/7, 19-20=0/7, 18-19=0/7, 17-18=0/7, 16-17=0/7, 15-16=0/7, 14-15=0/7
WEBS	2-25=-132/0, 3-24=-134/0, 4-23=-133/0, 5-22=-133/0, 6-21=-133/0, 7-20=-133/0, 8-19=-133/0, 9-18=-134/0, 10-17=-132/0, 11-16=-139/0, 12-15=-101/0

- NOTES**
- All plates are 1.5x3 MT20 unless otherwise indicated.
 - Gable requires continuous bottom chord bearing.

- Truss to be fully sheathed from one face or securely braced against lateral movement (i.e. diagonal web).
- Gable studs spaced at 1-4-0 oc.
- All bearings are assumed to be SP No.2 .
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.
- Recommend 2x6 strongbacks, on edge, spaced at 10-00-00 oc and fastened to each truss with 3-10d (0.131" X 3") nails. Strongbacks to be attached to walls at their outer ends or restrained by other means.
- CAUTION, Do not erect truss backwards.

LOAD CASE(S) Standard



January 29, 2025

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

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



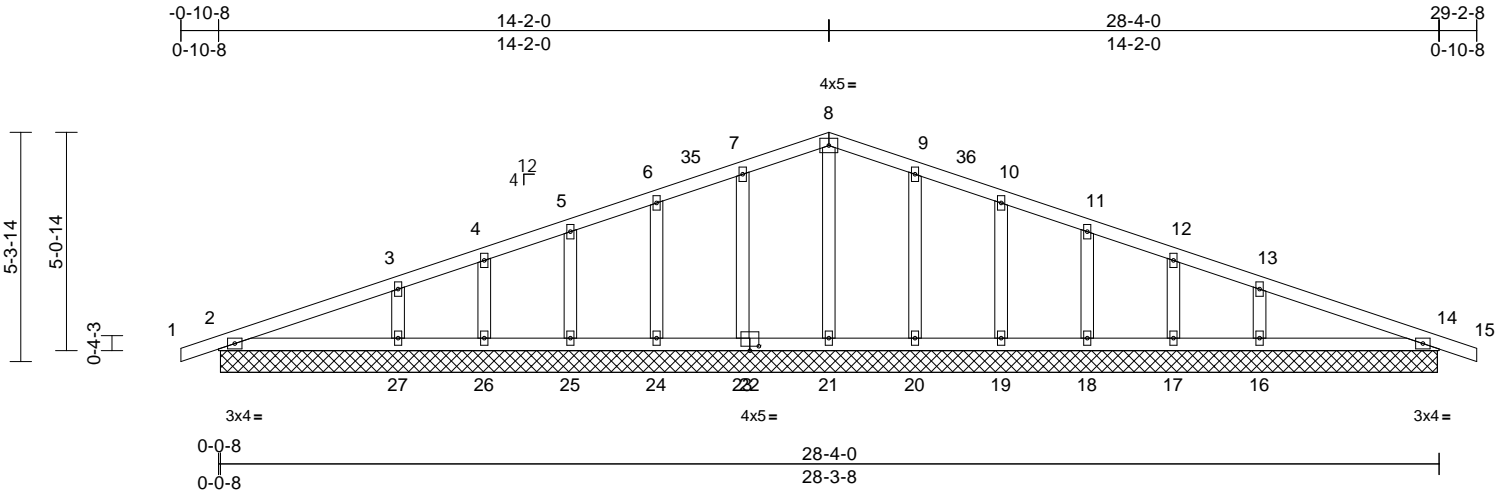
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss A01	Truss Type Common Supported Gable	Qty 2	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052421
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:20
ID:qMv_Ts6lxReDI9q6tF54DazqpWJ-RfC?PsB70Hq3NSgPqnL8w3uTXbGKWRcDoi7J4zJC?f

Page: 1



Scale = 1:53.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.15	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.14	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	14	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 134 lb	FT = 20%

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

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

REACTIONS (size) 2=28-3-0, 14=28-3-0, 16=28-3-0, 17=28-3-0, 18=28-3-0, 19=28-3-0, 20=28-3-0, 21=28-3-0, 23=28-3-0, 24=28-3-0, 25=28-3-0, 26=28-3-0, 27=28-3-0
 Max Horiz 2=51 (LC 10)
 Max Uplift 2=-27 (LC 12), 14=-27 (LC 12), 16=-18 (LC 12), 17=-9 (LC 12), 18=-12 (LC 12), 19=-12 (LC 12), 20=-11 (LC 12), 23=-11 (LC 12), 24=-12 (LC 12), 25=-12 (LC 12), 26=-9 (LC 12), 27=-18 (LC 12)
 Max Grav 2=202 (LC 1), 14=202 (LC 1), 16=329 (LC 24), 17=86 (LC 1), 18=179 (LC 24), 19=154 (LC 1), 20=170 (LC 24), 21=137 (LC 1), 23=170 (LC 23), 24=154 (LC 1), 25=179 (LC 23), 26=86 (LC 1), 27=329 (LC 23)

FORCES (lb) - Maximum Compression/Maximum Tension
 TOP CHORD 1-2=0/17, 2-3=-60/43, 3-4=-58/40, 4-5=-43/60, 5-6=-44/83, 6-7=-55/105, 7-8=-67/128, 8-9=-67/121, 9-10=-55/97, 10-11=-44/75, 11-12=-34/51, 12-13=-47/32, 13-14=-55/27, 14-15=0/17

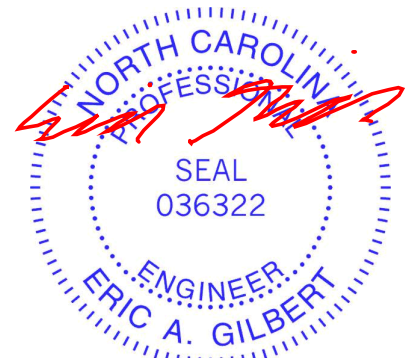
BOT CHORD 2-27=-17/52, 26-27=-17/52, 25-26=-17/52, 24-25=-17/52, 23-24=-17/52, 21-23=-17/52, 20-21=-17/52, 19-20=-17/52, 18-19=-17/52, 17-18=-17/52, 16-17=-17/52, 14-16=-17/52
WEBS 8-21=-98/0, 7-23=-129/96, 6-24=-116/50, 5-25=-130/49, 4-26=-78/38, 3-27=-220/74, 9-20=-129/96, 10-19=-116/50, 11-18=-130/49, 12-17=-78/38, 13-16=-220/74

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCCL=6.0psf; BCCL=6.0psf; h=25ft; B=45ft; L=28ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 14-2-0, Corner(3R) 14-2-0 to 17-2-0, Exterior(2N) 17-2-0 to 29-2-8 zone; cantilever left and right exposed ; end vertical left and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
- All plates are 2x4 MT20 unless otherwise indicated.
- Gable studs spaced at 2-0-0 oc.
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .

- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 27 lb uplift at joint 2, 11 lb uplift at joint 23, 12 lb uplift at joint 24, 12 lb uplift at joint 25, 9 lb uplift at joint 26, 18 lb uplift at joint 27, 11 lb uplift at joint 20, 12 lb uplift at joint 19, 12 lb uplift at joint 18, 9 lb uplift at joint 17, 18 lb uplift at joint 16, 27 lb uplift at joint 14, 27 lb uplift at joint 2 and 27 lb uplift at joint 14.

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



January 29, 2025

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

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



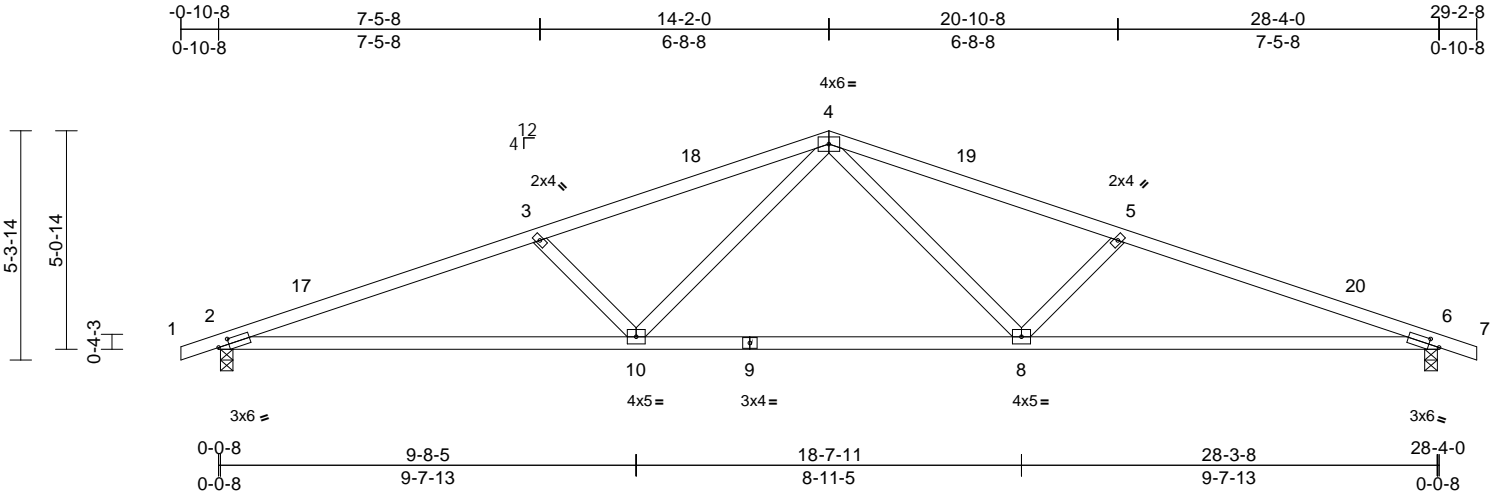
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss A02	Truss Type Common	Qty 9	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052422
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:20
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Page: 1



Scale = 1:53.5

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.70	Vert(LL)	-0.18	8-16	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.74	Vert(CT)	-0.45	8-16	>758	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.19	Horz(CT)	0.08	6	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 118 lb	FT = 20%

LUMBER

TOP CHORD 2x4 SP No.2
BOT CHORD 2x4 SP No.1
WEBS 2x4 SP No.2

BRACING

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

REACTIONS

(size) 2=0-3-8, 6=0-3-8
Max Horiz 2=51 (LC 11)
Max Uplift 2=-62 (LC 12), 6=-62 (LC 12)
Max Grav 2=1186 (LC 1), 6=1186 (LC 1)

FORCES

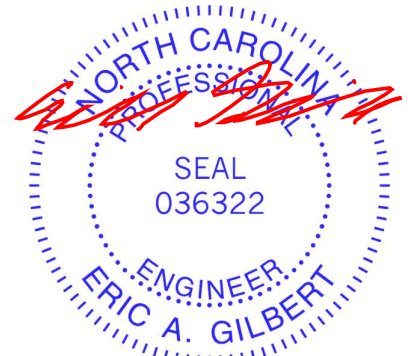
(lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-2728/361, 3-4=-2408/310, 4-5=-2408/310, 5-6=-2728/361, 6-7=0/17
BOT CHORD 2-10=-277/2553, 8-10=-132/1692, 6-8=-281/2553
WEBS 4-8=-34/785, 5-8=-506/183, 4-10=-34/785, 3-10=-506/183

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft; B=45ft; L=28ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 14-2-0, Exterior(2R) 14-2-0 to 17-2-0, Interior (1) 17-2-0 to 29-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.

- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.1.
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 62 lb uplift at joint 2 and 62 lb uplift at joint 6.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 29, 2025

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

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



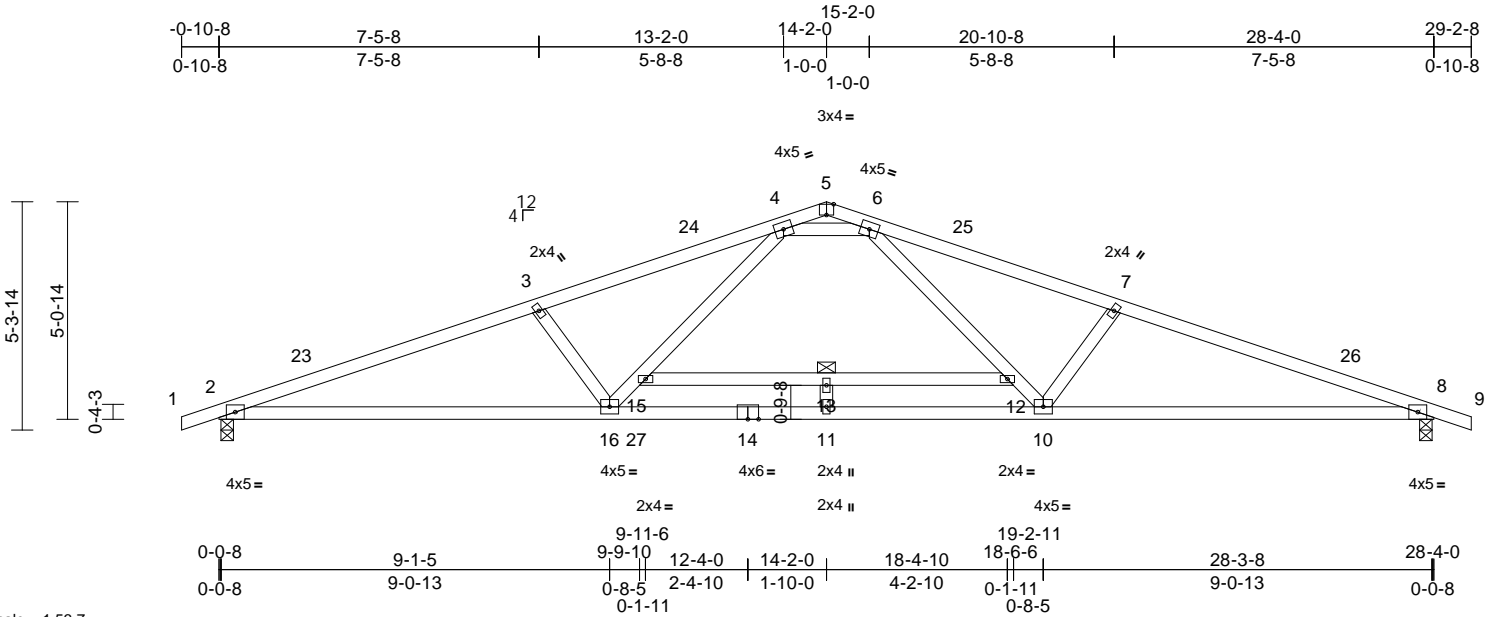
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss A03	Truss Type Common	Qty 7	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052423
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

Run: 8.73 S Dec 5 2024 Print: 8.730 S Dec 5 2024 MiTek Industries, Inc. Tue Jan 28 13:42:20
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Page: 1



Scale = 1:53.7

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

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.77	Vert(LL)	-0.36	12-13	>936	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.96	Vert(CT)	-0.78	12-13	>437	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.44	Horz(CT)	0.09	8	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MS							Weight: 132 lb	FT = 20%

LUMBER

- TOP CHORD 2x4 SP No.2
- BOT CHORD 2x4 SP No.1 *Except* 15-12:2x4 SP No.2
- WEBS 2x4 SP No.2 *Except* 13-11,4-6:2x4 SP No.3

BRACING

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

REACTIONS

- (size) 2=0-3-8, 8=0-3-8
- Max Horiz 2=-51 (LC 10)
- Max Uplift 2=-9 (LC 12), 8=-9 (LC 12)
- Max Grav 2=1274 (LC 1), 8=1274 (LC 1)

FORCES

- (lb) - Maximum Compression/Maximum Tension
- TOP CHORD 1-2=0/17, 2-3=-3028/173, 3-4=-2785/149, 4-5=-117/29, 5-6=-96/29, 6-7=-2785/149, 7-8=-3028/173, 8-9=0/17
- BOT CHORD 2-16=-98/2821, 11-16=-5/2062, 10-11=-5/2062, 8-10=-102/2821, 13-15=-147/0, 12-13=-147/0
- WEBS 6-12=0/996, 10-12=-7/828, 7-10=-465/163, 15-16=-7/828, 4-15=0/930, 3-16=-465/163, 11-13=-74/0, 4-6=-2001/303

NOTES

- Unbalanced roof live loads have been considered for this design.
- Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; B=45ft; L=28ft; eave=4ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 14-2-0, Exterior(2R) 14-2-0 to 17-2-0, Interior (1) 17-2-0 to 29-2-8 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.1 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 9 lb uplift at joint 2 and 9 lb uplift at joint 8.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 29, 2025

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

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



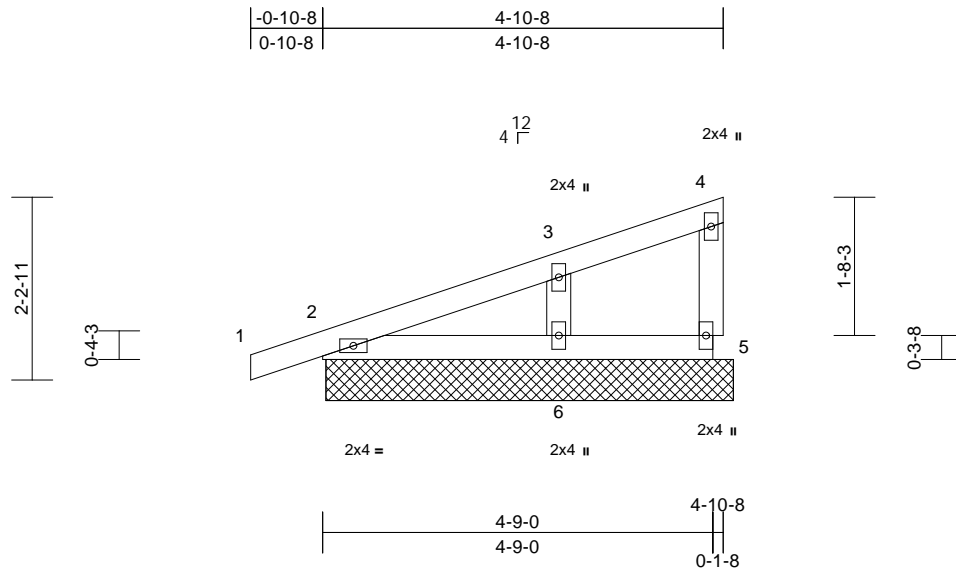
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss B01	Truss Type Monopitch Supported Gable	Qty 2	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	I71052424
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Carolina Structural Systems (Star, NC)), Ether, NC - 27247,

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Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.08	Vert(LL)	n/a	-	n/a	999	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.06	Vert(CT)	n/a	-	n/a	999		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.04	Horz(CT)	0.00	5	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 19 lb	FT = 20%

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

BRACING
TOP CHORD Structural wood sheathing directly applied or 4-10-8 oc purlins, except end verticals.
BOT CHORD Rigid ceiling directly applied or 10-0-0 oc bracing.

REACTIONS (size) 2=4-11-8, 5=4-11-8, 6=4-11-8
Max Horiz 2=56 (LC 11)
Max Uplift 2=-28 (LC 12), 5=-2 (LC 9), 6=-11 (LC 12)
Max Grav 2=156 (LC 1), 5=44 (LC 1), 6=230 (LC 1)

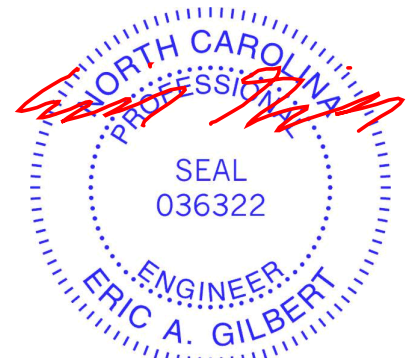
FORCES (lb) - Maximum Compression/Maximum Tension
TOP CHORD 1-2=0/17, 2-3=-117/66, 3-4=-43/36, 4-5=-37/60
BOT CHORD 2-6=-35/57, 5-6=-26/35
WEBS 3-6=-159/210

NOTES
1) Wind: ASCE 7-16; Vult=125mph (3-second gust) Vasd=99mph; TC DL=6.0psf; BC DL=6.0psf; h=25ft; B=45ft; L=24ft; eave=2ft; Cat. II; Exp B; Enclosed; MWFRS (directional) and C-C Corner(3E) -0-10-8 to 2-1-8, Exterior(2N) 2-1-8 to 4-8-12 zone; cantilever left and right exposed; end vertical left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60

2) Truss designed for wind loads in the plane of the truss only. For studs exposed to wind (normal to the face), see Standard Industry Gable End Details as applicable, or consult qualified building designer as per ANSI/TPI 1.
3) Gable requires continuous bottom chord bearing.
4) Gable studs spaced at 2-0-0 oc.

- This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- All bearings are assumed to be SP No.2 .
- Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 2 lb uplift at joint 5, 28 lb uplift at joint 2, 11 lb uplift at joint 6 and 28 lb uplift at joint 2.
- Beveled plate or shim required to provide full bearing surface with truss chord at joint(s) 2, 7.
- This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 29, 2025

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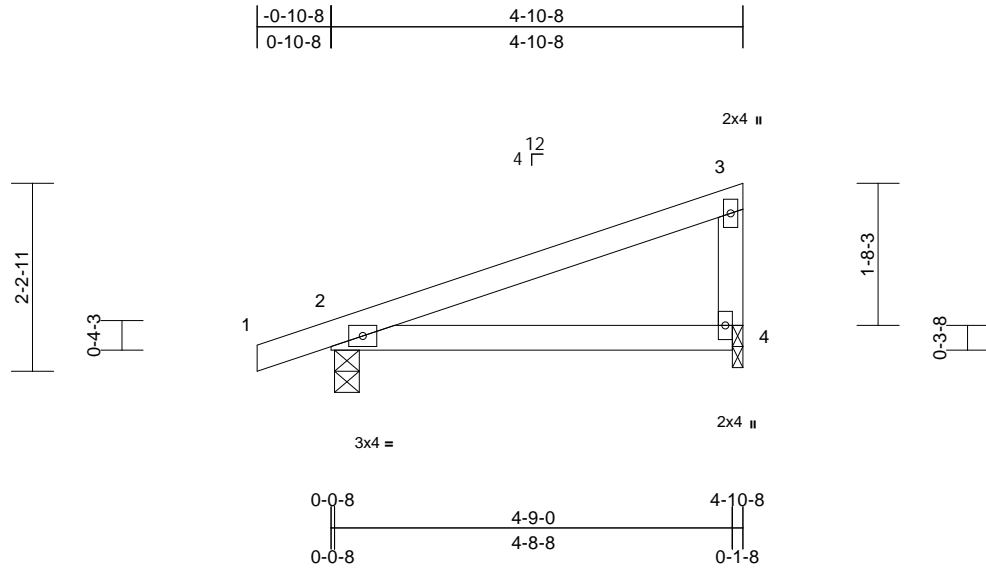
818 Soundside Road
Edenton, NC 27932

Job Q2500257	Truss B02	Truss Type Monopitch	Qty 16	Ply 1	Hall 2024-SAN-075 Job Reference (optional)	171052425
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Carolina Structural Systems (Star, NC), Ether, NC - 27247,

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Page: 1



Scale = 1:27.3

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(loc)	l/defl	L/d	PLATES	GRIP	
TCLL (roof)	20.0	Plate Grip DOL	1.00	TC	0.31	Vert(LL)	0.04	4-7	>999	240	MT20	244/190
TCDL	10.0	Lumber DOL	1.15	BC	0.26	Vert(CT)	-0.05	4-7	>999	180		
BCLL	0.0*	Rep Stress Incr	YES	WB	0.00	Horz(CT)	0.00	2	n/a	n/a		
BCDL	10.0	Code	IRC2018/TPI2014	Matrix-MP							Weight: 18 lb	FT = 20%

LUMBER

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

BRACING

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

REACTIONS (size) 2=0-3-8, 4=0-1-8

Max Horiz 2=56 (LC 11)
Max Uplift 2=-76 (LC 12), 4=-49 (LC 12)
Max Grav 2=247 (LC 1), 4=184 (LC 1)

FORCES (lb) - Maximum Compression/Maximum Tension

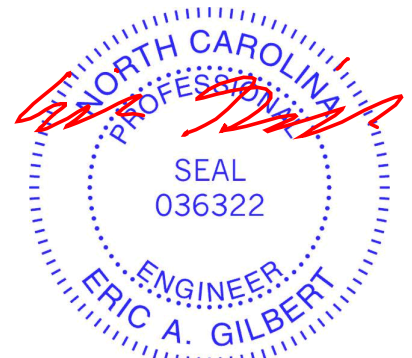
TOP CHORD 1-2=0/17, 2-3=-79/47, 3-4=-122/115
BOT CHORD 2-4=-86/78

NOTES

- 1) Wind: ASCE 7-16; Vult=125mph (3-second gust)
Vasd=99mph; TCDL=6.0psf; BCDL=6.0psf; h=25ft;
B=45ft; L=24ft; eave=4ft; Cat. II; Exp B; Enclosed;
MWFRS (directional) and C-C Exterior(2E) -0-10-8 to 2-1-8, Interior (1) 2-1-8 to 4-8-12 zone; cantilever left and right exposed; end vertical left and right exposed; porch left and right exposed; C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate grip DOL=1.60
- 2) This truss has been designed for a 10.0 psf bottom chord live load nonconcurrent with any other live loads.
- 3) * This truss has been designed for a live load of 20.0psf on the bottom chord in all areas where a rectangle 3-06-00 tall by 2-00-00 wide will fit between the bottom chord and any other members.
- 4) Bearings are assumed to be: Joint 2 SP No.2, Joint 4 SP No.3.
- 5) Bearing at joint(s) 4 considers parallel to grain value using ANSI/TPI 1 angle to grain formula. Building designer should verify capacity of bearing surface.

- 6) Provide mechanical connection (by others) of truss to bearing plate at joint(s) 4.
- 7) Provide mechanical connection (by others) of truss to bearing plate capable of withstanding 76 lb uplift at joint 2 and 49 lb uplift at joint 4.
- 8) This truss is designed in accordance with the 2018 International Residential Code sections R502.11.1 and R802.10.2 and referenced standard ANSI/TPI 1.

LOAD CASE(S) Standard



January 29, 2025

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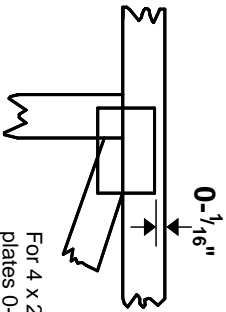
818 Soundside Road
Edenton, NC 27932

Symbols

PLATE LOCATION AND ORIENTATION



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



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



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

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

PLATE SIZE

4 X 4

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

LATERAL BRACING LOCATION



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

BEARING



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

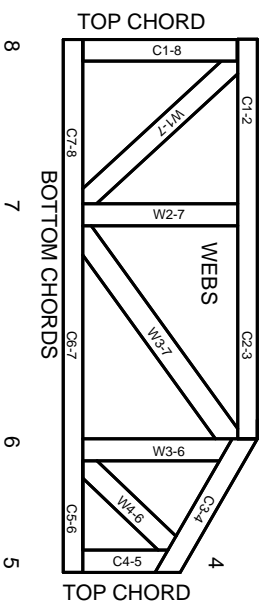
Industry Standards:

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

Numbering System



1 TOP CHORDS
2 Joint ID
3 typ.



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

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

Product Code Approvals

ICC-ES Reports:

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

Design General Notes

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

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

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General Safety Notes

Failure to Follow Could Cause Property Damage or Personal Injury

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

MITek

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